

RoHS  
Ready 



# Timer Interconnection System for the Automotive Industry

  
**TE**  
connectivity  
AUTOMOTIVE



## THE 5 APPLICATION AREAS

---



Convenience



Safety & Security  
Systems



Body & Chassis  
Systems

## INNOVATIVE TECHNOLOGIES

***TE Automotive – a business segment of TE Connectivity – follows the globalization goals of our customers, speeds up the integration of new technologies and enables our customers access to our vast product portfolio and services.***

### TERMINALS & CONNECTORS



TE Automotive offers a broad range of high quality terminals and connectors. Our electrical/electronic interconnection products and solutions are used to electrically and mechanically join wires and cables, printed circuit boards, integrated circuit packages and batteries. TE Automotive expanding capabilities include new copper and fiber-optic connectors, wires, cables/cable management systems that are designed to meet automotive industry demands. Our brands encompass the broadest range of connectors in the world, including high-density, high-speed designs for leading-edge communications equipment.

### ALTERNATIVE POWER SYSTEMS

#### COMPONENTS FOR ELECTRIC VEHICLES AND INFRASTRUCTURE OF TODAY, TOMORROW AND BEYOND



TE Automotive is a leader in products for the next-generation of transportation technologies in hybrid and electric vehicles. TE Automotive is your source for high voltage power distribution, high current contact systems, high voltage connectors and special cable assemblies, high voltage relays, sensors and temperature protection devices.

As a true global player, we are supplying value from in-car applications over the charging interface up to the infrastructure and the electrical grid – everything out of one hand.

### CABLE ASSEMBLY SYSTEMS



TE Automotive is your partner for special cable assemblies.

We offer research and development capabilities, prototyping, samples as well as manufacturing facilities for special cable assemblies. This includes overmold technology, semi/fully automatic manufacturing, testing equipment and appliances for handling of high volume production.



## SENSORS



Contact-less measuring eliminates interference effects, wear and tear, and provides increased reliability. TE Automotive, one of the largest technology providers for the automobile industry, offers contact-less sensors for a variety of applications.

As sensor manufacturer and processing partner, TE Automotive also provides project planning support for new sensor applications, assistance in the selection of the appropriate sensor technology for the respective application, and assistance with defining the corresponding mechanical, electrical and magnetic interface.

TE Automotive has a broad electro-mechanical portfolio that includes robust housing technologies, connector systems, and temperature stable designs based on foil and cable networks. This combination of technologies and experience ensures that reliable and cost effective sensor solutions are available for all application types.

## INFOTAINMENT



TE Automotive is the technology leader in high speed data communication in the automotive industry. TE Automotive offers high performance connectors based on optical, coaxial as well as shielded electrical cables.

Through a deep understanding of the technical properties and requirements of signal integrity and combined with our application knowledge both in the vehicle as well as in the logistics chain, TE Automotive is well positioned to offer the right solution for all current and next generation Infotainment Systems.

## INDUCTIVE COIL SYSTEMS



TE Automotive is your source for interconnection technologies for automotive, truck and off-highway OEMs and Tier 1 suppliers. With our global design center in Belgium and manufacturing sites in all regions, TE Automotive's Inductive Systems (ICS) group is ready to design your next-generation coil modules and provide local production support.

The ICS group maintains a leading market position in braking modules and other automotive coil applications. Through early involvement with you on your next design, TE Automotive can offer the benefits of miniaturization, design-in of platform components and optimized process flow for your standard, hybrid and E.V. project needs.



## TE Automotive Online

The TE Automotive website is an innovative and interactive source for application information, product updates and technical solutions.

Please contact us at:  
[www.te.com/automotive](http://www.te.com/automotive)

## Internet

[www.te.com](http://www.te.com)  
[www.te.com/automotive](http://www.te.com/automotive)  
[www.te.com/automotive/sensors](http://www.te.com/automotive/sensors)  
[www.te.com/automotive/most](http://www.te.com/automotive/most)

## Electronic Internet Catalog

[www.te.com/components](http://www.te.com/components)



[www.te.com/automotive](http://www.te.com/automotive)  
[www.te.com/automotive/sensors](http://www.te.com/automotive/sensors)  
[www.te.com/automotive/most](http://www.te.com/automotive/most)



## Product and Machine Literature

TE Automotive offers a variety of product specific catalogs, brochures and high impact flyers to help better serve you!

For more information on literature for TE Automotive, please contact your local organization or go to [www.te.com/automotive](http://www.te.com/automotive)

## Product Information Center (PIC)

You can rely on TE Connectivity's PIC Team to provide you support for answers to your general information or technical questions in an efficient and effective manner. To reach our PIC staff, please contact your local organization or see our Global Contacts page.

Please contact us at:

<http://www.te.com/customersupport/support.asp>



Quality Guidelines

**Incorrect**



**INSULATION CRIMP**



**WIRE CRIMP**





Quality Guidelines

**Correct**

**WIRE CRIMP**



**INSULATION CRIMP**

Correct Insulation Diameter, Applicator and Terminal



For double wire applications with different size wires always place wire with smallest outer diameter in the bottom



**Test**

**WIRE CRIMP**

Crimp height measurement



Crimp heights and tolerances

For crimp height tolerances for any given contact, please refer to the relevant application specification.

Examples:

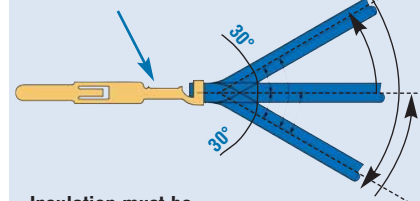
| Con-<br>tact | Part<br>No.      | Wire<br>Range<br>(mm <sup>2</sup> ) | Toler-<br>ance<br>(mm) | Appli-<br>cation<br>Spec. |
|--------------|------------------|-------------------------------------|------------------------|---------------------------|
| MQS          | 962885<br>962886 | 0.2–0.5                             | ±0.03                  | 114-18025                 |
| JPT          | 927775           | 0.5–1.0                             | ±0.05                  | 114-18050                 |
| JPT          | 927773           | 1.5–2.5                             | ±0.05                  | 114-18050                 |

Digital Crimp Height Micrometer  
(0.001 mm increments) acc. to DIN ISO 9001  
Part No. 547203-1



**INSULATION CRIMP**

Wire crimp without conductor



Insulation must be  
securely held  
after bend test

## Restriction on the Use of Hazardous Substances (RoHS)

### Restriction on the Use of Hazardous Substances (RoHS)

At TE Connectivity, we're ready to support your RoHS requirements. We've assessed more than 1.5 million end items/components for RoHS compliance, and issued new part numbers where any change was required to eliminate the restricted materials. Part numbers in this catalog are identified as:

#### RoHS Compliant

Part numbers in this catalog are RoHS Compliant, unless marked otherwise.

These products comply with European Union Directive 2002/95/EC as amended 1 January 2006 that restricts the use of lead, mercury, cadmium, hexavalent chromium, PBB, and PBDE in certain electrical and electronic products sold into the EU as of 1 July 2006.

**Note:** For purposes of this Catalog, included within the definition of RoHS Compliant are products that are clearly "Out of Scope" of the RoHS Directive such as hand tools and other non-electrical accessories.

#### Non-RoHS Compliant

These part numbers are identified with a "◆" symbol. These products do not comply with the material restrictions of the European Union Directive 2002/95/EC.

#### 5 of 6 Compliant

A "●" symbol identifies these part numbers. These products do not fully comply with the European Union Directive 2002/95/EC because they contain lead in solderable interfaces (they do not contain any of the other five restricted substances above allowable limits). However, these products may be suitable for use in RoHS applications where there is an application-based exception for lead in solders, such as the server, storage, or networking infrastructure exemption.

**Note:** Information regarding RoHS compliance is provided based on reasonable inquiry of our suppliers and represents our current actual knowledge based on the information provided by our suppliers. This information is subject to change. For latest compliance status, refer to our website referenced below.

#### Getting the Information You Need

Our comprehensive on-line RoHS Customer Support Center provides a forum to answer your questions and support your RoHS needs. A RoHS FAQ (Frequently Asked Questions) is available with links to more detailed information. You can also submit RoHS questions and receive a response within 24 hours during a normal work week. The Support Center also provides:

- Cross-Reference from Non-compliant to Compliant Products
- Ability to browse RoHS Compliant Products in our on-line catalog:  
<http://www.te.com/commerce/alt/RohsAltHome.do>
- Downloadable Technical Data Customer Information Presentation
- More detailed information regarding the definitions used above

RoHS  
Customer  
Support  
Center 

So whatever your questions when it comes to RoHS, we've got the answers at <http://www.te.com/customersupport/rohssupportcenter/>

## AWG Conversion Table (Average Value)

### Conversion Tables

Most of the wire size ranges are mentioned in mm<sup>2</sup>, as well as the insulation diameters which are in many cases only in mm's.

We therefore included the conversion tables on page X and page XI.

Please note that wire and insulation sizes are for guidance only.

Consult the customer drawing for precise detail.

| AWG Code | Diameter (Inch) | Diameter (mm) | F (mm <sup>2</sup> ) |
|----------|-----------------|---------------|----------------------|
| 000000   | 0.5800          | 14.733        | 170.0                |
| 00000    | 0.5165          | 13.13         | 135.0                |
| 0000     | 0.4600          | 11.684        | 103.8                |
| 000      | 0.4096          | 10.40         | 79.0                 |
| 00       | 0.3648          | 9.27          | 67.5                 |
| 0        | 0.3249          | 8.25          | 53.4                 |
| 1        | 0.2893          | 7.34          | 42.2                 |
| 2        | 0.2576          | 6.55          | 33.7                 |
| 3        | 0.2294          | 5.82          | 26.6                 |
| 4        | 0.2043          | 5.18          | 21.0                 |
| 5        | 0.1819          | 4.62          | 16.9                 |
| 6        | 0.1620          | 4.115         | 13.25                |
| 7        | 0.1443          | 3.66          | 10.25                |
| 8        | 0.1285          | 3.26          | 8.34                 |
| 9        | 0.1144          | 2.90          | 6.6                  |
| 10       | 0.1019          | 2.59          | 5.27                 |
| 11       | 0.0907          | 2.30          | 4.15                 |
| 12       | 0.0808          | 2.05          | 3.3                  |
| 13       | 0.0720          | 1.83          | 2.63                 |
| 14       | 0.0641          | 1.63          | 2.08                 |
| 15       | 0.0571          | 1.45          | 1.65                 |
| 16       | 0.0508          | 1.29          | 1.305                |
| 17       | 0.0453          | 1.14          | 1.01                 |
| 18       | 0.0403          | 1.02          | 0.79                 |
| 19       | 0.0359          | 0.91          | 0.65                 |
| 20       | 0.0320          | 0.81          | 0.51                 |
| 21       | 0.0285          | 0.72          | 0.407                |
| 22       | 0.0253          | 0.64          | 0.32                 |
| 23       | 0.0226          | 0.57          | 0.255                |
| 24       | 0.0201          | 0.51          | 0.205                |
| 25       | 0.0179          | 0.455         | 0.162                |
| 26       | 0.0159          | 0.40          | 0.125                |
| 27       | 0.0142          | 0.36          | 0.102                |
| 28       | 0.0126          | 0.320         | 0.08                 |
| 29       | 0.0113          | 0.287         | 0.0646               |
| 30       | 0.0100          | 0.254         | 0.0516               |
| 31       | 0.0089          | 0.226         | 0.04                 |
| 32       | 0.0080          | 0.203         | 0.0324               |
| 33       | 0.0071          | 0.180         | 0.0255               |
| 34       | 0.0063          | 0.160         | 0.02                 |
| 35       | 0.0056          | 0.142         | 0.0158               |
| 36       | 0.0050          | 0.127         | 0.0127               |
| 37       | 0.0045          | 0.114         | 0.01                 |
| 38       | 0.0040          | 0.101         | 0.008                |
| 39       | 0.0035          | 0.089         | 0.0062               |
| 40       | 0.0031          | 0.079         | 0.0049               |
| 41       | 0.0028          | 0.071         | 0.00395              |
| 42       | 0.0025          | 0.064         | 0.00321              |
| 43       | 0.0022          | 0.056         | 0.00246              |
| 44       | 0.00198         | 0.050         | 0.00196              |
| 45       | 0.00176         | 0.045         |                      |
| 46       | 0.00157         | 0.040         |                      |
| 47       | 0.00140         | 0.036         |                      |
| 48       | 0.00124         | 0.031         |                      |
| 49       | 0.00110         | 0.028         |                      |
| 50       | 0.00099         | 0.025         |                      |

### FLK/FLR Cable

FLK and FLR stand for German DIN (72551) abbreviations.

#### FLK means:

In German:

- Fahrzeug Leitung Kunststoff

In English:

- Vehicle Cable Plastic

#### FLR means:

In German:

- Fahrzeug Leitung Reduziert

In English:

- Thin Walled Cable (reduced insulation thickness)

**Remark:** Starting from 0.03 mm<sup>2</sup> (AWG 32) a wire can be crimped.

## Conversion Table – Inch/mm

| Inch  | 0       | 0.001   | 0.002   | 0.003   | 0.004   | 0.005   | 0.006   | 0.007   | 0.008   | 0.009   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0     | 0       | 0.0254  | 0.0508  | 0.0762  | 0.1016  | 0.1270  | 0.1524  | 0.1778  | 0.2032  | 0.2286  |
| 0.010 | 0.2540  | 0.2794  | 0.3048  | 0.3302  | 0.3556  | 0.3810  | 0.4064  | 0.4318  | 0.4572  | 0.4826  |
| 0.020 | 0.5080  | 0.5334  | 0.5588  | 0.5842  | 0.6096  | 0.6350  | 0.6604  | 0.6858  | 0.7112  | 0.7366  |
| 0.030 | 0.7620  | 0.7874  | 0.8128  | 0.8382  | 0.8636  | 0.8890  | 0.9144  | 0.9398  | 0.9652  | 0.9906  |
| 0.040 | 1.0160  | 1.0414  | 1.0668  | 1.0922  | 1.1176  | 1.1430  | 1.1684  | 1.1938  | 1.2192  | 1.2446  |
| 0.050 | 1.2700  | 1.2954  | 1.3208  | 1.3462  | 1.3716  | 1.3970  | 1.4224  | 1.4478  | 1.4732  | 1.4986  |
| 0.060 | 1.5240  | 1.5494  | 1.5748  | 1.6002  | 1.6256  | 1.6510  | 1.6764  | 1.7018  | 1.7272  | 1.7526  |
| 0.070 | 1.7780  | 1.8034  | 1.8288  | 1.8542  | 1.8796  | 1.9050  | 1.9304  | 1.9558  | 1.9812  | 2.0066  |
| 0.080 | 2.0320  | 2.0574  | 2.0828  | 2.1062  | 2.1336  | 2.1590  | 2.1844  | 2.2098  | 2.2352  | 2.2606  |
| 0.090 | 2.2860  | 2.3114  | 2.3368  | 2.3622  | 2.3876  | 2.4130  | 2.4384  | 2.4638  | 2.4892  | 2.5146  |
| 0.100 | 2.5400  | 2.5654  | 2.5908  | 2.6162  | 2.6416  | 2.6670  | 2.6924  | 2.7178  | 2.7432  | 2.7686  |
| 0.110 | 2.7940  | 2.8194  | 2.8448  | 2.8702  | 2.8956  | 2.9210  | 2.9464  | 2.9718  | 2.9972  | 3.0226  |
| 0.120 | 3.0480  | 3.0734  | 3.0988  | 3.1242  | 3.1496  | 3.1750  | 3.2004  | 3.2258  | 3.2512  | 3.2766  |
| 0.130 | 3.3020  | 3.3274  | 3.3528  | 3.3782  | 3.4036  | 3.4290  | 3.4544  | 3.4798  | 3.5052  | 3.5306  |
| 0.140 | 3.5560  | 3.5814  | 3.6068  | 3.6322  | 3.6576  | 3.6830  | 3.7084  | 3.7338  | 3.7592  | 3.7846  |
| 0.150 | 3.8100  | 3.8354  | 3.8608  | 3.8862  | 3.9116  | 3.9370  | 3.9624  | 3.9878  | 4.0132  | 4.0386  |
| 0.160 | 4.0640  | 4.0894  | 4.1148  | 4.1402  | 4.1656  | 4.1910  | 4.2164  | 4.2418  | 4.2672  | 4.2926  |
| 0.170 | 4.3180  | 4.3434  | 4.3688  | 4.3942  | 4.4196  | 4.4450  | 4.4704  | 4.4958  | 4.5212  | 4.5466  |
| 0.180 | 4.5720  | 4.5974  | 4.6228  | 4.6482  | 4.6736  | 4.6990  | 4.7244  | 4.7498  | 4.7752  | 4.8006  |
| 0.190 | 4.8260  | 4.8514  | 4.8768  | 4.9022  | 4.9276  | 4.9530  | 4.9784  | 5.0038  | 5.0292  | 5.0546  |
| 0.200 | 5.0800  | 5.1054  | 5.1308  | 5.1562  | 5.1816  | 5.2070  | 5.2324  | 5.2578  | 5.2832  | 5.3086  |
| 0.210 | 5.3340  | 5.3594  | 5.3848  | 5.4102  | 5.4356  | 5.4610  | 5.4864  | 5.5118  | 5.5372  | 5.5626  |
| 0.220 | 5.5880  | 5.6134  | 5.6388  | 5.6642  | 5.6896  | 5.7150  | 5.7404  | 5.7658  | 5.7912  | 5.8166  |
| 0.230 | 5.8420  | 5.8674  | 5.8928  | 5.9182  | 5.9436  | 5.9690  | 5.9944  | 6.0198  | 6.0452  | 6.0706  |
| 0.240 | 6.0960  | 6.1214  | 6.1468  | 6.1722  | 6.1976  | 6.2230  | 6.2484  | 6.2738  | 6.2992  | 6.3246  |
| 0.250 | 6.3500  | 6.3754  | 6.4008  | 6.4262  | 6.4516  | 6.4770  | 6.5024  | 6.5278  | 6.5532  | 6.5786  |
| 0.260 | 6.6040  | 6.6294  | 6.6548  | 6.6802  | 6.7056  | 6.7310  | 6.7564  | 6.7818  | 6.8072  | 6.8326  |
| 0.270 | 6.8580  | 6.8834  | 6.9088  | 6.9342  | 6.9596  | 6.9850  | 7.0104  | 7.0358  | 7.0612  | 7.0866  |
| 0.280 | 7.1120  | 7.1374  | 7.1628  | 7.1882  | 7.2136  | 7.2390  | 7.2644  | 7.2898  | 7.3152  | 7.3406  |
| 0.290 | 7.3660  | 7.3914  | 7.4168  | 7.4422  | 7.4676  | 7.4930  | 7.5184  | 7.5438  | 7.5692  | 7.5946  |
| 0.300 | 7.6200  | 7.6454  | 7.6708  | 7.6962  | 7.7216  | 7.7470  | 7.7724  | 7.7978  | 7.8232  | 7.8486  |
| 0.310 | 7.8740  | 7.8994  | 7.9248  | 7.9502  | 7.9756  | 8.0010  | 8.0264  | 8.0518  | 8.0772  | 8.1026  |
| 0.320 | 8.1280  | 8.1534  | 8.1788  | 8.2042  | 8.2296  | 8.2550  | 8.2804  | 8.3058  | 8.3312  | 8.3566  |
| 0.330 | 8.3820  | 8.4074  | 8.4328  | 8.4582  | 8.4836  | 8.5090  | 8.5344  | 8.5598  | 8.5852  | 8.6106  |
| 0.340 | 8.6360  | 8.6614  | 8.6868  | 8.7122  | 8.7376  | 8.7630  | 8.7884  | 8.8138  | 8.8392  | 8.8646  |
| 0.350 | 8.8900  | 8.9154  | 8.9408  | 8.9662  | 8.9916  | 9.0170  | 9.0424  | 9.0678  | 9.0932  | 9.1186  |
| 0.360 | 9.1440  | 9.1694  | 9.1948  | 9.2202  | 9.2456  | 9.2710  | 9.2964  | 9.3218  | 9.3472  | 9.3726  |
| 0.370 | 9.3980  | 9.4234  | 9.4488  | 9.4742  | 9.4996  | 9.5250  | 9.5504  | 9.5758  | 9.6012  | 9.6266  |
| 0.380 | 9.6520  | 9.6774  | 9.7028  | 9.7282  | 9.7536  | 9.7790  | 9.8044  | 9.8298  | 9.8552  | 9.8806  |
| 0.390 | 9.9060  | 9.9314  | 9.9568  | 9.9822  | 10.0076 | 10.0330 | 10.0584 | 10.0838 | 10.1092 | 10.1346 |
| 0.400 | 10.1600 | 10.1854 | 10.2108 | 10.2362 | 10.2616 | 10.2870 | 10.3124 | 10.3378 | 10.3632 | 10.3886 |
| 0.410 | 10.4140 | 10.4394 | 10.4648 | 10.4902 | 10.5156 | 10.5410 | 10.5664 | 10.5918 | 10.6172 | 10.6426 |
| 0.420 | 10.6680 | 10.6934 | 10.7188 | 10.7442 | 10.7696 | 10.7950 | 10.8204 | 10.8458 | 10.8712 | 10.8966 |
| 0.430 | 10.9220 | 10.9474 | 10.9728 | 10.9982 | 11.0236 | 11.0490 | 11.0744 | 11.0998 | 11.1252 | 11.1506 |
| 0.440 | 11.1760 | 11.2014 | 11.2268 | 11.2522 | 11.2776 | 11.3030 | 11.3284 | 11.3538 | 11.3792 | 11.4046 |
| 0.450 | 11.4300 | 11.4554 | 11.4808 | 11.5062 | 11.5316 | 11.5510 | 11.5824 | 11.6078 | 11.6332 | 11.6586 |
| 0.460 | 11.6840 | 11.7094 | 11.7348 | 11.7602 | 11.7856 | 11.8110 | 11.8364 | 11.8618 | 11.8872 | 11.9126 |
| 0.470 | 11.9380 | 11.9634 | 11.9888 | 12.0142 | 12.0396 | 12.0650 | 12.0904 | 12.1158 | 12.1412 | 12.1666 |
| 0.480 | 12.1920 | 12.2174 | 12.2428 | 12.2682 | 12.2936 | 12.3190 | 12.3444 | 12.3698 | 12.3952 | 12.4206 |
| 0.490 | 12.4460 | 12.4714 | 12.4968 | 12.5222 | 12.5476 | 12.5730 | 12.5984 | 12.6238 | 12.6492 | 12.6746 |
| 0.500 | 12.7000 |         |         |         |         |         |         |         |         |         |
| Inch  | 0       | 0.001   | 0.002   | 0.003   | 0.004   | 0.005   | 0.006   | 0.007   | 0.008   | 0.009   |



## Conversion Table – Inch/mm (continued)

| Inch  | 0       | 0.001   | 0.002   | 0.003   | 0.004   | 0.005   | 0.006   | 0.007   | 0.008   | 0.009   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0.500 | 12.7000 | 12.7254 | 12.7508 | 12.7762 | 12.8016 | 12.8270 | 12.8524 | 12.8778 | 12.9032 | 12.9286 |
| 0.510 | 12.9540 | 12.9794 | 13.0048 | 13.0302 | 13.0556 | 13.0810 | 13.1064 | 13.1318 | 13.1572 | 13.1826 |
| 0.520 | 13.2080 | 13.2334 | 13.2588 | 13.2842 | 13.3096 | 13.3350 | 13.3604 | 13.3858 | 13.4112 | 13.4366 |
| 0.530 | 13.4620 | 13.4874 | 13.5128 | 15.5382 | 13.5636 | 13.5890 | 13.6144 | 13.6398 | 13.6652 | 13.6906 |
| 0.540 | 13.7160 | 13.7414 | 13.7668 | 13.7922 | 13.8176 | 13.8430 | 13.8684 | 13.8938 | 13.9192 | 13.9446 |
| 0.550 | 13.9700 | 13.9954 | 14.0208 | 14.0462 | 14.0716 | 14.0970 | 14.1224 | 14.1478 | 14.1732 | 14.1986 |
| 0.560 | 14.2240 | 14.2494 | 14.2748 | 14.3002 | 14.3256 | 14.3510 | 14.3764 | 14.4018 | 14.4272 | 14.4526 |
| 0.570 | 14.4780 | 14.5034 | 14.5288 | 14.5542 | 14.5796 | 14.6050 | 14.6304 | 14.6558 | 14.6812 | 14.7066 |
| 0.580 | 14.7320 | 14.7574 | 14.7828 | 14.8082 | 14.8336 | 14.8590 | 14.8844 | 14.9098 | 14.9352 | 14.9606 |
| 0.590 | 14.9860 | 15.0114 | 15.0368 | 15.0622 | 15.0876 | 15.1130 | 15.1384 | 15.1638 | 15.1892 | 15.2146 |
| 0.600 | 15.2400 | 15.2654 | 15.2908 | 15.3162 | 15.3416 | 15.3670 | 15.3924 | 15.4178 | 15.4432 | 15.4686 |
| 0.610 | 15.4940 | 15.5194 | 15.5448 | 15.5702 | 15.5956 | 15.6210 | 15.6464 | 15.6718 | 15.6972 | 15.7226 |
| 0.620 | 15.7480 | 15.7734 | 15.7988 | 15.8242 | 15.8496 | 15.8750 | 15.9004 | 15.9258 | 15.9512 | 15.9766 |
| 0.630 | 16.0020 | 16.0274 | 16.0528 | 16.0782 | 16.1036 | 16.1290 | 16.1544 | 16.1798 | 16.2052 | 16.2306 |
| 0.640 | 16.2560 | 16.2814 | 16.3068 | 16.3322 | 16.3576 | 16.3830 | 16.4084 | 16.4338 | 16.4592 | 16.4846 |
| 0.650 | 16.5100 | 16.5354 | 16.5608 | 16.5862 | 16.6116 | 16.6370 | 16.6624 | 16.6878 | 16.7132 | 16.7386 |
| 0.660 | 16.7640 | 16.7894 | 16.8148 | 16.8402 | 16.8656 | 16.8910 | 16.9164 | 16.9418 | 16.9672 | 16.9926 |
| 0.670 | 17.0180 | 17.0434 | 17.0688 | 17.0942 | 17.1196 | 17.1450 | 17.1704 | 17.1958 | 17.2212 | 17.2466 |
| 0.680 | 17.2720 | 17.2974 | 17.3228 | 17.3482 | 17.3736 | 17.3990 | 17.4244 | 17.4498 | 17.4752 | 17.5006 |
| 0.690 | 17.5260 | 17.5514 | 17.5768 | 17.6022 | 17.6276 | 17.6530 | 17.6784 | 17.7038 | 17.7292 | 17.7546 |
| 0.700 | 17.7800 | 17.8054 | 17.8308 | 17.8562 | 17.8816 | 17.9070 | 17.9324 | 17.9528 | 17.9832 | 18.0086 |
| 0.710 | 18.0340 | 18.0594 | 18.0848 | 18.1102 | 18.1356 | 18.1610 | 18.1864 | 18.2118 | 18.2372 | 18.2626 |
| 0.720 | 18.2880 | 18.3134 | 18.3388 | 18.3642 | 18.3896 | 18.4150 | 18.4404 | 18.4658 | 18.4912 | 19.5166 |
| 0.730 | 18.5420 | 18.5674 | 18.5928 | 18.6182 | 18.6436 | 18.6690 | 18.6944 | 18.7198 | 18.7452 | 18.7706 |
| 0.740 | 18.7960 | 18.8214 | 18.8468 | 18.8722 | 18.8976 | 18.9230 | 18.9484 | 18.9738 | 18.9992 | 19.0246 |
| 0.750 | 19.0500 | 19.0754 | 19.1008 | 19.1262 | 19.1516 | 19.1170 | 19.2024 | 19.2278 | 19.2532 | 19.2786 |
| 0.760 | 19.3040 | 19.3294 | 19.3548 | 19.3802 | 19.4056 | 19.4310 | 19.4564 | 19.4818 | 19.5072 | 19.5326 |
| 0.770 | 19.5580 | 19.5834 | 19.6088 | 19.6342 | 19.6596 | 19.6850 | 19.7104 | 19.7358 | 19.7612 | 19.7866 |
| 0.780 | 19.8120 | 19.8374 | 19.8628 | 19.8882 | 19.9136 | 19.9390 | 19.9644 | 19.9898 | 20.0152 | 20.0406 |
| 0.790 | 20.0660 | 20.0914 | 20.1168 | 20.1422 | 20.1676 | 20.1930 | 20.2184 | 20.2438 | 20.2692 | 20.2946 |
| 0.800 | 20.3200 | 20.3454 | 20.3708 | 20.3962 | 20.4216 | 20.4470 | 20.4724 | 20.4978 | 20.5232 | 20.5486 |
| 0.810 | 20.5740 | 20.5994 | 20.6248 | 20.6502 | 20.6756 | 20.7010 | 20.7264 | 20.7518 | 20.7772 | 20.8026 |
| 0.820 | 20.8280 | 20.8534 | 20.8788 | 20.9042 | 20.9296 | 20.9550 | 20.9804 | 21.0058 | 21.0312 | 21.0566 |
| 0.830 | 21.0820 | 21.1074 | 21.1328 | 21.1582 | 21.1836 | 21.2090 | 21.2344 | 21.2598 | 21.2852 | 21.3106 |
| 0.840 | 21.3360 | 21.3614 | 21.3868 | 21.4122 | 21.4376 | 21.4630 | 21.4884 | 21.5138 | 21.5392 | 21.5646 |
| 0.850 | 21.5900 | 21.6154 | 21.6408 | 21.6662 | 21.6916 | 21.7170 | 21.7424 | 21.7678 | 21.7932 | 21.8186 |
| 0.860 | 21.8440 | 21.8694 | 21.8948 | 21.9202 | 21.9456 | 21.9710 | 21.9964 | 22.0218 | 22.0472 | 22.0726 |
| 0.870 | 22.0980 | 22.1234 | 22.1488 | 22.1742 | 22.1996 | 22.2250 | 22.2504 | 22.2758 | 22.3012 | 22.3266 |
| 0.880 | 22.3520 | 22.3774 | 22.4028 | 22.4282 | 22.4536 | 22.4790 | 22.5044 | 22.5298 | 22.5552 | 22.5806 |
| 0.890 | 22.6060 | 22.6314 | 22.6568 | 22.6822 | 22.7076 | 22.7330 | 22.7584 | 22.7838 | 22.8092 | 22.8346 |
| 0.900 | 22.8600 | 22.8854 | 22.9108 | 22.9362 | 22.9616 | 22.9870 | 23.0124 | 23.0378 | 23.0632 | 23.0886 |
| 0.910 | 23.1140 | 23.1394 | 23.1648 | 23.1902 | 23.2156 | 23.2410 | 23.2664 | 23.2918 | 23.3172 | 23.3426 |
| 0.920 | 23.3680 | 23.3934 | 23.4188 | 23.4442 | 23.4696 | 23.4950 | 23.5204 | 23.5458 | 23.5712 | 23.5966 |
| 0.930 | 23.6220 | 23.6474 | 23.6728 | 23.6982 | 23.7236 | 23.7490 | 23.7744 | 23.7998 | 23.8252 | 23.8506 |
| 0.940 | 23.8760 | 23.9014 | 23.9268 | 23.9522 | 23.9776 | 24.0030 | 24.0284 | 24.0538 | 24.0792 | 24.1046 |
| 0.950 | 24.1300 | 24.1554 | 24.1808 | 24.2062 | 24.2316 | 24.2570 | 24.2824 | 24.3078 | 24.3332 | 24.3586 |
| 0.960 | 24.3840 | 24.4094 | 24.4348 | 24.4602 | 24.4856 | 24.5110 | 24.5364 | 24.5618 | 24.5812 | 24.6126 |
| 0.970 | 24.6380 | 24.6634 | 24.6888 | 24.7142 | 24.7396 | 24.7650 | 24.7904 | 24.8158 | 24.8412 | 24.8666 |
| 0.980 | 24.8920 | 24.9174 | 24.9428 | 24.9682 | 24.9936 | 25.0190 | 25.0444 | 25.0698 | 25.0952 | 25.1206 |
| 0.990 | 25.1460 | 25.1714 | 25.1968 | 25.2222 | 25.2476 | 25.2730 | 25.2984 | 25.3228 | 25.3492 | 25.3746 |
| 1.000 | 25.4000 |         |         |         |         |         |         |         |         |         |
| Inch  | 0       | 0.001   | 0.002   | 0.003   | 0.004   | 0.005   | 0.006   | 0.007   | 0.008   | 0.009   |


**Page**

|  |           |   |
|--|-----------|---|
| <b>Timer Interconnection System</b>        |           |   |
| Introduction                               | 2-1       | ✓ |
|  |           |   |
| <b>Contact Systems</b>                     |           |   |
| Introduction                               | 2-3       | ✓ |
|  |           |   |
| <b>Micro Timer I - Receptacle Contacts</b> | 2-4       | ✓ |
|  |           |   |
| <b>Micro Timer II and Micro Timer III</b>  |           |   |
| Receptacle Contacts                        | 2-5-2-6   | ✓ |
| Tab Contacts                               | 2-7-2-8   | ✓ |
| Single Wire Seals and Sealing Plugs        | 2-9       | ✓ |
|  |           |   |
| <b>Junior Timer</b>                        |           |   |
| Receptacle Contacts                        | 2-11-2-12 | ✓ |
|  |           |   |
| <b>Junior Power Timer</b>                  |           |   |
| Receptacle Contacts                        | 2-13-2-15 | ✓ |
| Tab Contacts Asymmetric                    | 2-16      | ✓ |
| Tab Contacts Symmetric                     | 2-17-2-18 | ✓ |
| Tab Contacts Side Feed                     | 2-19      | ✓ |
| Single Wire Seals and Sealing Plugs        | 2-20-2-21 | ✓ |
|  |           |   |
| <b>Standard Timer</b>                      |           |   |
| Receptacle Contacts                        | 2-22      | ✓ |
|  |           |   |
| <b>Standard Power Timer</b>                |           |   |
| Receptacle Contacts                        | 2-23-2-25 | ✓ |
| Tab Contacts Asymmetric                    | 2-26      | ✓ |
| Tab Contacts Symmetric                     | 2-27-2-28 | ✓ |
| Tab Contacts Side Feed                     | 2-29      | ✓ |
| Single Wire Seals and Sealing Plugs        | 2-30-2-31 | ✓ |
|  |           |   |
| <b>Maxi Power Timer</b>                    |           |   |
| Receptacle Contacts                        | 2-33-2-34 | ✓ |
| Tab Contacts                               | 2-35      | ✓ |
| Single Wire Seals and Sealing Plugs        | 2-36      | ✓ |

# THE PRODUCTS



| ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |



Page

| <b>Housings and Connectors</b>                                   |             |   |
|--|-------------|---|
| Introduction   | 2-37        | ✓ |
| <b>Unsealed Micro Timer II Housings</b>                          |             |   |
| Receptacle Housings  | 2-38–2-39   | ✓ |
| Tab Housings   | 2-40–2-41   | ✓ |
| <b>Unsealed Junior Timer Housings</b>                            |             |   |
| Receptacle Housings  | 2-42–2-47   | ✓ |
| <b>Unsealed Junior Power Timer Housings</b>                      |             |   |
| Receptacle Housings  | 2-48–2-52   | ✓ |
| <b>Unsealed Junior Timer and Junior Power Timer Housings</b>     |             |   |
| Junior Timer and Junior Power Timer Housings – 4 to 22 Positions | 2-53–2-54   | ✓ |
| Junior Power Timer Housings – 6 to 21 Positions, Not Waterproof  | 2-55        | ✓ |
| Receptacle and Tab Housings – 6 to 21 Positions                  | 2-56–2-61   | ✓ |
| <b>Unsealed Maxi Power Timer Housings</b>                        |             |   |
| Receptacle Housings  | 2-62–2-63   | ✓ |
| Tab Housings   | 2-64        | ✓ |
| <b>Unsealed Printed Circuit Board Headers</b>                    |             |   |
| PCB Headers, 12 Positions  | 2-65        | ✓ |
| PCB Headers, 15 Positions  | 2-66–2-67   | ✓ |
| PCB Headers, 25 Positions  | 2-68–2-74   | ✓ |
| PCB Headers, 35 Positions  | 2-75–2-78   | ✓ |
| PCB Headers, 39 Positions  | 2-79–2-82   | ✓ |
| PCB Headers, 55 Positions  | 2-83–2-85   | ✓ |
| <b>Unsealed Housings for Car Radio acc. to ISO-TC22/WG 5</b>     |             |   |
| Receptacle Housings  | 2-86–2-94   | ✓ |
| Tab Housings   | 2-95–2-96   | ✓ |
| <b>Unsealed Housings for Wire-to-Wire Applications</b>           |             |   |
| Receptacle Housings  | 2-97–2-101  | ✓ |
| Tab Housings   | 2-102–2-106 | ✓ |



# THE PRODUCTS



| ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|
|   |   |   |   |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |
|   |   |   |   |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
|   |   |   |   |



Page

| Housings and Connectors                                       |             |   |
|---|-------------|---|
|   |             |   |
| <b>Sealed Micro Timer II Housings</b>                         |             |   |
| Receptacle Housings   | 2-107–2-111 | ✓ |
| Tab Housings  | 2-112–2-214 | ✓ |
| Receptacle Housings   | 2-115–2-118 | ✓ |
|   |             |   |
| <b>Sealed Junior Timer Housings</b>                           |             |   |
| Receptacle Housings   | 2-119–2-124 | ✓ |
|   |             |   |
| <b>Sealed Junior Power Timer Housings</b>                     |             |   |
| Receptacle Housings for Contacts 18.0 mm Length               | 2-125–2-133 | ✓ |
|   |             |   |
| <b>Sealed Junior Timer Housings</b>                           |             |   |
| Receptacle Housings with Locking Spring and Seal              | 2-134–2-138 | ✓ |
|   |             |   |
| <b>Sealed Junior Power Timer Housings</b>                     |             |   |
| Receptacle Housings with Locking Spring and Seal, 2 Positions | 2-139       | ✓ |
|   |             |   |
| <b>Sealed Junior Timer Housings</b>                           |             |   |
| Receptacle Housings with Locking Spring and Seal, 3 Positions | 2-140       | ✓ |
|   |             |   |
| <b>Sealed Junior Power Timer Housings</b>                     |             |   |
| Receptacle Housings with Locking Spring and Seal, 3 Positions | 2-141       | ✓ |
|   |             |   |
| <b>Sealed Junior Timer Housings</b>                           |             |   |
| Receptacle Housings with Locking Spring and Seal, 5 Positions | 2-142       | ✓ |
|   |             |   |
| <b>Sealed Junior Power Timer Housings</b>                     |             |   |
| Receptacle Housings with Locking Spring and Seal, 5 Positions | 2-143       | ✓ |
|   |             |   |
| <b>Sealed Junior Timer Housings</b>                           |             |   |
| Receptacle Housings with Locking Spring and Seal, 5 Positions | 2-144–2-145 | ✓ |
|   |             |   |

[illegible]



Page

| <b>Housings and Connectors</b>                               |             |   |
|--|-------------|---|
| <b>Sealed Junior Power Timer and Micro Timer II Housings</b> |             |   |
| Receptacle Housings for Contacts 18.0 mm Length              | 2-146       | ✓ |
| <b>Sealed Junior Power Timer Housings</b>                    |             |   |
| Receptacle Housings for Contacts 18.0 mm Length              | 2-147       | ✓ |
| <b>Sealed Junior Power Timer Housings</b>                    |             |   |
| Receptacle Housings for Contacts 21.0 mm Length              | 2-148–2-167 | ✓ |
| Tab Housings for Contacts 21.0 mm Length                     | 2-168–2-169 | ✓ |
| <b>Sealed Power Timer and Micro Timer II Housings</b>        |             |   |
| Receptacle Housings for Contacts 21.0 mm Length              | 2-170–2-177 | ✓ |
| <b>Application Tooling and Equipment</b>                     |             |   |
| Introduction   | 2-179       | ✓ |
| Insertion Machines for Single Contacts                       | 2-180–2-182 | ✓ |
| IDC Machines   | 2-183       | ✓ |
| Lead Makers  | 2-184–2-191 | ✓ |
| Applicators  | 2-192–2-194 | ✓ |
| Crimping Presses and Accessories                             | 2-195–2-205 | ✓ |
| Resistance Welding Equipment                                 | 2-206       | ✓ |
| MOST™ Equipment  | 2-207–2-208 | ✓ |
| Hand Tools   | 2-209–2-213 | ✓ |
| FFC-FPC Equipment  | 2-214–2-215 | ✓ |
| Magnet Wire Equipment  | 2-216–2-217 | ✓ |
| Board Processing Equipment                                   | 2-218–2-221 | ✓ |
| Equipment for Electrical Testing                             | 2-222       | ✓ |
| Application Tooling Global Field Service Organization        | 2-223       | ✓ |
| Application Tooling Americas Field Service Locations         | 2-224       | ✓ |
| Application Tooling EMEA Field Service Locations             | 2-225       | ✓ |
| Application Tooling Asia Pacific Field Service Locations     | 2-226       | ✓ |
| <b>Numerical Index</b>                                       |             |   |
| Disclaimer and Trademarks                                    | 2-227–2-235 | ✓ |
|  | 2-236       | ✓ |



## THE PRODUCTS

[illegible]

Engineering Notes



## Introduction



**For Decades the  
Timer Interconnection  
System has Proven its  
Reliability in the  
Automotive Industry**



The comprehensive range of AMP Timer contacts are extensively used in the automotive industry.

Each contact consists of a flat receptacle, which mates with a flat tab. The receptacle has two respective four contact springs, which are independent of each other. Two-piece contacts with a steel top spring are pre-dominantly.

This two-piece contact design means that the electrical and mechanical properties are separated. One end of the contact body is either crimped to wire, or soldered to a printed circuit board. The other end of the contact body mates with the matching tab.

The contact body is responsible for the electrical characteristics, while the top spring ensures that contact force is maintained under critical circumstances and over lifetime of the contact system. Reduction in contact force due to stress relaxation at elevated temperature is thus minimized.

In addition there are usually two lances on the steel top spring. These serve to lock the contact securely into the housing.

Secondary locking of the contact in the housing can be achieved by means of the steel top spring, which usually takes the form of a box.

All versions of Timer contacts can be combined easily in one connector without renouncing secondary locking device.

Application in connectors which contacts by means of swiveling is possible.

Tabs and receptacles can be applied in both watertight and non-watertight connectors.

AMP Timer connectors are available as receptacle and tab housings (free-hanging coupling in a wiring harness) or as receptacle housings and multiple tabs (group connection). With the free-hanging coupling type the housings, with up to 100 contacts, are then secured by means of a separate locking device.

With multiway connectors the single lever method is usually employed (sequential insertion distributed along an angled path).

Using this method a single lever plug on the receptacle housing engages in one end of the multiple tab housing. The connector is then latched up to the final position.

This system is relatively tolerant as regards the positioning of the contact tabs in the housing. An additional advantage is that the contact system is, to a large degree, insensitive to crooked insertion. Even when the tabs are not straight the contact geometry ensures firm contact.

In order that the flat contact system can be employed at interfaces with signal currents of medium strengths as well as with load currents more than 70 A.

---

Engineering Notes

---

A large grid of graph paper for engineering notes, consisting of 30 columns and 40 rows of small squares.

## Introduction



Powertrain  
Systems



Safety & Security  
Systems



Convenience



Driver  
Information



Body & Chassis  
Systems



The receptacle contact has two, respective four contact springs, which are independent of each other and a steel top spring.

All Timer contacts can be combined in one connector, same secondary locking device.

Independent of both, watertight and non-watertight connectors, tabs and receptacle can be applied.

Within the Timer Contacts we offer to following types:

The Micro Timer I, II and III are contacts desigend for 1.5/1.6 mm Tab Contacts.

The Junior Timer/Junior Power Timer Contacts are designed for 2.8/3.0 mm Tab Contacts.

Standard Timer and Standard Power Timer Contacts fit to 4.8/5.8 and 6.3 mm Tab Contacts. The Maxi Power Timer fits to 8.0/9.5 mm Tab Contacts.



## Receptacle Contacts

### Technical Features

#### Contact Material:

CuSn, CuFe  
Cantilever Spring: Stainless Steel

#### Contact Finish:

pre-tin plated, gold plated

#### Wire Size Range:

0.2–1.5 mm<sup>2</sup> FLR  
(thin walled wire)

#### Contact Resistance (New State):

CuSn: <5 mΩ  
CuFe: <4 mΩ

#### Total Temperature max.:

–40 °C to +120 °C (tin plated)  
–40 °C to +140 °C (gold plated)

#### Mating Cycles:

10 (tin plated)  
100 (gold plated)

#### Insertion Force\*:

max. 5 N (proof tab 0.8 mm thick)

#### Extraction Force\*:

min. 2 N (proof tab 0.8 mm thick)

#### Retention Force (from Housing):

– without second locking device  
>25 N  
– second locking device only  
>100 N  
depends on housing material

#### Dimensions of Male Contacts:

1.6 mm x 0.8 mm

#### Product Group Drawing:

1703333

\* Measured with an Steel Test Tab  
(see Product Spec. 108-18279).



#### Extraction Tool:

Part No. **5-1579007-5**

#### Product Specification:

108-18024

#### Application Specification:

114-18163

### Max. Current in 9 Position Housing

| Material | Temperature<br>(° C) | Current Carrying Capacity<br>(Ampere) |                      |                      |
|----------|----------------------|---------------------------------------|----------------------|----------------------|
|          |                      | 0.35 mm <sup>2</sup>                  | 0.50 mm <sup>2</sup> | 0.75 mm <sup>2</sup> |
| CuSn     | 20                   | 3.0                                   | 5.0                  | 8.0                  |
|          | 90                   | 1.5                                   | 2.0                  | 4.0                  |
| CuFe     | 20                   | 4.0                                   | 6.0                  | 10.0                 |
|          | 90                   | 1.5                                   | 2.5                  | 5.0                  |

### Standard Receptacle Contacts

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |         | Material<br>and Finish*     | Part Numbers  |                     |                 |                     |             | Hand Tool |
|--|-----------------------------|---------|-----------------------------|---------------|---------------------|-----------------|---------------------|-------------|-----------|
|  | FLK                         | FLR     |                             | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity | Applicator* |           |
| 0.2–0.5                                  | –                           | 1.2–1.6 | -1 / -2 / -3 / -4           | 929950        | 7,500               | 929951          | 500                 | 1528493     | 2063538-1 |
| 0.35–0.75                                | –                           | 1.2–1.9 | -1 / -2 / -3 / -4           | 928939        | 6,000               | 929927          | 1,000               | on request  |           |
| 0.5–1.0                                  | –                           | 1.4–2.1 | -1 / -2 / -3 / -4 / -7 / -8 | 929952        | 6,000               | 929953          | 500                 | 1528020     |           |
| 1.0–1.5                                  | –                           | 1.9–2.4 | -1 / -2 / -3 / -4           | 929954        | 5,000               | 929955          | 500                 | 1528706     |           |

#### \* Material and Finish:

xxx-1 = CuSn, pre-tin plated  
xxx-2 = CuSn, gold plated  
xxx-3 = CuFe, pre-tin plated  
xxx-4 = CuFe, gold plated  
xxx-7 = CuSn, gold plated, short-circuit execution  
xxx-8 = CuFe, gold plated, short-circuit execution

\*) The pre- and suffix for the applicators depends on the applied termination equipment.

Receptacle Contacts

**Technical Features**

**Contact Material:**

CuSn, CuFe, CuNiSi  
Cantilever Spring: Stainless Steel

**Contact Finish:**

pre-tin plated, gold plated

**Wire Size Range:**

0.2–0.5 mm<sup>2</sup> (FLR)  
0.5–1.0 mm<sup>2</sup> (FLR)  
1.5 mm<sup>2</sup> (FLR)

**Contact Resistance (New State):**

CuSn: <5 mΩ  
CuFe: <4 mΩ

**Total Temperature max.:**

–40 °C to +120 °C (tin plated)  
–40 °C to +140 °C (gold plated)

**Mating Cycles:**

10 (tin plated)  
100 (gold plated)

**Insertion Force\*:**

max. 4 N (proof tab 0.6 mm thick)

**Extraction Force\*:**

min. 2 N (proof tab 0.6 mm thick)

**Retention Force (from Housing):**

– without second locking device  
  > 25 N  
– second locking device only  
  > 100 N  
depends on housing material

**Dimensions of Male Contacts:**

1.6 x 0.6 mm = Micro Timer II  
1.6 x 0.8 mm = Micro Timer III

**Modular Dimensions:**

3.25 mm x 4.0 mm (smallest)

**Version in Single Seal:**

4.0 mm x 4.0 mm (smallest)

**Extraction Tool:**

Part No. **539960-1**

**Product Group Drawings:**

1355045 = Micro Timer II  
1241916 = Micro Timer III

**Product Specifications:**

108-18055 = Micro Timer II  
108-18386 = Micro Timer III

**Application Specification:**

114-18081

**Receptacle Contact**



**With Modified Spring**



**Max. Current in 68 Position Housing**

| Material | Temperature<br>(° C) | Current Carrying Capacity<br>(Ampere) |                      |                      |
|----------|----------------------|---------------------------------------|----------------------|----------------------|
|          |                      | 0.35 mm <sup>2</sup>                  | 0.50 mm <sup>2</sup> | 0.75 mm <sup>2</sup> |
| CuSn     | 20                   | 3.0                                   | 5.0                  | 8.0                  |
|          | 90                   | 1.5                                   | 2.0                  | 4.0                  |
| CuFe     | 20                   | 4.0                                   | 6.0                  | 10.0                 |
|          | 90                   | 1.5                                   | 2.5                  | 5.0                  |

\*) Measured with an Steel Test Tab  
(see Product Spec. 108-18279).

\*\*) **Note:** Micro Timer III is made  
for diagnosis applications.

Receptacle Contacts (continued)

**Standard Receptacle Contacts**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |           | Material and Finish *       | Part Numbers |                  |              |                  |              | Hand Tool |
|------------------------------------|--------------------------|-----------|-----------------------------|--------------|------------------|--------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR       |                             | Strip Form   | Package Quantity | Loose-Piece  | Package Quantity | Applicator ♦ |           |
| 0.2–0.5                            | –                        | 1.15–1.60 | -1 / -2 / -3 / -4 / -5 / -6 | 962942 1)    | 7,000            | 962944 1)    | 500              | 1528061      | 2063409-1 |
| 0.5–1.0                            | –                        | 1.4–2.1   | -1 / -2 / -3 / -4 / -5 / -6 | 962943 1)    | 6,000            | 962945 1)    | 500              | 1528256      |           |
|                                    |                          |           | -1 / -2                     | 964150 1) 3) | 5,000            | 964151 1) 3) | 500              | 1528096      |           |
| 0.2–0.5                            | –                        | 1.15–1.60 | -1 / -2                     | 965914 5)    | 6,000            | 965915 5)    | 500              | 1528061      |           |
| 0.5–1.0                            | –                        | 1.4–2.1   | -1                          | 968052 5)    | 6,000            | 968053 5)    | 500              | 1528256      |           |
|                                    |                          |           | -1                          | 969022 6)    | 6,000            | 969023 6)    | 500              | 1528304      |           |

**Receptacle Contacts with Single Wire Sealing System**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |         | Material and Finish *  | Part Numbers |                  |             |                  |              | Hand Tool |
|------------------------------------|--------------------------|---------|------------------------|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR     |                        | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator ♦ |           |
| 0.2–0.5                            | –                        | 1.2–1.6 | -1 / -2 / -3 / -5      | 962875 1)    | 4,000            | 963710 1)   | 500              | 1528281      | 2063265-1 |
| 0.5–1.0                            | –                        | 1.4–2.1 | -1 / -2 / -3 / -5 / -6 | 962876 1)    | 4,000            | 963711 1)   | 500              | 1528054      |           |
| 1.5                                | –                        | 2.2–2.4 | -1                     | 1703414      | 4,000            | 1703415     | 500              | 1528772      | –         |

**Standard Receptacle Contacts with Modified Spring**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |           | Material and Finish * | Part Numbers |                  |              |                  |              | Hand Tool |
|------------------------------------|--------------------------|-----------|-----------------------|--------------|------------------|--------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR       |                       | Strip Form   | Package Quantity | Loose-Piece  | Package Quantity | Applicator ♦ |           |
| 0.2–0.5                            | –                        | 1.15–1.60 | -2 / -3 / 4-xxx-1     | 964261 2)    | 7,500            | 964262 2)    | 500              | 1528091      | 2063409-1 |
| 0.5–1.0                            | –                        | 1.4–2.1   | -2 / -3 / 4-xxx-1     | 964263 2)    | 6,000            | 964264 2)    | 500              | 1528092      |           |
|                                    |                          |           | -2                    | 964348 2) 3) | 5,500            | 964349 2) 3) | 500              | 1528096      |           |
| 1.5                                | –                        | 2.2–2.4   | -2 / -3               | 1241844 2)   | 5,000            | 1241845 2)   | 500              | 1528123      | –         |
| 0.2–0.5                            | –                        | 1.15–1.60 | -2 / 4-xxx-1          | 1241858 5)   | 7,500            | 1241859 5)   | 500              | 1528091      | 2063409-1 |
| 0.5–1.0                            | –                        | 1.4–2.1   | -2 / -7 / 4-xxx-1     | 1241860 5)   | 6,000            | 1241861 5)   | 500              | on request   |           |

**Receptacle Contacts with Modified Spring and Single Wire Sealing System**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |           | Material and Finish *  | Part Numbers |                  |             |                  |              | Hand Tool |
|------------------------------------|--------------------------|-----------|------------------------|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR       |                        | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator ♦ |           |
| 0.2–0.5                            | –                        | 1.15–1.60 | -1 / -2 / -6           | 968045 1)    | 4,000            | 968046 1)   | 500              | 1528281      | 2063409-1 |
|                                    |                          |           | -2 / -3 / -6 / 4-xxx-1 | 969005 2)    | 4,500            | 969019 2)   | 500              | 1528068      |           |
| 0.5–1.0                            | –                        | 1.4–2.1   | -2 / -3 / -6 / 4-xxx-1 | 964274 2)    | 4,000            | 964275 2)   | 500              | 1528261      |           |
|                                    |                          |           | -1 / -2 / -6           | 968015 1)    | 4,000            | 968016 1)   | 500              | 1528054      |           |
| 0.2–0.5                            | –                        | 1.15–1.60 | -2 / 4-xxx-1           | 1241730 5)   | 4,500            | 1241731 5)  | 500              | 1528068      |           |
| 0.5–1.0                            | –                        | 1.4–2.1   | -2 / 4-xxx-1           | 1241732 5)   | 4,000            | 1241733 5)  | 500              | 1528261      |           |

**\*) Material and Finish:**

- xxx-1 = CuSn4, pre-tin plated
- xxx-2 = CuFe2, pre-tin plated
- xxx-3 = CuSn4, gold plated
- xxx-4 = CuSn4, gold plated, short-circuit execution
- xxx-5 = CuFe2, gold plated
- xxx-6 = CuSn4, special gold plated
- xxx-7 = CuNi12Zn24, plain
- 4-xxx-1 = CuNiSi, gold plated

**Remarks:**

- 1) = With Spring 1
- 2) = With Spring 1 or Spring 2
- 3) = For Double and Single Termination

**Micro Timer III:**

- 5) = Gap Size 0.2 mm
- 6) = Gap Size 0.35 mm

- ♦) The pre- and suffix for the applicators depends on the applied termination equipment.

Tab Contacts

**Tabs 1.6 x 0.6 mm  
with Steel Top Spring,  
Mates with  
Micro Timer II**

**Extraction Tool:**  
Part No. **539960-1**

**Product Specification:**  
108-18331

**Application Specification:**  
114-18082



**Standard Tab Contacts**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |           | Material and Finish* | Part Numbers |                  |             |                  | Applicator* | Hand Tool |
|------------------------------------|--------------------------|-----------|----------------------|--------------|------------------|-------------|------------------|-------------|-----------|
|                                    | FLK                      | FLR       |                      | Strip Form   | Package Quantity | Loose-Piece | Package Quantity |             |           |
| 0.2-0.5                            | -                        | 1.15-1.60 | -1 / -2 / -3         | 963898 1)    | 7,000            | 963899 1)   | 500              | 1528061     | 2063265-1 |
| 0.5-1.0                            | -                        | 1.4-2.1   | -1 / -2 / -3 / -4    | 963900 1)    | 6,000            | 963901 1)   | 500              | 1528256     |           |

**Tab Contacts with Single Wire Sealing System**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |           | Material and Finish* | Part Numbers |                  |             |                  | Applicator* | Hand Tool |
|------------------------------------|--------------------------|-----------|----------------------|--------------|------------------|-------------|------------------|-------------|-----------|
|                                    | FLK                      | FLR       |                      | Strip Form   | Package Quantity | Loose-Piece | Package Quantity |             |           |
| 0.2-0.5                            | -                        | 1.15-1.60 | -1 / -2 / -3         | 963902 1)    | 4,000            | 963903 1)   | 500              | 1528281     | 2063265-1 |
| 0.5-1.0                            | -                        | 1.4-2.1   | -1 / -2 / -3         | 963904 1)    | 4,000            | 963905 1)   | 500              | 1528054     |           |

**\* Material and Finish:**

xxx-1 = CuSn4, pre-tin plated  
xxx-2 = CuFe2, pre-tin plated  
xxx-3 = CuSn4, gold plated  
xxx-4 = CuSn4, gold plated

**Remarks:**

**1)** = With Spring 1

♦) The pre- and suffix for the applicators depends on the applied termination equipment.

Tab Contacts

**Tabs 1.6 x 0.6 mm  
with Modified  
Steel Top Spring,  
Mates with  
Micro Timer II**

**Extraction Tool:**  
Part No. **539960-1**

**Product Group Drawing:**  
1355055

**Product Specification:**  
108-18331

**Application Specification:**  
114-18082



**Standard Tab Contacts with Modified Spring**

| Wire Size<br>Range<br>(mm²) | Insulation Diameter<br>(mm) |           | Material<br>and Finish * | Part Numbers  |                     |                 |                     |                           |           |
|-----------------------------|-----------------------------|-----------|--------------------------|---------------|---------------------|-----------------|---------------------|---------------------------|-----------|
|                             | FLK                         | FLR       |                          | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity | Applicator *<br>Hand Tool |           |
| 0.2–0.5                     | –                           | 1.15–1.60 | -2 / -3                  | 964265 2)     | 7,500               | 964266 2)       | 500                 | 1528091                   | 2063409-1 |
| 0.5–1.0                     | –                           | 1.4–2.1   | -2 / -3                  | 969079 2) 3)  | 5,500               | 969080 2) 3)    | 500                 | 1528096                   |           |
|                             |                             |           | -1 / -2 / -3             | 964267 2)     | 6,000               | 964268 2)       | 500                 | 1528092                   |           |
| 1.5                         | –                           | 2.2–2.4   | -1 / -2 / -3             | 1241846 2)    | 4,000               | 1241847 2)      | 500                 | 1528123                   | –         |

**Tab Contacts with Modified Spring and Single Wire Sealing System**

| Wire Size<br>Range<br>(mm²) | Insulation Diameter<br>(mm) |         | Material<br>and Finish * | Part Numbers         |                     |                      |                     |              |           |
|-----------------------------|-----------------------------|---------|--------------------------|----------------------|---------------------|----------------------|---------------------|--------------|-----------|
|                             | FLK                         | FLR     |                          | Strip<br>Form        | Package<br>Quantity | Loose-<br>Piece      | Package<br>Quantity | Applicator * | Hand Tool |
|                             |                             |         |                          |                      |                     |                      |                     |              |           |
| 0.2–0.5                     | –                           | 1.2–1.6 | -2 / -3                  | 969028 <sup>2)</sup> | 4,000               | 969029 <sup>2)</sup> | 500                 | 1528068      | 2063409-1 |
| 0.5–1.0                     | –                           | 1.4–2.1 | -2 / -3                  | 964269 <sup>2)</sup> | 4,000               | 964270 <sup>2)</sup> | 500                 | 1528261      |           |
| 1.5                         | –                           | 2.2–2.4 | -2                       | 1703278              | 4,000               | 1703279              | 500                 | 1528579      | –         |

**\*) Material and Finish:**

xxx-1 = CuSn4, pre-tin plated  
xxx-2 = CuFe2, pre-tin plated  
xxx-3 = CuSn4, gold plated

**Remarks:**

2) = With Spring 1 or Spring 2  
3) = For Double and Single Termination

♦) The pre- and suffix for the applicators depends on the applied termination equipment.



Single Wire Seals and Sealing Plugs

**Single Wire Seals  
and Sealing Plugs  
for Micro Timer II;  
Micro Timer III and  
1.6 mm Tabs**



| Insulation Diameter (mm) | Color   | Part Number | Package Quantity |
|--------------------------|---------|-------------|------------------|
| 0.35–0.50                | Blue    | 1394133-1   | 10,000           |
| 0.9–1.2                  | Green   | 1718705-1   | 10,000           |
| 1.2–1.6                  | Red     | 964971-1    | 10,000           |
| 1.4–1.9                  | Gray    | 963530-1    | 10,000           |
| 1.9–2.4                  | Yellow  | 964972-1    | 10,000           |
| Sealing Plug             | White   | 963531-1    | 10,000           |
|                          | Natural | 1394132-1   | 10,000           |



---

Engineering Notes

---

A large grid of graph paper for engineering notes, consisting of 30 columns and 40 rows of small squares.

Receptacle Contacts

**Technical Features**

**Wire Size Range:**

0.12–2.5 mm<sup>2</sup>  
(suitable for insulation-reduced  
stranded wires)

**Current Carrying Capacity:**

up to approx. 20 A

**Insertion Force\*:**

approx. 8 N

**Extraction Force\*:**

approx. 6 N

**Contact Material:**

CuZn or CuSn

**Contact Finishes:**

plain, tin plated, silver plated or  
gold plated.

Special materials and finishes  
on request.

**Junior Timer Contacts Fit:**

Tabs according DIN 46244  
(2.8 x 0.8 mm), DIN 46343, Part 1,  
as well as male connectors  
(3.0 x 0.8 mm).

Special applications on request.

Additional Technical Features  
on request.



**Extraction Tools:**

Part No. **1-1579007-4**

**Product Specification:**

108-18053

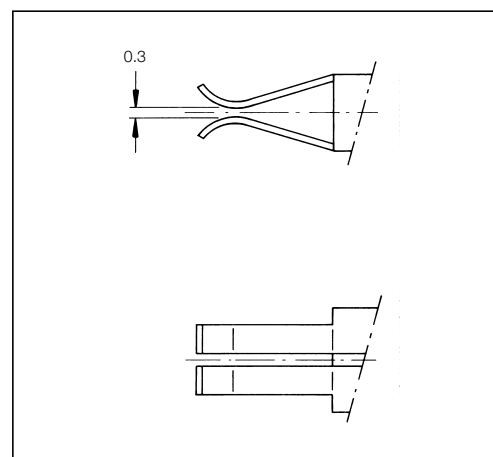
**Application Specification:**

114-18079

\*) Measured with an Steel Test Tab  
(see Product Spec. 108-18279).



**Junior Timer Contact  
– Modified –**  
Chamfered Springs



**Junior Timer Contact  
– Special Version –**  
Gap Size = 0.3 mm

Receptacle Contacts (continued)

**Junior Timer Receptacle Contacts**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |         | Material and Finish *        | Part Numbers      |                  |                   |                  |              |           |
|------------------------------------|--------------------------|---------|------------------------------|-------------------|------------------|-------------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR     |                              | Strip Form        | Package Quantity | Loose-Piece       | Package Quantity | Applicator ♦ | Hand Tool |
| 0.12-0.25                          | 0.9-1.4                  | —       | -1 4) / -2 5)                | 926755            | 5,000            | 926756            | 500              | 1528556      | 58495-1   |
| 0.5-1.0                            | 2.0-2.7                  | —       | -1 / -2 1) / -3 / -4         | 927863            | 4,000            | 927864            | 500              | 1426120      |           |
| 0.5-1.5                            | 2.0-3.0                  | —       | -1 / -2 / -3 / -4 / -6       | 925590            | 4,000            | 925596            | 500              | 1528548      | 2063375-1 |
| >1.0-2.5                           | 2.4-3.7                  | —       | -1 / -2 / -3 2) / -4 / -5 3) | 925595            | 3,750            | 925597            | 500              | 1528456      |           |
| >1.0-2.5                           | 2.7-3.7                  | —       | -1 / -2 / -4                 | 927877 ***        | 3,500            | 927878 ***        | 500              | 1426451      |           |
| 0.2-0.5                            | —                        | 1.2-1.6 | -1 / -2 1) / -4              | 927871            | 5,000            | 927872            | 500              | 1528274      | 2063569-1 |
| 0.5-1.0                            | —                        | 1.4-2.1 | -1 / -2 1) / -3 / -4 / -5    | 927845            | 4,000            | 927846            | 500              | 1528583      | 2063645-1 |
| >1.0-2.5                           | —                        | 2.2-3.0 | -1 / -2 / -4 / -5            | 927856            | 3,750            | 927857            | 500              | 1426401      |           |
| 0.5-1.5                            | 2.3-3.3                  | —       | —                            | 925871-1 1) **    | 4,000            | 925871-2 1) **    | 500              |              |           |
|                                    |                          |         |                              | 925871-3 3) **    | 4,000            | 925871-4 3) **    | 500              |              |           |
|                                    |                          |         |                              | 925871-5 7) **    | 4,000            | —                 | 500              |              |           |
|                                    |                          |         |                              | 925871-6 2) **    | 4,000            | 925871-7 2) **    | 500              | 1528548      | 2063375-1 |
|                                    |                          |         |                              | 927973-1 1) **    | 4,000            | 927973-2 1) **    | 500              |              |           |
|                                    |                          |         |                              | 927973-3 1) 6) ** | 4,000            | 927973-4 1) 6) ** | 500              |              |           |

**Junior Timer Contacts with Modified Cantilever Spring**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |     | Material and Finish * | Part Numbers |                  |             |                  |              |           |
|------------------------------------|--------------------------|-----|-----------------------|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR |                       | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator ♦ | Hand Tool |
| 0.5-1.5                            | 2.3-3.3                  | —   | -1 / -2 / -5          | 927966       | 3,750            | 929929      | 500              | 1528548      | 2063375-1 |

**\*) Material and Finish:**

xxx-1 = CuZn30, pre-tin plated  
xxx-2 = CuSn4, pre-tin plated  
xxx-3 = CuSn4, gold plated  
xxx-4 = CuZn30, pre-silver plated  
xxx-5 = CuSn4, pre-silver plated  
xxx-6 = CuSn4, silver plated

**\*\*) Gap Size 0.3 mm**

**\*\*\*) For Double and Single Termination**

**Remarks:**

1) = CuSn4, pre-tin plated  
2) = CuSn4, silver plated  
3) = CuSn4, gold plated  
4) = CuSn6, pre-tin plated  
5) = CuSn6, gold plated  
6) = with Lubricant  
7) = Plain

♦) The pre- and suffix for the applicators depends on the applied termination equipment.

Receptacle Contacts

**Technical Features**

**Contact Material:**

CuSn, CuFe, CuNiSi  
Cantilever Spring: Stainless Steel

**Contact Finish:**

- tin plated
- silver plated
- selective gold plated

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>  
FLK and FLR

**Contact Resistance (New State):**

CuFe: <2 mΩ  
CuSn: <3 mΩ

**Total Temperature max.:**

- 40 °C to +130 °C (tin plated)
- 40 °C to +140 °C (silver plated)
- 40 °C to +150 °C (gold plated)

**Mating Cycles:**

- 10 (tin plated)
- 50 (silver plated)
- 100 (gold plated)

**Insertion Force\*:**

max. 15 N

**Extraction Force\*:**

min. 1.5 N

**Retention Force:**

- from housings without second locking device min. 100 N
- from housings only second locking device min. 60 N

**Dimensions of Male Contacts:**

2.8 mm x 0.8 mm

**Centerlines  
(Standard/SWS):**

- 5.0 x 5.5 mm
- 5.0 x 5.0 mm (Staggered)

**Extraction Tool:**

Part No. **1-1579007-6**

**Product Group Drawing:**

- 1355046
- 1355047 (Modified Spring)

**Product Specification:**

108-18013

**Application Specification:**

114-18050

\*) Measured with an Steel Test Tab  
(see Product Spec. 108-18279).

**Receptacle Contact**



**With Modified Spring**



**Max. Current in 7 Position Housing**

| Material | Temperature<br>(° C) | Current Carrying Capacity<br>(Ampere) |                     |                     |
|----------|----------------------|---------------------------------------|---------------------|---------------------|
|          |                      | 1.0 mm <sup>2</sup>                   | 1.5 mm <sup>2</sup> | 2.5 mm <sup>2</sup> |
| CuSn     | 20                   | 16.0                                  | 20.0                | 25.0                |
|          | 90                   | 7.5                                   | 9.5                 | 12.0                |
| CuFe     | 20                   | 15.0                                  | 19.0                | 22.5                |
|          | 90                   | 7.0                                   | 9.0                 | 11.0                |



Receptacle Contacts (continued)

**Standard Receptacle Contacts (Length 18.8 mm)**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm)   |         | Material and Finish *                      | Part Numbers |                  |             |                  | Applicator ♦ | Hand Tool |
|------------------------------------|----------------------------|---------|--|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                        | FLR     |  | Strip Form   | Package Quantity | Loose-Piece | Package Quantity |              |           |
| 0.22–0.50                          | 1.15–2.30                  | –       | -1 / -3 / 1-xxx-1                          | 927778       | 4,000            | 927780      | 500              | 1528407      | 2063569-1 |
|                                    |                            |         | -1   | 967259 **    | 4,500            | 967260 **   | 500              |              |           |
|                                    |                            |         | -1   | 969137 ***   | 4,000            | 969138 ***  | 500              |              |           |
| 0.5–1.0                            | 2.0–2.7                    | –       | -1 / -3 / -6 / -7 / 1-xxx-1 / 2-xxx-1      | 927775       | 4,000            | 927783      | 500              | 1426141      | 2063195-1 |
|                                    |                            |         | -1 / -3                                    | 928876 ****  | 4,000            | –           | –                |              |           |
| 1.5–2.5                            | 2.7–4.1                    | –       | -1 / -3 / -6 / 1-xxx-1 / 2-xxx-1           | 927773       | 3,000            | 927781      | 500              | 1528385      | 2063195-1 |
| 0.2–0.5                            | –                          | 1.0–1.6 | -1 / -3 / -6 / -8 / 1-xxx-1 / 2-xxx-1      | 927774       | 4,000            | 927776      | 500              | 1528032      | 2031991-1 |
| 0.5–1.0                            | –                          | 1.4–2.3 | -1 / -3 / -6 / -8 / -9 / 1-xxx-1 / 2-xxx-1 | 927771       | 3,750            | 927779      | 500              | 1528029      | 2063195-1 |
|                                    |                            |         | -1   | 965901 ***   | 4,000            | 965902 ***  | 500              |              |           |
|                                    |                            |         | -1 *                                       | 928810 **    | 4,000            | –           | –                |              |           |
| 1.5–2.5                            | –                          | 2.1–3.1 | -1 / -3 / -6 / -8 / -9 / 1-xxx-1 / 2-xxx-1 | 927768       | 3,500            | 927777      | 500              | 1528045      | 2063195-1 |
|                                    |                            |         | -1   | 963884 **    | 3,500            | 963885 **   | 500              |              |           |
|                                    |                            |         | -1   | 965899 ***   | 3,500            | 965900 ***  | 500              |              |           |
| 0.08–0.22                          | 1.5–1.8<br>Special Version | –       | -1 / -3 / -6 / 1-xxx-1 / 2-xxx-1           | 963708       | 4,000            | 963777      | 500              | on request   | 734414-1  |

**Receptacle Contacts with Single Wire Sealing System (Length 18.8 mm)**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |           | Material and Finish *                 | Part Numbers |                  |             |                  | Applicator ♦ | Hand Tool |
|------------------------------------|--------------------------|-----------|---------------------------------------|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR       |                                       | Strip Form   | Package Quantity | Loose-Piece | Package Quantity |              |           |
| 0.22–0.38                          | 1.15–1.60                | –         | -1 / -3 / 1-xxx-1                     | 927772       | 3,700            | 929931      | 500              | 1528027      |           |
| 0.5–1.0                            | 2.0–2.7                  | –         | -1 / -3 / -6 / -8 / 1-xxx-1 / 2-xxx-1 | 927770       | 3,750            | 929930      | 500              | 1528006      |           |
|                                    |                          |           | -1                                    | 929280 **    | 3,750            | 929281 **   | 500              | 1528006      |           |
| 1.5–2.5                            | 2.7–3.0                  | –         | -1 / -3 / -8 / 1-xxx-1 / 2-xxx-1      | 927766       | 3,750            | 929929      | 500              | 1528275      | 2031991-1 |
| 0.35–0.50                          | –                        | 1.15–1.60 | -1 / -3 / 1-xxx-1                     | 927772       | 3,700            | 929931      | 500              | 1528027      |           |
| 0.5–1.0                            | –                        | 1.4–2.1   | -1 / -3 / -6 / -8 / 1-xxx-1 / 2-xxx-1 | 927770       | 3,750            | 929930      | 500              | 1528006      |           |
| 1.5–2.5                            | –                        | 2.2–3.0   | -1 / -3 / -8 / 1-xxx-1 / 2-xxx-1      | 927766       | 3,750            | 929929      | 500              | 1528275      |           |

**\*) Material and Finish:**

xxx-1 = CuFe, pre-tin plated  
xxx-1\* = CuSn, pre-tin plated  
xxx-3 = CuSn, pre-tin plated  
xxx-6 = CuSn, selective pre-silver plated  
xxx-7 = CuFe, pre-tin plated, Special Test  
xxx-8 = CuSn, selective gold plated, Spring: gold plated  
xxx-9 = CuSn, selective gold and tin plated  
1-xxx-1 = CuFe, selective gold plated  
2-xxx-1 = CuSn, selective gold plated

**Remarks:**

\*\* ) Gap Size 0.30 mm  
\*\*\* ) Gap Size 0.65 mm  
\*\*\*\* ) Gap Size 0.15 mm

♦ ) The pre- and suffix for the applicators depends on the applied termination equipment.

Receptacle Contacts (continued)

**Receptacle Contacts with Single Wire Sealing System (Length 21.0 mm)**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |           | Material and Finish *               | Part Numbers |                  |             |                  |              | Hand Tool |
|------------------------------------|--------------------------|-----------|-------------------------------------|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR       |                                     | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator ♦ |           |
| 0.22-0.38                          | 1.15-1.60                | –         | -1 / -3 / -6 /<br>1-xxx-1 / 2-xxx-1 | 929941       | 3,750            | 929942      | 500              | 1528027      | 2031991-1 |
| 0.5-1.0                            | 2.0-2.7                  | –         | -1 / -3 / -6 /<br>1-xxx-1 / 2-xxx-1 | 929939       | 3,750            | 929940      | 500              | 1528006      |           |
| 1.5-2.5                            | 2.7-3.0                  | –         | -1 / -3 / -6 /<br>1-xxx-1 / 2-xxx-1 | 929937       | 3,700            | 929938      | 500              | 1528275      |           |
| 0.35-0.50                          | –                        | 1.15-1.60 | -1 / -3 / -6 /<br>1-xxx-1 / 2-xxx-1 | 929941       | 3,750            | 929942      | 500              | 1528027      |           |
| 0.5-1.0                            | –                        | 1.4-2.1   | -1 / -3 / -6 /<br>1-xxx-1 / 2-xxx-1 | 929939       | 3,750            | 929940      | 500              | 1528006      |           |
| 1.5-2.5                            | –                        | 2.2-3.0   | -1 / -3 / -6 /<br>1-xxx-1 / 2-xxx-1 | 929937       | 3,700            | 929938      | 500              | 1528275      |           |

**\*) Material and Finish:**

xxx-1 = CuFe, pre-tin plated  
xxx-3 = CuSn, pre-tin plated  
xxx-6 = CuSn, selective pre-silver plated

1-xxx-1 = CuFe, selective gold plated  
2-xxx-1 = CuSn, selective gold plated

♦) The pre- and suffix for the applicators depends on the applied termination equipment.

**Standard Receptacle Contacts with Modified Spring (Length 18.8 mm)**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |           | Material and Finish *                         | Part Numbers |                  |             |                  |              | Hand Tool |
|------------------------------------|--------------------------|-----------|---|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR       |   | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator ♦ |           |
| 0.22–0.50                          | –                        | 1.15–1.60 | -1 / -2 /<br>1-xxx-1 / 2-xxx-1 / 4-xxx-1      | 964280       | 4,500            | 964279      | 500              | 1528004      | 2063533-1 |
|                                    |                          |           | -1 / 4-xxx-1                                  | 1241862 **   | 3,500            | 1241863 **  | 500              | on request   |           |
| 0.5–1.0                            | –                        | 1.4–2.1   | -1 / -2 / -6 /<br>1-xxx-1 / 2-xxx-1 / 4-xxx-1 | 964284       | 4,000            | 964283 ***  | 500              | 1528097      |           |
|                                    |                          |           | -1 / 4-xxx-1                                  | 1241866 **   | 3,500            | 1241867 **  | 500              | on request   |           |
| 1.5–2.5                            | –                        | 2.2–3.0   | -1 / -2 / -6 /<br>1-xxx-1 / 2-xxx-1 / 4-xxx-1 | 965999       | 3,500            | 964346 ***  | 500              | 1528001      |           |
|                                    |                          |           | -1 / 4-xxx-1                                  | 1241870 **   | 3,500            | 1241871 **  | 500              | 1528001      |           |
| 2.5–4.0                            | –                        | 2.7–3.7   | -2  | 1241978      | 2,700            | 1241977     | 500              | 1528202      | –         |

**Receptacle Contacts with Modified Spring and Single Wire Sealing System (Length 19.6 mm)**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |         | Material and Finish *                    | Part Numbers |                  |             |                  |              | Hand Tool |
|------------------------------------|--------------------------|---------|--|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR     |  | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator ♦ |           |
| 0.2–0.5                            | –                        | 1.2–2.3 | -1 / -2 /<br>1-xxx-1 / 2-xxx-1 / 4-xxx-1 | 964282       | 3,500            | 964281      | 500              | 1528025      | 2063435-1 |
|                                    |                          |         | -1 / 4-xxx-1                             | 1241864 **   | 3,500            | 1241865 **  | 500              | on request   |           |
| 0.5–1.0                            | –                        | 1.4–2.7 | -1 / -2 /<br>1-xxx-1 / 2-xxx-1 / 4-xxx-1 | 964286       | 3,500            | 964285      | 500              | 1528101      |           |
|                                    |                          |         | -1 / 4-xxx-1                             | 1241868 **   | 3,500            | 1241869 **  | 500              | on request   |           |
| 1.5–2.5                            | –                        | 2.2–3.0 | -1 / -2 /<br>1-xxx-1 / 2-xxx-1 / 4-xxx-1 | 964273       | 3,500            | 964287      | 500              | 1528026      |           |
|                                    |                          |         | -1 / 4-xxx-1                             | 1241872 **   | 3,500            | 1241873 **  | 500              | 1528026      |           |

**\*) Material and Finish:**

xxx-1 = CuFe, pre-tin plated  
xxx-2 = CuSn, pre-tin plated  
xxx-6 = CuSn, selective pre-silver plated

1-xxx-1 = CuFe, selective gold plated  
2-xxx-1 = CuSn, selective gold plated  
4-xxx-1 = CuNiSi, selective gold plated

**Remarks:**

\*\*\*) Gap Size 0.3 mm  
xxx-6 = NA yet

♦) The pre- and suffix for the applicators depends on the applied termination equipment.

Tab Contacts Asymmetric

**Tabs 2.8 x 0.8 mm  
with Asymmetric  
Steel Top Spring,  
Mates with  
Junior Power Timer**

**Extraction Tool:**  
Part No. **2-1579007-5**

**Product Specification:**  
108-18063

**Application Specification:**  
114-18051



**Standard Tab Contacts**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |         | Material<br>and Finish * | Part Numbers  |                     |                 |                     | Applicator * |
|--|-----------------------------|---------|--------------------------|---------------|---------------------|-----------------|---------------------|--------------|
|  | FLK                         | FLR     |                          | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity |              |
| 0.2-0.5                                  | —                           | 1.1-1.6 | -1 / -2                  | 962882        | 4,500               | 963813          | 500                 | 1528753      |
| 0.5-1.0                                  | —                           | 1.4-2.1 | -1 / -2                  | 962883        | 4,500               | 963814          | 500                 | 1528048      |
| 1.5-2.5                                  | —                           | 2.2-3.0 | -1 / -2                  | 962884        | 3,500               | 963815          | 500                 | 1528729      |

**Tab Contacts with Single Wire Sealing System**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |         | Material<br>and Finish * | Part Numbers  |                     |                 |                     | Applicator * |
|--|-----------------------------|---------|--------------------------|---------------|---------------------|-----------------|---------------------|--------------|
|  | FLK                         | FLR     |                          | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity |              |
| 0.2-0.5                                  | —                           | 1.2-1.6 | -1 / -2                  | 962879        | 4,500               | 963810          | 500                 | on request   |
| 0.5-1.0                                  | —                           | 1.4-2.1 | -1 / -2 / -3             | 962880        | 2,500               | 963811          | 500                 | 1530149      |
| 1.5-2.5                                  | —                           | 2.2-3.0 | -1 / -2 / -3             | 962881        | 2,500               | 963812          | 500                 | on request   |

**\*) Material and Finish:**  
xxx-1 = CuSn, pre-tin plated  
xxx-2 = CuFe, pre-tin plated  
xxx-3 = CuSn, contact area gold plated

Additional Finishes on request.

**♦) The pre- and suffix for the applicators depends on the applied termination equipment.**

Tab Contacts Symmetric

**Tabs 2.8 x 0.8 mm  
with Steel Top Spring,  
Mates with  
Junior Power Timer**

**Extraction Tool:**

Part No. **1-1579007-6**

**Product Group Drawing:**

1355052

**Product Specification:**

108-18063

**Application Specification:**

114-18051



**Standard Tab Contacts**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |           | Material<br>and Finish*                                      | Part Numbers  |                     |                 |                     |             |                          |
|--|-----------------------------|-----------|--|---------------|---------------------|-----------------|---------------------|-------------|--------------------------|
|  | FLK                         | FLR       |  | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity | Applicator* | Hand<br>Tool<br>Complete |
| 0.2-0.5                                  | -                           | 1.15-1.60 | 1-xxx-1 / 1-xxx-2 / 1-xxx-3 /<br>2-xxx-1 / 2-xxx-2 / 2-xxx-3 | 963860        | 4,000               | 963861          | 500                 | 1528859     | 734538-1                 |
| 0.5-1.0                                  | -                           | 1.4-2.0   | 1-xxx-1 / 1-xxx-2 / 1-xxx-3 /<br>2-xxx-1 / 2-xxx-2 / 2-xxx-3 | 962841        | 4,000               | 963745          | 500                 | 1528315     | 2063490-1                |
| 1.5-2.5                                  | -                           | 2.1-2.9   | 1-xxx-1 / 1-xxx-2 / 1-xxx-3 /<br>2-xxx-1 / 2-xxx-2 / 2-xxx-3 | 962842        | 3,500               | 963746          | 500                 | 1528305     | 2063490-1                |
| 1.5-2.5                                  | 2.4-3.7                     | -         | 1-xxx-1 / 1-xxx-2 / 1-xxx-3 /<br>2-xxx-1 / 2-xxx-2 / 2-xxx-3 | 962843        | 3,000               | 963747          | 500                 | on request  | 734417-3                 |
| 4.0                                      | -                           | 3.4-3.7   | 1-xxx-1 / 1-xxx-2 /<br>2-xxx-1 / 2-xxx-2 / 3-xxx-1           | 968946        | 2,700               | 968965          | 500                 | 1528430     | -                        |

**Tab Contacts with Single Wire Sealing System**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |          | Material<br>and Finish*                                      | Part Numbers  |                     |                 |                     |             |                          |
|--|-----------------------------|----------|--|---------------|---------------------|-----------------|---------------------|-------------|--------------------------|
|  | FLK                         | FLR      |  | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity | Applicator* | Hand<br>Tool<br>Complete |
| 0.2-0.5                                  | -                           | max. 2.1 | 1-xxx-1 / 1-xxx-3  | 965982        | 3,500               | 965983          | 500                 | 1528406     | 734538-1                 |
| 0.5-1.0                                  | -                           | max. 2.1 | 1-xxx-1 / 1-xxx-2 / 1-xxx-3 /<br>2-xxx-1 / 2-xxx-2 / 2-xxx-3 | 962915        | 3,500               | 963748          | 500                 | 1528452     | 2063490-1                |
| 1.5-2.5                                  | -                           | max. 3.0 | 1-xxx-1 / 1-xxx-2 / 1-xxx-3 /<br>2-xxx-1 / 2-xxx-2 / 2-xxx-3 | 962916        | 3,500               | 963749          | 500                 | 1528316     | 2063490-1                |
| 4.0                                      | -                           | max. 3.7 | 1-xxx-1 / 1-xxx-2 /<br>2-xxx-1 / 2-xxx-2 / 3-xxx-1           | 968947        | 3,500               | 968966          | 500                 | 1528067     | -                        |
| AWG 12                                   | GXL = max. 3.55             |          | 1-xxx-1 / 1-xxx-2  | 1719504       | 3,500               | 1719503         | 500                 | 1852291     | -                        |

**\*) Material and Finish:**

1-xxx-1 = CuSn, pre-tin plated  
1-xxx-2 = CuSn, selective silver plated  
1-xxx-3 = CuSn, selective gold plated

2-xxx-1 = CuFe, pre-tin plated  
2-xxx-2 = CuFe, selective silver plated  
2-xxx-3 = CuFe, selective gold plated  
3-xxx-1 = CuSn, pre-tin plated

\*) The pre- and suffix for the applicators depends on the applied termination equipment.

Tab Contacts Symmetric

**Tabs 2.8 x 0.8 mm  
with Modified  
Steel Top Spring,  
Mates with  
Junior Power Timer**

**Extraction Tool:**

Part No. **1-1579007-6**

**Product Group Drawing:**  
1355364

**Product Specification:**  
108-18063

**Application Specification:**  
114-18051



**Standard Tab Contacts with Modified Spring**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |           | Material<br>and Finish*     | Part Numbers  |                     |                 |                     |             | Hand Tool |
|--|-----------------------------|-----------|-----------------------------|---------------|---------------------|-----------------|---------------------|-------------|-----------|
|  | FLK                         | FLR       |                             | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity | Applicator* |           |
| 0.2-0.5                                  | —                           | 1.15-1.60 | 1-xxx-3 / 2-xxx-1           | 964292        | 4,000               | 964291          | 500                 | 1528004     | 2063533-1 |
| 0.5-1.0                                  | —                           | 1.4-2.1   | 1-xxx-3 / 2-xxx-1 / 2-xxx-2 | 964294        | 4,000               | 964293          | 500                 | 1528097     |           |
| 1.25-2.50                                | —                           | 2.2-3.0   | 1-xxx-3 / 2-xxx-1 / 2-xxx-2 | 964296        | 3,300               | 964295          | 500                 | 1528001     |           |

**Tab Contacts with Modified Spring and Single Wire Sealing System**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |           | Material<br>and Finish*     | Part Numbers  |                     |                 |                     |             | Hand Tool |
|--|-----------------------------|-----------|-----------------------------|---------------|---------------------|-----------------|---------------------|-------------|-----------|
|  | FLK                         | FLR       |                             | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity | Applicator* |           |
| 0.2-0.5                                  | —                           | 1.15-1.60 | 1-xxx-3 / 2-xxx-1           | 964298        | 3,500               | 964297          | 500                 | 1528025     | 2063435-1 |
| 0.5-1.0                                  | —                           | 1.4-2.1   | 1-xxx-3 / 2-xxx-1 / 4-xxx-1 | 964300        | 3,500               | 964299          | 500                 | 1528101     |           |
| 1.25-2.50                                | —                           | 2.2-3.0   | 1-xxx-3 / 2-xxx-1           | 964302        | 3,500               | 964301          | 500                 | 1528026     |           |

**\*) Material and Finish:**

- 1-xxx-3 = CuSn, selective gold plated
- 2-xxx-1 = CuFe, pre-tin plated
- 2-xxx-2 = CuFe, selective pre-silver plated
- 4-xxx-1 = CuNi18Zn20, plain

♦) The pre- and suffix for the applicators depends on the applied termination equipment.



Tab Contacts Side Feed

**Tabs 2.8 x 0.8 mm**  
**Side Feed,**  
**Mates with**  
**Junior Power Timer**

**Contact Material:**  
CuZn, CuSn, CuNiSi

**Contact Finish:**  
plain, pre-tin plated,  
silver plated, gold plated

**Wire Size Range:**  
0.2–3.0 mm<sup>2</sup> (FLR)

**Extraction Tool:**  
Part No. **725864-1**  
Part No. **1-1579007-4**

**Product Group Drawing:**  
1670467

**Product Specification:**  
108-18299

**Application Specification:**  
114-18014



**Tab Contacts**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |         | Material and Finish*   | Part Numbers |                  |             |                  |             |           |
|------------------------------------|--------------------------|---------|------------------------|--------------|------------------|-------------|------------------|-------------|-----------|
|                                    | FLK                      | FLR     |                        | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator* | Hand Tool |
| 0.2–0.5                            | –                        | 1.1–1.6 | -1 / -2 / -3 / -4      | 964131       | 6,000            | 964140      | 500              | 1528053     | 2063569-1 |
|                                    |                          |         | -1 / -2 / -3 / -4 / -5 | 963961**     | 5,000            | 963962**    | 500              | 1528530     | 1579001-2 |
|                                    |                          |         | -1 / -2 / -3 / -4 / -5 | 964132       | 4,000            | 964141      | 500              | 1238059     |           |
| 0.5–1.0                            | –                        | 1.4–2.1 | -1 / -2 / -3 / -4 / -5 | 927892**     | 4,000            | 928923**    | 500              | 1426070     | 2063527-1 |
|                                    |                          |         | -1 / -2 / -3 / -4 / -5 | 928930**     | 4,000            | 928931**    | 500              | 1528384     | –         |
|                                    |                          |         | -1 / -2 / -3 / -4      | 964133       | 3,000            | 964142      | 500              | on request  | 2063527-1 |
| > 1.0–2.5                          | –                        | 2.2–3.0 | -1 / -2 / -3 / -4 / -5 | 928781**     | 4,000            | 928794**    | 500              | 1528377     | 734262-1  |
|                                    |                          |         | -1 / -2 / -3 / -4 / -5 | 927893**     | 3,250            | 928924**    | 500              | 1426445     | –         |

**Tab Contacts with Single Wire Sealing System**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |         | Material and Finish*             | Part Numbers |                  |             |                  |             |           |
|------------------------------------|--------------------------|---------|----------------------------------|--------------|------------------|-------------|------------------|-------------|-----------|
|                                    | FLK                      | FLR     |                                  | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator* | Hand Tool |
| 0.5–1.0                            | –                        | 1.4–2.1 | -1 / -2 / -3 / -4 / -5 / -6 / -7 | 929948**     | 3,500            | 965974**    | 500              | on request  | –         |
| > 1.0–2.5                          | –                        | 2.2–3.0 | -1 / -2 / -3 / -4 / -5           | 929949**     | 3,500            | 965975**    | 500              | on request  | –         |

**\*) Material and Finish:**  
xxx-1 = CuSn, plain  
xxx-2 = CuSn, pre-tin plated  
xxx-3 = CuNi, pre-tin plated  
xxx-4 = CuSn, contact area gold plated  
xxx-5 = CuSn, contact area silver plated  
Additional Finishes on request.

**\*\*) Material and Finish:**  
See Product Group Drawing

**♦) The pre- and suffix for the applicators depends on the applied termination equipment.**

Single Wire Seals and Sealing Plugs

**Single Wire Seals  
and Sealing Plugs  
for Junior Power Timer  
and 2.8 mm Tabs  
(Two Cavity Diameters)**



| Cavity Size | Function Relevant Insulation Diameter (mm) | (Example for Wire Size, FLR Insulation according ISO 6722 (mm <sup>2</sup> )) | Color   | Diameter A (mm) | Part Number | Package Quantity |
|-------------|--|---|---------|-----------------|-------------|------------------|
| A           | 1.2–2.1                                    | (0.35–1.00)   | Blue    | 5.6             | 828904-1    | 1,000            |
|             |  |   |         |                 | 828904-2    | 10,000           |
| A           | 2.2–3.0                                    | (1.5–2.5)   | White   | 5.6             | 828905-1    | 10,000           |
| B           | 3.0–3.7                                    | (2.5–4.0)   | Green   | 7.2             | 828985-1    | 5,000            |
| A           | Sealing Plug                               |   | Natural | 5.6             | 828922-1    | 10,000           |
| B           | Sealing Plug                               |   | Brown   | 7.2             | 828986-1    | 5,000            |

For correct use see Application Specification 114-18148.



Single Wire Seals and Sealing Plugs

**Single Wire Seals  
and Sealing Plugs  
for Junior Power Timer  
and 2.8 mm Tabs  
(Cavity Diameter 5.2 mm)**



| Wire Size Range<br>(mm <sup>2</sup> ) |           | Insulation<br>Diameter<br>(mm) | Color     | Part Number | Package<br>Quantity |
|---------------------------------------|-----------|--------------------------------|-----------|-------------|---------------------|
| FLK                                   | FLR       |                                |           |             |                     |
| 0.35                                  | 0.35–1.00 | 1.2–2.1                        | Blue      | 963294-1    | 5,000               |
| 0.5–1.0                               | 1.5       | 2.0–2.7                        | Red-Brown | 963293-1    | 5,000               |
| 1.5                                   | 2.5       | 2.7–3.0                        | Yellow    | 963292-1    | 5,000               |
| –                                     | –         | Sealing Plug                   | Natural   | 828922-1    | 10,000              |
|                                       |           |                                | Green     | 828922-2    | 10,000              |



Receptacle Contacts

**Technical Features**

**Temperature Range:**

–40 °C to +110 °C

**Current Carrying Capacity:**

25 A max.  
(see Product Spec. 108-18054)

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup> (suitable for insulation-reduced stranded wires)

**Insulation Diameter:**

1.0–4.3 mm

**Contact Material:**

CuZn, CuSn, CuFe, CuNiSi.  
Additional materials and finishes on request.

**Insertion Force:**

≤ 15 N

**Extraction Force:**

> 8 N

**Standard Timer**



Modified  
(Chamfered Springs)

**Modified  
(Two Locking Lances)**



**Dimensions of Male Contacts:**

6.3 x 0.8 mm,  
5.8 x 0.8 mm and  
4.8 x 0.8 mm

**Extraction Tool:**

Part No. **1-1579007-4**

**Product Specification:**

108-18054

**Application Specification:**

114-18080

**Standard Receptacle Contacts**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |         | Material and Finish * | Part Numbers |                  |             |                  |              |           |
|------------------------------------|--------------------------|---------|-----------------------|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR     |                       | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator * | Hand Tool |
| 0.2–0.5                            | –                        | 1.0–1.6 | –1 / –2               | 1823562 2)   | 2,500            | –           | –                | 1530543      | –         |
|                                    |                          |         | 1-xxx-1 / –1 / –2     | 926984       | 3,000            | 926985      | 2,500            | 1528274      | 539744-2  |
| 0.5–1.0                            | –                        | 1.4–2.3 | –1 / –2 / –3          | 927847       | 2,750            | 927848      | 500              | 1528583      | 539742-2  |
|                                    |                          |         | –1 / –2 / –3 / –4 3)  | 964201 2)    | 2,500            | 1241824 2)  | 500              | 1528583      | 539742-2  |
|                                    |                          |         | –1 / –2 / –3          | 927865       | 2,500            | 927866      | 2,200            | 1426120      | 539687-2  |
| >1.0–2.5                           | –                        | 2.1–3.1 | –1 / –2 / –3          | 927849       | 2,500            | 927850      | 500              | 1426401      | 539742-2  |
|                                    |                          |         | –1 / –2 / –3          | 927879       | 2,000            | 927880      | 500              | 1426451      | 539687-2  |
|                                    |                          |         | –1 / –2 / –3          | 925575       | 2,500            | 925598      | 500              | 1528582      | 539687-2  |
| 0.5–1.5                            | 2.0–3.0                  | –       | –1 / –2 / –3          | 926005 1)    | 2,500            | 926007 1)   | 1,000            | 1528582      | 539687-2  |
|                                    |                          |         | –1 / –2 / –3          | 925612       | 2,500            | 925613      | 500              | 1528456      | 539687-2  |
|                                    |                          |         | –1 / –2 / –3          | 926006 1)    | 2,500            | 926008 1)   | 1,000            | 1528456      | 539687-2  |
| 1.0–2.5                            | 2.4–3.7                  | –       | –1 / –2 / –3 3)       | 964202 2)    | 2,000            | –           | –                | 1528456      | –         |

**Standard Receptacle Contacts with Modified Chamfered Springs**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |         | Material and Finish * | Part Numbers |                  |             |                  |              |           |
|------------------------------------|--------------------------|---------|-----------------------|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR     |                       | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator * | Hand Tool |
| 0.5–1.0                            | –                        | 1.4–2.3 | –1 / –2 / –3          | 928820 1)    | 3,000            | 1241823 1)  | 500              | 1528583      | 539742-2  |
| 0.5–1.5                            | 2.0–3.0                  | –       | –1 / –2               | 926965 1)    | 2,500            | 927936 1)   | 1,000            | 1528252      | 539687-2  |
|                                    |                          |         | –4 3)                 | 969036 2)    | 2,500            | –           | –                | 1528252      | –         |
| 1.0–2.5                            | 3.0–4.3                  | –       | –1                    | 926973 1)    | 2,500            | 927937 1)   | 500              | 1528456      | 539687-2  |

**\*) Material and Finish:**

(except for Part Nos. **964201-4, 969036-4, 1241824-4**)

xxx-1 = CuZn, pre-tin plated

xxx-2 = CuSn, pre-tin plated

xxx-3 = CuFe, pre-tin plated

xxx-4 = CuZn, pre-tin plated, different direction of top of reel

**Remarks:**

1) = Reinforced Locking Lance

2) = Two Locking Lances

3) = CuNiSi, pre-tin plated

\*) The pre- and suffix for the applicators depends on the applied termination equipment.

Receptacle Contacts

**Technical Features**

**Contact Material:**

CuSn, CuFe, CuNiSi,  
Cantilever Spring: Stainless Steel

**Contact Finish:**

tin plated, silver plated,  
selective gold plated

**Contact Resistance (New State):**

≤ 2 mΩ

**Total Temperature max.:**

–40 °C to +130 °C (tin plated)  
–40 °C to +140 °C (silver plated)  
–40 °C to +150 °C (gold plated)

**Mating Cycles:**

10 (tin plated)  
50 (silver plated)  
100 (gold plated)

**Insertion Force\*:**

max. 15 N (proof tab 0.8 mm thick)

**Extraction Force\*:**

min. 2 N (proof tab 0.8 mm thick)

**Retention Force:**

- from housings without second locking device min. 120 N
- from housings only second locking device min. 60 N

**Dimensions of Male Contacts:**

4.8 x 0.8 mm,  
5.8 x 0.8 mm,  
6.3 x 0.8 mm

**Modular Dimensions:**

min. 6.0 x 7.5 mm

**Extraction Tool:**

Part No. **1-1579007-6**

**Product Group Drawing:**

1355048  
1355049 (Modified Spring)

**Product Specification:**

108-18025

**Application Specification:**

114-18037

\*) Measured with an Steel Test Tab  
(see Product Spec. 108-18279).

**Receptacle Contact**



**With Modified Spring**



**Max. Current in 8 Position Housing (Fully Loaded)**

| Material | Temperature<br>(° C) | Current Carrying Capacity (Ampere) |                     |                     |                     |
|----------|----------------------|------------------------------------|---------------------|---------------------|---------------------|
|          |                      | 1.0 mm <sup>2</sup>                | 1.5 mm <sup>2</sup> | 2.5 mm <sup>2</sup> | 4.0 mm <sup>2</sup> |
| CuFe     | 20                   | 17.5                               | 23.0                | 25.5                | 40.0                |
|          | 90                   | 8.0                                | 10.5                | 12.0                | 17.0                |
| CuSn     | 20                   | 16.5                               | 20.0                | 23.5                | 35.0                |
|          | 90                   | 7.5                                | 9.0                 | 11.0                | 16.0                |

Receptacle Contacts (continued)

**Standard Receptacle Contacts**

| Wire Size Range (mm²) | Insulation Diameter (mm) |          | Material and Finish *                      | Part Numbers  |                  |               |                  |              |               |
|-----------------------|--------------------------|----------|--|---------------|------------------|---------------|------------------|--------------|---------------|
|                       | FLK                      | FLR      |  | Strip Form    | Package Quantity | Loose-Piece   | Package Quantity | Applicator ♦ | Hand Tool     |
| 0.2–0.5               | 1.15–2.3                 | –        | -1 / -2 / -3 / -4 / -5                     | 927839        | 2,300            | 928989        | 2,000            | on request   | 2063522-1     |
| 0.5–1.0               | 2.0–2.7                  | –        | -1 / -2                                    | 927827        | 2,300            | 927828        | 2,000            | 1528922      |               |
|                       |                          |          | -2   | 1241834 1) 3) | 2,300            | 1241835 1) 3) | 2,000            | 1528922      | –             |
| > 1.0–2.5             | 2.7–3.7                  | –        | -1 / -2 / -5                               | 927833        | 2,000            | 927834        | 500              | 1528490      | –             |
| > 2.5–4.0             | 3.3–4.5                  | –        | -1 / -2                                    | 927824        | 2,000            | 927825        | 2,000            | 1530010      | 539734-2**    |
| > 4.0–6.0             | 4.0–5.2                  | –        | -1 / -2 / -3 / -4 / -5                     | 963709        | 1,500            | 963714        | 500              | 1528386      | 2-1579021-9** |
|                       |                          |          | -1 / -5                                    | 1241818       | 1,500            | 1241819       | 500              | 1528386      |               |
| 0.2–0.5               | –                        | 1.15–1.6 | -1 / -2 / -3 / -4 / -5 / -7                | 927840        | 2,300            | 928990        | 500              | 1426312      | –             |
| 0.5–1.0               | –                        | 1.4–2.1  | -1 / -2 / -3 / -4 / -5 / -7 / 1-xxx-5      | 927831        | 2,300            | 927832        | 400              | 1528295      |               |
| > 1.0–2.5             | –                        | 2.2–3.0  | -1 / -2 / -3 / -4 / -5 / -6 / -7 / 1-xxx-5 | 927837        | 2,300            | 927838        | 1,500            | 1528095      | 2063564-1     |
| 1.5–2.5               | –                        | 2.2–3.0  | -1 / -2 / -3 / -4 / -5                     | 964203 2)     | 2,300            | 1241826 2)    | –                | 1528095      |               |
| > 2.5–4.0             | –                        | 2.7–3.7  | -1 / -2 / -5 / 1-xxx-5                     | 927829        | 2,300            | 927830        | 2,000            | 1528553      |               |
| 1.5–3.0               | 3.0–3.4 Special Version  |          | -5   | 1241174 1) 3) | 2,000            | 1241175 1) 3) | –                | 1528476      | –             |
| 1.5–3.0               | 3.0–3.4 Special Version  |          | -1 / -2 / -5                               | 964052        | 2,000            | –             | –                | 1528476      | –             |
| 1.5–3.0               | 3.0–3.4 Special Version  |          | -1 / -2 / -3 / -4 / -5                     | 964204 2)     | 2,000            | 1241827 2)    | –                | 1528476      | 539672-2**    |

♦) The pre- and suffix for the applicators depends on the applied termination equipment.

\*\*\*) Die-Set only, requires Hand Tool, Part No. **539635-1**.

**Receptacle Contacts with Single Wire Sealing System**

| Wire Size Range (mm²) | Insulation Diameter (mm) |           | Material and Finish *                                | Part Numbers |                  |             |                  |              |                                 |
|-----------------------|--------------------------|-----------|--|--------------|------------------|-------------|------------------|--------------|---------------------------------|
|                       | FLK                      | FLR       |  | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator ♦ | Hand Tool 539635-1 with Die Set |
| 0.2–0.5               | –                        | 1.15–1.60 | -1 / -2 / -7 / 1-xxx-2 / 2-xxx-2                     | 927826       | 1,600            | 929921      | 500              | 1426558      |                                 |
| 0.5–1.0               | –                        | 1.4–2.1   | -1 / -2 / -7 / 1-xxx-2 / 2-xxx-2                     | 927836       | 1,500            | 929922      | 500              | 1528297      | 539736-2                        |
| > 1.0–2.5             | –                        | 2.2–3.0   | -1 / -2 / -7 / 1-xxx-2 / 1-xxx-3 / 2-xxx-1 / 2-xxx-2 | 927835       | 1,500            | 929923      | 500              | 1528102      |                                 |
| > 2.5–4.0             | –                        | 3.4–3.7   | -1 / -2 / -7 / 1-xxx-2 / 1-xxx-3 / 2-xxx-1 / 2-xxx-2 | 928966       | 1,500            | 929924      | 500              | 1528246      |                                 |
| AWG 12–10             | 2.05–2.59                |           | -1   | 1241962      | 1,500            | 1241963     | 500              | on request   | –                               |

♦) The pre- and suffix for the applicators depends on the applied termination equipment.

**\*) Material and Finish:**

- xxx-1 = CuFe, pre-tin plated
- xxx-2 = CuSn, pre-tin plated
- xxx-3 = CuSn, selective pre-silver plated
- xxx-4 = CuSn, pre-silver plated
- xxx-5 = CuFe, pre-silver plated
- xxx-6 = CuFe, selective nickel plated
- xxx-7 = CuFe, selective gold plated
- 1-xxx-2 = CuFe, selective gold-tin plated, Spring selective gold plated
- 1-xxx-3 = CuFe, selective gold-gold plated, Spring selective gold plated
- 1-xxx-4 = CuFe, selective gold-tin plated
- 1-xxx-5 = CuFe, pre-silver plated 3–4.5 µm
- 2-xxx-1 = CuSn, selective gold-gold plated, Spring selective gold plated
- 2-xxx-2 = CuSn, selective gold-tin plated, Spring selective gold plated
- 2-xxx-4 = CuSn, selective gold-tin plated, Spring selective gold plated

**Remarks:**

- 1) = Gap Size 0.20 mm
- 2) = Gap Size 0.15 mm
- 3) = With One Locking Lance

Receptacle Contacts (continued)

**Standard Receptacle Contacts with Modified Spring**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |           | Material and Finish * | Part Numbers |                  |             |                  |              | Hand Tool |
|------------------------------------|--------------------------|-----------|-----------------------|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR       |                       | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator ♦ |           |
| 0.2–0.5                            | –                        | 1.15–1.60 | -1                    | 964322       | 2,300            | 964321      | 500              | 1530002      | 2063536-1 |
| 0.5–1.0                            | –                        | 1.4–2.1   | -1                    | 964324       | 2,300            | 964323      | 500              | 1528206      |           |
| > 1.0–2.5                          | –                        | 2.2–3.0   | -1 / -5               | 964326       | 2,300            | 964325      | 500              | 1528095      |           |
| > 2.5–4.0                          | –                        | 3.4–4.7   | -1 / -5               | 964328       | 2,100            | 964327      | 500              | 1528298      |           |

**Receptacle Contacts with Modified Spring and Single Wire Sealing System**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |         | Material and Finish *  | Part Numbers |                  |             |                  |              | Hand Tool |
|------------------------------------|--------------------------|---------|------------------------|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR     |                        | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator ♦ |           |
| 0.5–1.0                            | 2.3–2.7                  | 1.4–2.1 | 1-xxx-1 / 1-xxx-2      | 964330       | 1,700            | 964329      | 500              | 1528297      | 2063560-1 |
|                                    |                          |         | -1                     | 969040       | 1,500            | 969041      | 500              | 1528342      |           |
| > 1.0–2.5                          | 3.0–3.6                  | 2.2–3.0 | -5 / 1-xxx-1 / 1-xxx-2 | 964332       | 1,700            | 964331      | 500              | 1528102      |           |
|                                    |                          |         | -1                     | 1-964332-5   | 1,500            | 969043      | 500              | 1528231      |           |
| > 2.5–4.0                          | 4.1–4.4                  | 3.4–3.7 | 1-xxx-1 / 1-xxx-5      | 964334       | 1,500            | 1-964333-1  | 500              | 1528246      |           |
|                                    |                          |         | -1 / -5 / 1-xxx-5      | 969044       | 1,500            | 969045      | 500              | 1530003      |           |
| > 1.0–2.5                          | –                        | 2.2–3.0 | -2 / 2-xxx-4           | 968035       | 1,500            | 968036      | 500              | 1528102      | –         |
| > 2.5–4.0                          | –                        | 3.4–3.7 | -2 / 1-xxx-4 / 2-xxx-4 | 968037       | 1,500            | 968038      | 500              | 1528246      | –         |
| > 4.0–6.0                          | –                        | 3.6–5.1 | 1-xxx-6                | 1670426      | –                | 1670427     | –                | on request   | –         |

**\*) Material and Finish:**

xxx-1 = CuFe, pre-tin plated  
xxx-2 = CuSn, pre-tin plated  
xxx-5 = CuFe, pre-silver plated  
1-xxx-1 = CuFe, pre-tin plated  
1-xxx-2 = CuFe, selective gold plated  
1-xxx-4 = CuFe, selective gold plated  
1-xxx-5 = CuFe, pre-silver plated  
1-xxx-6 = CuNiSi, Sn28M plated  
2-xxx-4 = CuSn, selective gold plated

♦) The pre- and suffix for the applicators depends on the applied termination equipment.



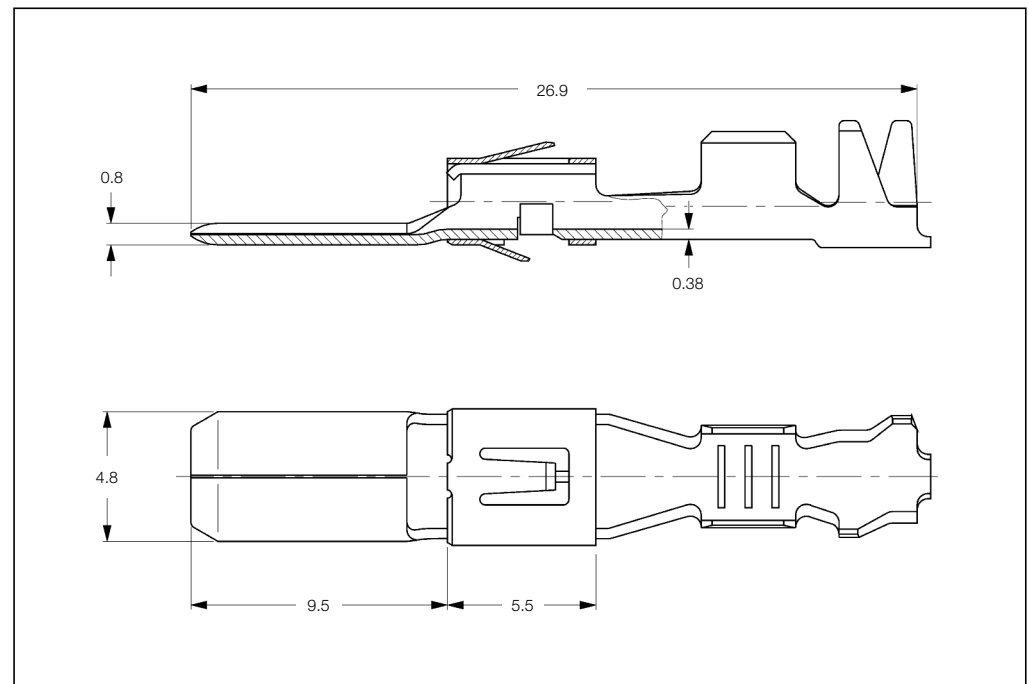
Tab Contacts Asymmetric

**Tabs 4.8 x 0.8 mm  
with Asymmetric  
Steel Top Spring,  
Mates with  
Standard Power Timer**

**Extraction Tool:**  
Part No. **2-1579007-5**

**Product Specification:**  
108-18064

**Application Specification:**  
114-18052



**Standard Tab Contacts**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |         | Material<br>and Finish * | Part Numbers  |                     |                 |                     | Applicator ♦ |
|--|-----------------------------|---------|--------------------------|---------------|---------------------|-----------------|---------------------|--------------|
|  | FLK                         | FLR     |                          | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity |              |
| 0.2–0.5                                  | –                           | 1.1–1.6 | -1 / -2                  | 963824        | 3,000               | 963825          | 500                 | 1528753      |
| 0.5–1.0                                  | –                           | 1.4–2.0 | -1 / -2                  | 962903        | 3,000               | 963816          | 500                 | 1528048      |
|  | 2.0–2.7                     | –       | -1 / -2                  | 962908        | 2,000               | 963821          | 500                 | on request   |
| > 1.0–2.5                                | –                           | 2.1–2.9 | -1 / -2                  | 962904        | 2,500               | 963817          | 500                 | 1528729      |
| > 2.5–4.0                                | 3.3–4.5                     | –       | -1 / -2                  | 962910        | 1,700               | 963823          | 500                 | on request   |

**Tab Contacts with Single Wire Sealing System**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |         | Material<br>and Finish * | Part Numbers  |                     |                 |                     | Applicator ♦ |
|--|-----------------------------|---------|--------------------------|---------------|---------------------|-----------------|---------------------|--------------|
|  | FLK                         | FLR     |                          | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity |              |
| 0.5–1.0                                  | 2.0–2.7                     | 1.4–2.0 | -1 / -2                  | 962905        | 1,000               | 963818          | 1,200               | 1528873      |
| > 1.0–2.5                                | –                           | 2.1–2.9 | -1 / -2                  | 962906        | 1,000               | 963819          | 500                 | on request   |
| > 2.5–4.0                                | 3.3–4.5                     | –       | -1 / -2                  | 962907        | 1,000               | 963820          | 500                 | on request   |

**\*) Material and Finish:**  
xxx-1 = CuSn, pre-tin plated  
xxx-2 = CuFe, pre-tin plated

**♦) The pre- and suffix for the applicators depends on the applied termination equipment.**

Tab Contacts Symmetric

**Tabs 5.8 x 0.8 mm  
with Steel Top Spring,  
Mates with  
Standard Power Timer**

**Extraction Tool:**

Part No. **1-1579007-6**

**Product Group Drawing:**

1241895

**Product Specification:**

108-18064

**Application Specification:**

114-18052



**Standard Tab Contacts**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |           | Material<br>and Finish*                  | Part Numbers  |                     |                 |                     |             | Hand Tool<br>539635-1<br>with Die Set |
|--|-----------------------------|-----------|--|---------------|---------------------|-----------------|---------------------|-------------|---------------------------------------|
|  | FLK                         | FLR       |  | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity | Applicator* |                                       |
| 0.2-0.5                                  | -                           | 1.15-1.60 | 1-xxx-1 / 2-xxx-1                        | 965984        | 2,000               | 965985          | 500                 | -           | -                                     |
| 0.5-1.0                                  | -                           | 1.4-2.1   | 1-xxx-1 / 1-xxx-2 /<br>2-xxx-1 / 2-xxx-2 | 963734        | 1,700               | 963737          | 500                 | on request  | 539759-2                              |
| 1.5-2.5                                  | -                           | 2.2-3.0   | 1-xxx-1 / 1-xxx-2 /<br>2-xxx-1 / 2-xxx-2 | 963735        | 1,800               | 963738          | 500                 | on request  | 734688-1**<br>539623-1** for 2.5      |
| >2.5-4.0                                 | -                           | 2.7-3.7   | 1-xxx-1 / 1-xxx-2 /<br>2-xxx-1 / 2-xxx-2 | 963736        | 1,800               | 963739          | 500                 | on request  | 539623-1**                            |
| 1.5-2.5                                  | 2.4-3.7                     | -         | 1-xxx-1 / 1-xxx-2 /<br>2-xxx-1 / 2-xxx-2 | 962845        | 1,700               | 963740          | 500                 | on request  | 539759-2                              |
| 3.0-4.0                                  | 3.3-4.5                     | -         | 1-xxx-1 / 1-xxx-2 /<br>2-xxx-1 / 2-xxx-2 | 962846        | 1,800               | 963741          | 500                 | on request  |                                       |
| 4.0-6.0                                  | 4.0-5.2                     | -         | 1-xxx-1 / 2-xxx-1                        | 968050        | 1,500               | 968051          | 500                 | on request  | -                                     |

**Tab Contacts with Single Wire Sealing System**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |         | Material<br>and Finish*                  | Part Numbers  |                     |                 |                     |             | Hand Tool<br>539635-1<br>with Die Set |
|--|-----------------------------|---------|--|---------------|---------------------|-----------------|---------------------|-------------|---------------------------------------|
|  | FLK                         | FLR     |  | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity | Applicator* |                                       |
| 0.5-1.0                                  | -                           | 1.4-2.1 | 1-xxx-1 / 1-xxx-2 /<br>2-xxx-1 / 2-xxx-2 | 962917        | 1,500               | 963742          | 500                 | on request  | 539757-2                              |
| 1.5-2.5                                  | -                           | 2.2-3.0 | 1-xxx-1 / 1-xxx-2 /<br>2-xxx-1 / 2-xxx-2 | 962918        | 1,500               | 963743          | 500                 | on request  | 539757-2                              |
| >2.5-4.0                                 | -                           | 2.7-3.7 | 1-xxx-1 / 1-xxx-2 /<br>2-xxx-1 / 2-xxx-2 | 962919        | 1,500               | 963744          | 500                 | on request  | 539757-2                              |
| 4.0-6.0                                  | -                           | 3.6-5.1 | 2-xxx-2                                  | 2112966       | 1,500               | 2112965         | 500                 | 1855636     | -                                     |

**\*) Material and Finish:**

1-xxx-1 = CuSn, pre-tin plated  
1-xxx-2 = CuSn, selective silver plated  
2-xxx-1 = CuFe, pre-tin plated  
2-xxx-2 = CuFe, selective silver plated

**Remarks:**

\*\*\*) Hand Tool complete

**\*) The pre- and suffix for the**

applicators depends on the  
applied termination equipment.

Tab Contacts Symmetric

**Tabs 5.8 x 0.8 mm  
with Modified  
Steel Top Spring,  
Mates with  
Standard Power Timer**

**Extraction Tool:**

Part No. **1-1579007-6**

**Product Group Drawing:**  
1394011

**Product Specification:**  
108-18064

**Application Specification:**  
114-18052



**Standard Tab Contacts with Modified Spring**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |           | Material<br>and Finish* | Part Numbers  |                     |                 |                     | Applicator* | Hand Tool |
|--|-----------------------------|-----------|-------------------------|---------------|---------------------|-----------------|---------------------|-------------|-----------|
|  | FLK                         | FLR       |                         | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity |             |           |
| 0.2-0.5                                  | -                           | 1.15-1.60 | -1                      | 969007        | 1,800               | 969008          | 500                 | 1528296     | 2063536-1 |
| 0.5-1.0                                  | -                           | 1.4-2.1   | -1                      | 964304        | 1,800               | 964303          | 2,000               | 1528093     |           |
| > 1.0-2.5                                | -                           | 2.2-3.0   | -1 / -3                 | 964306        | 1,900               | 964305          | 500                 | 1528094     |           |
| > 2.5-4.0                                | 3.3-4.5                     | 3.4-3.7   | -1                      | 964308        | 1,800               | 964307          | 500                 | 1530004     |           |

**Tab Contacts with Modified Spring and Single Wire Sealing System**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter<br>(mm) |         | Material<br>and Finish* | Part Numbers  |                     |                 |                     | Applicator* | Hand Tool |
|--|-----------------------------|---------|-------------------------|---------------|---------------------|-----------------|---------------------|-------------|-----------|
|  | FLK                         | FLR     |                         | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity |             |           |
| 0.5-1.0                                  | -                           | 1.4-2.1 | -1                      | 964310        | 1,500               | 964309          | 500                 | 1528437     | 2063560-1 |
| > 1.0-2.5                                | -                           | 2.2-3.0 | -1                      | 964312        | 1,400               | 964311          | 500                 | 1528444     |           |
| > 2.5-4.0                                | -                           | 3.4-3.7 | -1                      | 964314        | 1,300               | 964313          | 500                 | 1528439     |           |

**\*) Material and Finish:**

xxx-1 = CuFe, pre-tin plated  
xxx-3 = CuSn, selective gold plated

♦) The pre- and suffix for the applicators depends on the applied termination equipment.

Tab Contacts Side Feed

**Tabs 6.3 x 0.8 mm**  
**Side Feed,**  
**according to DIN 46343,**  
**Mates with**  
**Standard Power Timer**

**Extraction Tool:**  
**Part No. 1-1579007-4**



**Tab Contacts Side Feed**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |           | Material and Finish * | Part Numbers |                  |             |                  | Applicator ♦ | Hand Tool |
|------------------------------------|--------------------------|-----------|-----------------------|--------------|------------------|-------------|------------------|--------------|-----------|
|                                    | FLK                      | FLR       |                       | Strip Form   | Package Quantity | Loose-Piece | Package Quantity |              |           |
| 0.2–0.5                            | –                        | 1.15–1.60 | -1 / -2               | 965889       | 3,000            | 965890      | 1,500            | on request   | 734681-1  |
| 0.5–1.0                            | –                        | 1.4–2.1   | -1 / -2               | 963951       | 3,000            | 963952      | 1,500            | 1528051      | 734681-1  |
| > 1.0–2.5                          | –                        | 2.2–3.0   | -1 / -2               | 963953       | 2,500            | 963954      | 1,500            | 1426097      | 734682-1  |
|                                    |                          |           | -1 / -2               | 963959       | 2,500            | 963960      | 1,500            | on request   | –         |
| > 2.5–4.0                          | –                        | 3.3–4.5   | -1 / -2               | 963955       | 2,000            | 963956      | 1,500            | on request   | 734683-1  |

**\*) Material and Finish:**  
xxx-1 = CuSn, plain  
xxx-2 = CuSn, pre-tin plated

**♦) The pre- and suffix for the applicators depends on the applied termination equipment.**

Single Wire Seals and Sealing Plugs

**Single Wire Seals  
and Sealing Plugs  
for Standard Power Timer  
and 5.8 mm (4.8 mm) Tabs**  
(Cavity Diameter see below)



| Insulation Diameter (mm) | Color  | Diameter A (mm) | Part Number | Package Quantity |
|--------------------------|--------|-----------------|-------------|------------------|
| 1.4-2.1                  | Blue   | 8.2             | 963243-1    | 2,500            |
| 2.2-3.0                  | White  | 8.2             | 963244-1    | 2,500            |
| 3.4-3.7                  | Yellow | 8.2             | 963245-1    | 2,500            |
| Sealing Plug             | Black  | 8.1             | 100132-1    | 1,000            |



Single Wire Seals and Sealing Plugs

**Single Wire Seals  
and Sealing Plugs  
for Standard Power Timer  
and 5.8 mm (4.8 mm) Tabs  
(Cavity Diameter 8.5 mm)**



| Insulation Diameter (mm) | Color       | Part Number | Package Quantity |
|--------------------------|-------------|-------------|------------------|
| 2.0-2.7                  | White       | 1394511-1   | 10,000           |
| 3.4-3.7                  | Blue        | 1394512-1   | 10,000           |
| 4.0-4.5                  | Green       | 1719043-1   | 10,000           |
| Sealing Plug             | Transparent | 967652-1    | 20,000           |

Contact Cavity of Housing  
for Single Wire Seals and Sealing Plug



---

Engineering Notes

---

A large grid of graph paper for engineering notes, consisting of 30 columns and 40 rows of small squares.



Receptacle Contacts

**Technical Features**

**Contact Material:**

CuNiSi,  
Cantilever Spring: Stainless Steel

**Contact Finish:**

pre-tin plated

**Wire Size Range:**

> 2.5–4.0 mm<sup>2</sup>  
> 4.0–6.0 mm<sup>2</sup>  
6.0–10.0 mm<sup>2</sup>

**Contact Resistance (New State):**

< 0.3 mΩ

**Total Temperature max.:**

–40 °C to +130 °C (tin plated)

**Mating Cycles:**

10 (tin plated)

**Retention Force:**

- from housings without second locking device min. 150 N
- from housings only second locking device min. 100 N

**Modular Dimensions**

**Standard Version:**

min. 11.0 mm x 12.5 mm

**Single Wire Seal:**

16.0 mm x 16.0 mm

**Single Wire Seal:**

Diameter 10.0 mm in cavity  
with diameter 15.0 mm

**Tab Dimensions:**

9.5 mm x 1.2 mm and fused  
contacts according DIN 72581,  
Part 3, Form E.

**Insertion Force\*:**

< 40 N

**Extraction Force\*:**

> 6 N

**Extraction Tool:**

Part No. **1-1579007-7**

**Product Group Drawing:**

1355050

**Product Specification:**

108-18047

**Application Specification:**

114-18075

\*) Measured with an Steel Test Tab  
(see Product Spec. 108-18279).



**Max. Current in 2 Position Housing (Fully-Loaded)**

| Temperature<br>(° C) | Current Carrying Capacity<br>(Ampere) |                     |                      |                                  |                     |                      |
|----------------------|---------------------------------------|---------------------|----------------------|----------------------------------|---------------------|----------------------|
|                      | Tabs<br>9.5 x 1.2 mm                  |                     |                      | Maxi Littelfuse<br>8.0 x 0.38 mm |                     |                      |
|                      | 4.0 mm <sup>2</sup>                   | 6.0 mm <sup>2</sup> | 10.0 mm <sup>2</sup> | 4.0 mm <sup>2</sup>              | 6.0 mm <sup>2</sup> | 10.0 mm <sup>2</sup> |
| 20                   | 45.0                                  | 57.0                | 71.0                 | 40.0                             | 50.0                | 60.0                 |
| 90                   | 27.0                                  | 28.0                | 32.0                 | 27.0                             | 28.0                | 32.0                 |

| Wire Size Range<br>(mm <sup>2</sup> ) | Measured Values        |                          |
|---------------------------------------|------------------------|--------------------------|
|                                       | Crimp Extraction Force | Crimp Contact Resistance |
| 4.0                                   | > 300 N                | –                        |
| 6.0                                   | > 400 N                | –                        |
| 10.0                                  | > 500 N                | –                        |
| > 2.5–4.0                             | –                      | < 0.20 mΩ                |
| 4.0–6.0                               | –                      | < 0.10 mΩ                |
| 6.0–10.0                              | –                      | < 0.06 mΩ                |

Receptacle Contacts (continued)

**Standard Receptacle Contacts (Tab 9.5 x 1.2 mm)**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |     | Material and Finish* | Part Numbers |                  |             |                  |             |           |
|------------------------------------|--------------------------|-----|----------------------|--------------|------------------|-------------|------------------|-------------|-----------|
|                                    | FLK                      | FLR |                      | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator* | Hand Tool |
| >2.5-4.0                           | 3.3-4.7                  | –   | -1                   | 962928       | 600              | 962929      | 500              | 1855533     | 734531-1  |
| 4.0-6.0                            | 4.0-5.2                  | –   | -1 / 1-xxx-6         | 962930       | 600              | 962931      | 500              | 1855531     | 734532-1  |
| 6.0-10.0                           | 4.6-6.6                  | –   | -1 / 1-xxx-6         | 962932       | 600              | 962933      | 500              | 1855534     | 734533-1  |

**Receptacle Contacts with Single Wire Sealing System (Tab 9.5 x 1.2 mm)**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |     | Material and Finish* | Part Numbers |                  |             |                  |             |           |
|------------------------------------|--------------------------|-----|----------------------|--------------|------------------|-------------|------------------|-------------|-----------|
|                                    | FLK                      | FLR |                      | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator* | Hand Tool |
| >2.5-4.0                           | 4.6-5.3                  | –   | -1                   | 962934       | 450              | 962935      | 500              | on request  |           |
| 4.0-6.0                            | 5.8-6.6                  | –   | -1                   | 962936       | 450              | 962937      | 500              | 1855532     | –         |
| 6.0-10.0                           | 7.1-8.1                  | –   | -1                   | 962938       | 450              | 962939      | 500              | on request  |           |

**Standard Receptacle Contacts with Reduced Mating Force (Tab 9.5 x 1.2 mm)**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |     | Material and Finish* | Part Numbers |                  |             |                  |             |           |
|------------------------------------|--------------------------|-----|----------------------|--------------|------------------|-------------|------------------|-------------|-----------|
|                                    | FLK                      | FLR |                      | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator* | Hand Tool |
| 4.0-6.0                            | 4.0-5.2                  | –   | -1 / 2-xxx-1         | 967228       | 600              | 967229-1    | 500              | on request  | 734532-1  |
| 6.0-10.0                           | 4.6-6.6                  | –   | -1 / 2-xxx-1         | 965918       | 600              | 965921-1    | 500              | on request  | 734533-1  |

**Standard Receptacle Contacts (Tab 8.0 x 1.0 mm)**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter (mm) |     | Material and Finish* | Part Numbers |                  |             |                  |             |           |
|------------------------------------|--------------------------|-----|----------------------|--------------|------------------|-------------|------------------|-------------|-----------|
|                                    | FLK                      | FLR |                      | Strip Form   | Package Quantity | Loose-Piece | Package Quantity | Applicator* | Hand Tool |
| 4.0-6.0                            | 4.0-5.2                  | –   | 1-xxx-6              | 1719952      | 600              | 1719951     | 500              | on request  | 734532-1  |
| 6.0-10.0                           | 4.6-6.6                  | –   | 1-xxx-6              | 1703008      | 600              | 1703011     | 500              | on request  | 734533-1  |

**\*) Material and Finish:**

xxx-1 = CuNiSi, pre-tin plated  
1-xxx-6 = CuNiSi, Sn28M  
2-xxx-1 = CuNiSi, pre-tin plated

♦) The pre- and suffix for the applicators depends on the applied termination equipment.

Tab Contacts

**Tabs 9.5 x 1.2 mm  
with Steel Top Spring,  
Mates with  
Maxi Power Timer**

**Modular Dimensions**

**Standard Version:**

min. 11.0 mm x 12.5 mm

**Modular Dimensions with  
Single Wire Sealing System:**

16.0mm x 16.0mm /  
14.0mm x 16.0 mm

**Extraction Tool:**

Part No. **1-1579007-7**

**Application Specification:**

114-18076



**Standard Tab Contacts**

| Wire Size<br>Range<br>(mm²) | Insulation Diameter<br>(mm) |     | Material<br>and Finish * | Part Numbers  |                     |                 |                     |              |           |
|-----------------------------|-----------------------------|-----|--------------------------|---------------|---------------------|-----------------|---------------------|--------------|-----------|
|                             | FLK                         | FLR |                          | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity | Applicator * | Hand Tool |
|                             |                             |     |                          |               |                     |                 |                     |              |           |
| >2.5–4.0                    | 3.3–4.7                     | –   | -1 / -2                  | 963764        | 530                 | 963765          | 500                 | on request   | 734531-1  |
| 4.0–6.0                     | 4.0–5.2                     | –   | -1 / -2                  | 963766        | 530                 | 963767          | 500                 | on request   | 734532-1  |
| 6.0–10.0                    | 4.7–6.6                     | –   | -1 / -2                  | 963768        | 530                 | 963769          | 500                 | on request   | 734533-1  |

**Tab Contacts with Single Wire Sealing System**

| Wire Size<br>Range<br>(mm²) | Insulation Diameter<br>(mm) |     | Material<br>and Finish * | Part Numbers  |                     |                 |                     |              |           |
|-----------------------------|-----------------------------|-----|--------------------------|---------------|---------------------|-----------------|---------------------|--------------|-----------|
|                             | FLK                         | FLR |                          | Strip<br>Form | Package<br>Quantity | Loose-<br>Piece | Package<br>Quantity | Applicator * | Hand Tool |
|                             |                             |     |                          |               |                     |                 |                     |              |           |
| >2.5–4.0                    | 4.0–4.5                     | –   | -1 / -2                  | 963770        | 450                 | 963771          | 500                 | on request   | –         |
| 4.0–6.0                     | 4.7–5.3                     | –   | -1 / -2                  | 963772        | 450                 | 963773          | 500                 | on request   | –         |
| 6.0–10.0                    | 6.2–6.6                     | –   | -1 / -2                  | 963774        | 450                 | 963775          | 500                 | on request   | –         |

**\*) Material and Finish:**

xxx-1 = CuSn, pre-tin plated  
xxx-2 = CuFe, pre-tin plated  
xxx-3 = CuSn0.15, pre-tin plated

♦) The pre- and suffix for the applicators depends on the applied termination equipment.

Single Wire Seals and Sealing Plugs

**Single Wire Seals  
and Sealing Plugs  
for Maxi Power Timer  
Contact and 9.5 mm Tab**



| Insulation Diameter (mm) | Color      | Part Number | Package Quantity |
|--------------------------|------------|-------------|------------------|
| 4.7–5.3                  | Light-Blue | 1355307-1   | 4,000            |



| Insulation Diameter (mm) | Color  | Part Number | Package Quantity |
|--------------------------|--------|-------------|------------------|
| 4.6–5.2                  | Violet | 1355437-1   | 4,000            |
| 5.8–6.6                  | Blue   | 1355437-2   | 4,000            |
| 7.1–8.1                  | Red    | 1355437-3   | 4,000            |
| Sealing Plug             | White  | 1355437-4   | –                |

## Introduction



Receptacle and tab housings are available for different applications.

Free hanging coupling or group connection. These housings are available up to 100 contacts.

The speciality of the Timer housings is that they are suitable for high position connections up to 100 positions.

In such high position connectors a lever is used to provide easy mating.

A additional special advantage of the Timer contacts is its robustness against inclined mating (see picture).



Receptacle Housings

**Technical Features**

**No. of Positions:**

2 Position Type A

**Housing Material:**

PBT GF20

**Wire Size Range:**

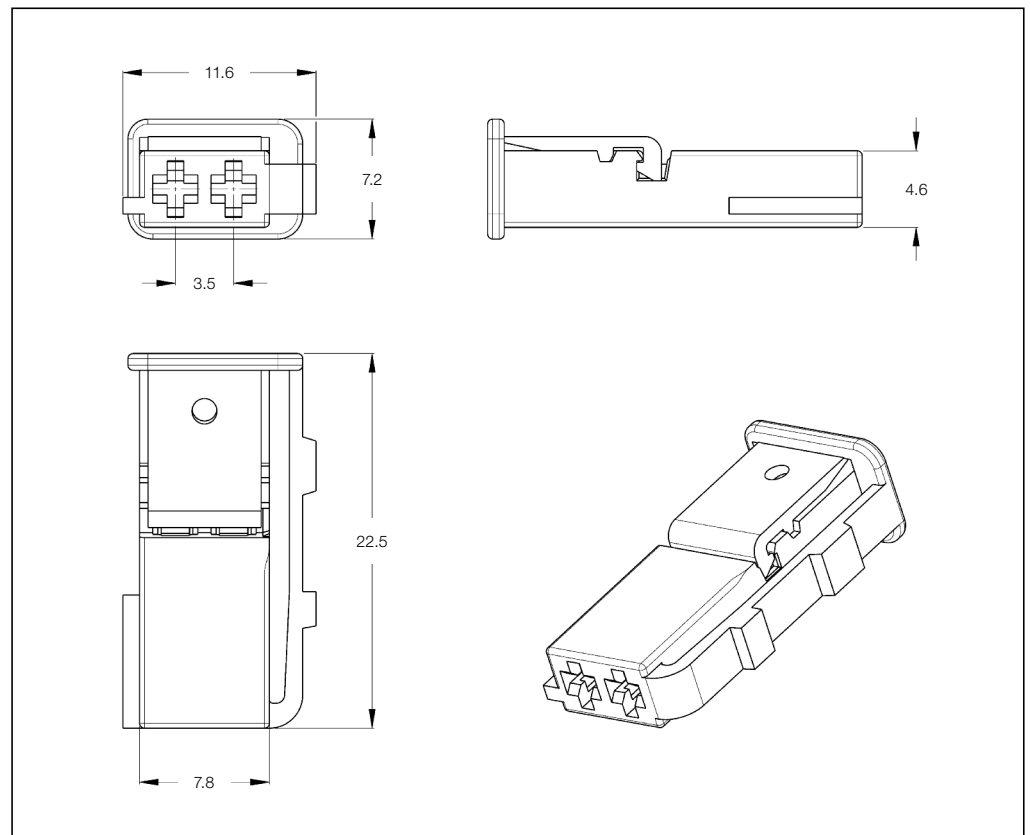
0.35–1.5 mm<sup>2</sup>

**Product Specification:**

108-94118

**Application Specification:**

114-18901



**2 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | –              | Black         | 1563189-1          | –     | –              | –               | 1563190-1          | –                             | –                          |
|             |                | Natural       | 1563189-3          |       |                |                 | 1-929103-1         |                               |                            |

## Receptacle Housings

### Technical Features

**No. of Positions:**

3 Position Type A

**Housing Material:**

PA66

**Wire Size Range:**

0.35–1.5 mm<sup>2</sup>

**Product Specification:**

108-18822

**Application Specification:**

114-18515



### 3 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 3           | –              | Black         | 1452142-1          | –     | –              | –               | 3-962342-1         | –                             | –                          |
|             |                | Gray          | 1452142-2          | –     | –              | –               | –                  | –                             | –                          |



Tab Housings

**Technical Features**

**No. of Positions:**

2 Positions

**Housing Material:**

PBT GF20

**Wire Size Range:**

0.35–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**2 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                           |                               |                            |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|---------------------------|-------------------------------|----------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Mating Receptacle Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | —              | Black         | 1-929103-1   | —     | —              | —               | 1563189-3                 | —                             | —                          |

Tab Housings

**Technical Features**

**No. of Positions:**

3 Positions

**Housing Material:**

PBT GF20

**Wire Size Range:**

0.3–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**3 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                           |                               |                            |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|---------------------------|-------------------------------|----------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Mating Receptacle Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 3           | A1             | Black         | 1-962342-1   |       |                |                 | 1452142-1                 |                               |                            |
|             | A2             | Orange        | 1-962342-2   |       |                |                 | 1452142-1                 |                               |                            |
|             | B1             | Gray          | 2-962342-1   | —     | —              | —               | 1452142-2                 | —                             | —                          |
|             | B2             | Orange        | 2-962342-2   |       |                |                 | 1452142-2                 |                               |                            |
|             | N              | White         | 3-962342-1   |       |                |                 | —                         |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

12 Positions

**Housing Material:**

PA66 GF13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**12 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 12          | —              | Black         | 827603-1           | —     | —              | —               | —                  | 827229-1/-6                   | —                          |
|             |                | Brown         | 827603-2           |       |                |                 |                    | See customer drawing          |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

16 Positions

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**16 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 16          | —              | Black         | 827584-1           | —     | —              | —               | —                  | 827539-1                      | 828662-1                   |
|             |                | Yellow        | 827584-2           |       |                |                 |                    | 827539-2                      |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

25 Positions

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**25 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |  | Mating PCB Header    |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|--|----------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing |  | Right-Angle          | Vertical |
| 25          | —              | Black         | 827534-1           | —     | —              | —               | —                  |  | 827535-1/-6          | —        |
|             |                |               |                    |       |                |                 |                    |  | 1-827535-2           |          |
|             |                |               |                    |       |                |                 |                    |  | 1-827535-3           |          |
|             |                |               |                    |       |                |                 |                    |  | 2-827535-2           |          |
|             |                |               |                    |       |                |                 |                    |  | 2-827535-3           |          |
|             |                |               |                    |       |                |                 |                    |  | See customer drawing |          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

35 Positions

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**35 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color        | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|----------------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |                      | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 35          | —              | See customer drawing | 826000-1           | —     | —              | —               | —                  | 825213-1                      | —                          |
|             |                |                      | 826000-2           |       |                |                 |                    |                               |                            |
|             |                |                      | 826000-3           |       |                |                 |                    |                               |                            |
|             |                |                      | 826000-4           |       |                |                 |                    |                               |                            |
|             |                |                      | 826000-5           |       |                |                 |                    |                               |                            |
|             |                |                      | 826000-6           |       |                |                 |                    |                               |                            |
|             |                |                      | 826000-7           |       |                |                 |                    |                               |                            |

## Receptacle Housings

### Technical Features

**No. of Positions:**

35 Positions

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



### 35 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color        | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|----------------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |                      | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 35          | —              | See customer drawing | 827663-4           | —     | —              | —               | —                  | 825213-1                      | —                          |
|             |                |                      | 827663-5           |       |                |                 |                    |                               |                            |
|             |                |                      | 827663-6           |       |                |                 |                    |                               |                            |
|             |                |                      | 827663-7           |       |                |                 |                    |                               |                            |



Receptacle Housings

**Technical Features**

**No. of Positions:**

35 Positions

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**35 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 35          | —              | Black         | 827667-1           | —     | —              | —               | —                  | 827137-1                      | —                          |
|             |                |               | 827667-2           |       |                |                 |                    | 827137-2                      |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

15 Positions

**Housing Material:**

PA66 GV13

**Wire Size Range:**

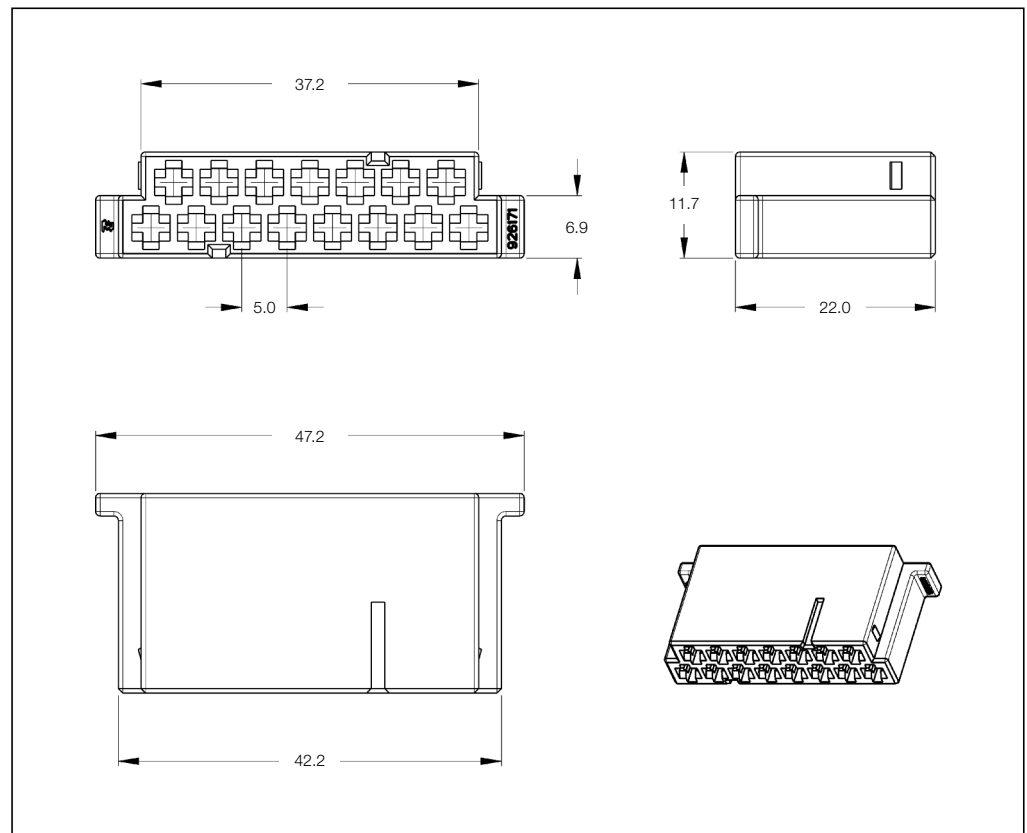
See customer drawing

**Product Specification:**

108-18053

**Application Specification:**

114-18079



**15 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 15          | -              | Black         | 926171-1           | -     | -              | -               | -                  | 826703-1<br>826703-2          | 827467-1                   |
|             |                | Yellow        | 926171-2           | -     | -              | -               | -                  | -                             | 827467-2                   |
|             |                |               |                    |       |                |                 |                    |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

25 Positions

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**25 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 25          | —              | Black         | 925470-1           | —     | —              | —               | —                  | 826140-1                      | —                          |
|             |                | Yellow        | 925470-2           |       |                |                 |                    | 826140-2                      | —                          |
|             |                | Green         | 925470-3           |       |                |                 |                    | 826140-3                      | —                          |
|             |                | Brown         | 925470-4           |       |                |                 |                    | 826140-4                      | —                          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

25 Positions

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**25 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 25          | —              | Black         | 925471-1           | —     | —              | —               | —                  | 826141-1                      | —                          |
|             |                |               |                    |       |                |                 |                    | 826195-1                      |                            |
|             |                | Yellow        | 925471-2           | —     | —              | —               | —                  | 826141-2                      | —                          |
|             |                |               |                    |       |                |                 |                    | 826195-2                      |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

35 Positions

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**35 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 35          | —              | Black         | 963318-1           | —     | —              | —               | —                  | 825213-1                      | —                          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

39 Positions  
4 x Junior Power Timer  
35 x Micro Timer II

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

**Application Specification:**



**39 Position Mixed Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 39          |                | Black         | 828771-1           | -     | -              | -               | -                  | 828773-1                      | 828772-1                   |

Junior Timer and Junior Power Timer Housings – 4 to 22 Positions

These unsealed Timer Housings are a complete family group. They are available in wire-to-wire as well as wire-to-pc board, right-angle and vertical applications. The tab housings are designed to lock into mounting collar.



| No. of Pos. | 4 | 6 | 8 | 10 | 14 | 18 | 22 |
|-------------|---|---|---|----|----|----|----|
| n           | 1 | 2 | 3 | 4  | 6  | 8  | 10 |



n = see Table

**Junior Timer or  
Junior Power Timer Housings**



**Pin Header 90°**



**Pin Header 180°**



**Tab Housing**

Receptacle and Tab Housings – 4 to 22 Positions

**Technical Features**

**No. of Positions:**  
4–22 Positions

**Housing Material:**  
PBT-VO-reinforced

**Wire Size Range:**  
Max. 2.5 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**4–22 Position Receptacle and Tab Housings**

| No. of Pos. | Keying Options       | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                      |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | See customer drawing | Black         | 929504-1           | —     | —              | —               | 929505-1           | 828801-1                      | 963357-6                   |
|             |                      | Natural       | 1-929504-1         |       |                |                 | 1-929505-1         | 1-828801-1                    | —                          |
|             |                      | Green         | 2-929504-1         |       |                |                 | —                  | 2-828801-1                    | —                          |
| 6           | See customer drawing | Black         | 929504-2           | —     | —              | —               | 929505-2           | 828801-2                      | 963357-5                   |
|             |                      | Natural       | 1-929504-2         |       |                |                 | 1-929505-2         | 1-828801-2                    | —                          |
| 8           | See customer drawing | Black         | 929504-3           | —     | —              | —               | 929505-3           | 828801-2                      | —                          |
|             |                      | Natural       | 1-929504-3         |       |                |                 | 1-929505-3         | —                             | —                          |
| 10          | See customer drawing | Black         | 929504-4           | —     | —              | —               | 929505-4           | 828801-4                      | 963357-4                   |
|             |                      | Natural       | 1-929504-4         |       |                |                 | 1-929505-4         | —                             | —                          |
| 14          | See customer drawing | Black         | 929504-5           | —     | —              | —               | 929505-5           | 828801-5                      | 963357-3                   |
|             |                      | Natural       | 1-929504-5         |       |                |                 | 1-929505-5         | —                             | —                          |
| 18          | See customer drawing | Black         | 929504-6           | —     | —              | —               | 929505-6           | 828801-6                      | 963357-2                   |
|             |                      | Natural       | 1-929504-6         |       |                |                 | 1-929505-6         | —                             | —                          |
| 22          | See customer drawing | Black         | 929504-7           | —     | —              | —               | 929505-7           | 828801-7                      | 963357-1                   |
|             |                      | Natural       | 1-929504-7         |       |                |                 | 1-929505-7         | 1-828801-1                    | 1-963357-1                 |



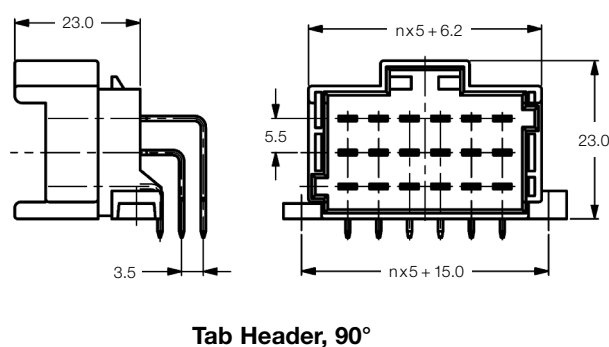
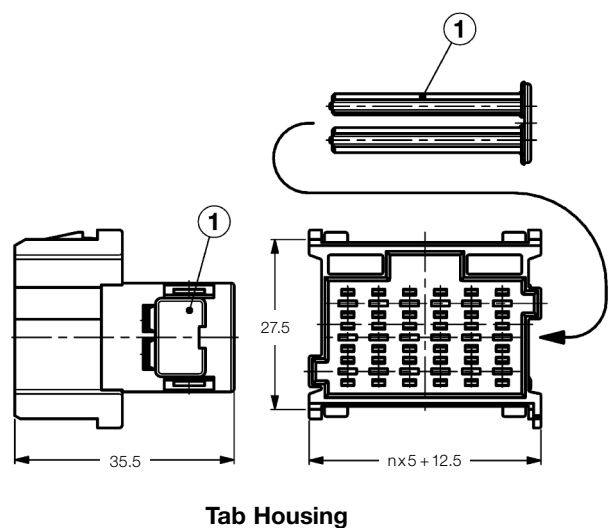
Junior Power Timer Housings – 6 to 21 Positions, Not Waterproof

**Shown: 18 Position Connection**

| No. of Pos. | 6 | 9 | 12 | 15 | 18 | 21 |
|-------------|---|---|----|----|----|----|
| n           | 1 | 2 | 3  | 4  | 5  | 6  |



<sup>1</sup> Secondary Locking Feature (same for Junior Power Timer and Tab Housing). Optional but recommended use.



Receptacle and Tab Housings

**Technical Features**

**No. of Positions:**

6 Positions

**Housing Material:**

PBT GF10

**Wire Size Range:**

Max. 2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**6 Position Unsealed Housings**

| No. of Pos. | Keying Options       | Housing Color | Part Numbers       |       |                 |                    |                                 |                               |                            |
|-------------|----------------------|---------------|--------------------|-------|-----------------|--------------------|---------------------------------|-------------------------------|----------------------------|
|             |                      |               | Receptacle Housing | Cover | Cover and Lever | Mating Tab Housing | 2 <sup>nd</sup> Locking Feature | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 6           | See customer drawing | Blue          | 1-965640-1         | —     | —               | 1-965641-1         | 968271-1                        | 966140-5                      | —                          |

Receptacle and Tab Housings

**Technical Features**

**No. of Positions:**

9 Positions

**Housing Material:**

PBT GF10

**Wire Size Range:**

Max. 2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**9 Position Unsealed Housings**

| No. of Pos. | Keying Options       | Housing Color | Part Numbers       |       |                 |                    |                                 |                               |                            |
|-------------|----------------------|---------------|--------------------|-------|-----------------|--------------------|---------------------------------|-------------------------------|----------------------------|
|             |                      |               | Receptacle Housing | Cover | Cover and Lever | Mating Tab Housing | 2 <sup>nd</sup> Locking Feature | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 9           | See customer drawing | Yellow        | 1-967621-1         | —     | —               | 1-967626-1         | 967631-1                        | 966140-4                      | —                          |

Receptacle and Tab Housings

**Technical Features**

**No. of Positions:**

12 Positions

**Housing Material:**

PBT GF10

**Wire Size Range:**

Max. 2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**12 Position Unsealed Housings**

| No. of Pos. | Keying Options       | Housing Color | Part Numbers       |       |                 |                    |                                 |                               |                            |
|-------------|----------------------|---------------|--------------------|-------|-----------------|--------------------|---------------------------------|-------------------------------|----------------------------|
|             |                      |               | Receptacle Housing | Cover | Cover and Lever | Mating Tab Housing | 2 <sup>nd</sup> Locking Feature | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 12          | See customer drawing | Green         | 1-967622-1         | —     | —               | 1-967627-1         | 967632-1                        | 966140-3                      | —                          |

Receptacle and Tab Housings

**Technical Features**

**No. of Positions:**

15 Positions

**Housing Material:**

PBT GF10

**Wire Size Range:**

Max. 2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**15 Position Unsealed Housings**

| No. of Pos. | Keying Options       | Housing Color | Part Numbers       |       |                 |                    |                                 |                               |                            |
|-------------|----------------------|---------------|--------------------|-------|-----------------|--------------------|---------------------------------|-------------------------------|----------------------------|
|             |                      |               | Receptacle Housing | Cover | Cover and Lever | Mating Tab Housing | 2 <sup>nd</sup> Locking Feature | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 15          | See customer drawing | Purple        | 1-967623-1         | —     | —               | 1-967628-1         | 967633-1                        | 966140-2                      | —                          |

Receptacle and Tab Housings

**Technical Features**

**No. of Positions:**

18 Positions

**Housing Material:**

PBT GF10

**Wire Size Range:**

Max. 2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**18 Position Unsealed Housings**

| No. of Pos. | Keying Options       | Housing Color | Part Numbers       |       |                 |                    |                                 |                               |                            |
|-------------|----------------------|---------------|--------------------|-------|-----------------|--------------------|---------------------------------|-------------------------------|----------------------------|
|             |                      |               | Receptacle Housing | Cover | Cover and Lever | Mating Tab Housing | 2 <sup>nd</sup> Locking Feature | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 18          | See customer drawing | Gray          | 1-967624-1         | —     | —               | 1-967629-1         | 967634-1                        | 966140-1                      | —                          |

Receptacle and Tab Housings

**Technical Features**

**No. of Positions:**

21 Positions

**Housing Material:**

PBT GF10

**Wire Size Range:**

Max. 2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**21 Position Unsealed Housings**

| No. of Pos. | Keying Options       | Housing Color | Part Numbers       |       |                 |                    |                                 |                               |                            |
|-------------|----------------------|---------------|--------------------|-------|-----------------|--------------------|---------------------------------|-------------------------------|----------------------------|
|             |                      |               | Receptacle Housing | Cover | Cover and Lever | Mating Tab Housing | 2 <sup>nd</sup> Locking Feature | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 21          | See customer drawing | Brown         | 1-967625-1         | —     | —               | 1-967630-1         | 967635-1                        | 966140-6                      | —                          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

2 Positions

**Housing Material:**

PA66 GF30

**Wire Size Range:**

4.0–10.0 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**2 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | A              | Black         | 1563255-1          | —     | —              | —               | 1564744-1          | —                             | —                          |



Receptacle Housings

**Technical Features**

**No. of Positions:**

2 Positions

**Housing Material:**

PA66

**Wire Size Range:**

2.5–10.0 mm<sup>2</sup>

**Product Specification:**

108-18538-1

**Application Specification:**

114-18185-1



**2 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | A              | Blue          | 968424-1           | –     | –              | –               | –                  | –                             | –                          |
|             | B              | Green         | 968424-2           |       |                |                 |                    |                               |                            |
|             | A              | Black         | 968424-3           |       |                |                 |                    |                               |                            |

Tab Housings

**Technical Features**

**No. of Positions:**

2 Positions

**Housing Material:**

PA66 GF30

**Wire Size Range:**

2.5–10.0 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**2 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                           |                               |                            |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|---------------------------|-------------------------------|----------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Mating Receptacle Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | —              | Black         | 1564744-1    | —     | —              | —               | 1563255-1                 | —                             | —                          |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**  
12 Positions

**Housing Material:**  
PA66 GV13

**Product Specification:**  
—

**Application Specification:**  
—



**12 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Mating<br>Receptacle Housing |
| 12          | —              | Black         | 827229-1                  | —                      | —     | —     | 827603-1                     |
|             |                | Black         | 827229-2                  | —                      |       |       |                              |
|             |                | Black         | 827229-3                  | —                      |       |       |                              |
|             |                | Brown         | 827229-4                  | —                      |       |       | 827603-2                     |
|             |                | Black         | 827229-5                  | —                      |       |       |                              |
|             |                | Brown         | 827229-6                  | —                      |       |       |                              |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

15 Positions

**Housing Material:**

PA66 GV13

**Product Specification:**

**Application Specification:**



**15 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |          | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical |       |       |                  |                           |
| 15          | -              | Black         | 826703-1     | -        | -     | -     | -                | 926171-1                  |
|             |                | Black         | 826703-2     | -        |       |       |                  | 926171-2                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

15 Positions

**Housing Material:**

PA66 GV13

**Product Specification:**

—

**Application Specification:**

—



**15 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |          | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical |       |       |                  |                           |
| 15          | —              | Black         | —            | 827467-1 | —     | —     | —                | 926171-1                  |
|             |                |               |              |          |       |       |                  | 926171-2                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**  
25 Positions

**Housing Material:**  
PA66 GV13

**Product Specification:**  
—

**Application Specification:**  
—



**25 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 25          | —              | Black         | 826140-1               | —                   | —     | —     | —                | 925470-1                  |
|             |                | Yellow        | 826140-2               | —                   |       |       |                  | 925470-2                  |
|             |                | Green         | 826140-3               | —                   |       |       |                  | 925470-3                  |
|             |                | Brown         | 826140-4               | —                   |       |       |                  | 925470-4                  |
|             |                | Black         | 826140-5               | —                   |       |       |                  | —                         |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**  
25 Positions

**Housing Material:**  
PA66 GV13

**Product Specification:**  
—

**Application Specification:**  
—



**25 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 25          | —              | Black         | 826141-1               | —                   | —     | —     | —                | 925471-1                  |
|             |                | Yellow        | 826141-2               | —                   |       |       |                  |                           |
|             |                | Black         | 826141-3               | —                   |       |       |                  | 925471-2                  |
|             |                | Yellow        | 826141-4               | —                   |       |       |                  |                           |

Printed Circuit Board Headers

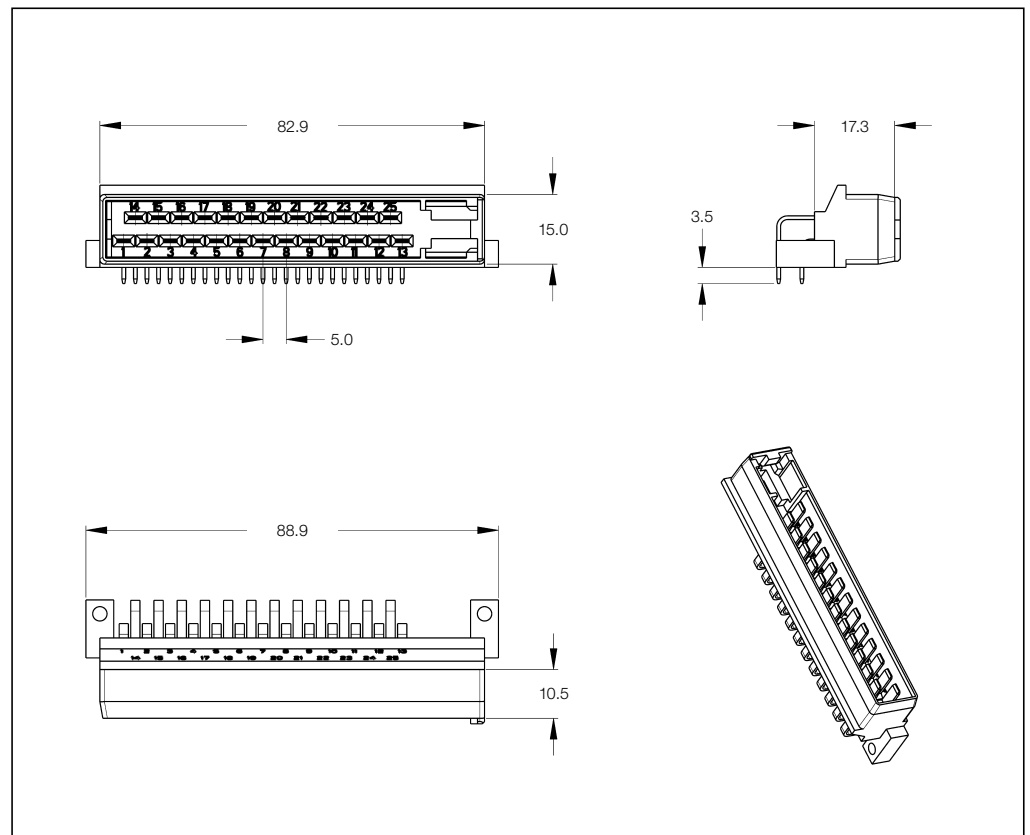
**Technical Features**

**No. of Positions:**  
25 Positions

**Housing Material:**  
PA66 GV13

**Product Specification:**  
—

**Application Specification:**  
—



**25 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 25          | —              | Black         | 826195-1               | —                   | —     | —     | —                | 925471-1                  |
|             |                | Yellow        | 826195-2               | —                   |       |       |                  | 925471-2                  |



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**  
25 Positions

**Housing Material:**  
PA66 GV13

**Product Specification:**  
—

**Application Specification:**  
—



**25 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 25          | —              | Black         | —                      | 827050-1            | —     | —     | —                | 827249-1/-6               |
|             |                |               |                        |                     |       |       |                  | 963317-1                  |
|             |                |               |                        |                     |       |       |                  | 963325-1                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**  
25 Positions

**Housing Material:**  
PA66 GV13

**Product Specification:**  
—

**Application Specification:**  
—



**25 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 25          | —              | Black         | 827019-1               | —                   | —     | —     | —                | 827249-1/-6               |
|             |                |               |                        |                     |       |       |                  | 963317-1                  |
|             |                |               |                        |                     |       |       |                  | 963325-1                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

25 Positions

**Housing Material:**

PA66 GV13

**Product Specification:**

—

**Application Specification:**

—



**25 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color        | Part Numbers              |                        |       |       |                  |
|-------------|----------------|----------------------|---------------------------|------------------------|-------|-------|------------------|
|             |                |                      | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer Housing |
| 25          | —              | See customer drawing | 827535-1/-6               | —                      | —     | —     | 827534-1         |
|             |                |                      | 1-827535-2                | —                      |       |       |                  |
|             |                |                      | 1-827535-3                | —                      |       |       |                  |
|             |                |                      | 2-827535-2                | —                      |       |       |                  |
|             |                |                      | 2-827535-3                | —                      |       |       |                  |
|             |                |                      | 2-827535-4                | —                      |       |       |                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

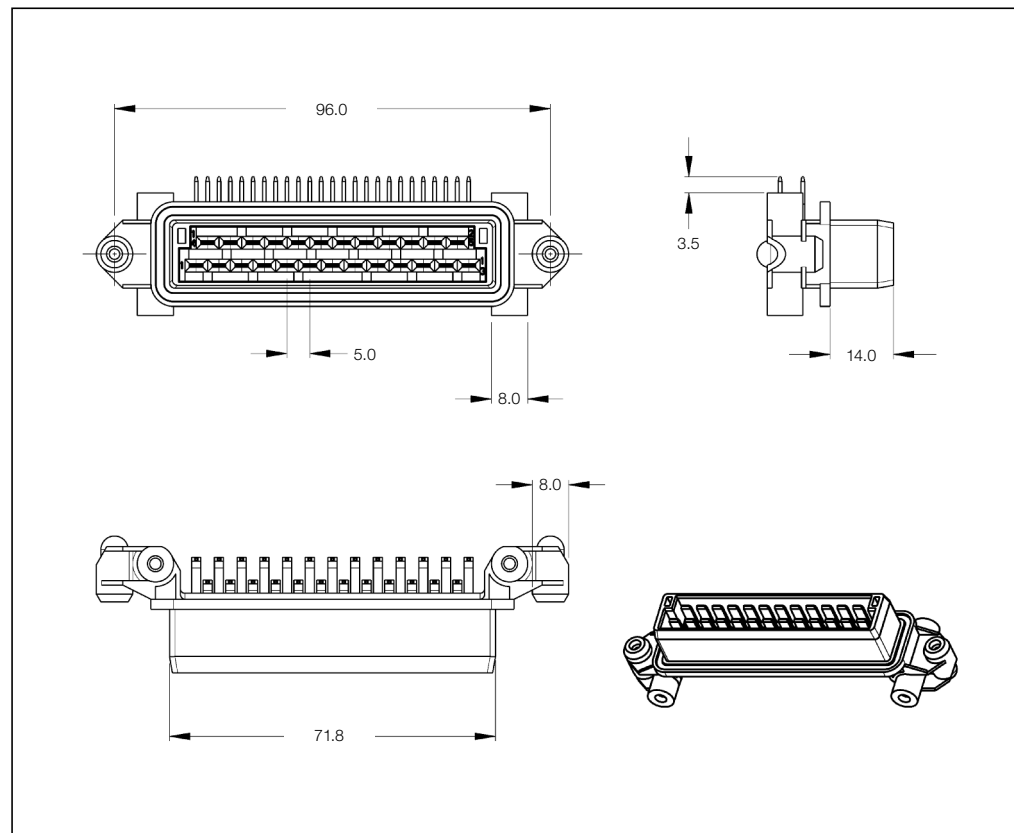
25 Positions

**Housing Material:**

PA66 GV13

**Product Specification:**

**Application Specification:**



**25 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 25          | -              | Black         | 828661-1               | -                   | -     | -     | -                | 827249-1/-6               |
|             |                |               |                        |                     |       |       |                  | 963317-1                  |
|             |                |               |                        |                     |       |       |                  | 963325-1                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

35 Positions

**Housing Material:**

PA66 GV13

**Product Specification:**

—

**Application Specification:**

—



**35 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 35          | —              | Black         | 825213-1               | —                   | —     | —     | —                | 826000-1/-7               |
|             |                |               |                        |                     |       |       |                  | 963318-1                  |
|             |                |               |                        |                     |       |       |                  | 827663-4/-7               |
|             |                |               |                        |                     |       |       |                  | 827257-1/-9               |
|             |                |               |                        |                     |       |       |                  | 1-827257-1/-4             |
|             |                |               |                        |                     |       |       |                  | 1-827257-6/-8             |
|             |                |               |                        |                     |       |       |                  | 828632-1                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**  
35 Positions

**Housing Material:**  
PA66 GV13

**Product Specification:**  
—

**Application Specification:**  
—



**35 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 35          | —              | Black         | —                      | 827254-1            | —     | —     | —                | 826000-1/-7               |
|             |                |               |                        |                     |       |       |                  | 963318-1                  |
|             |                |               |                        |                     |       |       |                  | 827663-4/-7               |
|             |                |               |                        |                     |       |       |                  | 827257-1/-9               |
|             |                |               |                        |                     |       |       |                  | 1-827257-1/-4             |
|             |                |               |                        |                     |       |       |                  | 1-827257-6/-8             |
|             |                |               |                        |                     |       |       |                  | 828632-1                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**  
35 Positions

**Housing Material:**  
PA66 GV13

**Product Specification:**  
—

**Application Specification:**  
—



**35 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 35          | —              | Black         | 827439-1               | —                   | —     | —     | —                | 827667-1                  |
|             |                |               |                        |                     |       |       |                  | 827667-2                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

35 Positions

**Housing Material:**

PA66 GV13

**Product Specification:**

—

**Application Specification:**

—



**35 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 35          | —              | Black         | 827137-1               | —                   | —     | —     | —                | 827667-1                  |
|             |                | Gray          | 827137-2               | —                   |       |       |                  | 827667-2                  |



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

39 Positions

**Housing Material:**

PA66 GV13

**Product Specification:**

**Application Specification:**



**39 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |          | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical |       |       |                  |                           |
| 39          | -              | Black         | 963578-1     | -        | -     | -     | -                | 828771-1                  |
|             |                | Black         | 963578-2     | -        |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**  
39 Positions

**Housing Material:**  
PA66 GV35

**Product Specification:**  
—

**Application Specification:**  
—



**39 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |          | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical |       |       |                  |                           |
| 39          | —              | Black         | 828773-1     | —        | —     | —     | —                | 828771-1                  |
|             |                |               | 828773-2     | —        |       |       |                  |                           |
|             |                |               | 828773-3     | —        |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

39 Positions

**Housing Material:**

PA66 GV35

**Product Specification:**

**Application Specification:**



**39 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Mating<br>Receptacle Housing |
| 39          | –              | Black         | –                         | 828772-2               | –     | –     | 828771-1                     |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

39 Positions

**Housing Material:**

PA66 GV13

**Product Specification:**

**Application Specification:**



**39 Position PCB Header Double Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 39          | —              | Black         | —                      | 963574-1            | —     | —     | —                | 828771-1                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**  
55 Positions

**Housing Material:**  
PA66 GV35

**Product Specification:**  
—

**Application Specification:**  
—



**55 Position PCB Header Double and Triple Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 55          | 8              | Black         | 963063-1               | —                   | —     | —     | —                | 963534-1                  |
|             |                |               |                        |                     |       |       |                  | 963534-2                  |
|             |                |               |                        |                     |       |       |                  | 963534-3                  |
|             | 7              | Black         | 963063-2               | —                   |       |       |                  | 1-963534-1                |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

55 Positions

**Housing Material:**

PA66 GF20

**Product Specification:**

—

**Application Specification:**

—



**55 Position PCB Header Double and Triple Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 55          | 8              | Black         | 142723-1               | —                   | —     | —     | —                | 963534-1                  |
|             |                |               |                        |                     |       |       |                  | 963534-2                  |
|             |                |               |                        |                     |       |       |                  | 963534-3                  |
|             | 7              | Black         | 142723-2               | —                   |       |       |                  | 1-963534-1                |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

55 Positions

**Housing Material:**

PA66 GF20

**Product Specification:**

—

**Application Specification:**

—



**55 Position PCB Header Double and Triple Row**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |          | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical |       |       |                  |                           |
| 55          | —              | Black         | 963042-2     | —        | —     | —     | —                | 963041-1                  |

## Receptacle Housings

### Technical Features

**No. of Positions:**

8 Position Type A

**Housing Material:**

PBT

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



### 8 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | —              | Black         | 962189-1           | —     | —              | —               | 106455-3           | —                             | —                          |



## Receptacle Housings

### Technical Features

**No. of Positions:**

8 Position Type A  
with Secondary Locking

**Housing Material:**

PBT

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



### 8 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | —              | Black         | 963120-1           | —     | —              | —               | 106455-3           | —                             | —                          |

## Receptacle Housings

### Technical Features

**No. of Positions:**

8 Position Type A  
with Different Clips

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



### 8 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | —              | Black         | 964408-1           | —     | —              | —               | 106455-3           | —                             | —                          |

## Receptacle Housings

### Technical Features

**No. of Positions:**

8 Position Type B

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



### 8 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | —              | Black         | 962191-1           | —     | —              | —               | 106455-3           | —                             | —                          |

## Receptacle Housings

### Technical Features

**No. of Positions:**

8 Position Type B  
with Secondary Locking

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



### 8 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | —              | Black         | 963121-1           | —     | —              | —               | 106455-3           | —                             | —                          |

## Receptacle Housings

### Technical Features

**No. of Positions:**

8 Position Type B  
with Different Clips

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



### 8 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | —              | Black         | 964409-1           | —     | —              | —               | 106455-3           | —                             | —                          |

## Receptacle Housings

### Technical Features

**No. of Positions:**

8 Position Type C

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



### 8 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | —              | Black         | 962191-1           | —     | —              | —               | 106456-1           | —                             | —                          |

## Receptacle Housings

### Technical Features

#### No. of Positions:

10 Position Type C  
with Secondary Locking

#### Housing Material:

PA66

#### Wire Size Range:

0.2–2.5 mm<sup>2</sup>

#### Product Specification:

—

#### Application Specification:

—



### 10 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 10          | —              | Black         | 963122-1           | —     | —              | —               | 106456-1           | —                             | —                          |

## Receptacle Housings

### Technical Features

#### No. of Positions:

10 Position Type B  
with Differents Clips

#### Housing Material:

PA66

#### Wire Size Range:

0.2–2.5 mm<sup>2</sup>

#### Product Specification:

—

#### Application Specification:

—



### 10 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 10          | —              | Black         | 964410-1           | —     | —              | —               | 106456-1           | —                             | —                          |



## Tab Housings

### Technical Features

**No. of Positions:**

8 Position Type A + B

**Housing Material:**

PBT

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



### 8 Position Tab Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                           |                               |                            |  |  |  |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|---------------------------|-------------------------------|----------------------------|--|--|--|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Mating Receptacle Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |  |  |  |
| 8           | —              | Gray          | 106455-3     | —     | —              | —               | 962120-1                  | —                             | —                          |  |  |  |
|             |                |               |              |       |                |                 | 962189-1                  |                               |                            |  |  |  |
|             |                |               |              |       |                |                 | 962191-1                  |                               |                            |  |  |  |
|             |                | Brown         | 106455-4     |       |                |                 | 963121-1                  |                               |                            |  |  |  |
|             |                |               |              |       |                |                 | 964408-1                  |                               |                            |  |  |  |
|             |                |               |              |       |                |                 | 964409-1                  |                               |                            |  |  |  |

## Tab Housings

### Technical Features

**No. of Positions:**  
10 Position Type C

**Housing Material:**  
PBT

**Wire Size Range:**  
0.2–2.5 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



### 10 Position Tab Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                           |                               |                            |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|---------------------------|-------------------------------|----------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Mating Receptacle Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 10          | —              | Black         | 106456-1     | —     | —              | —               | 962190-1                  | —                             | —                          |
|             |                |               |              |       |                |                 | 963122-1                  |                               |                            |
|             |                |               |              |       |                |                 | 964410-1                  |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

2 Position  
Junior Power Timer

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**2 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | 1              | Natural       | 365058-1           | —     | —              | —               | 365057-1           | —                             | —                          |
|             | 2              | Gray          | 365058-2           |       |                |                 | 365057-2           |                               |                            |
|             | 3              | Black         | 365058-3           |       |                |                 | 365057-3           |                               |                            |
|             | 4              | Yellow        | 365058-4           |       |                |                 | 365057-4           |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

4 Position  
Junior Power Timer

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | 1              | Natural       | 365060-1           | —     | —              | —               | 365059-1           | —                             | —                          |
|             | 2              | Gray          | 365060-2           |       |                |                 | 365059-2           |                               |                            |
|             | 3              | Black         | 365060-3           |       |                |                 | 365059-3           |                               |                            |
|             | 4              | Yellow        | 365060-4           |       |                |                 | 365059-4           |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

6 Position  
Junior Power Timer

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 6           | 1              | Natural       | 365062-1           | —     | —              | —               | 365061-1           | —                             | —                          |
|             | 2              | Gray          | 365062-2           |       |                |                 | 365061-2           |                               |                            |
|             | 3              | Black         | 365062-3           |       |                |                 | 365061-3           |                               |                            |
|             | 4              | Yellow        | 365062-4           |       |                |                 | 365061-4           |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

8 Position  
Junior Power Timer

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**8 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | 1              | Natural       | 365064-1           | —     | —              | —               | 365063-1           | —                             | —                          |
|             | 2              | Gray          | 365064-2           |       |                |                 | 365063-2           |                               |                            |
|             | 3              | Black         | 365064-3           |       |                |                 | 365063-3           |                               |                            |
|             | 4              | Yellow        | 365064-4           |       |                |                 | 365063-4           |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

14 Position  
Junior Power Timer

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**14 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 14          | 1              | Natural       | 365066-1           | —     | —              | —               | 365065-1           | —                             | —                          |
|             | 2              | Gray          | 365066-2           |       |                |                 | 365065-2           |                               |                            |
|             | 3              | Black         | 365066-3           |       |                |                 | 365065-3           |                               |                            |
|             | 4              | Yellow        | 365066-4           |       |                |                 | 365065-4           |                               |                            |

Tab Housings

**Technical Features**

**No. of Positions:**

2 Position  
Junior Power Timer

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**2 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                           |                               |                            |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|---------------------------|-------------------------------|----------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Mating Receptacle Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | 1              | Natural       | 365057-1     | —     | —              | —               | 365058-1                  | —                             | —                          |
|             | 2              | Gray          | 365057-2     |       |                |                 | 365058-2                  |                               |                            |
|             | 3              | Black         | 365057-3     |       |                |                 | 365058-3                  |                               |                            |
|             | 4              | Yellow        | 365057-4     |       |                |                 | 365058-4                  |                               |                            |



Tab Housings

**Technical Features**

**No. of Positions:**

4 Position  
Junior Power Timer

**Housing Material:**

PA66

**Wire Size Range:**

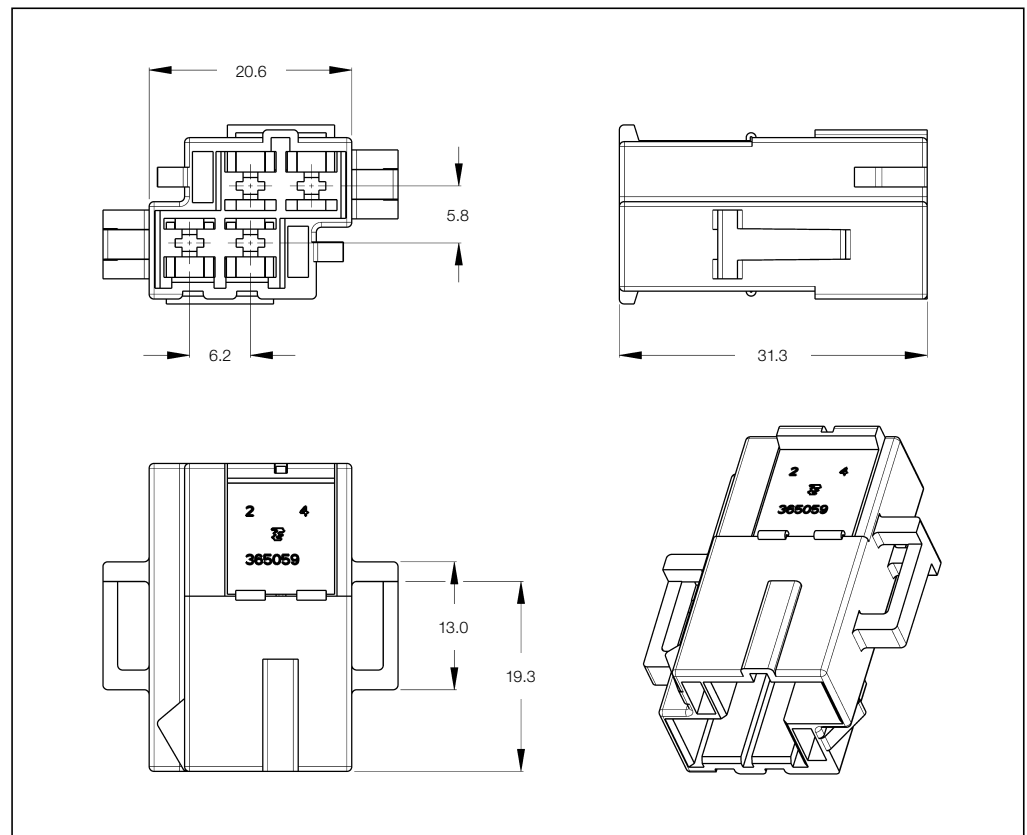
0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**4 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                           |                               |                            |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|---------------------------|-------------------------------|----------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Mating Receptacle Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | 1              | Natural       | 365059-1     | —     | —              | —               | 365060-1                  | —                             | —                          |
|             | 2              | Gray          | 365059-2     |       |                |                 | 365060-2                  |                               |                            |
|             | 3              | Black         | 365059-3     |       |                |                 | 365060-3                  |                               |                            |
|             | 4              | Yellow        | 365059-4     |       |                |                 | 365060-4                  |                               |                            |

Tab Housings

**Technical Features**

**No. of Positions:**

6 Position  
Junior Power Timer

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**6 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                           |                               |                            |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|---------------------------|-------------------------------|----------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Mating Receptacle Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 6           | 1              | Natural       | 365061-1     | —     | —              | —               | 365062-1                  | —                             | —                          |
|             | 2              | Gray          | 365061-2     |       |                |                 | 365062-2                  |                               |                            |
|             | 3              | Black         | 365061-3     |       |                |                 | 365062-3                  |                               |                            |
|             | 4              | Yellow        | 365061-4     |       |                |                 | 365062-4                  |                               |                            |

Tab Housings

**Technical Features**

**No. of Positions:**

8 Position  
Junior Power Timer

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

**Application Specification:**



**8 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                           |                               |                            |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|---------------------------|-------------------------------|----------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Mating Receptacle Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | 1              | Natural       | 365063-1     | -     | -              | -               | 365064-1                  | -                             | -                          |
|             | 2              | Gray          | 365063-2     |       |                |                 | 365064-2                  |                               |                            |
|             | 3              | Black         | 365063-3     |       |                |                 | 365064-3                  |                               |                            |
|             | 4              | Yellow        | 365063-4     |       |                |                 | 365064-4                  |                               |                            |

Tab Housings

**Technical Features**

**No. of Positions:**

14 Position  
Junior Power Timer

**Housing Material:**

PA66

**Wire Size Range:**

0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**14 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                           |                               |                            |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|---------------------------|-------------------------------|----------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Mating Receptacle Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 14          | 1              | Natural       | 365065-1     | —     | —              | —               | 365066-1                  | —                             | —                          |
|             | 2              | Gray          | 365065-2     |       |                |                 | 365066-2                  |                               |                            |
|             | 3              | Black         | 365065-3     |       |                |                 | 365066-3                  |                               |                            |
|             | 4              | Yellow        | 365065-4     |       |                |                 | 365066-4                  |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

6 Position Assy

**Housing Material:**

PA66 GF30

**Wire Size Range:**

0.5–1.0 mm<sup>2</sup>

**Product Specification:**

108-18633

**Application Specification:**

114-18272



**6 Position Receptacle Housings with Slide**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                 |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Tab Housing | Mating PCB Header Right-Angle | Header Vertical |
| 6           | –              | Black         | 6-929264-2         | –     | –              | –               | –                | –                  | –                             | –               |

Receptacle Housings

**Technical Features**

**No. of Positions:**

10 Position Assy

**Housing Material:**

PBT GF20

**Wire Size Range:**

0.2–1.0 mm<sup>2</sup>

**Product Specification:**

108-18816-1

**Application Specification:**

114-18485-1



**10 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                 |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Tab Housing | Mating PCB Header Right-Angle | Header Vertical |
| 10          | –              | Black         | 1452545-1          | –     | –              | –               | –                | 1452546-1          | –                             | –               |

Receptacle Housings

**Technical Features**

**No. of Positions:**

22 + 4 Position  
Micro Timer II + Standard  
Power Timer Assy with Slide

**Housing Material:**

PBT GF15

**Wire Size Range:**

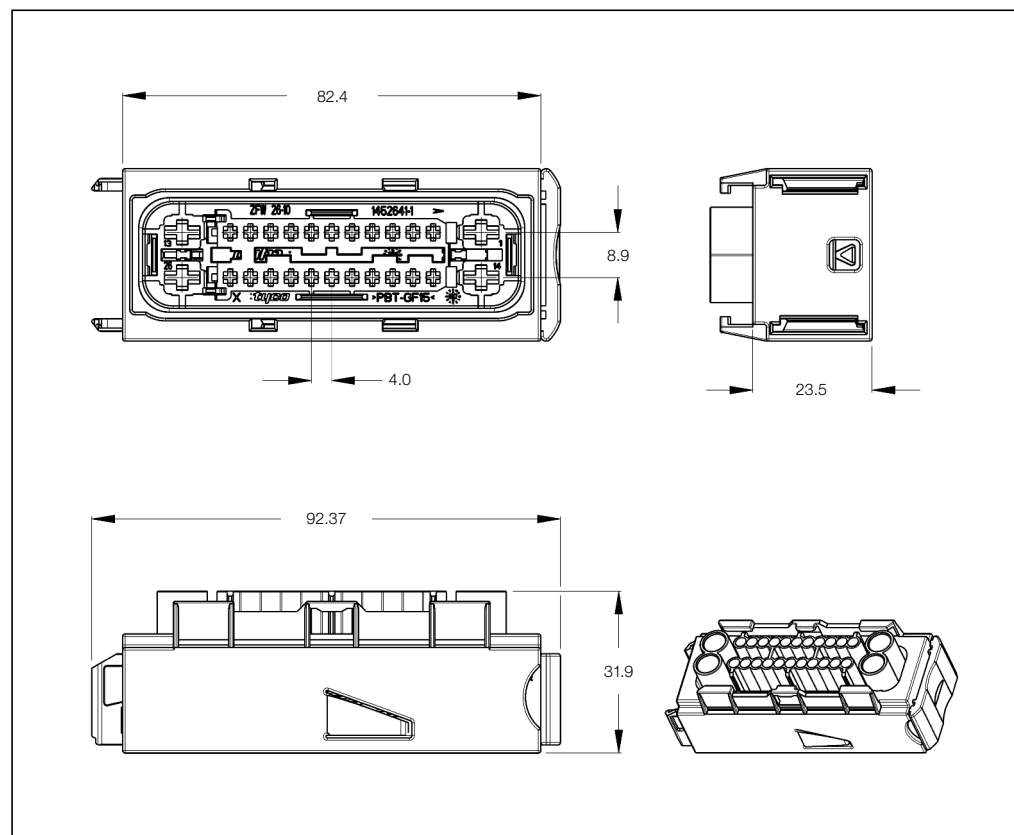
MTII: 0.35–1.0 mm<sup>2</sup>  
SPT: 0.50–4.0 mm<sup>2</sup>

**Product Specification:**

108-18792-1

**Application Specification:**

114-18480-1



**22 + 4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |           |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-----------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover     | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 22 + 4      | –              | Black         | 1452643-1          | 1452644-1 | –              | –               | –                | –                  | –                             | –        |

**Receptacle Housings**

**Technical Features**

**No. of Positions:**

30 Position  
Micro Timer II + Junior  
Power Timer with Slide

**Housing Material:**

PBT GF20

**Wire Size Range:**

MTII: 0.5–1.0 mm<sup>2</sup>  
JPT: 0.5–2.5 mm<sup>2</sup>

**Product Specification:**

108-18672-1

**Application Specification:**

114-18315-1



**30 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |           |                |                 |                  |                    |                               |                 |
|-------------|----------------|---------------|--------------------|-----------|----------------|-----------------|------------------|--------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover     | Locking Device | Cover and Lever | Retainer Housing | Mating Tab Housing | Mating PCB Header Right-Angle | Header Vertical |
| 30          | –              | Black         | 1241748-1          | 1241747-1 | –              | –               | –                | 1355883-1          | –                             | –               |



Receptacle Housings

**Technical Features**

**No. of Positions:**

102 Position  
Micro Timer II + Junior  
Power Timer +  
Maxi Power Timer

**Housing Material:**

PBT GF20

**Wire Size Range:**

MTII: 0.2–1.0 mm<sup>2</sup>  
SPT: 0.2–2.5 mm<sup>2</sup>  
MPT: 2.5–10.0 mm<sup>2</sup>

**Product Specification:**

108-18931

**Application Specification:**

114-18634



**102 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                 |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Tab Housing | Mating PCB Header Right-Angle | Header Vertical |
| 102         | –              | Black         | 1452765-1          | –     | –              | –               | 1355711-1        | 1452764-1          | –                             | –               |

Tab Housings

**Technical Features**

**No. of Positions:**

10 Positions

**Housing Material:**

PBT GF20

**Wire Size Range:**

0.2–1.0 mm<sup>2</sup>

**Product Specification:**

108-18816-1

**Application Specification:**

114-18485-1



**10 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 10          | –              | Black         | 1452546-1    | –     | –              | –               | –                | 1452545-1                 |

Tab Housings

**Technical Features**

**No. of Positions:**

30 Position  
Micro Timer II + Junior  
Power Timer with Slide

**Housing Material:**

PBT GF20

**Wire Size Range:**

See customer drawing

**Product Specification:**

108-18672-1

**Application Specification:**

114-18315-1



**30 Position Mixed Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 30          | –              | Black         | 1355883-1    | –     | –              | –               | –                | 1241748-1                 |

Tab Housings

**Technical Features**

**No. of Positions:**

102 Position  
Micro Timer II + Junior  
Power Timer +  
Maxi Power Timer

**Housing Material:**

PBT GF20

**Wire Size Range:**

See customer drawing

**Product Specification:**

108-18931

**Application Specification:**

114-18634



**102 Position Mixed Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 102         | –              | Black         | 1452764-1    | –     | –              | –               | 1355709-1        | 1452765-1                 |

## Receptacle Housings

### Technical Features

**No. of Positions:**

2 Position Assy

**Housing Material:**

PBT GF20

**Wire Size Range:**

0.5–1.0 mm<sup>2</sup>

**Product Specification:**

108-18872-1

**Application Specification:**

114-18564-1



### 2 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                 |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Tab Housing | Mating PCB Header Right-Angle | Header Vertical |
| 2           | –              | Black         | 1452680-1          | –     | 1452679-1      | –               | –                | –                  | –                             | –               |

Receptacle Housings

**Technical Features**

**No. of Positions:**

4 Positions

**Housing Material:**

PBT GF30

**Wire Size Range:**

0.35–0.5 mm<sup>2</sup>

**Product Specification:**

108-18664

**Application Specification:**

114-18308



**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Tab Housing | Mating PCB Header Right-Angle | Vertical |
| 4           | –              | Black         | 6-1355678-1        | –     | –              | –               | –                | –                  | –                             | –        |

Receptacle Housings

**Technical Features**

**No. of Positions:**

6 Positions

**Housing Material:**

PBT GF30

**Wire Size Range:**

0.35–0.5 mm<sup>2</sup>

**Product Specification:**

108-18664

**Application Specification:**

114-18308



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Tab Housing | Mating PCB Header Right-Angle | Vertical |
| 6           | –              | Black         | 6-1355683-1        | –     | –              | –               | –                | –                  | –                             | –        |

Receptacle Housings

**Technical Features**

**No. of Positions:**

10 Positions

**Housing Material:**

PBT GF30

**Wire Size Range:**

0.35–0.5 mm<sup>2</sup>

**Product Specification:**

108-18664

**Application Specification:**

114-18308



**10 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Tab Housing | Mating PCB Header Right-Angle | Vertical |
| 10          | –              | Black         | 6-1355688-1        | –     | –              | –               | –                | –                  | –                             | –        |



Receptacle Housings

**Technical Features**

**No. of Positions:**

25 Positions

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**25 Position Receptacle Housings**

| No. of Pos. | Keying Options       | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                      |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 25          | See customer drawing |               | 827249-1           | —     | —              | —               | —                  | 827050-1 (left)               | —                          |
|             |                      |               | 827249-2           |       |                |                 |                    |                               |                            |
|             |                      |               | 827249-3           |       |                |                 |                    |                               |                            |
|             |                      |               | 827249-4           |       |                |                 |                    |                               |                            |
|             |                      |               | 827249-5           |       |                |                 |                    |                               |                            |
|             |                      |               | 827249-6           |       |                |                 |                    |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**  
35 Positions

**Housing Material:**  
PA66 GV30

**Wire Size Range:**  
max. 25 mm<sup>2</sup> FLR

**Product Specification:**  
—

**Application Specification:**  
—



**35 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 35          | —              | Black         | 963062-1*          | —     | —              | —               | —                  | 825213-1                      | —                          |

\*) **Rubber Boot:** Part No. **826779-1** (must be ordered separately)

Receptacle Housings

**Technical Features**

**No. of Positions:**

35 Positions

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**35 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 35          | —              | Black         | 828880-1*          | —     | —              | —               | —                  | 825213-1                      | —                          |

\*) **Rubber Boot:** Part No. **826779-1** (must be ordered separately)

Receptacle Housings

**Technical Features**

**No. of Positions:**

35 Positions

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**35 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color        | Part Numbers       |       |                |                 |                    |                               |          |
|-------------|----------------|----------------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------|
|             |                |                      | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Vertical |
| 35          | —              | See customer drawing | 827257-1/-9*       | —     | —              | —               | —                  | 825213-1                      | —        |
|             |                |                      | 1-827257-1/-4*     |       |                |                 |                    |                               |          |
|             |                |                      | 1-827257-6/-8*     |       |                |                 |                    |                               |          |

\*) **Rubber Boot:** Part No. **826779-1** (must be ordered separately)

Receptacle Housings

**Technical Features**

**No. of Positions:**

35 Positions

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**35 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 35          | —              | Black         | 828632-1*          | —     | —              | —               | —                  | 825213-1                      | —                          |

\*) **Rubber Boot:** Part No. **826779-1** (must be ordered separately)

Receptacle Housings

**Technical Features**

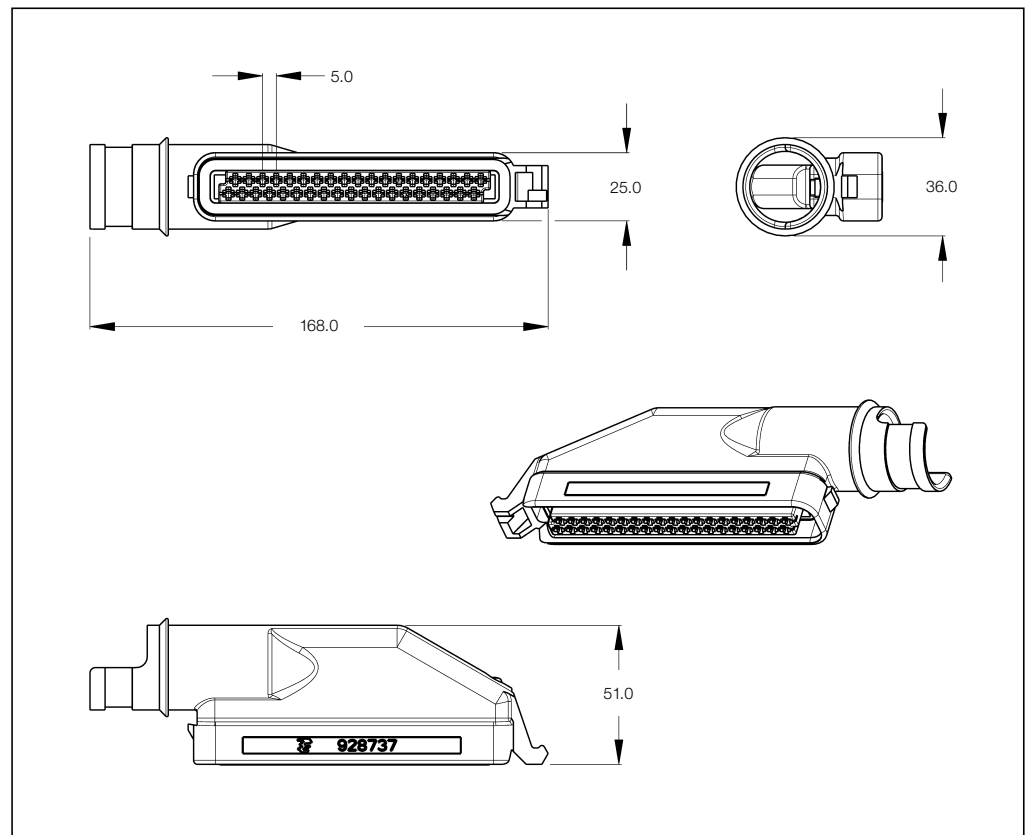
**No. of Positions:**  
38 Positions

**Housing Material:**  
PA66 GV13

**Wire Size Range:**  
See customer drawing

**Product Specification:**  
—

**Application Specification:**  
—



**38 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color        | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|----------------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |                      | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 38          | —              | See customer drawing | 828808-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                |                      | 828808-2           |       |                |                 |                    |                               |                            |
|             |                |                      | 828808-3           |       |                |                 |                    |                               |                            |

Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**

4 Positions

**Housing Material:**

PBT ASA GF30

**Wire Size Range:**

max. 2.5 mm<sup>2</sup>

**Product Specification:**

108-18102

**Application Specification:**

114-18175-2



**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | A1             | Black         | 1-963207-1         | —     | —              | —               | 1-962340-1         | —                             | —                          |
|             | D1             | Brown         | 4-963207-1         | —     | —              | —               | 962341-1           | —                             | —                          |

Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**

4 Positions

**Housing Material:**

PBT GF20

**Wire Size Range:**

2.5–2.5 mm<sup>2</sup>

**Product Specification:**

108-18793

**Application Specification:**

114-18485



**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | A              | Black         | 1452327-1          | –     | –              | –               | 1452324-1          | –                             | –                          |
|             |                |               | 1452327-2          |       |                |                 | 1452324-2          |                               |                            |



Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**

16 Positions

**Housing Material:**

PBT ASA GF30

**Wire Size Range:**

0.35–2.5 mm<sup>2</sup>

**Product Specification:**

108-18102

**Application Specification:**

114-18175



**16 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 16          | A1             | Black         | 1-963217-1         | —     | —              | —               | —                  | —                             | —                          |
|             | B1             | Brown         | 2-963217-1         | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**

25 Positions

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**25 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers                  |       |                |                 |                    |   |                            |
|-------------|----------------|---------------|-------------------------------|-------|----------------|-----------------|--------------------|---|----------------------------|
|             |                |               | Receptacle Housing            | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle             | Mating PCB Header Vertical |
| 25          | —              | Black         | 963325-1<br>with rubber boots | —     | —              | —               | —                  | 827050-1<br>(left)<br>827019-1<br>(right) | —                          |

Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**

25 Positions

**Housing Material:**

PA66 GV30

**Wire Size Range:**

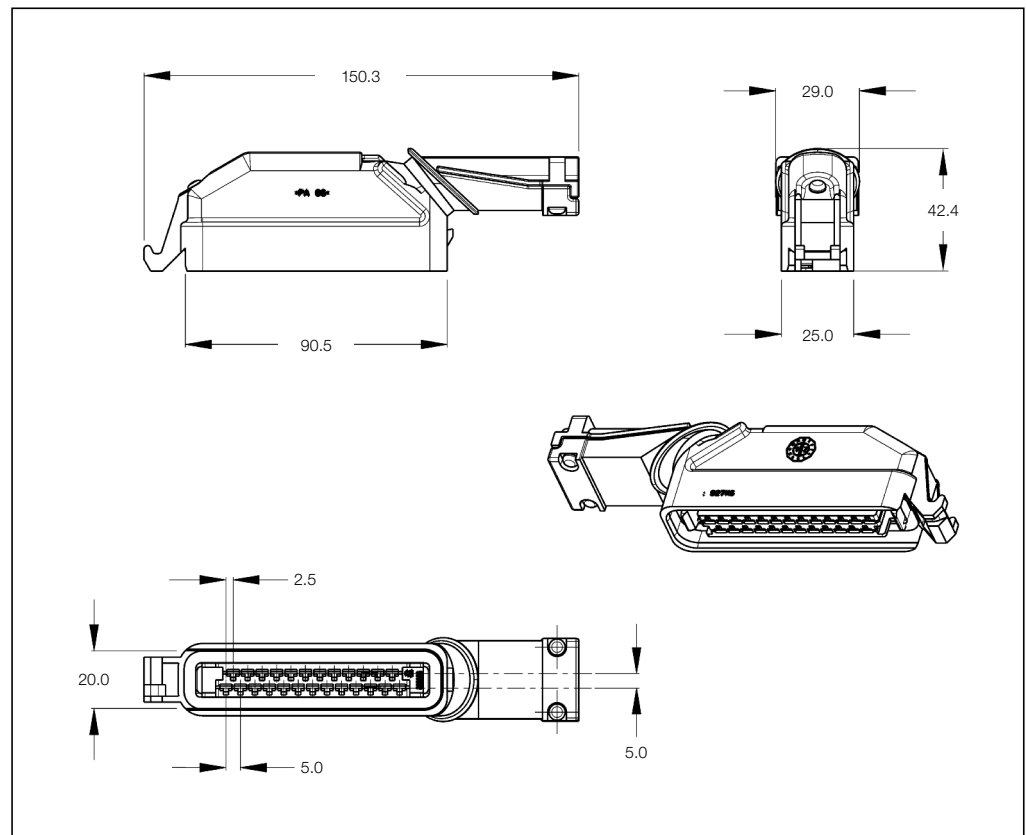
See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**25 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                                     |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle       | Mating PCB Header Vertical |
| 25          | —              | Black         | 963317-1           | —     | —              | —               | —                  | 827050-1 (left)<br>827019-1 (right) | —                          |

Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**  
35 Positions

**Housing Material:**  
PA66 GV30

**Wire Size Range:**  
See customer drawing

**Product Specification:**  
—

**Application Specification:**  
—



**35 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 35          | —              | Black         | 963059-1*          | —     | —              | —               | —                  | 825213-1                      | —                          |

\*) **Rubber Boot:** Part No. **826779-1** (must be ordered separately)

Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**

55 Positions

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**55 Position Receptacle Housings**

| No. of Pos. | Keying Options       | Housing Color        | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------------|----------------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                      |                      | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 55          | See customer drawing | See customer drawing | 963534-1           | —     | —              | —               | —                  | 963063-1                      | —                          |
|             |                      |                      | 963534-2           |       |                |                 |                    | 142723-2                      |                            |
|             |                      |                      | 963534-3           |       |                |                 |                    | 142719-2                      |                            |
|             |                      |                      | 1-963534-1         |       |                |                 |                    |                               |                            |

Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**

55 Position  
8 x Junior Power Timer  
47 x Micro Timer II

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**55 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 55          | —              | Black         | 828761-1           | —     | —              | —               | —                  | 828773-1                      | —                          |

Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**

4 Position Junior Power Timer  
1 Position AMP MCP 6.3

**Housing Material:**

PBT GF20

**Wire Size Range:**

JPT: 0.35–2.5 mm<sup>2</sup>  
AMP MCP 6.3: 1.0–6.0 mm<sup>2</sup>

**Product Specification:**

108-18974

**Application Specification:**

114-18686



**4 Position Mixed Junior Power Timer / AMP MCP 6.3 Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                 |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Tab Housing | Mating PCB Header Right-Angle | Header Vertical |
| 4           | A              | Black         | 1718878-1          | –     | –              | –               | 1718879-1        | –                  | –                             | –               |

Receptacle Housings with Locking Spring and Seal

**Technical Features**

**No. of Positions:**

2 Position Type A

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**2 Position Junior Timer Receptacle Housings, Type A**

| No. of Pos. | Keying Options | Housing Color        | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|----------------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |                      | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | —              | See customer drawing | 826008-1/-3        | —     | —              | —               | 106462-1           | —                             | —                          |
|             |                |                      | 826008-5/-8        |       |                |                 |                    |                               |                            |
|             |                |                      | 1-826008-1/-3      |       |                |                 |                    |                               |                            |
|             |                |                      | 1-826008-5/-8      |       |                |                 |                    |                               |                            |



Receptacle Housings with Locking Spring and Seal

**Technical Features**

**No. of Positions:**

5 Position Type A

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**5 Position Junior Timer Receptacle Housings, Type A**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 5           | —              | Black         | 827656-1           | —     | —              | —               | 106462-1           | —                             | —                          |

Receptacle Housings with Locking Spring and Seal

**Technical Features**

**No. of Positions:**

7 Position Type A

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**7 Position Junior Timer Receptacle Housings, Type A**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 7           | —              | Black         | 827216-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                |               | 827216-2           |       |                |                 |                    |                               |                            |

**Receptacle Housings with Locking Spring and Seal**

**Technical Features**

**No. of Positions:**

2 Position Type B

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**2 Position Junior Timer Receptacle Housings, Type B**

| No. of Pos. | Keying Options | Housing Color        | Part Numbers       |       |                |                 |                    |                               |          |
|-------------|----------------|----------------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------|
|             |                |                      | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Vertical |
| 2           | —              | See customer drawing | 825414-0/-6        | —     | —              | —               | —                  | 106462-1                      | —        |
|             |                |                      | 1-825414-0/-3      |       |                |                 |                    |                               |          |
|             |                |                      | 1-825414-5/-6      |       |                |                 |                    |                               |          |
|             |                |                      | 2-825414-0/-3      |       |                |                 |                    |                               |          |
|             |                |                      | 2-825414-5/-6      |       |                |                 |                    |                               |          |
|             |                |                      | 3-825414-0/-3      |       |                |                 |                    |                               |          |
|             |                |                      | 3-825414-5/-6      |       |                |                 |                    |                               |          |

**Receptacle Housings with Locking Spring and Seal**

**Technical Features**

**No. of Positions:**

2 Position Type C

**Housing Material:**

PA66 GV30

**Wire Size Range:**

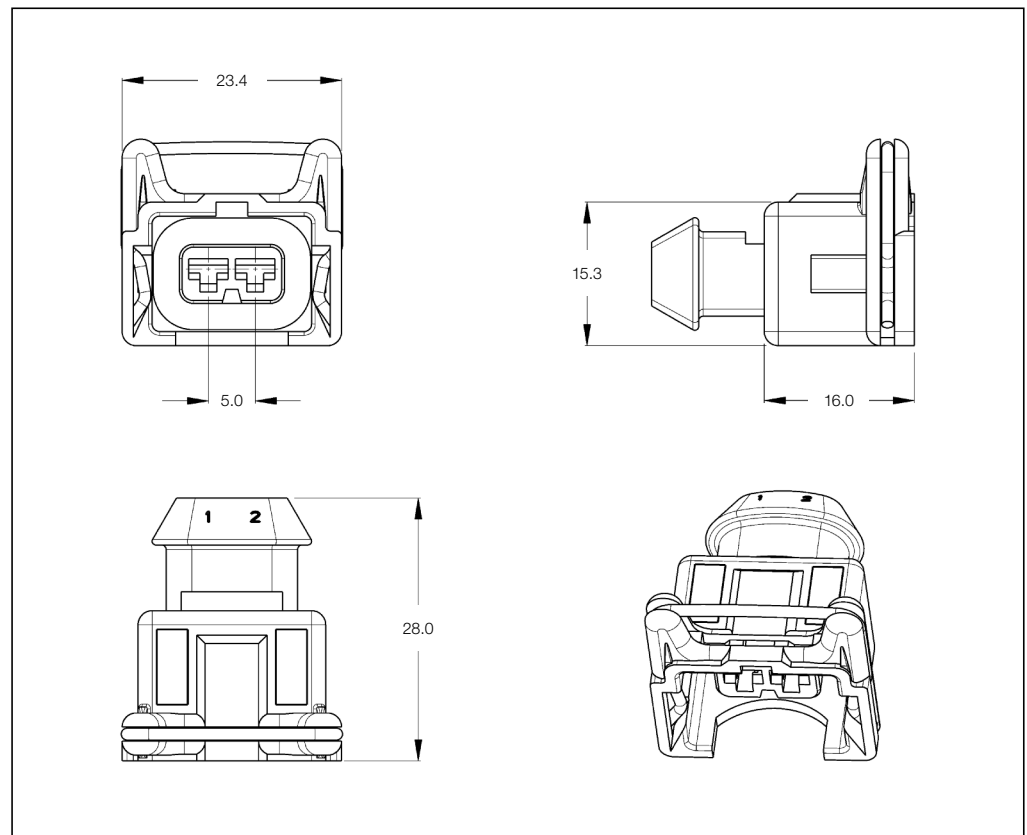
See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**2 Position Junior Timer Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | —              | Natural       | 827551-1           | —     | —              | —               | 106462-1           | —                             | —                          |
|             |                | Gray          | 827551-2           |       |                |                 |                    |                               |                            |
|             |                | Black         | 827551-3           |       |                |                 |                    |                               |                            |
|             |                | Brown         | 827551-4           |       |                |                 |                    |                               |                            |
|             |                | Blue          | 827551-5           |       |                |                 |                    |                               |                            |
|             |                | Green         | 827551-6           |       |                |                 |                    |                               |                            |
|             |                | Red           | 827551-7           |       |                |                 |                    |                               |                            |
|             |                | Yellow        | 827551-8           |       |                |                 |                    |                               |                            |

**Receptacle Housings with Locking Spring and Seal**

**Technical Features**

**No. of Positions:**

2 Position Type C

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**2 Position Junior Power Timer Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | —              | Natural       | 828657-1           |       |                |                 |                    |                               |                            |
|             |                | Gray          | 828657-2           |       |                |                 |                    |                               |                            |
|             |                | Black         | 828657-3           |       |                |                 |                    |                               |                            |
|             |                | Brown         | 828657-4           |       |                |                 |                    |                               |                            |
|             |                | Blue          | 828657-5           |       |                |                 |                    |                               |                            |
|             |                | Green         | 828657-6           |       |                |                 |                    |                               |                            |
|             |                | Red           | 828657-7           |       |                |                 |                    |                               |                            |
|             |                | Yellow        | 828657-8           |       |                |                 |                    |                               |                            |

Receptacle Housings with Locking Spring and Seal

**Technical Features**

**No. of Positions:**

3 Position Type C

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**3 Position Junior Timer Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 3           | —              | Black         | 1-827578-1         | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 1-827578-2         |       |                |                 |                    |                               |                            |
|             |                | White         | 1-827578-3         |       |                |                 |                    |                               |                            |
|             |                | Green         | 1-827578-4         |       |                |                 |                    |                               |                            |

**Receptacle Housings with Locking Spring and Seal**

**Technical Features**

**No. of Positions:**

3 Position Type C

**Housing Material:**

PA66 GV30

**Wire Size Range:**

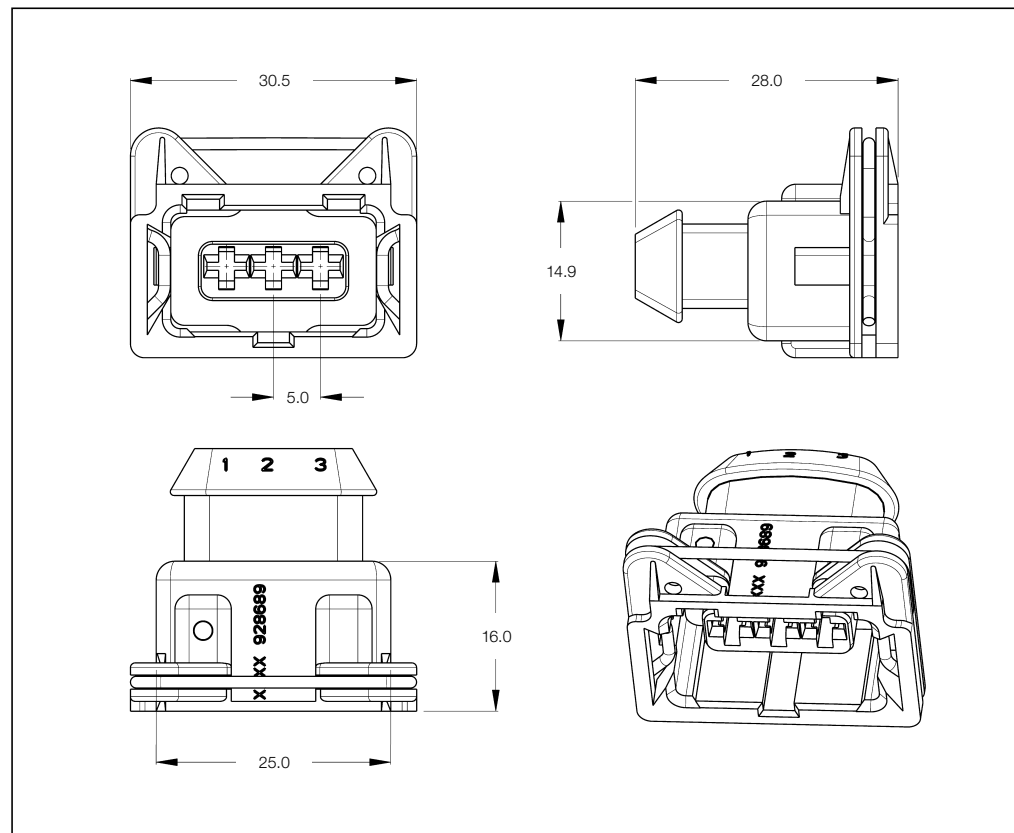
See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**3 Position Junior Power Timer Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 3           | —              | White         | 828748-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 828748-2           |       |                |                 |                    |                               |                            |
|             |                | Black         | 828748-3           |       |                |                 |                    |                               |                            |
|             |                | Brown         | 828748-4           |       |                |                 |                    |                               |                            |
|             |                | Blue          | 828748-5           |       |                |                 |                    |                               |                            |
|             |                | Green         | 828748-6           |       |                |                 |                    |                               |                            |
|             |                | Red           | 828748-7           |       |                |                 |                    |                               |                            |
|             |                | Yellow        | 828748-8           |       |                |                 |                    |                               |                            |

Receptacle Housings with Locking Spring and Seal

**Technical Features**

**No. of Positions:**

5 Position Type C

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**5 Position Junior Timer Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 5           | —              | Black         | 827579-1           | —     | —              | —               | —                  | —                             | —                          |



Receptacle Housings with Locking Spring and Seal

**Technical Features**

**No. of Positions:**

5 Position Type C

**Housing Material:**

PA66 GV13

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**5 Position Junior Power Timer Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 5           | —              | Black         | 963013-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Natural       | 963013-2           | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings with Locking Spring and Seal

**Technical Features**

**No. of Positions:**

5 Position Type C

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**5 Position Junior Timer Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 5           | —              | Black         | 827580-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 827580-2           | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings with Locking Spring and Seal

**Technical Features**

**No. of Positions:**

5 Position Type C

**Housing Material:**

PA66 GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**5 Position Junior Timer Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 5           | —              | Black         | 827572-1           | —     | —              | —               | —                  | —                             | 827405-1                   |

Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**

45 Position  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

MTII: 0.2–1.0 mm<sup>2</sup>  
JPT: 0.2–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**45 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 45          | —              | Black         | 963599-1           | 965052-1 | —              | —               | —                  | 3-963358-1<br>1-962519-1      | —                          |

Receptacle Housings for Contacts 18.0 mm Length

**Technical Features**

**No. of Positions:**

68 Position  
for Aggregate Applications

**Housing Material:**

PA66 GF30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**68 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 68          | —              | Black         | 963598-1           | 965052-1 | —              | —               | —                  | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

2 Position Type A  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

**Application Specification:**



**2 Position Receptacle Housings, Type A**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | -              | Black         | 282762-1           | -     | -              | -               | 106462-1           | -                             | -                          |
|             |                | Gray          | 282762-2           |       |                |                 |                    |                               |                            |
|             |                | Natural       | 282762-3           |       |                |                 |                    |                               |                            |
|             |                | Green         | 282762-4           |       |                |                 |                    |                               |                            |
|             |                | Blue          | 282762-5           |       |                |                 |                    |                               |                            |
|             |                | Brown         | 282762-6           |       |                |                 |                    |                               |                            |
|             |                | Yellow        | 282762-7           |       |                |                 |                    |                               |                            |
|             |                | Red           | 282762-8           |       |                |                 |                    |                               |                            |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

2 Position Type A  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**2 Position Receptacle Housings, Type A**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | —              | Black         | 282190-1           | —     | —              | —               | 106462-1           | —                             | —                          |
|             |                | Gray          | 282190-2           |       |                |                 |                    |                               |                            |
|             |                | Natural       | 282190-3           |       |                |                 |                    |                               |                            |
|             |                | Green         | 282190-4           |       |                |                 |                    |                               |                            |
|             |                | Blue          | 282190-5           |       |                |                 |                    |                               |                            |
|             |                | Brown         | 282190-6           |       |                |                 |                    |                               |                            |
|             |                | Yellow        | 282190-7           |       |                |                 |                    |                               |                            |
|             |                | Red           | 282190-8           |       |                |                 |                    |                               |                            |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

2 Position Type B  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**2 Position Receptacle Housings, Type B**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | —              | Black         | 282189-1           | —     | —              | —               | 106462-1           | —                             | —                          |
|             |                | Gray          | 282189-2           |       |                |                 |                    |                               |                            |
|             |                | Natural       | 282189-3           |       |                |                 |                    |                               |                            |
|             |                | Green         | 282189-4           |       |                |                 |                    |                               |                            |
|             |                | Blue          | 282189-5           |       |                |                 |                    |                               |                            |
|             |                | Brown         | 282189-6           |       |                |                 |                    |                               |                            |
|             |                | Yellow        | 282189-7           |       |                |                 |                    |                               |                            |
|             |                | Red           | 282189-8           |       |                |                 |                    |                               |                            |



Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

2 Position Type C  
for Aggregate Applications

**Housing Material:**

PBT GF15

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**2 Position Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | —              | Blue          | 963040-1           | —     | —              | —               | 106462-1           | —                             | —                          |
|             |                | Gray          | 963040-2           |       |                |                 |                    |                               |                            |
|             |                | Black         | 963040-3           |       |                |                 |                    |                               |                            |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

3 Position Type B  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**3 Position Receptacle Housings, Type B**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 3           | —              | Black         | 282729-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 282729-2           |       |                |                 |                    |                               |                            |
|             |                | Natural       | 282729-3           |       |                |                 |                    |                               |                            |
|             |                | Green         | 282729-4           |       |                |                 |                    |                               |                            |
|             |                | Blue          | 282729-5           |       |                |                 |                    |                               |                            |
|             |                | Brown         | 282729-6           |       |                |                 |                    |                               |                            |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

4 Position Type B  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**4 Position Receptacle Housings, Type B**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | —              | Black         | 282764-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 282764-2           | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

4 Position Type B  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**4 Position Receptacle Housings, Type B**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | —              | Gray          | 282765-1           | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

4 Position Type C  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**4 Position Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | —              | Gray          | 282342-1           | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

4 Position Type C  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**4 Position Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | —              | Black         | 282192-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 282192-2           | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

5 Position Type C  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**5 Position Receptacle Housings, Type C**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 5           | —              | Black         | 282193-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 282193-2           | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**  
5 Position Type B  
for Aggregate Applications

**Housing Material:**  
PA66 GF

**Wire Size Range:**  
See customer drawing

**Product Specification:**  
—

**Application Specification:**  
—



**5 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 5           | —              | Black         | 282766-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 282766-2           | —     | —              | —               | —                  | —                             | —                          |



Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

7 Position  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**7 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 7           | —              | Black         | 282768-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 282768-2           | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

7 Position  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**7 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 7           | —              | Black         | 282194-1           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 282194-2           | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

7 Position  
for Aggregate Applications

**Housing Material:**

PBTP GFV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**7 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 7           | —              | Natural       | 828919-0           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 828919-1           |       |                |                 |                    |                               |                            |
|             |                | Black         | 828919-2           |       |                |                 |                    |                               |                            |
|             |                | Brown         | 828919-3           |       |                |                 |                    |                               |                            |
|             |                | Blue          | 828919-4           |       |                |                 |                    |                               |                            |
|             |                | Gray          | 828919-5           |       |                |                 |                    |                               |                            |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

7 Position  
for Aggregate Applications

**Housing Material:**

PBTP GFV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**7 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 7           | —              | Natural       | 828918-0           | —     | —              | —               | —                  | —                             | —                          |
|             |                | Gray          | 828918-1           |       |                |                 |                    |                               |                            |
|             |                | Black         | 828918-2           |       |                |                 |                    |                               |                            |
|             |                | Brown         | 828918-3           |       |                |                 |                    |                               |                            |
|             |                | Blue          | 828918-4           |       |                |                 |                    |                               |                            |
|             |                | Green         | 828918-5           |       |                |                 |                    |                               |                            |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

15 Position  
for Aggregate Applications

**Housing Material:**

PBTP GV15

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**15 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 15          | —              | Black         | 963039-1           | —     | —              | —               | 963035-1           | —                             | —                          |
|             |                | Gray          | 963039-2           | —     | —              | —               | —                  | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

25 Position  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

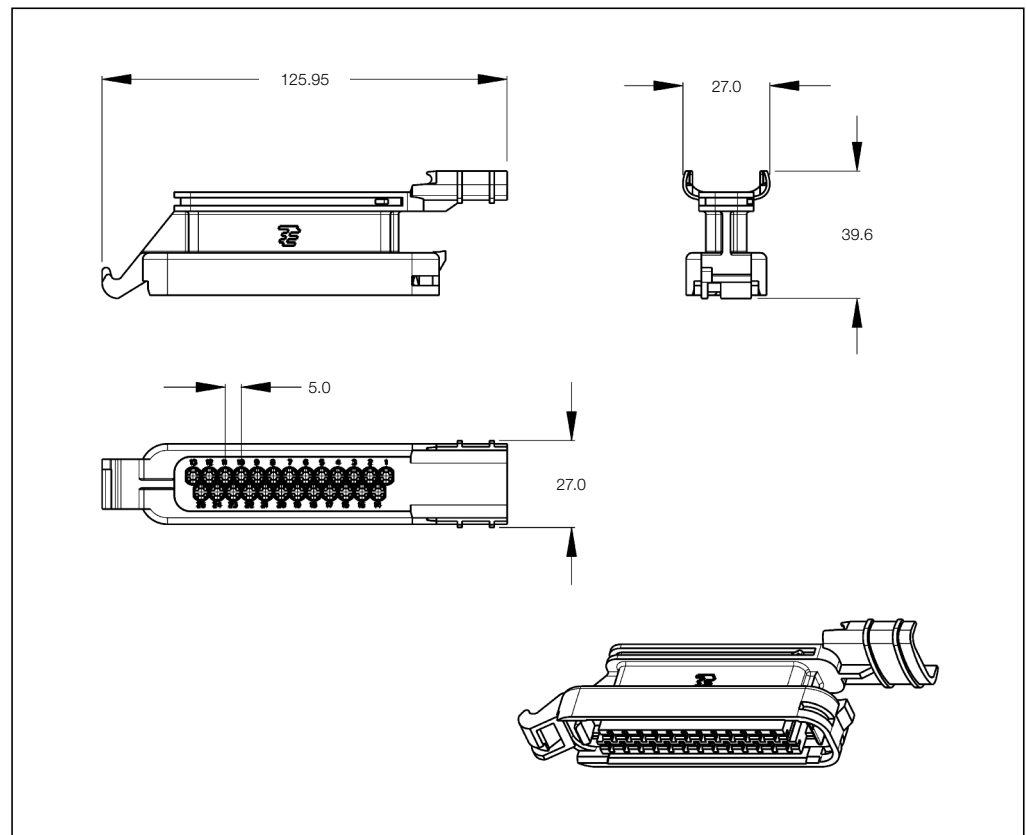
See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**25 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 25          | —              | Black         | 281810-1           | 281812-1 | —              | —               | —                  | 827050-1                      | —                          |
|             |                | Gray          | 281810-2           |          |                |                 |                    |                               |                            |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

35 Position  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**35 Position Receptacle Housings, Standard Version**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 35          | —              | Black         | 282195-2           | 281812-1 | —              | —               | —                  | 825213-1                      | 827254-1                   |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

35 Position  
for Aggregate Applications

**Housing Material:**

PA66 GF

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**35 Position Receptacle Housings, Opposite Cable Exit**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 35          | —              | Black         | 282197-2           | —     | —              | —               | —                  | 825213-1                      | 827254-1                   |



Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

55 Position  
for Aggregate Applications

**Housing Material:**

PBT GF15

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**55 Position Receptacle Housings, Opposite Cable Exit**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 55          | —              | Black         | 963041-1           | 962071-1 | —              | —               | —                  | 963042-2                      | —                          |

Tab Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

2 Position  
for Aggregate Applications

**Housing Material:**

PBT

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**2 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 2           | —              | Black         | 106462-1     | —     | —              | —               | —                | 282762-1/-8               |
|             |                |               |              |       |                |                 |                  | 282190-1/-8               |
|             |                |               |              |       |                |                 |                  | 282189-1/-8               |
|             |                |               |              |       |                |                 |                  | 963040-1/-3               |

Tab Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

15 Position  
for Aggregate Applications

**Housing Material:**

PBTP GV10

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**15 Position Tab Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Tab Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing |                           |
| 15          | —              | Gray          | 963035-1     | —     | —              | —               | —                | 963039-1                  |
|             |                | Black         | 963035-2     |       |                |                 |                  | 963035-2                  |
|             |                | Black         | 963035-3     |       |                |                 |                  | —                         |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

4 Positions

**Housing Material:**

PBT GFV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

108-18102

**Application Specification:**

114-18175



**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                    |                |                               |                            |
|-------------|----------------|---------------|--------------------|-------|--------------------|----------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Mating Tab Housing | Facial Sealing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | A1             | Black         | 1-967239-1         | —     | 1-965421-1         | —              | —                             | —                          |
|             | B1             | Gray          | 2-967239-1         | —     | 2-965421-1         | 963209-1       | —                             | —                          |
|             | C1             | Gray          | 3-967239-1         | —     | —                  | —              | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

4 Positions

**Housing Material:**

PBT GV30

**Wire Size Range:**

See customer drawing

**Product Specification:**

108-18102

**Application Specification:**

114-18175



**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                    |                |                               |                            |
|-------------|----------------|---------------|--------------------|-------|--------------------|----------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Mating Tab Housing | Facial Sealing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | A              | Black         | 1-967059-1         | —     | 1-965261-1         | —              | —                             | —                          |
|             | B              | Gray          | 2-967059-1         | —     | 2-965261-1         | 963208-1       | —                             | —                          |
|             | C              | Blue          | 3-967059-1         | —     | 3-965261-1         | —              | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

6 Positions

**Housing Material:**

PBT ASA GF30

**Wire Size Range:**

See customer drawing

**Product Specification:**

108-18102

**Application Specification:**

114-18175



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                    |                |                               |          |
|-------------|----------------|---------------|--------------------|-------|--------------------|----------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Mating Tab Housing | Facial Sealing | Mating PCB Header Right-Angle | Vertical |
| 6           | A1             | Black         | 1-967241-1         | –     | 1-965426-1         | 963205-1       | 1-963211-1 (A1)               | –        |
|             | B1             | White         | 5-967241-1         | –     | –                  | –              | 2-963211-1 (B1)               | –        |
|             | –              | –             | –                  | –     | –                  | –              | 3-963211-1 (C1)               | –        |
|             | –              | –             | –                  | –     | –                  | –              | 4-963211-1 (D1)               | –        |
|             | –              | –             | –                  | –     | –                  | –              | 5-963211-1 (Neutral)          | –        |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

10 Positions

**Housing Material:**

PBT ASA GF30

**Wire Size Range:**

See customer drawing

**Product Specification:**

108-18102

**Application Specification:**

114-18175



**10 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                    |                |                               |                            |
|-------------|----------------|---------------|--------------------|-------|--------------------|----------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Mating Tab Housing | Facial Sealing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 10          | A1             | Black         | 1-967240-1         | —     | 1-965423-1         | 963213-1       | 1-967601-1                    | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

16 Positions

**Housing Material:**

PBT ASA GF30

**Wire Size Range:**

See customer drawing

**Product Specification:**

108-18102

**Application Specification:**

114-18175



**16 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                    |                |                               |          |
|-------------|----------------|---------------|--------------------|-------|--------------------|----------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Mating Tab Housing | Facial Sealing | Mating PCB Header Right-Angle | Vertical |
| 16          | –              | Black         | 1-967242-1         | –     | 1-964449-1         | 963216-1       | 1-963215-1 (A1)               | –        |
|             |                |               |                    |       |                    |                | 2-963215-1 (B1)               | –        |
|             |                |               |                    |       |                    |                | 3-963215-1 (C1)               | –        |
|             |                |               |                    |       |                    |                | 4-963215-1 (D1)               | –        |
|             |                |               |                    |       |                    |                | 5-963215-1 (Neutral)          | –        |



Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

25 Positions

**Housing Material:**

PBT GF10

**Wire Size Range:**

See customer drawing

**Product Specification:**

—

**Application Specification:**

114-18175



**25 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                    |                |                               |                            |
|-------------|----------------|---------------|--------------------|----------|--------------------|----------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Mating Tab Housing | Facial Sealing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 25          | —              | Black         | 964769-1           | 964738-1 | —                  | —              | —                             | —                          |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

42 Position  
6 x Junior PowerTimer  
36 x Micro Timer II

**Housing Material:**

PBT GF30

**Wire Size Range:**

0.5–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**42 Position Mixed Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                    |                |                               |          |
|-------------|----------------|---------------|--------------------|-------|--------------------|----------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Mating Tab Housing | Facial Sealing | Mating PCB Header Right-Angle | Vertical |
| 42          | —              | Black         | 1-967281-1         | —     | —                  | 963225-1       | 1-967280-1                    | —        |

Receptacle Housings for Contacts 21.0 mm Length

**Technical Features**

**No. of Positions:**

70 Position  
10 x Junior PowerTimer  
60 x Micro Timer II

**Housing Material:**

PBT GF30

**Wire Size Range:**

0.5–2.5 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**70 Position Mixed Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                    |                |                               |          |
|-------------|----------------|---------------|--------------------|-------|--------------------|----------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Mating Tab Housing | Facial Sealing | Mating PCB Header Right-Angle | Vertical |
| 70          | —              | Black         | 1-968879-1         | —     | —                  | 963361-1       | 1-963484-1                    | —        |

---

Engineering Notes

---

A large grid of graph paper for engineering notes, consisting of 30 columns and 40 rows of small squares.

## Introduction

# TE Connectivity Tooling for the Automotive Industry



The TE Connectivity Application Tooling group is dedicated to providing high quality equipment options to meet all levels of your connector product specifications. We are also able to provide a broad range of equipment for other manufacturer's products.

Our equipment range is vast and unmatched by others operating in the same industry segments, as is our global presence and support network in the form of field service engineers and product managers. You will see from browsing this catalog; we supply everything from simple hand tools to the most complex automated systems – you name it, we supply it!



Equipment is segregated into two categories:

### Generic Equipment

Where we can supply you with sufficient information referenced by Part Number such that you can identify and order what you need yourself.

### Specialized Equipment

Where you will need help from our specialist product managers to identify what's just right for your application.

### Finding Equipment Online

Powerful search functions are available to identify appropriate tooling:

- Applicators — [www.tooling.te.com/europe/applicator.asp](http://www.tooling.te.com/europe/applicator.asp)
- Hand Tools — [www.tooling.te.com/europe/handtools.asp](http://www.tooling.te.com/europe/handtools.asp)

## Insertion Machines for Single Contacts

### Pin Insertion Machine

TE Connectivity Insertion Machine platforms combined with performance enhancing accessories provide the flexibility to meet a wide range of customer requirements in the manufacturing of printed circuit boards.

Our goal is to provide the optimal solution for the production needs of our customers. Our representatives can help you select the optimal machine configuration. The benefit to you is a low cost investment that more than your requirements of output and quality.

TE Connectivity Field Service is available to service and support the machines to help maximize uptime. Our full line of Insertion Machines have been designed to deliver highest quality and maximum performance within their range of applications.

### P 100 Pin Insertion Machine



The P 100 is a semi-automatic machine and the newest addition to the line of TE Connectivity pin insertion systems. Designed and manufactured with a focus on mid-volume level production, the P 100 machine provides a broad range of features at a very competitive price. With the ability to apply both TE Connectivity and other manufacturer's products, the P 100 machine does not limit your production to "TE Connectivity only" applications and provides flexibility to address both current and future tooling needs.

The P 100 machine uses a pneumatic power unit together with product specific "quick change" tooling packs. The Insertion heads can be supplied with a rotary insertion finger that can apply products at different angles without decreasing the insertion rate.

The tooling packs can be exchanged within 30 minutes to meet your full range of application requirements. The operator interface is an easy to use touch-screen which allows simple programming and automatic setup.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Insertion Machines for Single Contacts

### P 200 Semi-Automatic Bench Machine for PCB Processing



The P 200 semi-automatic bench machine positions manual loaded PCBs under an installed tool. The tool may be a solder head, a camera for automatic inspection, or an insertion head for the application of TE Connectivity products. Insertion tools for TE Connectivity products are composed of an insertion head (upper tooling), an anvil (lower tooling) and a product feeding mechanism.

These tools are product specific and the PCB holder interface is designed according to the customer application. A rotary insertion finger allows the insertion of pins at different angles. Because of simple

mechanical and electrical interface, other tools can easily be integrated into the machine. The excellent performance of a multi-tasking control system allows easy programming and operation of the machine.



### P 300 Fully-Automatic Machine for PCB Processing



For the automatic assembly of printed circuit boards, the basic P 300 fully-automatic machine is equipped with a product specific insertion head. A speciality is the rotary insertion finger which allows the products to be inserted in different angles of rotation. A stepper-motor driven XY table positions the printed circuit boards under the insertion head. The control and monitoring of the insertion process is carried out by a multi-tasking control unit. There are three possibilities for programming the machines: off-line on a connected PC, by entering coordinates on the control panel of the machine

or by converting CAD data. A series of options also allows the P 300 fully-automatic

machine to be adapted to the most varied manufacturing tasks.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## Insertion Machines for Single Contacts

### P 350 Fully-Automatic Insertion Machine for High Volumes



The P 350 is a fully-automatic insertion machine with the ability to handle a large variety of TE Connectivity terminals as well as customer specific terminals. A standard P 350 machine comes with 3 base insertion tools mounted onto an automatic tool changer. The tool changer can take up to 4 insertion tools/support tools. These base tools can easily be equipped with existing or customer specific conversion kits for a large range of terminals. All heads are equipped with rotary insertion fingers to allow the insertion of terminals at different angles without the need to rotate the board. The PCB transfer belts enable the machine to be incorporated into an automatic production line.

A standard Insertion Force Monitoring system allows for real-time force monitoring for 100% quality assurance for each press-fit terminal. Its operator interface has been



designed for easy use and provides the insertion force and a variety of production data to be collected at an open interface. With a maximum insertion rate of 4.5 cycles per

second we provide a production capacity which is difficult to match in the market place. The programmable insertion of two 0.63 mm pins per cycle doubles the output.

### Single Pin Repair Station



A loose-piece pin or tab is placed in the product specific insertion finger of the arbor press, the PCB is placed on the support anvil and the pin or tab is manually pressed into the board.



### P 50 Manual Bench Insertion Machine



The P 50 Insertion machine is a manual operated bench machine for low volume production, repair work and sample production. It uses a trader slide to position the PCB under the pneumatic insertion head. A regular PCB is used as master to position the indexing pin above the insertion hole. When activating the two hand start, the indexing pin extracts. If a hole is detected, the terminal is inserted into the board in production.

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## IDC Machines

### IWS 188 IDC Workstation



The IDC workstation produces electrical connections for harness assemblies specifically intended for the use within dashboard applications in the automotive industry. The proven insulation displacement technology ensures a high level of reliability. The software allows the production of different harness configurations featuring up to 11 connectors. The workstation is compatible with IDC connectors with a 2.54 mm and a 3.5 mm pitch. It is intended for medium to large volume production.



### MT-E2 F Semi-Automatic Machine



The development of this termination machine was necessary to be able to process high cavity-count female connectors in IDC technology. The new multi-cavity motor-control interface connectors are used in damp areas in cars and must be

completely water-proof, hence the use of a family seal over the insulation displacement contacts. The pitch of the cavities in the family seal corresponds to that of the connectors with their insulation displacement contacts.

The cavities in the family seal are closed by a membrane. An integrated programm controlled unit pierces the membrane, prior to the IDC termination.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Lead Makers

### Precision Controller

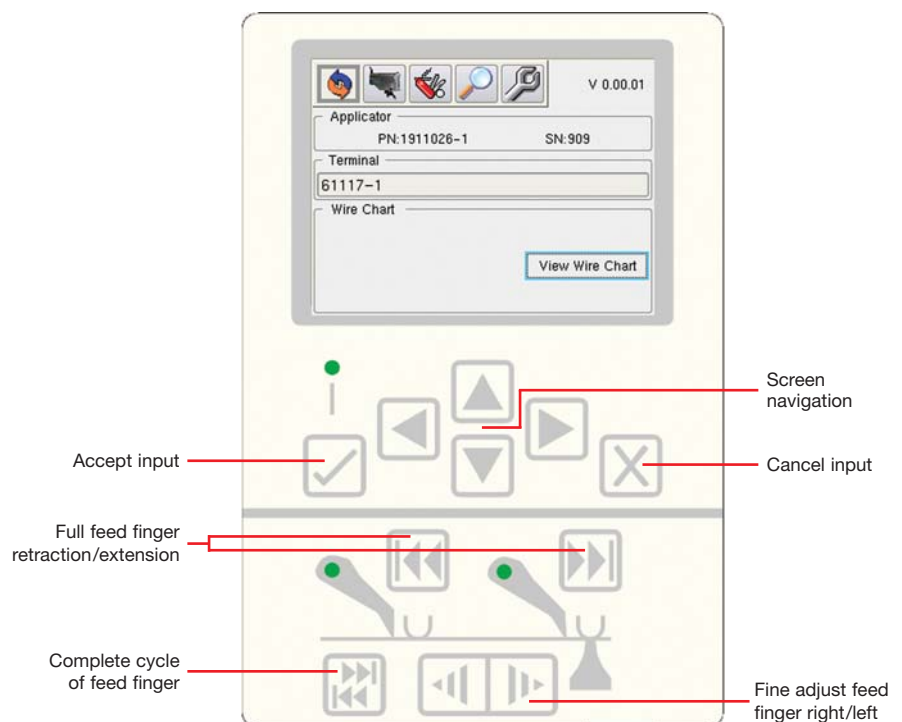
The new Precision Controller provides an upgrade path for already installed equipment. By installing the Precision Controller onto a bench terminator or a Komax Gamma 333 PC lead maker, the System III-FA Applicator can be used. An integrated LCD screen allows the user to view the information contained on the iButton™ data module and the controller also allows the operator to accurately position the terminal feed and make fine adjustments.

From the Precision Controller keypad, you can:

- Make fine feed adjustments
- Save the feed adjustments that were just made, or cancel them
- Perform full retraction or extension of the feed finger
- Perform a complete cycle of the feed finger



iButton is a trademark of Maxim Integrated Products, Inc.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Lead Makers

### Gamma 255 Lead Maker Processing of Small Wire Sizes

The Gamma 255 Lead Maker is a flexible fully-automatic crimping machine for efficient wire processing. It processes cross sections in a range from 0.013 mm<sup>2</sup> up to 2.5 mm<sup>2</sup> in

excellent quality. The entire cross section is processed using programmable, highly dynamic servo-drives and V stripping blades. As part of its standard equipment, the

machine has a pre-feeder, splice, wire-end and knot detection, as well as two wire straightening units.



### Gamma 333 PC Lead Maker Flexible Wire Processing

Ultra short conversion times, additional applications and a user-friendly interface with multiple-language capability. The Gamma 333 PC machine makes it all possible! With its additional processing station on side 1, the Gamma 333 PC machine now enables you to crimp both ends of the wire, to create double crimp connections with three

different contacts, to carry out one-ended seal application, tinning or ink-jet marking. In addition, process monitoring is integrated to ensure that

the wire is cut to length and stripped perfectly to specification and that quality control is optimized.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Lead Makers

### Alpha 355/355 S Lead Makers

The Alpha 355 and 355 S are four Station Lead Makers. The dual channel cutting head allows for a large range of wire sizes without blade changes. The drive unit for the cutting head is positioned beneath the wire line to give the machine an uncluttered and ergonomic design.

All processing stations are readily accessible through the vertically opening safety covers. Applicators, terminal reels and other parts for specific applications can be changed without tools.

Controls are positioned locally, allowing the corresponding machine functions to be triggered during set-up. All setting and adjustment procedures can be controlled from the TopWin™ user software in over 20 different languages.



### Alpha 356 Multi-Functional Fully-Automatic Crimping Machine

The Alpha 356 fully-automatic crimping machine has room for up to seven processing stations. A wide variety of configurations are possible, in fact, almost any combination of crimping, seal loading, fluxing/tinning, twisting, fitting with insulating sleeves and end sleeves for strands as well as bulk turned contacts and customer-specific processes.

The Alpha 356 is designed for using the broadest selection of different processing modules, including special customer-specific modules.



TopWin is a trademark of Komax AG

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## Lead Makers

### Alpha 358 Fully-Automatic Crimping Machine

The Alpha 358 fully-automatic crimping machine is designed for two-sided crimping and seal loading and sets new standards in the processing of long cables. Cables up to

35 meters (27.34 yards) in length can now be processed at high speed on a machine just four meters (4.37 yards) long. Coiling and binding cables directly in the fully-

automatic crimping machine frees up substantial space and offers considerable quality advantages.



### Alpha 455 Fully-Automatic Crimping Machine

The Alpha 455 crimping machine is designed especially for just-in-time production. Downtimes become crucial for companies that produce relatively small production batches requiring frequent conversions of the machine. With the Alpha 455 machine, engineers set out to minimize the time lost on set-up and conversion while guaranteeing high quality standards.

The mci 722R is the product that guarantees the efficient set-up of the fully-automatic Alpha 455 crimping machine. This innovative new rotary press table was specially developed for the Alpha 455

machine and allows the latter to be converted while production is still going on. The tools and terminals for the next two jobs are set-up while the current batch is still being produced.



#### Optional Measuring Devices

- Integrated crimp height measurement
- Integrated measurement of pull-out force
- Integrated referencing of wire lengths

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Lead Makers

### Alpha 477 Lead Maker Double Crimp Connections with Two Different Wires

The Alpha 477 machine allows the processing of a wide variety of wire combinations from a double crimp up to three different contacts, two different seals and two different wire sections.

The arrangement of six processing stations plus a double gripper unit make for highly diverse processing possibilities. As a result, the Alpha 477 machine can grow and expand to meet your future needs.

Individual wires with cross section of  $0.22 \text{ mm}^2$  up to  $4 \text{ mm}^2$  can be processed. The maximum total cross sections of a double crimp can be as large as  $6 \text{ mm}^2$ .



### Alpha 488 Lead Maker Processing of Twisted Pairs

The Alpha 488 machine was designed for the economical processing of twisted pairs, consistently combining as it does state of the art technology with proven system elements like TopWin™ user-interface, the mci 712 or mci 722 crimp module.

The Alpha 488 machine creates fully processed twisted pairs from endless wire. This automatic twisting

machine can accommodate wires with cross sections of  $2 \times 0.22 \text{ mm}^2$  to  $2 \times 2.5 \text{ mm}^2$ . Four stations on side 1 and

two on side 2 make for flexible processing possibilities such as double-ended seal application and crimping.



TopWin is a trademark of Komax AG

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

### Lead Makers

#### **Zeta 633/633 L Fully-Automatic Crimping Machine**

The Zeta 633 and 633 L are highly flexible fully-automatic crimping machines for just-in time production. The flexible machine concept creates an almost unlimited number of possibilities for handling small jobs or wire sequences. The operator is able to reduce the required material change-overs and interruptions in production to a minimum.

The Zeta 633 crimping machine is ready to accommodate five crimping presses and the 633L-Version can handle up to eight, for even more flexibility. Both Zetas can be used as stand alone machines with a bundler, as a basic machine for the block loader Zeta 651, Zeta 655 and Zeta 656 as well as for machines with an extension.



For more detailed information please visit our websites:  
[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Lead Makers

### Zeta 651 Single End Block Loader

The Zeta 651 is the economical solution for the production of harnesses with single sided insertion in housings with one or two rows. This machine is especially characterized by a high degree of automation and the reliable insertion process.

The machine is used in combination with the flexible Zeta 633 base machine. By pre-centering the contacts, a reliable and precise insertion is guaranteed. By means of centering grippers, the contact can be centered and optionally rotated. The housings are fed automatically and can

be refilled without any process interruption. An integrated force sensor performs force monitoring throughout the entire insertion process and enables a high insertion quality. Operation of the Zeta 651 is via the slide console of the Zeta 633 with the user software TopWin™.



TopWin is a trademark of Komax AG

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## Lead Makers

### **Zeta 655 / 656 Lead Maker Double End Block Loader**

The Zeta 655/656 Lead Maker is the flexible solution for single and double-sided housing insertion. This machine is characterized by a high degree of automation and a reliable insertion process. The precise force sensor monitors the entire insertion process to guarantee seamless, integrated process monitoring as regards

collisions, loading force and contact locking. The innovative quick change pallet system can replace the harness specific insertion application and convert to another harness. The Zeta 655/ Zeta 656 operates via the slide console of the Zeta 633 using TopWin™ software. The software automatically calculates the order of loading

within a wire harness to make the set-up of new harnesses as simple as possible. The fully-automatic Zeta 656 manufactures harnesses featuring conductor cross sections of 0.13 mm<sup>2</sup> and miniaturized housings with a pitch of 1.25 mm, doing so reliably and at high speeds.



TopWin is a trademark of Komax AG

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

### Applicators

## Ocean Series of Applicators

### Why a new Applicator Design?

We standardized our applicator offerings to provide global design consistency and to offer you the ultimate flexibility with choices in feeding options.

The Ocean Applicators are designed so that all feed options are interchangeable with the common base applicator. Our pneumatic and mechanical feed options have been completely re-designed.

They offer finer and more precise terminal positioning along with quicker adjustability while being much more user friendly. The interchangeability also makes it possible to upgrade to System III technology.

### Advantages of the Ocean Applicators

- One applicator platform — modular family design
  - Two styles with three feed options: Mechanical, Pneumatic and Servo
- Same wire crimper, insulation crimper and anvil used on both applicator styles
- Open architecture allows for design flexibility
- Featuring a re-designed ram to housing interface for improved alignment and crimp consistency
- Finer incremental crimp height adjustment
- Improved and simpler adjustments on all feed units
- Simple and tool-less wire and insulation crimp height adjustments
  - Fine Wire crimp height adjustment  
Range = 0–1.5 mm  
Total Increments = 0.01 mm
  - Insulation Adjustment

| Range (mm) | Step Size (mm) |
|------------|----------------|
| 3.30       | 0.19           |
| 1.70       | 0.10           |
| 0.85       | 0.05           |

- Insulation step sizes are selected based on terminal application requirements
- Feed Types – Improved and simpler adjustments on all feed units
  - Mechanical – Micro-Feed Adjustments for forward and back strokes
  - Pneumatic – Incremental Adjustments
    - 0.04 mm forward terminal position
    - 0.08 mm back stroke adjustment
  - Servo – Push button terminal adjustments in 0.03 mm increments



**Atlantic-Style SF Mechanical**



**Atlantic-Style SF Pneumatic**



**Atlantic-Style SF Servo**



**Pacific-Style Side-Feed Mechanical Applicator**

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

---

Applicators

---

**Applicator  
Wear Parts**

**Applicator Wear Parts  
Stocking Program**

To ensure the support of our installed Applicator base, we have established a stocking program for wear parts.

Subsequently, all crimpers and anvils for your applicator are normally available ex stock, ensuring the shortest possible lead times.



**Wear Tooling  
to Apply Stainless Steel Contacts**

The application of nickel plated stainless steel terminals has always been a problem with regard to the uptime of the crimp tooling. We have developed crimpers and anvils, using special base

materials and surface treatments in the crimp area. These have enabled us to significantly increased the tool life and thus reduce the applied cost of these products.

If you are experiencing specific wear problems in your production, please contact your TE Connectivity Service representative.

For more detailed information please visit our websites:

**[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)**

## Applicators

### System III Applicator with Feeder

Flexible and efficient termination of single and double wire applications, self-adjustment of the feeder and optimum quality of wire termination are the main features of our new applicator – the System III Applicator.

All crimp-related data, which are specific for the applicator and the terminal to be crimped, are contained in an iButton™, being part of the applicator.

The main feature of the System III concept is a separate electrical feeder – which is communicating with the applicator iButton on one hand and the terminator and leadmaker on the other hand – and an automatic interaction between applicator and terminator.

Once the applicator is mounted onto the press and as soon as the electrical

feeder (being permanently connected to the terminator) is locked onto the applicator, the applicator iButton data are read out and transmitted to the terminator via the feeder.

Then the terminator automatically adjusts its crimp height and the feeder its feeding parameters – according to the terminal wire combination to be crimped.



iButton is a trademark of Maxim Integrated Products, Inc.

### Applicator for Large Wire Sizes

For processing of large contacts, eg. for battery terminals, we offer heavy and solidly built tools, which are extremely precise in repetitive work for end-feed and side-feed contacts with large cross sections.

A pneumatically driven feed which is efficient and precisely adjustable, as well as a specially robust crimping unit,

produce reliable connections which are extremely stable over the long term.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## Crimping Presses and Accessories

### AMP 3K/40 and AMP 5K/40 Terminators

Based on the field proven Model "G" Terminator, the AMP 3K/40 and AMP 5K/40 Terminators are the latest in a series of machines for wire termination using reeled terminals.

The AMP 3K/40 Terminator provides 13 kN (3,000 lb) crimp force and is capable of crimping approx. 2.5 mm<sup>2</sup> (14 AWG) wire size.

The AMP 5K/40 Terminator provides 22 kN (5,000 lb) crimp force and is capable of crimping approx. 6.0 mm<sup>2</sup> (10 AWG) wire size.

As value oriented Terminators, the AMP 3K/40 and AMP 5K/40 are designed for customers that require the increased output and quality of a semi-automatic machine at a competitive price.

A wide range of optional equipment is available to meet your specific application requirements.



### Stripping Module

The stripping module is compatible with AMP 3K/40 and 5K/40 terminators. A quick and flexible working process is supported by good accessibility to module adjustment and wire positioning. The stripping module was designed to produce good quality even used in the most harsh circumstances.

#### Following features characterize the stripping module

- Pre-selection Crimp only / Strip only / Strip and Crimp
- Jog Mode
- Pneumatic removal of insulation scraps



### Defective Crimp Cutter (DCC) and Carrier Scrap Chopper (CSC)

When the CQM detects a bad crimp, the DCC will cut off the defective terminal. The wire will be cut close to the terminal.

- All DCC units are equipped with a Carrier Scrap Chopper (CSC).
- The DCC and/or CSC units can be easily hinged out of the way to allow easy access to change applicators.
- DCC provides more consistent wire placement accuracy capability due to the use of the grip jaws, compared to hand placing the wire in a terminator.
- DCC provides a scrap collection bin. It works with AWG 32-12 side-feed and end-feed HDM Style Applicators.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Crimping Presses and Accessories

### SC15 Stripper Crimper

The pneumatically and electrically driven SC15 crimping machine is a particularly efficient and operator friendly crimping machine with outstanding repetitive precision, which satisfies the highest requirements. It can be adjusted to the specific requirements of any given contact/cable connection.

#### If you

- want to strip a cable composed of many wires down to only 13 mm,
- would like to then insulate these single wires at 2 mm to 6 mm and thereby
- cover a wire size area of from 0.09 mm<sup>2</sup> to 4 mm<sup>2</sup> then with the Stripper Crimper SC15 machine you have made the right decision.

#### Further features are:

- Automatic bare wire recognition
- Crimp force monitoring
- Remote diagnoses via serial interface specific requirements of any given contact/cable connection.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

Crimping Presses and Accessories

**Crimp Quality Monitor II (CQM II)**

Simply put, crimp height measurement is the best non-destructive way to ensure the quality of a crimped terminal. A proper crimp height ensures the mechanical and electrical properties of the crimp meeting the stringent application specifications designed by the terminal engineer.

Crimp Height is one of five different process analysis methods featured in the new TE Crimp Quality Monitor II (CQM II). The CQM II uses five different analysis methods to provide flexibility and ensure quality crimps are produced and faulty crimps are detected.

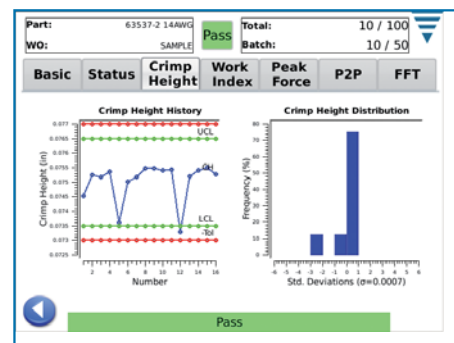
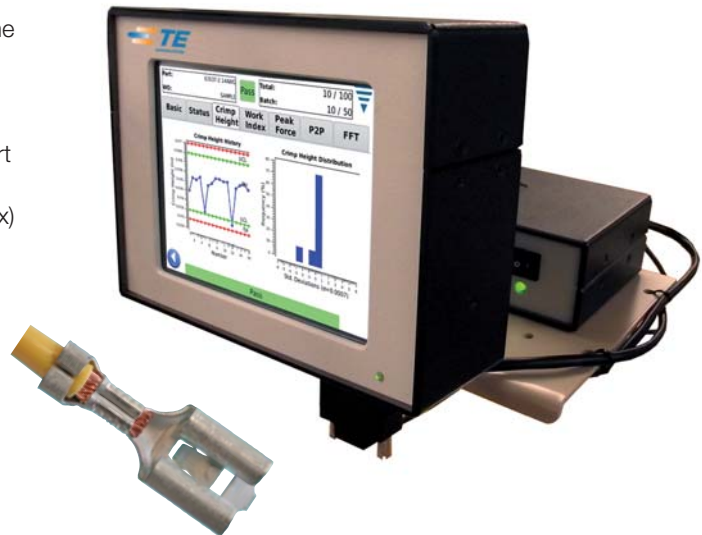
New easy to use, intuitive menus along with enhanced monitoring and graphing lead the improved feature set of the CQM II.

Another major enhancement is the ability to use CQM II on non-TE terminators. This new unit can standardize and provide TE Crimp Quality monitoring across your production area by being versatile, precise and convenient.

- Real-time monitoring of every crimp
- Effective for monitoring the crimp of open barrel, uninsulated contacts and terminals.
- Calculation of actual crimp height and real-time graphic display
- Touch screen graphical user interface
- Multiple language support
- Power: 100–240 VAC, 50/60 Hz, 1.5 Amps (max)
- Engineered and manufactured using processes independently certified to internationally recognized quality standards

- **Dimensions**  
Host Module:  
170 mm (6.7") Width x  
126 mm (5.0") Depth x  
58 mm (2.3") Height

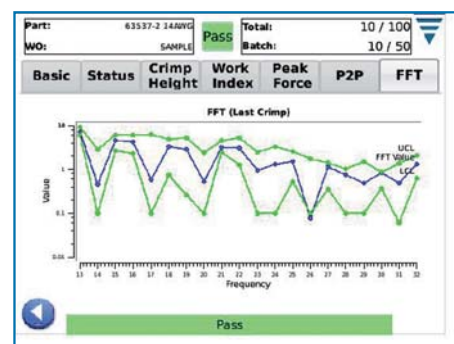
**Data Acquisition Module:**  
172.5 mm (6.7") Width x  
101 mm (4.0") Depth x  
48.4 mm (1.9") Height



**Production Crimp Height**



**Basic Analysis Monitoring**



**Fast Fourier Transform**



**Crimp Height Entry**

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## Crimping Presses and Accessories

### BT 752 Stripping, Sealing and Crimping Machine

The BT 752 crimping machine delivers three processes in a single device: stripping, seal loading and crimping.

Reliability and top production performance coupled with the user friendly TopTouch interface are the features that make this semi-automatic

device such a compelling product. The BT 752 crimping machine is an economical alternative to fully-automatic machines.



### BT 711 Crimp Module

The BT 711 machine is a crimp module for the most demanding applications.

The module produces 20 kN, enough force to crimp wires up to 6 mm<sup>2</sup> in size, and is dimensioned to be compatible with all standard commercial crimping tools.

#### Options

- SC-11 Stripper
- Bad Terminal Cutter

#### Accessory

- CFA Calibration Unit



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## Crimping Presses and Accessories

### BT 722 Bench Top Press

The BT 722 Bench Top Press is used for the manual crimping of contacts. The BT 722 Press is operated from a touch screen. The new TopTouch user interface allows jobs to be set-up quickly and easily. Even during production set-up, the machine operator is prompted to conduct quality measurements. Following the input of the calculated values in the user interface, the crimp height is automatically corrected.

This prevents errors arising from the manual setting of the crimp height. Only one crimp is needed for referencing the integrated crimp force monitoring. This reduces waste material consumption and minimizes set-up time. The quality values measured during production are saved and can therefore always be called up later. This ensures traceable quality at all times.

The programmable DigiStripper (option) is an ideal accessory to the BT 722 Bench Top Press. This can be set-up without any mechanical adjustment. Thanks to the functions zero cut and pull back, as well as the pre-programmable cutting depth, the perfect stripping is ensured.



### Gauge for Presses

In order to help you to ensure that our applicators are placed correctly in the presses we recommend this press gauge. It is possible to have a misalignment between the center of the applicator and the terminator due to the way they mount in the terminator. If this happens, a side load is applied to the applicator

which can lead to pre-mature wear and/or quality problems with the crimped terminals. The use of the gauge is simple: You install the press gauge into the press like an applicator. Then you unlock the gauge head, on which is mounted a gauge ring. A spring in the gauge is now pressing the gauge head

upwards. The gauge ring should now fit easily into the press head. If this is not the case the applicator ram would not be in a centred position and the mounting plate of the press has to be adjusted. The special design of the press gauge base plate allows free access to the press mounting plate fixing screws.

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Crimping Presses and Accessories

### CRIMPMATIC 970 and 971 Crimp Presses for Reeled or Loose-Piece Terminals

Both machine versions permit the cost effective manufacturing of crimp connections with a high production efficiency. The CRIMPMATIC 970 machines are capable of processing wires of up to approx. 16 mm<sup>2</sup> (AWG 5), depending on the terminal stock thickness.

- Compact, space-saving design
- Compatible with MQC Applicators
- Step mode during set-up

The CRIMPMATIC 971 machine is capable of processing wires of up to approx. 50 mm<sup>2</sup> (AWG 0), depending on the terminal stock thickness. The machines can be equipped with a quick change device for power crimp tools. MQC Applicators with a lower dead center of 135.78 mm can be mounted by means of an adapter plate. These machines can be utilized as manual work stations and can be integrated into fully-automatic processing lines.

The terminator as shown is a manual work station CRIMPMATIC 971. The unit can be supplied with or without crimp process monitoring, or it may be retrofitted later.

#### Options are available upon request

- Crimp force monitoring
- Paper spooler
- Adapter plate for MQC Applicator

#### Applicators

- Especially designed for larger wire sizes
- Pneumatic feed
- Can be used with both crimp presses CRIMPMATIC 970 and CRIMPMATIC 971



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Crimping Presses and Accessories

### AT-SC Pneumatic Safety Crimping Press

This pneumatic crimping machine features a newly developed safety mechanism, and is designed to crimp connections up to 50.0 mm<sup>2</sup> depending on the terminal design.

By means of a fitted safety valve, crimping is not released where the size of the opening between the impact surfaces of the dies exceeds 5.9 mm.

Consequently, there is no need to specify any safety covers to protect the operator. The use of a safety double foot pedal simplifies the

operation while increasing productivity. This also allows the hands to remain free to insert the contacts and conductors.



### AT-55 Universal Pneumatic Crimping Press

This pneumatic crimping machine was designed for crimping insulated and non-insulated terminals from 0.14 mm<sup>2</sup> to 120.0 mm<sup>2</sup> depending on the terminal.

With the additional of an optional cutting unit, the AT-55 crimping machine is able to cut ribbon cable up to a width of 30.0 mm as well as copper conductors up to max. 28.0 mm diameter .

This series is equipped with a battery cycle counter. Safety guards allow crimp terminals up to a diameter of 25.0 mm. Larger terminals can be applied upon request.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

Crimping Presses and Accessories

**AT-66  
Hydraulic Crimping  
Machine**

The AT-66 hydraulic crimping machine features an extremely compact design resulting in low space requirement. The hydraulic power is provided by a separate hydraulic unit with main switch, power distribution and pump.

Our latest development offers possibilities for various applications with a crimp force of 150 kN and an open operating space of 100.0 mm in height. Typical applications are the crimping of terminals and connectors. This machine can be easily used for wire

sizes from 0.14 mm<sup>2</sup> up to 300.0 mm<sup>2</sup>. A key operated switch protects the basic and operation data. It permits adapting and safe-guarding the particular procedure for the application. The fitted memory module allows 250 different programs to be stored.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## Crimping Presses and Accessories

### StripCrimp PP3 Stripping and Crimping Machine

Extremely fast stripping and crimping of wires down to a wire cross section of 0.012 mm<sup>2</sup>, minimum strip lengths and a most compact overall design are the special features of StripCrimp PP3 machine, which is controlled and powered pneumatically. To ensure the required precision, the PP3 machine incorporates a toggle press,

allows adjustable wire zero-cutting and can be equipped with an optional crimp force monitoring system in order that optimum crimp quality is assured.

User-friendly design, fine adjust of stripping and crimping parameters and easy-to-handle wear part change are key features of the PP3 machine as well as

a small footprint and compact size allowing it to be used in many working areas.

We offer a PP3 solution for end-feed and side-feed terminals, de-reeling from right to left or from left to right.

Efficient after sales support includes a ready availability of wear parts.



### CoaxStrip 5300 Programmable Coaxial Cable Stripping Machine

The CoaxStrip 5300 machine is a semi-automatic, programmable multi-step stripping unit for coaxial, triaxial, multi-conductor cable and single conductor wire.

This benchtop unit can easily process coaxial and triaxial cables up to 7 mm (0.276") outer diameter and strips lengths up to 30 mm (1.18").



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Crimping Presses and Accessories

### AT-ST Cable Strip and Twist Machine

Teflon is a trademark of E.I. DuPont de Nemours and Co.

The AVG 0160 is a stripping and twisting machine for wires with insulation such as PVC, Teflon™, Silicon, Fiberglass, Rubber etc. The machine can cover a wire size range from 0.03 mm<sup>2</sup> up to 6 mm<sup>2</sup> with an adjustable stripping length from 0.5 mm up to 29 mm. The machine utilizes rotary stripping blades for a smooth, 360° cutting of the insulation.

The blades are made out of a special tool steel for longevity. Optionally available is a spring kit for tighter twisting of the strands suitable for additional tinning operation.



### JacketStrip 8400 Jacket Stripping Machine

The JacketStrip 8400 stripping machine enables automatic jacket stripping of round cables up to 26 mm in diameter and a stripping length of 200 mm. After the cable jacket has been cut, the piece of insulation is removed using a strong electric motor (full/partial or window strip can be selected). Pneumatically

operated clamping jaws guarantee optimal cable retention during the stripping process. Waste insulation material is automatically ejected. All functions of the machine are electronically monitored and diagnosed by means of a LCD display.



### UniStrip 2015/2100 Stripping Machines

The pneumatically operated stripping machine UniStrip 2015 excels with a compact design, fast cycle times and infinite settings for conductor diameters, stripping and pull-off lengths. The UniStrip 2015 stripping machine primarily processes stranded wires and single wires. Due to the minimal distance between the acrylic safety cover and

the stripping blades, this machine can perform stripping on extreme short cables. The UniStrip 2100 is an electrically driven stripping machine. Ease of operation, fast cycle times, a powerful yet silent motor drive as well as a vast cable processing range are the main features of this machine.



### UniStrip 2500 Stripping Machine

This pneumatically driven stripping machine comes standard with V-blades, the optimum solution for any ordinary stripping of stranded wire with no blade changeover necessary. Through the use of special blades, the range of applications can be expanded to include flat ribbon cable,

double-stranded wire, thin multistranded wire or demanding (though, delicate, thin) isolations. The adjustable way-back prevents the conductor from being damaged during the stripping process.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Crimping Presses and Accessories

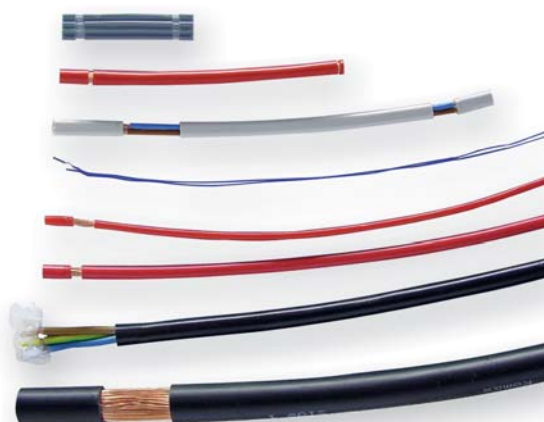
### Kappa Cut and Strip Family

The Kappa family strippers are ideal for cutting individual and special wires to length and stripping them. They can strip in sections, allowing them to strip even extremely long length in perfect quality. The machines cover an extraordinarily broad range of cross sections.

Kappa 310, 320, 321, 330 and 350 strippers support a variety of processing options such as wire marking with hot-stamp or ink jet markers. Hot stamp marking can even be done on the Kappa 310 stripper, the entry-level model.

### New Kappa Generation:

- Dynamic, flexible cutting and stripping unit
- New intelligent sensors
- New electronic and software
- Optional TopWin™ connection



TopWin is a trademark of Komax AG

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Resistance Welding Equipment

### Resistance Welding Module



TE Connectivity offers semi- and fully-automatic modules for resistance compact welding of terminals. This resistance welding process allows us to achieve minimum transitional resistance between conductor and contact, higher current capacity and long-term stability of the wire termination.

In this process, the bundle of strands in the conductor is condensed into a block by side-mounted ceramic plates. After this the strand bundle is welded to the contact by the introduction of a powerful current via an electrode.

Typical features of the resistance welding unit offered by TE Connectivity are a very short cycle time, a long electrode life time, a fully-automated parameter setting process and the recording of all process relevant data.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## MOST™ Equipment

### Lambda 9100 POF Fully-Automatic Processing of MOST™ Leads

For processing large quantities of plastic optical fibers (POF) with low human recourse, TE Connectivity offers the fully-automatic machine Lambda 9100 POF. All processing steps – from feeding and preparation to

testing and deposition – are fully-automatic. Functions like length measurement, integrated marker software and monitored laser welding are available and guarantee consistently high quality.

To ensure gentle handling, the fiber ends are held fixed throughout the process so that no uncontrollable bending radius occurs. The Lead Maker is equipped with a Dual Laser Module.



### MOST™ Sets

The MOST™ Sets are simple and inexpensive solutions for repair work in the workshop. To meet your requirements we offer several different versions of Sets. The basic version is equipped with two hand tools.

One for stripping and cutting of POF, another one for crimping of POF and an additional spare cutting unit. A further version contains such items as a 20 meters POF, some male and female

contacts and one position inline couplings. Other accessories are available in different equipment versions.



MOST is a trademark of  
SMSC Europe GmbH

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## MOST™ Equipment

### MOST™ Measuring Devices

These devices measure the position of the prepared end of the optical fibers relative to the reference point of the insert extremely accurately.

The result is displayed clearly by means of the digital read out. The digital display can be zeroed by means of the setting gauge.

A special Digital Crimp Height Micrometer verifies the crimp height of metal inserts. Two opposed probe tips measure the crimp height of the inserts across the diameter.



### Tooling and Equipment for Glass Fiber Optics (GOF/PCS) for Automotive

In the future Glass Fiber will be used in the automobile industry. To keep pace with this trend TE Connectivity is developing process equipment for the manufacture of GOF and PCS leads. Developments are based on experience gained in processing plastic and glass

fiber for NETCONNECT communication technology products. With both GOF and PCS the primary obstacle in the process is to achieve a high quality fiber end surface. The goal of our development is to process the PCS fiber end with a Laser Module.

Further process involve joining a connector to the fiber end with a Laser welding Module. The manufacture of the GOF fiber end faces involves additional process of heat forming and polishing. A Laser Module is used finally to accomplish optical connector assembly.



MOST is a trademark of  
SMSC Europe GmbH

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Hand Tools

### SDE Standard Die Envelope

SDE die system is a flexible approach to crimp tooling that allows the use of the same dies with tooling across a range of application platforms. A large selection of die options are already available for crimping a broad range of terminals and wire sizes.

Many die sets have multiple cavities for crimping more than one wire or terminal size and we can provide custom designs where volumes permit.



### SDE Crimp Tools

SDE dies are interchangeable in tools from portable hand tools (manually or battery-powered) to pneumatic hand tools and electric bench terminators.

It's a family of tools that you can take from bench to production or into the field, without the need for different dies to fit each kind of tool.

You can rely on SDE dies to provide for your long term needs because of our commitment to continued development of dies and the tool range.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Hand Tools

### IDC Hand Tools

IDC or Insulation Displacement Crimping is based on an entirely different concept to conventional crimping and requires these special types of tool.

We provide a large range of tools for connector families like:

- MQS Connectors,
- AMP DUOPLUG,
- AMP MONO-SHAPE and
- AMP multifitting

and usually based on the well proven Pistol Grip tools, featuring connector holding fixtures that crimp and index one pitch at a time.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## Hand Tools

### Hand Tool Kits

TE Connectivity provides standard kits that contain the necessary equipment to carry out specific tasks to the highest professional standards.

We can also provide custom kits for volume requirements containing only tools, or a combination of tools and terminals tailored to your specific requirements.

Please visit our tooling website to view our online hand tool catalog for standard kits, or find your local contact to discuss custom kits.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Hand Tools

### Hand Tool Kits



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Hand Tools

### Insertion and Extraction Tools

Insertion and Extraction Tools are used for inserting discrete terminals into connector housings or removing them, without causing damage to either the terminals or housings.

Our new standard design features a comfortable handle and snap-in/out protective cover that allows users to stow the business end of the tool to help protect from inadvertent personal injury when the tools are not in use.

Many different design types currently exist for our vast terminal product range, which we continue to convert. If you would like the tool you use converted to the new design, want a custom kit or tools in this design for other manufacturers products – contact us, and where volumes permit we will be pleased to provide you with a quotation for your requirement.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## FFC-FPC Equipment

### FFC Hand Tool

The very easy-to-handle 10 position hand tool allows variable settings for both the foil stop and foil guide. A correct and repeatable crimp process is achieved by an integrated ratchet mechanism. A FFC hand tool case can be built up around your particular application requirements.

The tool allows crimp connections to be made between foil and 1 to 10 position MQS terminals. The crimp height is set for 70 mm thick foil.



### FFC Termination Machine for Flexible Sensor Foil

The Termination Machine is an electrical driven semi-automatic assembly machine that uses different applicators to terminate reel-feed FFC contacts to manually supplied FFC cables. The machine terminates a predefined number of contacts to the supplied cable end.

TE Connectivity products FFC MQS, FFC AMPMODU .100, Junior Timer, AMPMODU .50 and soldered contacts are compatible.



- Quick-change of applicator
- Alignment of the cable is realized in the machine
- Interchangeable applicators available for different products
- Number of pins can be programmed (max. 38 mm with pitch 2.54 mm)
- Pitch 1.27 mm up to 5.08 mm can be programmed
- Individual wire positions can be skipped
- Operator friendly interface via touch screen
- Integrated crimp force monitoring by CQM (optional)

### FFC Applicator



The FFC Applicator is designed for FFC and FPC terminations. It is normally delivered with a special TE Connectivity crimp machine, but is also compatible with standard presses (press stroke 40 mm), if a wire feed is supplied.

The adjustment of the crimp height is similar to other TE Connectivity crimp applicators. All wear parts are easy to change.

The FFC Applicator is available for different TE Connectivity contacts, such as:

- FFC MQS,
- FFC Junior Timer,
- FFC AMPMODU .100,
- FFC AMPMODU .050,
- FFC Card Edge,
- FFC ACTION PIN and
- FFC Soldering Pin.

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## FFC-FPC Equipment

### Assembly Machine to Connect FFC and PCB

This machine has been specially designed to connect a Flexible Printed Sensor with a PCB by using an ACTION PIN FFC Contact. The Flexible Printed Sensor and the PCB are manually loaded into the machine. After the cycle has been started, the insertion head is positioned above the first insertion position.

The pre-formed contact is cut off the carrier strip and gets simultaneously inserted into the PCB and crimped to the Flexible Printed Sensor.

Several contacts form the complete connection between the sensor and the PCB. The force, required to insert the ACTION PIN contact with the PCB, is monitored by a force sensor.

To accommodate two types of PCBs, the PCB holder is positioned by pneumatic cylinders. The desired position is selected via the operator interface.



### FFC/FPC Machine

The FFC/FPC bench machine creates electrical connections between TE Connectivity FFC terminals and flexible flat cables. Thanks to its adaptable circuit fixture the machine is simple and easy to load.

Prior to initializing a crimp cycle, the vision system establishes the precise location of the first conductor track. A positional correction is effected as appropriate.

The equipment combines the functions of terminal feed, cutting the product off the carrier strip, crimping and chopping of the carrier strip. An integrated crimp force monitor ensures high quality crimp connections.

An optional faulty crimp cut-off device prevents the further use of defect circuits.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Magnet Wire Equipment

### MAG-MATE and SIAMEZE Inserter Mark II with PLC

TE Connectivity magnet wire terminations are a perfect connecting alternative to all soldering techniques used in a lead-free environment. Special knowledge is required to design a mass manufacturing line for insulation displacement crimps on thin lacquered insulated wires with high yield. Design aspects of the terminal, the cavity and the machine all need to be harmonized.

With the Inserter Mark II TE Connectivity can offer an economic solution especially

for the application of MAG-MATE and SIAMEZE terminals.



### MAG-MATE Inserter Mark II with PLC and Insertion Force Control

This advanced insertion machine provides the features of the MAG-MATE Inserter Mark II with an additional force distance control system. The machine is designed to apply multiple different contacts and will be customized according to the customer or product specific requirement.

The contacts can be used as single contacts or in strip form (bridge function adjusted "on-the-fly"). A gauge is available to check the adjusted insertion force and to recalibrate the insertion force control sensor.



### Pneumatic Insertion Tool for MAG-MATE Terminals

The pneumatic tool for MAG-MATE terminals features a rotary insertion finger to facilitate different insertion angles. This tool is designed for use in TE Connectivity

standard insertion machines such as P 200 and P 300 but can also be integrated into customized production lines or assembly cells.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Magnet Wire Equipment

### AMPLIVAR Terminator for Parallel and End Connections



The machine was especially developed for processing magnet wire connections. Different versions for end-feed and side-feed contacts are available. The design takes into account that the motor windings and coils can be supplied directly to the connectors. The exposed crimp position permits precise handling. In case of end connections the projecting magnet wires are cut off. AMPLIVAR Splices and Terminals are specifically designed to terminate magnet wires or in combination with standard solid or stranded wire. In a one-step operation the magnet wire is automatically multiple ring stripped of its insulation as it is forced into the serrations during the precisely controlled crimping operation.

As many as three magnet wires can be terminated, simultaneously in one splice. Nearly the entire AMPLIVAR splice program can be applied with this machine in combination with suitable applicators.

The comprehensive range of manufacturing possibilities demands a specific machine and applicator combination.



### APT IIIA and APT IIE AMPLIVAR Product Terminators



APT semi-automatic bench machines are available in two versions: the APT IIIA machine with automatic precision adjustment controlled by the Crimp Quality Monitor (CQM) and the APT IIE machine with manual precision adjustment. To apply a splice or contact, simply place the wires in the

target area and depress the foot switch. The machine automatically shears the splice or contact from the strip, crimps it, shears off excess wire, and advances the next splice or contact into position. With CQM, the APT IIIA machine assists in achieving 6-sigma processing capability.

For operations with multiple wire sizes, the APT IIIA machine provides programmable sequencing of different crimp-height settings, and it can store up to 2000 different programmes of 7 different settings each.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Board Processing Equipment

### Press-Fit Systems

TE Connectivity offers a complete line of manual and automatic servo-electric driven presses for the application of press-fit connectors. Each unit is PC controlled and incorporates force feedback through load cells. The servo-electric drive can precisely

control applied force, speed and travel without the “spring” effect common in pneumatic and hydraulic presses. Finally, force and SPC data for every connector pressed is stored and can be retrieved for 100% traceability of all boards produced.

This system minimizes costly scrap by assuring that the minimum force is reached, maximum force is not exceeded and the connector is gently seated to the required height.

### CSP 3T Servo-Electric Press

The SEP 3T is a servo-electric press to apply PCBs onto compliant pin connectors and housings. The system provides control and monitoring of the press cycle force, distance and speed to meet the quality and traceability essential in the safety and control applications where these components are typically used. Optional Pin Penetration Sensing (PPS) tooling can verify the correct penetration of every pin through the PCB.

PCBs are manually loaded onto the connector/housing and placed in specific support fixtures. When the press cycle

is initiated by the operator, the product is shuttled into the CSP 3T and pressed to the required force and/or height.



A key feature of the CSP press system is an automatic shuttle that positions the PCB and housing/connector stack up underneath the upper insertion tool.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



## Board Processing Equipment

### CBP-3T/5T Bench Manual Electric Press

The benchtop press with midrange board handling and pressing capacities utilizes PC control and servo-electric drive system. Pressing capacities of 27 kN [3 tons] and 44 kN [5 tons] allow for a wide range of applications on boards up to 460 mm x 610 mm [18" x 24"]. These features and a compact footprint make this a powerful, versatile and portable press for PCB construction.



The run time screen provides complete operator interface and feedback.



### CMP 6T/CMP 12T Manual Electric Press

A self-contained press on wheels that can easily be relocated almost anywhere on the production floor. The same PC controlled servo-electric drive system as the CBP units is used to provide a precise and repeatable pressing system to lower overall applied cost.

With up to 107 kN [12 tons] of pressing capacity and board handling up to 910 mm x 1220 mm [36" x 48"] on the CMP-12T machine, the

CMP press line is perfectly positioned to handle almost any press-fit application with midrange volumes.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Board Processing Equipment

### **CAP 6T Automatic Electric Press**

The CAP-6T Automatic Electric Press is the newest addition to the successful TE Connectivity servo press line. It provides the proven force control capabilities and quality assurance of the line in an automatic press. The automatic pressing capabilities of the CAP-6T Press provide the end user with greater control and simplified processing to help improve quality, lower rework and prevent rejects. This provides users with lower true applied cost and higher end profits.

The CAP-6T Press was designed to apply compliant pin connectors to a wide range of PCBs. It is fully capable of handling the most demanding applications today from daughter cards to mid-planes to back-planes.



With board capacity up to 760 mm x 910 mm [30" x 36"] and a press force up to 53 kN [6 tons], the CAP-6T Press is focused at all but the

largest board applications. The CAP-6T Press can also hold up to 12 insertion tools and uses a lower support fixture.

### **CSM 5T Connector Seating Machine**



PCB and connectors are loaded manually into fixtures. When started, the machine checks the correct loading of the connectors before placing the connectors onto the PCB. The tool then moves under the press ram where the connectors get pressed one after the other onto the PCB. The CBP-5T servo-electric press is used to seat the PCB which provides a force-distance check to guarantee quality production.

A special tooling plate allows the sequential pressing of a number of different pre-loaded connectors. An intermediate plate, positioned between the PCB with its pre-positioned

connectors and the flat rock press ram contains the connector specific press tools. For each connector a force distance curve is available after completion.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Board Processing Equipment

### PCB Depanelling Systems

TE Connectivity knows the total applied cost of your product is almost at its highest when the PCB is separated from the panel. Protect the time and investment that has been applied to your product by using a gentle, safe and effective depanelling equipment solutions offered by TE Connectivity.

TE Connectivity offers equipment solutions including the 2016AT Singulation Press, SmartRouter Singulation Machine, SAR-1000-B/D, SAR-1400-L Laser Depanelling and ILR-2000 Automatic In-Line Routing Machines.

All of our equipment solutions offer effective and safe depanelling for your products. Depanelling induced stress is simply unacceptable in today's competitive market.

### GAS SAR-1000-B and SAR-1000-D Depanelling Machines



The GAS SAR-1000-B and SAR-1000-D depanelling systems for printed circuit boards and bare boards offers a largely automated process for depanelling by milling and/or sawing.



**The GAS depanelling systems SAR-1000-B and SAR-1000-D offer the following outstanding features:**

- Very fast and precise linear motor axes for all three directions of movements (X, Y and Z)
- Fast shuttle system with short changing time <4 seconds
- Large milling area
- Flexible milling brush holder – no additional down-holding device required
- Technics tool kit including
- Broken tool control
- Automatic and continuous bit control for different levels
- Tool diameter monitoring
- Production data processing system
- Depanelling speed with disc up to 20 m/min.

For more detailed information please visit our websites:

**[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)**

## Equipment for Electrical Testing

### Electrical Test Equipment for the Automotive Industry

Specialized wire harness testing for the automotive subcontracting industry is based on high volume requirements and incorporates the automatic inspection of non-electrical parameters.

To this aim well thought out adaptation systems are the key factor providing a fast, reliable and user-friendly test environment. Test benches and adaptation systems from TSK Prüfsysteme

GmbH benefit from 25 years of experience in this market. TE Connectivity is the world-wide distribution partner of TSK and can provide a large variety of harness and functional test systems to its customers.



### TSK Cable Test and Function Test

Small stand alone cable testers like the CT30 at an attractive price level already offer the full range of electrical standard testing for up to 512 internal test points. In combination with the powerful CS WIN software even more complex test programs can be created by using programmable I/O's and applied statistical functions.

Larger harnesses will use one of the many different test system types which basically provide a standard grid to implement TSK's adaptation modules.

The function test systems are designed for more complex end-of-line tests on complete subassemblies, like cockpits, automotive doors, relay boxes and control units.



For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)



---

**Application Tooling Global Field Service Organization**

---

TE Connectivity provides Global Field Service support on our application tooling. Field Specialists are located across every continent to provide timely response to customer needs.

In addition to installation, warranty and repair service, TE Connectivity Field Specialists can help you with equipment choices, training of maintenance and operation personnel, troubleshooting assistance and spare parts. Service contracts to cover all your application equipment needs are also available.

We have implemented a service management tool that provides standardization of reporting that gives us the ability to continuously improve our global service organization. Throughout the year we educate our field service engineers on the latest industry technologies and equipment.

See for yourselves the advantages of our professional consultation and individual services. Our qualified service teams are ready to assist you.

## **Service Offerings**

### **Standard Service**

Includes troubleshooting problems, making repairs, and/or installing parts.

### **Equipment Installations**

Providing installation, set-up and training of application equipment at the time of delivery.

### **Training**

Providing Customers with practical training programs addressing machine operation, set-up, maintenance, inspection, and connector application. Training programs can be scheduled at the Customer's site or at a TE Connectivity training center. A training certificate will be issued upon the completion of each formal training course.

**We are proud to be able to offer a comprehensive range of customer training programs.**

**The following are some of the standard training programs we offer:**

- The Fundamentals of Crimp Technology, 4901
- The Proper Handling of Crimping Applicators, 4902
- Crimping Training Program, 4903 (combination of 4901 and 4902)
- The Proper Handling of Crimping Hand Tools, 4904
- FFC Crimp Technology, 4906
- Fundamentals of Crimping Technology for Machine Operators, 4907
- Magnet Wire Connection Technology, 4910
- Advanced Seminar on Crimping Quality, 4911
- Advanced Seminar on Crimp Force Monitoring, 4912
- Advanced Cross Sectioning – Photos, 4913
- MAG-MATE Module, Pneumatic, 4914
- Insulation Displacement Technology, 4930

### **Service Contracts**

Preventive Maintenance and/or Inspection Calibration

Provides service for periodic visits to perform Preventive Maintenance and/or Inspection Calibration Service on Hand Tools, Applicators, Bench and Automatic Equipment.

### **Comprehensive Service**

Provides for a specified number of Field Specialist visits. A visit can be used for services such as standard service, installation, set-up and training for all application equipment, preventive maintenance and/or inspection calibration, spare parts management, equipment process evaluation and technical assistance on application tooling and/or product related problems or concerns.

**“A customized service / training contract ensures equipment optimization”**

### **Short Term Rental of Crimping Applicators**

Applicators are being increasingly required at short notice for a limited period. This may include pre-production runs, prototype series, and the subsequent production of single part requirement or simply small series production. It is often uneconomical to purchase a crimp tool or to rent it on a long-term basis, when it is only required for a few weeks in the year. Our short-term rental service has applicators readily available for you, which you can return when complete with your rental period.

Your local TE Connectivity representative will gladly inform you about the availability of an appropriate applicator for your specific need.

For more detailed information please visit our websites:

**[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)**

Application Tooling Americas Field Service Locations



**Americas Field Service Locations**

Canada:  
Toronto

United States:  
California  
Florida  
Minnesota  
Missouri  
New Jersey  
Ohio  
Pennsylvania  
Texas

Mexico:  
Chihuahua  
Guadalajara  
Hermosillo  
Juarez  
Reynosa

**AMERICAS FIELD SERVICE**  
**1-800-722-1111**

fieldservicesnorthamerica@te.com

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

Application Tooling EMEA Field Service Locations



**EMEA Field Service Locations**

|                |              |
|----------------|--------------|
| Austria        | Netherlands  |
| Czech Republic | Norway       |
| Denmark        | Poland       |
| Finland        | Russia       |
| France         | South Africa |
| Germany        | Spain        |
| Great Britain  | Sweden       |
| India          | Switzerland  |
| Italy          | Tunisia      |
| Morocco        |              |

**EMEA FIELD SERVICE**

**+49 (0) 6251 133 1376**

kd-hotline.ampde@te.com

For more detailed information please visit our websites:

**[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)**



Application Tooling Asia Pacific Field Service Locations



**Asia Pacific Field Service Locations**

|           |           |
|-----------|-----------|
| Australia | Singapore |
| China     | Taiwan    |
| Japan     | Thailand  |
| Korea     | Vietnam   |

**ASIA PACIFIC FIELD SERVICE**  
**Please contact your local Sales or Service Engineer**

For more detailed information please visit our websites:

[www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Numerical Index

| Part Number | Page  | Part Number | Page         | Part Number | Page   | Part Number | Page                                    |
|-------------|---|-------------|--------------|-------------|--|-------------|---|
| 58495-1     | 2-12  | 282762-3    | 2-148, 2-168 | 539623-1    | 2-27   | 3-825414-5  | 2-137                                   |
| 100132-1    | 2-30  | 282762-4    | 2-148, 2-168 | 539635-1    | 2-27   | 3-825414-6  | 2-137                                   |
| 106455-3    | 2-86, 2-87,<br>2-88, 2-89,<br>2-90, 2-91,<br>2-95                         | 282762-5    | 2-148, 2-168 | 539672-2    | 2-24   | 826000-1    | 2-45, 2-75,<br>2-76                     |
| 106455-4    | 2-95  | 282762-6    | 2-148, 2-168 | 539687-2    | 2-22   | 826000-2    | 2-45, 2-75,<br>2-76                     |
| 106456-1    | 2-92, 2-93,<br>2-94, 2-96   | 282762-7    | 2-148, 2-168 | 539734-2    | 2-24   | 826000-3    | 2-45, 2-75,<br>2-76                     |
| 106462-1    | 2-134, 2-135,<br>2-137, 2-138,<br>2-148, 2-149,<br>2-150, 2-151,<br>2-168 | 282762-8    | 2-148, 2-168 | 539736-2    | 2-24   | 826000-4    | 2-45, 2-75,<br>2-76                     |
| 142719-2    | 2-131   | 282764-1    | 2-153        | 539742-2    | 2-22   | 826000-5    | 2-45, 2-75,<br>2-76                     |
| 142723-1    | 2-84  | 282764-2    | 2-153        | 539744-2    | 2-22   | 826000-6    | 2-45, 2-75,<br>2-76                     |
| 142723-2    | 2-84, 2-131   | 282765-1    | 2-154        | 539757-2    | 2-27   | 826000-7    | 2-45, 2-75,<br>2-76                     |
| 281810-1    | 2-164   | 282766-1    | 2-158        | 539759-2    | 2-27   | 826008-1    | 2-134                                   |
| 281810-2    | 2-164   | 282766-2    | 2-158        | 539960-1    | 2-5, 2-7,<br>2-8   | 826008-2    | 2-134                                   |
| 281812-1    | 2-164, 2-165  | 282768-1    | 2-159        | 725864-1    | 2-19   | 826008-3    | 2-134                                   |
| 282189-1    | 2-150, 2-168  | 282768-2    | 2-159        | 734262-1    | 2-19   | 826008-5    | 2-134                                   |
| 282189-2    | 2-150, 2-168  | 365057-1    | 2-97, 2-102  | 734414-1    | 2-14   | 826008-6    | 2-134                                   |
| 282189-3    | 2-150, 2-168  | 365057-2    | 2-97, 2-102  | 734417-3    | 2-17   | 826008-7    | 2-134                                   |
| 282189-4    | 2-150, 2-168  | 365057-3    | 2-97, 2-102  | 734531-1    | 2-34, 2-35   | 1-826008-1  | 2-134                                   |
| 282189-5    | 2-150, 2-168  | 365057-4    | 2-97, 2-102  | 734532-1    | 2-34, 2-35   | 1-826008-2  | 2-134                                   |
| 282189-6    | 2-150, 2-168  | 365058-1    | 2-97, 2-102  | 734533-1    | 2-34, 2-35   | 1-826008-3  | 2-134                                   |
| 282189-7    | 2-150, 2-168  | 365058-2    | 2-97, 2-102  | 734538-1    | 2-17   | 1-826008-5  | 2-134                                   |
| 282189-8    | 2-150, 2-168  | 365058-3    | 2-97, 2-102  | 734681-1    | 2-29   | 1-826008-6  | 2-134                                   |
| 282190-1    | 2-149, 2-168  | 365058-4    | 2-97, 2-102  | 734682-1    | 2-29   | 826008-8    | 2-134                                   |
| 282190-2    | 2-149, 2-168  | 365059-1    | 2-98, 2-103  | 734683-1    | 2-29   | 1-826008-1  | 2-134                                   |
| 282190-3    | 2-149, 2-168  | 365059-2    | 2-98, 2-103  | 734688-1    | 2-27   | 1-826008-2  | 2-134                                   |
| 282190-4    | 2-149, 2-168  | 365059-3    | 2-98, 2-103  | 825213-1    | 2-45, 2-46,<br>2-51, 2-75,<br>2-120, 2-121,<br>2-122, 2-123,<br>2-130, 2-165,<br>2-166 | 1-826008-3  | 2-134                                   |
| 282190-5    | 2-149, 2-168  | 365059-4    | 2-98, 2-103  | 825414-0    | 2-137  | 1-826008-5  | 2-134                                   |
| 282190-6    | 2-149, 2-168  | 365060-1    | 2-98, 2-103  | 825414-1    | 2-137  | 1-826008-6  | 2-134                                   |
| 282190-7    | 2-149, 2-168  | 365060-2    | 2-98, 2-103  | 825414-2    | 2-137  | 826140-1    | 2-49, 2-68                              |
| 282190-8    | 2-149, 2-168  | 365060-3    | 2-98, 2-103  | 825414-3    | 2-137  | 826140-2    | 2-49, 2-68                              |
| 282192-1    | 2-156   | 365060-4    | 2-98, 2-103  | 825414-4    | 2-137  | 826140-3    | 2-49, 2-68                              |
| 282192-2    | 2-156   | 365061-1    | 2-99, 2-104  | 825414-5    | 2-137  | 826140-4    | 2-49, 2-68                              |
| 282193-1    | 2-157   | 365061-2    | 2-99, 2-104  | 825414-6    | 2-137  | 826140-5    | 2-68                                    |
| 282193-2    | 2-157   | 365061-3    | 2-99, 2-104  | 1-825414-0  | 2-137  | 826141-1    | 2-50, 2-69                              |
| 282194-1    | 2-160   | 365061-4    | 2-99, 2-104  | 1-825414-1  | 2-137  | 826141-2    | 2-50, 2-69                              |
| 282194-2    | 2-160   | 365062-1    | 2-99, 2-104  | 1-825414-2  | 2-137  | 826141-3    | 2-69                                    |
| 282195-2    | 2-165   | 365062-2    | 2-99, 2-104  | 1-825414-3  | 2-137  | 826141-4    | 2-69                                    |
| 282197-2    | 2-166   | 365062-3    | 2-99, 2-104  | 1-825414-4  | 2-137  | 826195-1    | 2-50, 2-70                              |
| 282342-1    | 2-155   | 365062-4    | 2-99, 2-104  | 1-825414-5  | 2-137  | 826195-2    | 2-50, 2-70                              |
| 282729-1    | 2-152   | 365063-1    | 2-100, 2-105 | 1-825414-6  | 2-137  | 826703-1    | 2-48, 2-66                              |
| 282729-2    | 2-152   | 365063-2    | 2-100, 2-105 | 2-825414-0  | 2-137  | 826703-2    | 2-48, 2-66                              |
| 282729-3    | 2-152   | 365063-3    | 2-100, 2-105 | 2-825414-1  | 2-137  | 826779-1    | 2-120, 2-121,<br>2-122, 2-123,<br>2-130 |
| 282729-4    | 2-152   | 365063-4    | 2-100, 2-105 | 2-825414-2  | 2-137  | 827019-1    | 2-72, 2-119,<br>2-128, 2-129            |
| 282729-5    | 2-152   | 365064-1    | 2-100, 2-105 | 2-825414-3  | 2-137  | 827050-1    | 2-71, 2-119,<br>2-128, 2-129,<br>2-164  |
| 282729-6    | 2-152   | 365064-2    | 2-100, 2-105 | 2-825414-4  | 2-137  | 827137-1    | 2-47, 2-78                              |
| 282762-1    | 2-148, 2-168  | 365064-3    | 2-100, 2-105 | 2-825414-5  | 2-137  | 827137-2    | 2-47, 2-78                              |
| 282762-2    | 2-148, 2-168  | 365064-4    | 2-100, 2-105 | 2-825414-6  | 2-137  | 827216-1    | 2-136                                   |
|             |   | 365065-1    | 2-101, 2-106 | 3-825414-0  | 2-137  | 827216-2    | 2-136                                   |
|             |   | 365065-2    | 2-101, 2-106 | 3-825414-1  | 2-137  |             |   |
|             |   | 365065-3    | 2-101, 2-106 | 3-825414-2  | 2-137  |             |   |
|             |   | 365065-4    | 2-101, 2-106 | 3-825414-3  | 2-137  |             |   |
|             |   | 365066-1    | 2-101, 2-106 |             |  |             |   |
|             |   | 365066-2    | 2-101, 2-106 |             |  |             |   |
|             |   | 365066-3    | 2-101, 2-106 |             |  |             |   |
|             |   | 365066-4    | 2-101, 2-106 |             |  |             |   |

## Numerical Index

| Part Number | Page                       | Part Number | Page                 | Part Number | Page                               | Part Number | Page                |
|-------------|----------------------------|-------------|----------------------|-------------|------------------------------------|-------------|---------------------|
| 827229-1    | 2-42, 2-65                 | 827439-1    | 2-77                 | 828657-2    | 2-139                              | 828919-4    | 2-161               |
| 827229-2    | 2-42, 2-65                 | 827467-1    | 2-48, 2-67           | 828657-3    | 2-139                              | 828919-5    | 2-161               |
| 827229-3    | 2-42, 2-65                 | 827467-2    | 2-48                 | 828657-4    | 2-139                              | 828922-1    | 2-20, 2-21          |
| 827229-4    | 2-42, 2-65                 | 827534-1    | 2-44, 2-73           | 828657-5    | 2-139                              | 828922-2    | 2-21                |
| 827229-5    | 2-42, 2-65                 | 827535-1    | 2-44, 2-73           | 828657-6    | 2-139                              | 828985-1    | 2-20                |
| 827229-6    | 2-42, 2-65                 | 827535-2    | 2-44, 2-73           | 828657-7    | 2-139                              | 828986-1    | 2-20                |
| 827249-1    | 2-71, 2-72,<br>2-74, 2-119 | 827535-3    | 2-44, 2-73           | 828657-8    | 2-139                              | 925470-1    | 2-49, 2-68          |
| 827249-2    | 2-71, 2-72,<br>2-74, 2-119 | 827535-4    | 2-44, 2-73           | 828661-1    | 2-74                               | 925470-2    | 2-49, 2-68          |
| 827249-3    | 2-71, 2-72,<br>2-74, 2-119 | 827535-5    | 2-44, 2-73           | 828662-1    | 2-43                               | 925470-3    | 2-49, 2-68          |
| 827249-4    | 2-71, 2-72,<br>2-74, 2-119 | 827535-6    | 2-44, 2-73           | 828748-1    | 2-141                              | 925470-4    | 2-49, 2-68          |
| 827249-5    | 2-71, 2-72,<br>2-74, 2-119 | 1-827535-2  | 2-44, 2-73           | 828748-2    | 2-141                              | 925471-1    | 2-50, 2-69,<br>2-70 |
| 827249-6    | 2-71, 2-72,<br>2-74, 2-119 | 1-827535-3  | 2-44, 2-73           | 828748-3    | 2-141                              | 925471-2    | 2-50, 2-69,<br>2-70 |
| 827254-1    | 2-76, 2-165,<br>2-166      | 2-827535-2  | 2-44, 2-73           | 828748-4    | 2-141                              | 925575-1    | 2-22                |
| 827257-1    | 2-75, 2-76,<br>2-122       | 2-827535-3  | 2-44, 2-73           | 828748-5    | 2-141                              | 925575-2    | 2-22                |
| 827257-2    | 2-75, 2-76,<br>2-122       | 2-827535-4  | 2-73                 | 828748-6    | 2-141                              | 925575-3    | 2-22                |
| 827257-3    | 2-75, 2-76,<br>2-122       | 827539-1    | 2-43                 | 828748-7    | 2-141                              | 925590-1    | 2-12                |
| 827257-4    | 2-75, 2-76,<br>2-122       | 827539-2    | 2-43                 | 828748-8    | 2-141                              | 925590-2    | 2-12                |
| 827257-5    | 2-75, 2-76,<br>2-122       | 827551-1    | 2-138                | 828761-1    | 2-132                              | 925590-3    | 2-12                |
| 827257-6    | 2-75, 2-76,<br>2-122       | 827551-2    | 2-138                | 828771-1    | 2-52, 2-79,<br>2-80, 2-81,<br>2-82 | 925590-4    | 2-12                |
| 827257-7    | 2-75, 2-76,<br>2-122       | 827551-3    | 2-138                | 828772-1    | 2-52                               | 925590-6    | 2-12                |
| 827257-8    | 2-75, 2-76,<br>2-122       | 827551-4    | 2-138                | 828772-2    | 2-81                               | 925595-1    | 2-12                |
| 827257-9    | 2-75, 2-76,<br>2-122       | 827551-5    | 2-138                | 828773-1    | 2-52, 2-80,<br>2-132               | 925595-2    | 2-12                |
| 1-827257-1  | 2-75, 2-76,<br>2-122       | 827551-6    | 2-138                | 828773-2    | 2-80                               | 925595-3    | 2-12                |
| 1-827257-2  | 2-75, 2-76,<br>2-122       | 827551-7    | 2-138                | 828773-3    | 2-80                               | 925595-4    | 2-12                |
| 1-827257-3  | 2-75, 2-76,<br>2-122       | 827551-8    | 2-138                | 828801-1    | 2-54                               | 925595-5    | 2-12                |
| 1-827257-4  | 2-75, 2-76,<br>2-122       | 827572-1    | 2-145                | 828801-2    | 2-54                               | 925596-1    | 2-12                |
| 1-827257-6  | 2-75, 2-76,<br>2-122       | 1-827578-1  | 2-140                | 828801-4    | 2-54                               | 925596-2    | 2-12                |
| 1-827257-7  | 2-75, 2-76,<br>2-122       | 1-827578-2  | 2-140                | 828801-5    | 2-54                               | 925596-3    | 2-12                |
| 1-827257-8  | 2-75, 2-76,<br>2-122       | 1-827578-3  | 2-140                | 828801-6    | 2-54                               | 925596-4    | 2-12                |
| 827405-1    | 2-145                      | 1-827578-4  | 2-140                | 828801-7    | 2-54                               | 925596-6    | 2-12                |
|             |                            | 827579-1    | 2-142                | 1-828801-1  | 2-54                               | 925597-1    | 2-12                |
|             |                            | 827580-1    | 2-144                | 1-828801-2  | 2-54                               | 925597-2    | 2-12                |
|             |                            | 827580-2    | 2-144                | 2-828801-1  | 2-54                               | 925597-3    | 2-12                |
|             |                            | 827584-1    | 2-43                 | 828808-1    | 2-124                              | 925597-4    | 2-12                |
|             |                            | 827584-2    | 2-43                 | 828808-2    | 2-124                              | 925597-5    | 2-12                |
|             |                            | 827603-1    | 2-42, 2-65           | 828808-3    | 2-124                              | 925598-1    | 2-22                |
|             |                            | 827603-2    | 2-42, 2-65           | 828880-1    | 2-121                              | 925598-2    | 2-22                |
|             |                            | 827656-1    | 2-135                | 828904-1    | 2-20                               | 925598-3    | 2-22                |
|             |                            | 827663-4    | 2-46, 2-75,<br>2-76  | 828904-2    | 2-20                               | 925612-1    | 2-22                |
|             |                            | 827663-5    | 2-46, 2-75,<br>2-76  | 828905-1    | 2-20                               | 925612-2    | 2-22                |
|             |                            | 827663-6    | 2-46, 2-75,<br>2-76  | 828918-0    | 2-162                              | 925612-3    | 2-22                |
|             |                            | 827663-7    | 2-46, 2-75,<br>2-76  | 828918-1    | 2-162                              | 925613-1    | 2-22                |
|             |                            | 827667-1    | 2-47, 2-77,<br>2-78  | 828918-2    | 2-162                              | 925613-2    | 2-22                |
|             |                            | 827667-2    | 2-47, 2-77,<br>2-78  | 828918-3    | 2-162                              | 925613-3    | 2-22                |
|             |                            | 828632-1    | 2-75, 2-76,<br>2-123 | 828918-4    | 2-162                              | 925871-1    | 2-12                |
|             |                            | 828657-1    | 2-139                | 828918-5    | 2-162                              | 925871-2    | 2-12                |
|             |                            |             |                      | 828919-0    | 2-161                              | 925871-3    | 2-12                |
|             |                            |             |                      | 828919-1    | 2-161                              | 925871-4    | 2-12                |
|             |                            |             |                      | 828919-2    | 2-161                              | 925871-5    | 2-12                |
|             |                            |             |                      | 828919-3    | 2-161                              | 925871-6    | 2-12                |
|             |                            |             |                      |             |                                    | 925871-7    | 2-12                |

## Numerical Index

| Part Number | Page             | Part Number | Page | Part Number | Page | Part Number | Page |
|-------------|------------------|-------------|------|-------------|------|-------------|------|
| 926005-1    | 2-22             | 927773-1    | 2-14 | 2-927783-1  | 2-14 | 927837-1    | 2-24 |
| 926005-2    | 2-22             | 927773-3    | 2-14 | 927824-1    | 2-24 | 927837-2    | 2-24 |
| 926005-3    | 2-22             | 927773-6    | 2-14 | 927824-2    | 2-24 | 927837-3    | 2-24 |
| 926006-1    | 2-22             | 1-927773-1  | 2-14 | 927825-1    | 2-24 | 927837-4    | 2-24 |
| 926006-2    | 2-22             | 2-927773-1  | 2-14 | 927825-2    | 2-24 | 927837-5    | 2-24 |
| 926006-3    | 2-22             | 927774-1    | 2-14 | 927826-1    | 2-24 | 927837-6    | 2-24 |
| 926007-1    | 2-22             | 927774-3    | 2-14 | 927826-2    | 2-24 | 927837-7    | 2-24 |
| 926007-2    | 2-22             | 927774-6    | 2-14 | 927826-7    | 2-24 | 1-927837-5  | 2-24 |
| 926007-3    | 2-22             | 927774-8    | 2-14 | 1-927826-2  | 2-24 | 927838-1    | 2-24 |
| 926008-1    | 2-22             | 1-927774-1  | 2-14 | 2-927826-2  | 2-24 | 927838-2    | 2-24 |
| 926008-2    | 2-22             | 2-927774-1  | 2-14 | 927827-1    | 2-24 | 927838-3    | 2-24 |
| 926008-3    | 2-22             | 927775-1    | 2-14 | 927828-1    | 2-24 | 927838-4    | 2-24 |
| 926171-1    | 2-48, 2-66, 2-67 | 927775-3    | 2-14 | 927828-2    | 2-24 | 927838-5    | 2-24 |
|             |                  | 927775-6    | 2-14 | 927829-1    | 2-24 | 927838-6    | 2-24 |
| 926171-2    | 2-48, 2-66, 2-67 | 927775-7    | 2-14 | 927829-2    | 2-24 | 927838-7    | 2-24 |
|             |                  | 1-927775-1  | 2-14 | 927829-5    | 2-24 | 1-927838-5  | 2-24 |
| 926755-1    | 2-12             | 2-927775-1  | 2-14 | 1-927829-5  | 2-24 | 927839-1    | 2-24 |
| 926755-2    | 2-12             | 927776-1    | 2-14 | 927830-1    | 2-24 | 927839-2    | 2-24 |
| 926756-1    | 2-12             | 927776-3    | 2-14 | 927830-2    | 2-24 | 927839-3    | 2-24 |
| 926756-2    | 2-12             | 927776-6    | 2-14 | 927830-5    | 2-24 | 927839-4    | 2-24 |
| 926965-1    | 2-22             | 927776-8    | 2-14 | 1-927830-5  | 2-24 | 927839-5    | 2-24 |
| 926965-2    | 2-22             | 1-927776-1  | 2-14 | 927831-1    | 2-24 | 927840-1    | 2-24 |
| 926973-1    | 2-22             | 2-927776-1  | 2-14 | 927831-2    | 2-24 | 927840-2    | 2-24 |
| 926984-1    | 2-22             | 927777-1    | 2-14 | 927831-3    | 2-24 | 927840-3    | 2-24 |
| 926984-2    | 2-22             | 927777-3    | 2-14 | 927831-4    | 2-24 | 927840-4    | 2-24 |
| 926985-1    | 2-22             | 927777-6    | 2-14 | 927831-5    | 2-24 | 927840-5    | 2-24 |
| 926985-2    | 2-22             | 927777-8    | 2-14 | 927831-7    | 2-24 | 927840-7    | 2-24 |
| 927766-1    | 2-14             | 927777-9    | 2-14 | 1-927831-5  | 2-24 | 927845-1    | 2-12 |
| 927766-3    | 2-14             | 1-927777-1  | 2-14 | 927832-1    | 2-24 | 927845-2    | 2-12 |
| 927766-8    | 2-14             | 2-927777-1  | 2-14 | 927832-2    | 2-24 | 927845-3    | 2-12 |
| 1-927766-1  | 2-14             | 927778-1    | 2-14 | 927832-3    | 2-24 | 927845-4    | 2-12 |
| 2-927766-1  | 2-14             | 927778-3    | 2-14 | 927832-4    | 2-24 | 927845-5    | 2-12 |
| 927768-1    | 2-14             | 1-927778-1  | 2-14 | 927832-5    | 2-24 | 927846-1    | 2-12 |
| 927768-3    | 2-14             | 927779-1    | 2-14 | 927832-7    | 2-24 | 927846-2    | 2-12 |
| 927768-6    | 2-14             | 927779-3    | 2-14 | 1-927832-5  | 2-24 | 927846-3    | 2-12 |
| 927768-8    | 2-14             | 927779-6    | 2-14 | 927833-1    | 2-24 | 927846-4    | 2-12 |
| 927768-9    | 2-14             | 927779-8    | 2-14 | 927833-2    | 2-24 | 927846-5    | 2-12 |
| 1-927768-1  | 2-14             | 927779-9    | 2-14 | 927833-5    | 2-24 | 927847-1    | 2-22 |
| 2-927768-1  | 2-14             | 1-927779-1  | 2-14 | 927834-1    | 2-24 | 927847-2    | 2-22 |
| 927770-1    | 2-14             | 2-927779-1  | 2-14 | 927834-2    | 2-24 | 927847-3    | 2-22 |
| 927770-3    | 2-14             | 927780-1    | 2-14 | 927834-5    | 2-24 | 927848-1    | 2-22 |
| 927770-6    | 2-14             | 927780-3    | 2-14 | 927835-1    | 2-24 | 927848-2    | 2-22 |
| 927770-8    | 2-14             | 1-927780-1  | 2-14 | 927835-2    | 2-24 | 927848-3    | 2-22 |
| 927771-1    | 2-14             | 927781-1    | 2-14 | 927835-7    | 2-24 | 927849-1    | 2-22 |
| 927771-3    | 2-14             | 927781-3    | 2-14 | 1-927835-2  | 2-24 | 927849-2    | 2-22 |
| 927771-6    | 2-14             | 927781-6    | 2-14 | 1-927835-3  | 2-24 | 927849-3    | 2-22 |
| 927771-8    | 2-14             | 1-927781-1  | 2-14 | 2-927835-1  | 2-24 | 927850-1    | 2-22 |
| 927771-9    | 2-14             | 2-927781-1  | 2-14 | 2-927835-2  | 2-24 | 927850-2    | 2-22 |
| 1-927771-1  | 2-14             | 927783-1    | 2-14 | 927836-1    | 2-24 | 927850-3    | 2-22 |
| 2-927771-1  | 2-14             | 927783-3    | 2-14 | 927836-2    | 2-24 | 927856-1    | 2-12 |
| 927772-1    | 2-14             | 927783-6    | 2-14 | 927836-7    | 2-24 | 927856-2    | 2-12 |
| 927772-3    | 2-14             | 927783-7    | 2-14 | 1-927836-2  | 2-24 | 927856-4    | 2-12 |
| 1-927772-1  | 2-14             | 1-927783-1  | 2-14 | 2-927836-2  | 2-24 | 927856-5    | 2-12 |

## Numerical Index

| Part Number | Page       | Part Number | Page | Part Number | Page       | Part Number | Page       |
|-------------|------------|-------------|------|-------------|------------|-------------|------------|
| 927857-1    | 2-12       | 927973-3    | 2-12 | 928989-5    | 2-24       | 1-929923-2  | 2-24       |
| 927857-2    | 2-12       | 927973-4    | 2-12 | 928990-1    | 2-24       | 1-929923-3  | 2-24       |
| 927857-4    | 2-12       | 928781-1    | 2-19 | 928990-2    | 2-24       | 2-929923-1  | 2-24       |
| 927857-5    | 2-12       | 928781-2    | 2-19 | 928990-3    | 2-24       | 2-929923-2  | 2-24       |
| 927863-1    | 2-12       | 928781-3    | 2-19 | 928990-4    | 2-24       | 929924-1    | 2-24       |
| 927863-2    | 2-12       | 928781-4    | 2-19 | 928990-5    | 2-24       | 929924-2    | 2-24       |
| 927863-3    | 2-12       | 928781-5    | 2-19 | 928990-7    | 2-24       | 929924-7    | 2-24       |
| 927863-4    | 2-12       | 928794-1    | 2-19 | 1-929103-1  | 2-38, 2-40 | 1-929924-2  | 2-24       |
| 927864-1    | 2-12       | 928794-2    | 2-19 | 6-929264-2  | 2-107      | 1-929924-3  | 2-24       |
| 927864-2    | 2-12       | 928794-3    | 2-19 | 929280-1    | 2-14       | 2-929924-1  | 2-24       |
| 927864-3    | 2-12       | 928794-4    | 2-19 | 929281-1    | 2-14       | 2-929924-2  | 2-24       |
| 927864-4    | 2-12       | 928794-5    | 2-19 | 929504-1    | 2-54       | 929927-1    | 2-4        |
| 927865-1    | 2-22       | 928810-1    | 2-14 | 929504-2    | 2-54       | 929927-2    | 2-4        |
| 927865-2    | 2-22       | 928820-1    | 2-22 | 929504-3    | 2-54       | 929927-3    | 2-4        |
| 927865-3    | 2-22       | 928820-2    | 2-22 | 929504-4    | 2-54       | 929927-4    | 2-4        |
| 927866-1    | 2-22       | 928820-3    | 2-22 | 929504-5    | 2-54       | 929929-1    | 2-12, 2-14 |
| 927866-2    | 2-22       | 928876-1    | 2-14 | 929504-6    | 2-54       | 929929-2    | 2-12       |
| 927866-3    | 2-22       | 928876-3    | 2-14 | 929504-7    | 2-54       | 929929-3    | 2-14       |
| 927871-1    | 2-12       | 928923-1    | 2-19 | 1-929504-1  | 2-54       | 929929-5    | 2-12       |
| 927871-2    | 2-12       | 928923-2    | 2-19 | 1-929504-2  | 2-54       | 929929-8    | 2-14       |
| 927871-4    | 2-12       | 928923-3    | 2-19 | 1-929504-3  | 2-54       | 1-929929-1  | 2-14       |
| 927872-1    | 2-12       | 928923-4    | 2-19 | 1-929504-4  | 2-54       | 2-929929-1  | 2-14       |
| 927872-2    | 2-12       | 928923-5    | 2-19 | 1-929504-5  | 2-54       | 929930-1    | 2-14       |
| 927872-4    | 2-12       | 928924-1    | 2-19 | 1-929504-6  | 2-54       | 929930-3    | 2-14       |
| 927877-1    | 2-12       | 928924-2    | 2-19 | 1-929504-7  | 2-54       | 929930-6    | 2-14       |
| 927877-2    | 2-12       | 928924-3    | 2-19 | 2-929504-1  | 2-54       | 929930-8    | 2-14       |
| 927877-4    | 2-12       | 928924-4    | 2-19 | 929505-1    | 2-54       | 1-929930-1  | 2-14       |
| 927878-1    | 2-12       | 928924-5    | 2-19 | 929505-2    | 2-54       | 2-929930-1  | 2-14       |
| 927878-2    | 2-12       | 928930-1    | 2-19 | 929505-3    | 2-54       | 929931-1    | 2-14       |
| 927878-4    | 2-12       | 928930-2    | 2-19 | 929505-4    | 2-54       | 929931-3    | 2-14       |
| 927879-1    | 2-22       | 928930-3    | 2-19 | 929505-5    | 2-54       | 1-929931-1  | 2-14       |
| 927879-2    | 2-22       | 928930-4    | 2-19 | 929505-6    | 2-54       | 929937-1    | 2-15       |
| 927879-3    | 2-22       | 928930-5    | 2-19 | 929505-7    | 2-54       | 929937-3    | 2-15       |
| 927880-1    | 2-22       | 928931-1    | 2-19 | 1-929505-1  | 2-54       | 929937-6    | 2-15       |
| 927880-2    | 2-22       | 928931-2    | 2-19 | 1-929505-2  | 2-54       | 1-929937-1  | 2-15       |
| 927880-3    | 2-22       | 928931-3    | 2-19 | 1-929505-3  | 2-54       | 2-929937-1  | 2-15       |
| 927892-1    | 2-19       | 928931-4    | 2-19 | 1-929505-4  | 2-54       | 929938-1    | 2-15       |
| 927892-2    | 2-19       | 928931-5    | 2-19 | 1-929505-5  | 2-54       | 929938-3    | 2-15       |
| 927892-3    | 2-19       | 928939-1    | 2-4  | 1-929505-6  | 2-54       | 929938-6    | 2-15       |
| 927892-4    | 2-19       | 928939-2    | 2-4  | 1-929505-7  | 2-54       | 1-929938-1  | 2-15       |
| 927892-5    | 2-19       | 928939-3    | 2-4  | 929921-1    | 2-24       | 2-929938-1  | 2-15       |
| 927893-1    | 2-19       | 928939-4    | 2-4  | 929921-2    | 2-24       | 929939-1    | 2-15       |
| 927893-2    | 2-19       | 928966-1    | 2-24 | 929921-7    | 2-24       | 929939-3    | 2-15       |
| 927893-3    | 2-19       | 928966-2    | 2-24 | 1-929921-2  | 2-24       | 929939-6    | 2-15       |
| 927893-4    | 2-19       | 928966-7    | 2-24 | 2-929921-2  | 2-24       | 1-929939-1  | 2-15       |
| 927893-5    | 2-19       | 1-928966-2  | 2-24 | 929922-1    | 2-24       | 2-929939-1  | 2-15       |
| 927936-1    | 2-22       | 1-928966-3  | 2-24 | 929922-2    | 2-24       | 929940-1    | 2-15       |
| 927936-2    | 2-22       | 2-928966-1  | 2-24 | 929922-7    | 2-24       | 929940-3    | 2-15       |
| 927966-1    | 2-12       | 2-928966-2  | 2-24 | 1-929922-2  | 2-24       | 929940-6    | 2-15       |
| 927966-2    | 2-12       | 928989-1    | 2-24 | 2-929922-2  | 2-24       | 1-929940-1  | 2-15       |
| 927966-5    | 2-12       | 928989-2    | 2-24 | 929923-1    | 2-24       | 2-929940-1  | 2-15       |
| 927973-1    | 2-12, 2-22 | 928989-3    | 2-24 | 929923-2    | 2-24       | 929941-1    | 2-15       |
| 927973-2    | 2-12       | 928989-4    | 2-24 | 929923-7    | 2-24       | 929941-3    | 2-15       |



## Numerical Index

| Part Number | Page       | Part Number | Page             | Part Number | Page | Part Number | Page         |
|-------------|------------|-------------|------------------|-------------|------|-------------|--------------|
| 929941-6    | 2-15       | 962191-1    | 2-89, 2-92, 2-95 | 962882-1    | 2-16 | 1-962933-6  | 2-34         |
| 1-929941-1  | 2-15       |             |                  | 962882-2    | 2-16 | 962934-1    | 2-34         |
| 2-929941-1  | 2-15       | 1-962340-1  | 2-125            | 962883-1    | 2-16 | 962935-1    | 2-34         |
| 929942-1    | 2-15       | 962341-1    | 2-125            | 962883-2    | 2-16 | 962936-1    | 2-34         |
| 929942-3    | 2-15       | 1-962342-1  | 2-41             | 962884-1    | 2-16 | 962937-1    | 2-34         |
| 929942-6    | 2-15       | 1-962342-2  | 2-41             | 962884-2    | 2-16 | 962938-1    | 2-34         |
| 1-929942-1  | 2-15       | 2-962342-1  | 2-41             | 962903-1    | 2-26 | 962939-1    | 2-34         |
| 2-929942-1  | 2-15       | 2-962342-2  | 2-41             | 962903-2    | 2-26 | 962942-1    | 2-6          |
| 929948-1    | 2-19       | 3-962342-1  | 2-39, 2-41       | 962904-1    | 2-26 | 962942-2    | 2-6          |
| 929948-2    | 2-19       | 1-962519-1  | 2-146            | 962904-2    | 2-26 | 962942-3    | 2-6          |
| 929948-3    | 2-19       | 1-962841-1  | 2-17             | 962905-1    | 2-26 | 962942-4    | 2-6          |
| 929948-4    | 2-19       | 1-962841-2  | 2-17             | 962905-2    | 2-26 | 962942-5    | 2-6          |
| 929948-5    | 2-19       | 1-962841-3  | 2-17             | 962906-1    | 2-26 | 962942-6    | 2-6          |
| 929948-6    | 2-19       | 2-962841-1  | 2-17             | 962906-2    | 2-26 | 962943-1    | 2-6          |
| 929948-7    | 2-19       | 2-962841-2  | 2-17             | 962907-1    | 2-26 | 962943-2    | 2-6          |
| 929949-1    | 2-19       | 2-962841-3  | 2-17             | 962907-2    | 2-26 | 962943-3    | 2-6          |
| 929949-2    | 2-19       | 1-962842-1  | 2-17             | 962908-1    | 2-26 | 962943-4    | 2-6          |
| 929949-3    | 2-19       | 1-962842-2  | 2-17             | 962908-2    | 2-26 | 962943-5    | 2-6          |
| 929949-4    | 2-19       | 1-962842-3  | 2-17             | 962910-1    | 2-26 | 962943-6    | 2-6          |
| 929949-5    | 2-19       | 2-962842-1  | 2-17             | 962910-2    | 2-26 | 962944-1    | 2-6          |
| 929950-1    | 2-4        | 2-962842-2  | 2-17             | 1-962915-1  | 2-17 | 962944-2    | 2-6          |
| 929950-2    | 2-4        | 2-962842-3  | 2-17             | 1-962915-2  | 2-17 | 962944-3    | 2-6          |
| 929950-3    | 2-4        | 1-962843-1  | 2-17             | 1-962915-3  | 2-17 | 962944-4    | 2-6          |
| 929950-4    | 2-4        | 1-962843-2  | 2-17             | 2-962915-1  | 2-17 | 962944-5    | 2-6          |
| 929951-1    | 2-4        | 1-962843-3  | 2-17             | 2-962915-2  | 2-17 | 962944-6    | 2-6          |
| 929951-2    | 2-4        | 2-962843-1  | 2-17             | 2-962915-3  | 2-17 | 962945-1    | 2-6          |
| 929951-3    | 2-4        | 2-962843-2  | 2-17             | 1-962916-1  | 2-17 | 962945-2    | 2-6          |
| 929951-4    | 2-4        | 2-962843-3  | 2-17             | 1-962916-2  | 2-17 | 962945-3    | 2-6          |
| 929952-1    | 2-4        | 1-962845-1  | 2-27             | 1-962916-3  | 2-17 | 962945-4    | 2-6          |
| 929952-2    | 2-4        | 1-962845-2  | 2-27             | 2-962916-1  | 2-17 | 962945-5    | 2-6          |
| 929952-3    | 2-4        | 2-962845-1  | 2-27             | 2-962916-2  | 2-17 | 962945-6    | 2-6          |
| 929952-4    | 2-4        | 2-962845-2  | 2-27             | 2-962916-3  | 2-17 | 963013-1    | 2-143        |
| 929952-7    | 2-4        | 1-962846-1  | 2-27             | 1-962917-1  | 2-27 | 963013-2    | 2-143        |
| 929952-8    | 2-4        | 1-962846-2  | 2-27             | 1-962917-2  | 2-27 | 963035-1    | 2-163, 2-169 |
| 929953-1    | 2-4        | 2-962846-1  | 2-27             | 2-962917-1  | 2-27 | 963035-2    | 2-169        |
| 929953-2    | 2-4        | 2-962846-2  | 2-27             | 2-962917-2  | 2-27 | 963035-3    | 2-169        |
| 929953-3    | 2-4        | 962875-1    | 2-6              | 1-962918-1  | 2-27 | 963039-1    | 2-163, 2-169 |
| 929953-4    | 2-4        | 962875-2    | 2-6              | 1-962918-2  | 2-27 | 963039-2    | 2-163        |
| 929953-7    | 2-4        | 962875-3    | 2-6              | 2-962918-1  | 2-27 | 963040-1    | 2-151, 2-168 |
| 929953-8    | 2-4        | 962875-5    | 2-6              | 2-962918-2  | 2-27 | 963040-2    | 2-151, 2-168 |
| 929954-1    | 2-4        | 962876-1    | 2-6              | 1-962919-1  | 2-27 | 963040-3    | 2-151, 2-168 |
| 929954-2    | 2-4        | 962876-2    | 2-6              | 1-962919-2  | 2-27 | 963041-1    | 2-85, 2-167  |
| 929954-3    | 2-4        | 962876-3    | 2-6              | 2-962919-1  | 2-27 | 963042-2    | 2-85, 2-167  |
| 929954-4    | 2-4        | 962876-5    | 2-6              | 2-962919-2  | 2-27 | 963059-1    | 2-130        |
| 929955-1    | 2-4        | 962876-6    | 2-6              | 962928-1    | 2-34 | 963062-1    | 2-120        |
| 929955-2    | 2-4        | 962879-1    | 2-16             | 962929-1    | 2-34 | 963063-1    | 2-83, 2-131  |
| 929955-3    | 2-4        | 962879-2    | 2-16             | 962930-1    | 2-34 | 963063-2    | 2-83         |
| 929955-4    | 2-4        | 962880-1    | 2-16             | 1-962930-6  | 2-34 | 963120-1    | 2-87         |
| 962071-1    | 2-167      | 962880-2    | 2-16             | 962931-1    | 2-34 | 963121-1    | 2-90, 2-95   |
| 962120-1    | 2-95       | 962880-3    | 2-16             | 1-962931-6  | 2-34 | 963122-1    | 2-93, 2-96   |
| 962189-1    | 2-86, 2-95 | 962881-1    | 2-16             | 962932-1    | 2-34 | 963205-1    | 2-172        |
| 962190-1    | 2-96       | 962881-2    | 2-16             | 1-962932-6  | 2-34 | 1-963207-1  | 2-125        |
|             |            | 962881-3    | 2-16             | 962933-1    | 2-34 | 4-963207-1  | 2-125        |

## Numerical Index

| Part Number | Page                       | Part Number | Page  | Part Number | Page | Part Number | Page |
|-------------|----------------------------|-------------|-------|-------------|------|-------------|------|
| 963208-1    | 2-171                      | 963599-1    | 2-146 | 1-963741-1  | 2-27 | 963767-2    | 2-35 |
| 963209-1    | 2-170                      | 963708-1    | 2-14  | 1-963741-2  | 2-27 | 963768-1    | 2-35 |
| 1-963211-1  | 2-172                      | 963708-3    | 2-14  | 2-963741-1  | 2-27 | 963768-2    | 2-35 |
| 2-963211-1  | 2-172                      | 963708-6    | 2-14  | 2-963741-2  | 2-27 | 963769-1    | 2-35 |
| 3-963211-1  | 2-172                      | 1-963708-1  | 2-14  | 1-963742-1  | 2-27 | 963769-2    | 2-35 |
| 4-963211-1  | 2-172                      | 2-963708-1  | 2-14  | 1-963742-2  | 2-27 | 963770-1    | 2-35 |
| 5-963211-1  | 2-172                      | 963709-1    | 2-24  | 2-963742-1  | 2-27 | 963770-2    | 2-35 |
| 963213-1    | 2-173                      | 963709-2    | 2-24  | 2-963742-2  | 2-27 | 963771-1    | 2-35 |
| 1-963215-1  | 2-174                      | 963709-3    | 2-24  | 1-963743-1  | 2-27 | 963771-2    | 2-35 |
| 2-963215-1  | 2-174                      | 963709-4    | 2-24  | 1-963743-2  | 2-27 | 963772-1    | 2-35 |
| 3-963215-1  | 2-174                      | 963709-5    | 2-24  | 2-963743-1  | 2-27 | 963772-2    | 2-35 |
| 4-963215-1  | 2-174                      | 963710-1    | 2-6   | 2-963743-2  | 2-27 | 963773-1    | 2-35 |
| 5-963215-1  | 2-174                      | 963710-2    | 2-6   | 1-963744-1  | 2-27 | 963773-2    | 2-35 |
| 963216-1    | 2-174                      | 963710-3    | 2-6   | 1-963744-2  | 2-27 | 963774-1    | 2-35 |
| 1-963217-1  | 2-127                      | 963710-5    | 2-6   | 2-963744-1  | 2-27 | 963774-2    | 2-35 |
| 2-963217-1  | 2-127                      | 963711-1    | 2-6   | 2-963744-2  | 2-27 | 963775-1    | 2-35 |
| 963225-1    | 2-176                      | 963711-2    | 2-6   | 1-963745-1  | 2-17 | 963775-2    | 2-35 |
| 963243-1    | 2-30                       | 963711-3    | 2-6   | 1-963745-2  | 2-17 | 963777-1    | 2-14 |
| 963244-1    | 2-30                       | 963711-5    | 2-6   | 1-963745-3  | 2-17 | 963777-3    | 2-14 |
| 963245-1    | 2-30                       | 963711-6    | 2-6   | 2-963745-1  | 2-17 | 963777-6    | 2-14 |
| 963292-1    | 2-21                       | 963714-1    | 2-24  | 2-963745-2  | 2-17 | 1-963777-1  | 2-14 |
| 963293-1    | 2-21                       | 963714-2    | 2-24  | 2-963745-3  | 2-17 | 2-963777-1  | 2-14 |
| 963294-1    | 2-21                       | 963714-3    | 2-24  | 1-963746-1  | 2-17 | 963810-1    | 2-16 |
| 963317-1    | 2-71, 2-72,<br>2-74, 2-129 | 963714-4    | 2-24  | 1-963746-2  | 2-17 | 963810-2    | 2-16 |
|             |                            | 963714-5    | 2-24  | 1-963746-3  | 2-17 | 963811-1    | 2-16 |
| 963318-1    | 2-51, 2-75,<br>2-76        | 1-963734-1  | 2-27  | 2-963746-1  | 2-17 | 963811-2    | 2-16 |
|             |                            | 1-963734-2  | 2-27  | 2-963746-2  | 2-17 | 963811-3    | 2-16 |
| 963325-1    | 2-71, 2-72,<br>2-74, 2-128 | 2-963734-1  | 2-27  | 2-963746-3  | 2-17 | 963812-1    | 2-16 |
|             |                            | 2-963734-2  | 2-27  | 1-963747-1  | 2-17 | 963812-2    | 2-16 |
| 963357-1    | 2-54                       | 1-963735-1  | 2-27  | 1-963747-2  | 2-17 | 963812-3    | 2-16 |
| 963357-2    | 2-54                       | 1-963735-2  | 2-27  | 1-963747-3  | 2-17 | 963813-1    | 2-16 |
| 963357-3    | 2-54                       | 2-963735-1  | 2-27  | 2-963747-1  | 2-17 | 963813-2    | 2-16 |
| 963357-4    | 2-54                       | 2-963735-2  | 2-27  | 2-963747-2  | 2-17 | 963814-1    | 2-16 |
| 963357-5    | 2-54                       | 1-963736-1  | 2-27  | 2-963747-3  | 2-17 | 963814-2    | 2-16 |
| 963357-6    | 2-54                       | 1-963736-2  | 2-27  | 1-963748-1  | 2-17 | 963815-1    | 2-16 |
| 1-963357-1  | 2-54                       | 2-963736-1  | 2-27  | 1-963748-2  | 2-17 | 963815-2    | 2-16 |
| 3-963358-1  | 2-146                      | 2-963736-2  | 2-27  | 1-963748-3  | 2-17 | 963816-1    | 2-26 |
| 963361-1    | 2-177                      | 1-963737-1  | 2-27  | 2-963748-1  | 2-17 | 963816-2    | 2-26 |
| 1-963484-1  | 2-177                      | 1-963737-2  | 2-27  | 2-963748-2  | 2-17 | 963817-1    | 2-26 |
| 963530-1    | 2-9                        | 2-963737-1  | 2-27  | 2-963748-3  | 2-17 | 963817-2    | 2-26 |
| 963531-1    | 2-9                        | 2-963737-2  | 2-27  | 1-963749-1  | 2-17 | 963818-1    | 2-26 |
| 963534-1    | 2-83, 2-84,<br>2-131       | 1-963738-1  | 2-27  | 1-963749-2  | 2-17 | 963818-2    | 2-26 |
|             |                            | 1-963738-2  | 2-27  | 1-963749-3  | 2-17 | 963819-1    | 2-26 |
| 963534-2    | 2-83, 2-84,<br>2-131       | 2-963738-1  | 2-27  | 2-963749-1  | 2-17 | 963819-2    | 2-26 |
|             |                            | 2-963738-2  | 2-27  | 2-963749-2  | 2-17 | 963820-1    | 2-26 |
| 963534-3    | 2-83, 2-84,<br>2-131       | 1-963739-1  | 2-27  | 2-963749-3  | 2-17 | 963820-2    | 2-26 |
|             |                            | 1-963739-2  | 2-27  | 963764-1    | 2-35 | 963821-1    | 2-26 |
| 1-963534-1  | 2-83, 2-84,<br>2-131       | 2-963739-1  | 2-27  | 963764-2    | 2-35 | 963821-2    | 2-26 |
|             |                            | 2-963739-2  | 2-27  | 963765-1    | 2-35 | 963823-1    | 2-26 |
| 963574-1    | 2-82                       | 1-963740-1  | 2-27  | 963765-2    | 2-35 | 963823-2    | 2-26 |
| 963578-1    | 2-79                       | 1-963740-2  | 2-27  | 963766-1    | 2-35 | 963824-1    | 2-26 |
| 963578-2    | 2-79                       | 2-963740-1  | 2-27  | 963766-2    | 2-35 | 963824-2    | 2-26 |
| 963598-1    | 2-147                      | 2-963740-2  | 2-27  | 963767-1    | 2-35 | 963825-1    | 2-26 |

## Numerical Index

| Part Number | Page | Part Number | Page | Part Number | Page | Part Number | Page |
|-------------|------|-------------|------|-------------|------|-------------|------|
| 963825-2    | 2-26 | 963959-1    | 2-29 | 964202-3    | 2-22 | 2-964279-1  | 2-15 |
| 1-963860-1  | 2-17 | 963959-2    | 2-29 | 964203-1    | 2-24 | 4-964279-1  | 2-15 |
| 1-963860-2  | 2-17 | 963960-1    | 2-29 | 964203-2    | 2-24 | 964280-1    | 2-15 |
| 1-963860-3  | 2-17 | 963960-2    | 2-29 | 964203-3    | 2-24 | 964280-2    | 2-15 |
| 2-963860-1  | 2-17 | 963961-1    | 2-19 | 964203-4    | 2-24 | 1-964280-1  | 2-15 |
| 2-963860-2  | 2-17 | 963961-2    | 2-19 | 964203-5    | 2-24 | 2-964280-1  | 2-15 |
| 2-963860-3  | 2-17 | 963961-3    | 2-19 | 964204-1    | 2-24 | 4-964280-1  | 2-15 |
| 1-963861-1  | 2-17 | 963961-4    | 2-19 | 964204-2    | 2-24 | 964281-1    | 2-15 |
| 1-963861-2  | 2-17 | 963961-5    | 2-19 | 964204-3    | 2-24 | 964281-2    | 2-15 |
| 1-963861-3  | 2-17 | 963962-1    | 2-19 | 964204-4    | 2-24 | 1-964281-1  | 2-15 |
| 2-963861-1  | 2-17 | 963962-2    | 2-19 | 964204-5    | 2-24 | 2-964281-1  | 2-15 |
| 2-963861-2  | 2-17 | 963962-3    | 2-19 | 964261-2    | 2-6  | 4-964281-1  | 2-15 |
| 2-963861-3  | 2-17 | 963962-4    | 2-19 | 964261-3    | 2-6  | 964282-1    | 2-15 |
| 963884-1    | 2-14 | 963962-5    | 2-19 | 4-964261-1  | 2-6  | 964282-2    | 2-15 |
| 963885-1    | 2-14 | 964052-1    | 2-24 | 964262-2    | 2-6  | 1-964282-1  | 2-15 |
| 963898-1    | 2-7  | 964052-2    | 2-24 | 964262-3    | 2-6  | 2-964282-1  | 2-15 |
| 963898-2    | 2-7  | 964052-5    | 2-24 | 4-964262-1  | 2-6  | 4-964282-1  | 2-15 |
| 963898-3    | 2-7  | 964131-1    | 2-19 | 964263-2    | 2-6  | 964283-1    | 2-15 |
| 963899-1    | 2-7  | 964131-2    | 2-19 | 964263-3    | 2-6  | 964283-2    | 2-15 |
| 963899-2    | 2-7  | 964131-3    | 2-19 | 4-964263-1  | 2-6  | 1-964283-1  | 2-15 |
| 963899-3    | 2-7  | 964131-4    | 2-19 | 964264-2    | 2-6  | 2-964283-1  | 2-15 |
| 963900-1    | 2-7  | 964132-1    | 2-19 | 964264-3    | 2-6  | 4-964283-1  | 2-15 |
| 963900-2    | 2-7  | 964132-2    | 2-19 | 4-964264-1  | 2-6  | 964284-1    | 2-15 |
| 963900-3    | 2-7  | 964132-3    | 2-19 | 964265-2    | 2-8  | 964284-2    | 2-15 |
| 963900-4    | 2-7  | 964132-4    | 2-19 | 964265-3    | 2-8  | 964284-6    | 2-15 |
| 963901-1    | 2-7  | 964132-5    | 2-19 | 964266-2    | 2-8  | 1-964284-1  | 2-15 |
| 963901-2    | 2-7  | 964133-1    | 2-19 | 964266-3    | 2-8  | 2-964284-1  | 2-15 |
| 963901-3    | 2-7  | 964133-2    | 2-19 | 964267-1    | 2-8  | 4-964284-1  | 2-15 |
| 963901-4    | 2-7  | 964133-3    | 2-19 | 964267-2    | 2-8  | 964285-1    | 2-15 |
| 963902-1    | 2-7  | 964133-4    | 2-19 | 964267-3    | 2-8  | 964285-2    | 2-15 |
| 963902-2    | 2-7  | 964140-1    | 2-19 | 964268-1    | 2-8  | 1-964285-1  | 2-15 |
| 963902-3    | 2-7  | 964140-2    | 2-19 | 964268-2    | 2-8  | 2-964285-1  | 2-15 |
| 963903-1    | 2-7  | 964140-3    | 2-19 | 964268-3    | 2-8  | 4-964285-1  | 2-15 |
| 963903-2    | 2-7  | 964140-4    | 2-19 | 964269-2    | 2-8  | 964286-1    | 2-15 |
| 963903-3    | 2-7  | 964141-1    | 2-19 | 964269-3    | 2-8  | 964286-2    | 2-15 |
| 963904-1    | 2-7  | 964141-2    | 2-19 | 964270-2    | 2-8  | 1-964286-1  | 2-15 |
| 963904-2    | 2-7  | 964141-3    | 2-19 | 964270-3    | 2-8  | 2-964286-1  | 2-15 |
| 963904-3    | 2-7  | 964141-4    | 2-19 | 964273-1    | 2-15 | 4-964286-1  | 2-15 |
| 963905-1    | 2-7  | 964141-5    | 2-19 | 964273-2    | 2-15 | 964287-1    | 2-15 |
| 963905-2    | 2-7  | 964142-1    | 2-19 | 1-964273-1  | 2-15 | 964287-2    | 2-15 |
| 963905-3    | 2-7  | 964142-2    | 2-19 | 2-964273-1  | 2-15 | 1-964287-1  | 2-15 |
| 963951-1    | 2-29 | 964142-3    | 2-19 | 4-964273-1  | 2-15 | 2-964287-1  | 2-15 |
| 963951-2    | 2-29 | 964142-4    | 2-19 | 964274-2    | 2-6  | 4-964287-1  | 2-15 |
| 963952-1    | 2-29 | 964150-1    | 2-6  | 964274-3    | 2-6  | 1-964291-3  | 2-18 |
| 963952-2    | 2-29 | 964150-2    | 2-6  | 964274-6    | 2-6  | 2-964291-1  | 2-18 |
| 963953-1    | 2-29 | 964151-1    | 2-6  | 4-964274-1  | 2-6  | 1-964292-3  | 2-18 |
| 963953-2    | 2-29 | 964151-2    | 2-6  | 964275-2    | 2-6  | 2-964292-1  | 2-18 |
| 963954-1    | 2-29 | 964201-1    | 2-22 | 964275-3    | 2-6  | 1-964293-3  | 2-18 |
| 963954-2    | 2-29 | 964201-2    | 2-22 | 964275-6    | 2-6  | 2-964293-1  | 2-18 |
| 963955-1    | 2-29 | 964201-3    | 2-22 | 4-964275-1  | 2-6  | 2-964293-2  | 2-18 |
| 963955-2    | 2-29 | 964201-4    | 2-22 | 964279-1    | 2-15 | 1-964294-3  | 2-18 |
| 963956-1    | 2-29 | 964202-1    | 2-22 | 964279-2    | 2-15 | 2-964294-1  | 2-18 |
| 963956-2    | 2-29 | 964202-2    | 2-22 | 1-964279-1  | 2-15 | 2-964294-2  | 2-18 |

## Numerical Index

| Part Number | Page | Part Number | Page         | Part Number | Page  | Part Number | Page  |
|-------------|------|-------------|--------------|-------------|-------|-------------|-------|
| 1-964295-3  | 2-18 | 964332-5    | 2-25         | 965974-7    | 2-19  | 1-967630-1  | 2-61  |
| 2-964295-1  | 2-18 | 1-964332-1  | 2-25         | 965975-1    | 2-19  | 967631-1    | 2-57  |
| 2-964295-2  | 2-18 | 1-964332-2  | 2-25         | 965975-2    | 2-19  | 967632-1    | 2-58  |
| 1-964296-3  | 2-18 | 1-964332-5  | 2-25         | 965975-3    | 2-19  | 967633-1    | 2-59  |
| 2-964296-1  | 2-18 | 1-964333-1  | 2-25         | 965975-4    | 2-19  | 967634-1    | 2-60  |
| 2-964296-2  | 2-18 | 1-964334-1  | 2-25         | 965975-5    | 2-19  | 967635-1    | 2-61  |
| 1-964297-3  | 2-18 | 1-964334-5  | 2-25         | 1-965982-1  | 2-17  | 967652-1    | 2-31  |
| 2-964297-1  | 2-18 | 964346-1    | 2-15         | 1-965982-3  | 2-17  | 968015-1    | 2-6   |
| 1-964298-3  | 2-18 | 964346-2    | 2-15         | 1-965983-1  | 2-17  | 968015-2    | 2-6   |
| 2-964298-1  | 2-18 | 1-964346-1  | 2-15         | 1-965983-3  | 2-17  | 968015-6    | 2-6   |
| 1-964299-3  | 2-18 | 2-964346-1  | 2-15         | 1-965984-1  | 2-27  | 968016-1    | 2-6   |
| 2-964299-1  | 2-18 | 4-964346-1  | 2-15         | 2-965984-1  | 2-27  | 968016-2    | 2-6   |
| 4-964299-1  | 2-18 | 964348-2    | 2-6          | 1-965985-1  | 2-27  | 968016-6    | 2-6   |
| 1-964300-3  | 2-18 | 964349-2    | 2-6          | 2-965985-1  | 2-27  | 968035-2    | 2-25  |
| 2-964300-1  | 2-18 | 964408-1    | 2-88, 2-95   | 965999-1    | 2-15  | 2-968035-4  | 2-25  |
| 4-964300-1  | 2-18 | 964409-1    | 2-91, 2-95   | 965999-2    | 2-15  | 968036-2    | 2-25  |
| 1-964301-3  | 2-18 | 964410-1    | 2-94, 2-96   | 965999-6    | 2-15  | 2-968036-4  | 2-25  |
| 2-964301-1  | 2-18 | 1-964449-1  | 2-174        | 1-965999-1  | 2-15  | 968037-2    | 2-25  |
| 1-964302-3  | 2-18 | 964738-1    | 2-175        | 2-965999-1  | 2-15  | 1-968037-4  | 2-25  |
| 2-964302-1  | 2-18 | 964769-1    | 2-175        | 4-965999-1  | 2-15  | 2-968037-4  | 2-25  |
| 964303-1    | 2-28 | 964971-1    | 2-9          | 966140-1    | 2-60  | 968038-2    | 2-25  |
| 964304-1    | 2-28 | 964972-1    | 2-9          | 966140-2    | 2-59  | 1-968038-4  | 2-25  |
| 964305-1    | 2-28 | 965052-1    | 2-146, 2-147 | 966140-3    | 2-58  | 2-968038-4  | 2-25  |
| 964305-3    | 2-28 | 1-965261-1  | 2-171        | 966140-4    | 2-57  | 968045-1    | 2-6   |
| 964306-1    | 2-28 | 2-965261-1  | 2-171        | 966140-5    | 2-56  | 968045-2    | 2-6   |
| 964306-3    | 2-28 | 3-965261-1  | 2-171        | 966140-6    | 2-61  | 968045-6    | 2-6   |
| 964307-1    | 2-28 | 1-965421-1  | 2-170        | 1-967059-1  | 2-171 | 968046-1    | 2-6   |
| 964308-1    | 2-28 | 2-965421-1  | 2-170        | 2-967059-1  | 2-171 | 968046-2    | 2-6   |
| 964309-1    | 2-28 | 1-965423-1  | 2-173        | 3-967059-1  | 2-171 | 968046-6    | 2-6   |
| 964310-1    | 2-28 | 1-965426-1  | 2-172        | 967228-1    | 2-34  | 1-968050-1  | 2-27  |
| 964311-1    | 2-28 | 1-965640-1  | 2-56         | 2-967228-1  | 2-34  | 2-968050-1  | 2-27  |
| 964312-1    | 2-28 | 1-965641-1  | 2-56         | 967229-1    | 2-34  | 1-968051-1  | 2-27  |
| 964313-1    | 2-28 | 965889-1    | 2-29         | 1-967239-1  | 2-170 | 2-968051-1  | 2-27  |
| 964314-1    | 2-28 | 965889-2    | 2-29         | 2-967239-1  | 2-170 | 968052-1    | 2-6   |
| 964321-1    | 2-25 | 965890-1    | 2-29         | 3-967239-1  | 2-170 | 968053-1    | 2-6   |
| 964322-1    | 2-25 | 965890-2    | 2-29         | 1-967240-1  | 2-173 | 968271-1    | 2-56  |
| 964323-1    | 2-25 | 965899-1    | 2-14         | 1-967241-1  | 2-172 | 968424-1    | 2-63  |
| 964324-1    | 2-25 | 965900-1    | 2-14         | 5-967241-1  | 2-172 | 968424-2    | 2-63  |
| 964325-1    | 2-25 | 965901-1    | 2-14         | 1-967242-1  | 2-174 | 968424-3    | 2-63  |
| 964325-5    | 2-25 | 965902-1    | 2-14         | 967259-1    | 2-14  | 1-968879-1  | 2-177 |
| 964326-1    | 2-25 | 965914-1    | 2-6          | 967260-1    | 2-14  | 1-968946-1  | 2-17  |
| 964326-5    | 2-25 | 965914-2    | 2-6          | 1-967280-1  | 2-176 | 1-968946-2  | 2-17  |
| 964327-1    | 2-25 | 965915-1    | 2-6          | 1-967281-1  | 2-176 | 2-968946-1  | 2-17  |
| 964327-5    | 2-25 | 965915-2    | 2-6          | 1-967601-1  | 2-173 | 2-968946-2  | 2-17  |
| 964328-1    | 2-25 | 965918-1    | 2-34         | 1-967621-1  | 2-57  | 3-968946-1  | 2-17  |
| 964328-5    | 2-25 | 2-965918-1  | 2-34         | 1-967622-1  | 2-58  | 1-968947-1  | 2-17  |
| 1-964329-1  | 2-25 | 965921-1    | 2-34         | 1-967623-1  | 2-59  | 1-968947-2  | 2-17  |
| 1-964329-2  | 2-25 | 965974-1    | 2-19         | 1-967624-1  | 2-60  | 2-968947-1  | 2-17  |
| 1-964330-1  | 2-25 | 965974-2    | 2-19         | 1-967625-1  | 2-61  | 2-968947-2  | 2-17  |
| 1-964330-2  | 2-25 | 965974-3    | 2-19         | 1-967626-1  | 2-57  | 3-968947-1  | 2-17  |
| 964331-5    | 2-25 | 965974-4    | 2-19         | 1-967627-1  | 2-58  | 1-968965-1  | 2-17  |
| 1-964331-1  | 2-25 | 965974-5    | 2-19         | 1-967628-1  | 2-59  | 1-968965-2  | 2-17  |
| 1-964331-2  | 2-25 | 965974-6    | 2-19         | 1-967629-1  | 2-60  | 2-968965-1  | 2-17  |

## Numerical Index

| Part Number | Page         | Part Number | Page | Part Number | Page         | Part Number | Page        |
|-------------|--------------|-------------|------|-------------|--------------|-------------|-------------|
| 2-968965-2  | 2-17         | 1241818-5   | 2-24 | 4-1241867-1 | 2-15         | 1-1579007-4 | 2-11, 2-19, |
| 3-968965-1  | 2-17         | 1241819-1   | 2-24 | 1241868-1   | 2-15         |             | 2-22, 2-29  |
| 1-968966-1  | 2-17         | 1241819-5   | 2-24 | 4-1241868-1 | 2-15         | 1-1579007-6 | 2-13, 2-17, |
| 1-968966-2  | 2-17         | 1241823-1   | 2-22 | 1241869-1   | 2-15         |             | 2-18, 2-23, |
| 2-968966-1  | 2-17         | 1241823-2   | 2-22 | 4-1241869-1 | 2-15         |             | 2-27, 2-28  |
| 2-968966-2  | 2-17         | 1241823-3   | 2-22 | 1241870-1   | 2-15         | 1-1579007-7 | 2-33, 2-35  |
| 3-968966-1  | 2-17         | 1241824-1   | 2-22 | 4-1241870-1 | 2-15         | 2-1579007-5 | 2-16, 2-26  |
| 969005-2    | 2-6          | 1241824-2   | 2-22 | 1241871-1   | 2-15         | 5-1579007-5 | 2-4         |
| 969005-3    | 2-6          | 1241824-3   | 2-22 | 4-1241871-1 | 2-15         | 2-1579021-9 | 2-24        |
| 969005-6    | 2-6          | 1241824-4   | 2-22 | 1241872-1   | 2-15         | 1-1670426-6 | 2-25        |
| 4-969005-1  | 2-6          | 1241826-1   | 2-24 | 4-1241872-1 | 2-15         | 1-1670427-6 | 2-25        |
| 969007-1    | 2-28         | 1241826-2   | 2-24 | 1241873-1   | 2-15         | 1-1703008-6 | 2-34        |
| 969008-1    | 2-28         | 1241826-3   | 2-24 | 4-1241873-1 | 2-15         | 1-1703011-6 | 2-34        |
| 969019-2    | 2-6          | 1241826-4   | 2-24 | 1241962-1   | 2-24         | 1703278-2   | 2-8         |
| 969019-3    | 2-6          | 1241826-5   | 2-24 | 1241963-1   | 2-24         | 1703279-2   | 2-8         |
| 969019-6    | 2-6          | 1241827-1   | 2-24 | 1241977-2   | 2-15         | 1703414-1   | 2-6         |
| 4-969019-1  | 2-6          | 1241827-2   | 2-24 | 1241978-2   | 2-15         | 1703415-1   | 2-6         |
| 969022-1    | 2-6          | 1241827-3   | 2-24 | 1355307-1   | 2-36         | 1718705-1   | 2-9         |
| 969023-1    | 2-6          | 1241827-4   | 2-24 | 1355437-1   | 2-36         | 1718878-1   | 2-133       |
| 969028-2    | 2-8          | 1241827-5   | 2-24 | 1355437-2   | 2-36         | 1718879-1   | 2-133       |
| 969028-3    | 2-8          | 1241834-2   | 2-24 | 1355437-3   | 2-36         | 1719043-1   | 2-31        |
| 969029-2    | 2-8          | 1241835-2   | 2-24 | 1355437-4   | 2-36         | 1-1719503-1 | 2-17        |
| 969029-3    | 2-8          | 1241844-2   | 2-6  | 6-1355678-1 | 2-116        | 1-1719503-2 | 2-17        |
| 969036-4    | 2-22         | 1241844-3   | 2-6  | 6-1355683-1 | 2-117        | 1-1719504-1 | 2-17        |
| 969040-1    | 2-25         | 1241845-2   | 2-6  | 6-1355688-1 | 2-118        | 1-1719504-2 | 2-17        |
| 969041-1    | 2-25         | 1241845-3   | 2-6  | 1355709-1   | 2-114        | 1-1719951-6 | 2-34        |
| 969042-1    | 2-25         | 1241846-1   | 2-8  | 1355711-1   | 2-111        | 1-1719952-6 | 2-34        |
| 969043-1    | 2-25         | 1241846-2   | 2-8  | 1355883-1   | 2-110, 2-113 | 1823562-1   | 2-22        |
| 969044-1    | 2-25         | 1241846-3   | 2-8  | 1394132-1   | 2-9          | 1823562-2   | 2-22        |
| 969044-5    | 2-25         | 1241847-1   | 2-8  | 1394133-1   | 2-9          | 2031991-1   | 2-14, 2-15  |
| 1-969044-5  | 2-25         | 1241847-2   | 2-8  | 1394511-1   | 2-31         | 2063195-1   | 2-14        |
| 969045-1    | 2-25         | 1241847-3   | 2-8  | 1394512-1   | 2-31         | 2063265-1   | 2-6, 2-7    |
| 969045-5    | 2-25         | 1241858-2   | 2-6  | 1452142-1   | 2-39, 2-41   | 2063375-1   | 2-12        |
| 1-969045-5  | 2-25         | 4-1241858-1 | 2-6  | 1452142-2   | 2-39, 2-41   | 2063409-1   | 2-6, 2-8    |
| 969079-2    | 2-8          | 1241859-2   | 2-6  | 1452324-1   | 2-126        | 2063435-1   | 2-15, 2-18  |
| 969079-3    | 2-8          | 4-1241859-1 | 2-6  | 1452324-2   | 2-126        | 2063490-1   | 2-17        |
| 969080-2    | 2-8          | 1241860-2   | 2-6  | 1452327-1   | 2-126        | 2063522-1   | 2-24        |
| 969080-3    | 2-8          | 1241860-7   | 2-6  | 1452327-2   | 2-126        | 2063527-1   | 2-19        |
| 969137-1    | 2-14         | 4-1241860-1 | 2-6  | 1452545-1   | 2-108, 2-112 | 2063533-1   | 2-15, 2-18  |
| 969138-1    | 2-14         | 1241861-2   | 2-6  | 1452546-1   | 2-108, 2-112 | 2063536-1   | 2-25, 2-28  |
| 1241174-5   | 2-24         | 1241861-7   | 2-6  | 1452643-1   | 2-109        | 2063538-1   | 2-4         |
| 1241175-5   | 2-24         | 4-1241861-1 | 2-6  | 1452644-1   | 2-109        | 2063560-1   | 2-25, 2-28  |
| 1241730-2   | 2-6          | 1241862-1   | 2-15 | 1452679-1   | 2-115        | 2063564-1   | 2-24        |
| 4-1241730-1 | 2-6          | 4-1241862-1 | 2-15 | 1452680-1   | 2-115        | 2063569-1   | 2-12, 2-14, |
| 1241731-2   | 2-6          | 1241863-1   | 2-15 | 1452764-1   | 2-111, 2-114 |             | 2-19        |
| 4-1241731-1 | 2-6          | 4-1241863-1 | 2-15 | 1452765-1   | 2-111, 2-114 | 2063645-1   | 2-12        |
| 1241732-2   | 2-6          | 1241864-1   | 2-15 | 1563189-1   | 2-38         | 2-2112965-2 | 2-27        |
| 4-1241732-1 | 2-6          | 4-1241864-1 | 2-15 | 1563189-3   | 2-38, 2-40   | 2-2112966-2 | 2-27        |
| 1241733-2   | 2-6          | 1241865-1   | 2-15 | 1563190-1   | 2-38         |             |             |
| 4-1241733-1 | 2-6          | 4-1241865-1 | 2-15 | 1563255-1   | 2-62, 2-64   |             |             |
| 1241747-1   | 2-110        | 1241866-1   | 2-15 | 1564744-1   | 2-62, 2-64   |             |             |
| 1241748-1   | 2-110, 2-113 | 4-1241866-1 | 2-15 | 1579001-2   | 2-19         |             |             |
| 1241818-1   | 2-24         | 1241867-1   | 2-15 |             |              |             |             |

---

## Disclaimer and Trademarks

---

### Disclaimer

While TE Connectivity (TE) has made every reasonable effort to ensure the accuracy of the information in this catalog, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.

[www.te.com](http://www.te.com)  
[www.te.com/automotive](http://www.te.com/automotive)  
[www.te.com/automotive/sensors](http://www.te.com/automotive/sensors)  
[www.te.com/automotive/most](http://www.te.com/automotive/most)

ACTION PIN, AMP 3K/40 and AMP 5K/40, AMP, AMP DUOPLUG, AMPLIVAR, AMP MCP, AMPMODU, AMP MONO-SHAPE, CERTI-CRIMP, ERGOCRIMP, MAG-MATE, MQS, NETCONNECT, PRO-CRIMPER, SIAMEZE, TE (logo), TE Connectivity and TE connectivity (logo) are trademarks.

iButton is a trademark of Maxim Integrated Products, Inc.  
MOST is a trademark of SMSC Europe GmbH and licensed to Tyco Electronics AMP GmbH.  
Teflon is a trademark of E.I. DuPont de Nemours and Co.  
TopWin is a trademark of Komax AG.

Other product names, logos, and company names mentioned herein may be trademarks of their respective owners.

## Americas

**Argentina** – Buenos Aires  
Phone: +54-11-4733-2202  
Fax: +54-11-4733-2250

**Brasil** – São Paulo  
Phone: +55-11-2103-6105  
Fax: +55-11-2103-6204

**Chile** – Santiago  
Phone: +56-2-345-0300  
Fax: +56-2-223-1477

**Canada** – Toronto  
Phone: +1-905-475-6222  
Fax: +1-905-474-5520  
**Product Information Center:**  
Phone: +1-905-470-4425  
Fax: +1-905-474-5525

**Colombia** – Bogotá  
(Venezuela/Ecuador)  
Phone: +57-1-319-8999  
Fax: +57-1-319-8989

**Mexico** – Mexico City  
Phone: +52-55-1106-0800  
+01-800-733-8926  
Fax: +52-55-1106-0910

**For Latin/South American Countries not shown**  
Phone: +54-11-4733-2015  
Fax: +54-11-4733-2083

**United States**  
Harrisburg, PA  
Phone: +1-717-564-0100  
Fax: +1-717-986-7575  
**Product Information Center:**  
Phone: +1-800-522-6752  
Fax: +1-717-986-7575

## Asia/Pacific

**Australia** – Sydney  
Phone: +61-2-9554-2600  
Fax: +61-2-9502-2556  
**Product Information Center:**  
Phone: +61-2-9840-8200  
Fax: +61-2-9634-6188

**Indonesia** – Jakarta  
Phone: +65-6482-0311  
Fax: +65-6482-1012

**Japan** – Kawasaki, Kanagawa  
Phone: +81-44-844-8111  
Fax: +81-44-812-3207

**Korea** – Seoul  
Phone: +82-2-3415-4500  
Fax: +82-2-3486-3810

**Malaysia** – Kuala Lumpur  
Phone: +60-3-7805-3055  
Fax: +60-3-7805-3066

**New Zealand** – Auckland  
Phone: +64-9-634-4580  
Fax: +64-9-634-4586

**Philippines** – Makati City  
Phone: +632-848-0171  
Fax: +632-867-8661

**People's Republic of China**  
Hong Kong  
Phone: +370-5-213-1402  
Fax: +852-2735-0243

Shanghai  
Phone: +86-21-2407-1588  
Fax: +86-21-2407-1599

**Singapore** – Singapore  
Phone: +65-6482-0311  
Fax: +65-6482-1012

**Taiwan** – Taipei  
Phone: +886-2-8768-2788  
Fax: +886-2-8768-2268

**Thailand** – Bangkok  
Phone: +66-2-955-0500  
Fax: +66-2-955-0505

**Vietnam** – Ho Chi Minh City  
Phone: +84-8-930-5546  
Fax: +84-8-930-3443

## Europe/Middle East/Africa

**Austria** – Vienna  
Phone: +43-1-905-60-0  
Fax: +43-1-905-60-1333  
**Product Information Center:**  
Phone: +43-1-905-60-1228  
Fax: +43-1-905-60-1333

**Belarus** – Minsk  
Phone: +375-17-237-47-94  
Fax: +375-17-237-47-94  
**Product Information Center:**  
Phone: +7-495-790-7902  
Fax: +7-495-721-1893

**Belgium** – Kessel-Lo  
Phone: +31-73-6246-246  
Fax: +31-73-6212-365  
**Product Information Center:**  
Phone: +31-73-6246-999  
Fax: +31-73-6246-998

**Bulgaria** – Sofia  
Phone: +359-2-971-2152  
Fax: +359-2-971-2153

**Czech Republic and Slovakia**  
**Czech Republic** – Kurim  
Phone: +420-541-162-108  
Fax: +420-541-162-104  
**Product Information Center:**  
Phone: +420-541-162-113  
Fax: +420-541-162-104

**Denmark** – Glostrup  
Phone: +45-43-48-04-00  
Fax: +46-8-50-72-50-01  
**Product Information Center:**  
Phone: +46-8-50-72-50-20  
Fax: +46-8-50-72-52-20

**Egypt** – Cairo  
Phone: +20-2417-7647  
Fax: +20-2419-2334

**Estonia** – Tartu  
Phone: +372-5138-274  
Fax: +372-7400-779

**Finland** – Helsinki  
Phone: +358-95-12-34-20  
Fax: +46-8-50-72-50-01  
**Product Information Center:**  
Phone: +46-8-50-72-50-20  
Fax: +46-8-50-72-52-20

**France** – Cergy-Pontoise Cedex  
Phone: +33-1-3420-8888  
Fax: +33-1-3420-8800  
**Product Information Center:**  
Phone: +33-1-3420-8686  
Fax: +33-1-3420-8623

**France Export Divisions** –  
Cergy-Pontoise Cedex  
Phone: +33-1-3420-8866  
Fax: +33-1-3420-8300

**Germany** – Bensheim  
Phone: +49-6251-133-0  
Fax: +49-6251-133-1600  
**Product Information Center:**  
Phone: +49-6251-133-1999  
Fax: +49-6251-133-1988

**Greece** – Athens  
Phone: +30-210-9370-396/397  
Fax: +30-210-9370-655

**Hungary** – Budapest  
Phone: +36-1-289-1000  
Fax: +36-1-289-1010  
**Product Information Center:**  
Phone: +36-1-289-1016  
Fax: +36-1-289-1017

**India** – Bangalore  
Phone: +91-80-2854-0800  
Fax: +91-80-2854-0814

**Italy** – Collegno (Torino)  
Phone: +39-011-4012-111  
Fax: +39-011-4031-116  
**Product Information Center:**  
Phone: +39-011-4012-632  
Fax: +39-011-4028-7632

**Lithuania and Latvia**  
**Lithuania** – Vilnius  
Phone: +370-5-213-1402  
Fax: +370-5-213-1403

**Netherlands** – 's-Hertogenbosch  
Phone: +31-73-6246-246  
Fax: +31-73-6212-365  
**Product Information Center:**  
Phone: +31-73-6246-999  
Fax: +31-73-6246-998

**Norway** – Nesbru  
Phone: +47-66-77-88-50  
Fax: +46-8-50-72-50-01  
**Product Information Center:**  
Phone: +46-8-50-72-50-20  
Fax: +46-8-50-72-52-20

**Poland** – Warsaw  
Phone: +48-22-4576-700  
Fax: +48-22-4576-720  
**Product Information Center:**  
Phone: +48-22-4576-704  
Fax: +48-22-4576-720

**Romania** – Bucharest  
Phone: +40-21-311-3479/3596  
Fax: +40-21-312-0574

**Russia** – Moscow  
Phone: +7-495-790-7902  
Fax: +7-495-721-1893  
**Product Information Center:**  
Phone: +7-495-790-7902  
Fax: +7-495-721-1893

**Russia** – Yekaterinburg  
Phone: +7-343-2531-153  
Fax: +7-343-2531-152

**Russia** – Nizhniy Novgorod  
Phone: +7-831-220-33-05/-06  
Fax: +7-831-220-33-39/-40

**Slovenia** – Ljubljana  
Phone: +386-1561-3270  
Fax: +386-1561-3240

**South Africa** – Port Elizabeth  
Phone: +27-41-503-4500  
Fax: +27-41-581-0440

**Spain** – Barcelona  
Phone: +34-93-291-0330  
Fax: +34-93-201-7879  
**Product Information Center:**  
Phone: +34-93-291-0366  
Fax: +34-93-209-1030

**Sweden** – Upplands Väsby  
(Switchboard)  
Phone: +46-8-50-72-50-00  
Fax: +46-8-50-72-50-01  
**Product Information Center:**  
Phone: +46-8-50-72-50-20  
Fax: +46-8-50-72-52-20

**Switzerland** – Steinach  
Phone: +41-71-447-0447  
Fax: +41-71-447-0444  
**Product Information Center:**  
Phone: +41-71-447-0447  
Fax: +41-71-447-0400

**Turkey** – Istanbul  
Phone: +90-212-281-8181/2/3  
+90-212-282-5130/5430  
Fax: +90-212-281-8184

**Ukraine** – Kiev  
Phone: +380-44-206-2265  
Fax: +380-44-206-2264  
**Product Information Center:**  
Phone: +380-44-206-2265  
Fax: +380-44-206-2264

**United Kingdom and Ireland** – Swindon  
Phone: +44-8706-080208  
Fax: +44-208-954-6234  
**Product Information Center:**  
Phone: +44-800-267-666  
Fax: +44-208-420-8095





**Tyco Electronics AMP GmbH**  
**a TE Connectivity Ltd. company**  
AMPèrestr. 12-14  
64625 Bensheim / Germany  
Phone: +49-(0)6251-133-0  
Fax: +49-(0)6251-133-1600

[www.te.com](http://www.te.com)  
[www.te.com/automotive](http://www.te.com/automotive)  
[www.te.com/automotive/sensors](http://www.te.com/automotive/sensors)  
[www.te.com/automotive/most.com](http://www.te.com/automotive/most.com)  
TE Connectivity and TE connectivity (logo)  
are trademarks.

Tyco Electronics AMP GmbH certified  
acc. ISO 14001 and ISO/TS 16949:2002

© 2011 Tyco Electronics AMP GmbH  
889759-3 Revised 7-2011 4M ST



**AUTOMOTIVE**



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[1-967242-1](#)