

Stackable connection system provides single and multi-pocket PCB solutions, offering a diverse range of circuit sizes and greatly reducing time-to-market by completely eliminating custom tooling; new female connectors feature the only finger-actuated design in the industry

To address the growing electronic device requirements within today's vehicles, Molex has developed a modular 0.64, 1.50 and 2.80mm (.025, .059 and .110") terminal header system. The Stac64 connection system allows OEM and device manufacturers greater design flexibility to support both low-level signal requirements as well as power applications upwards of 30.0A. The Stac64™ system allows automotive manufacturers to use header assemblies as stand-alone components, to gang multiple headers together to support a large range of signal and power needs for devices and modules.

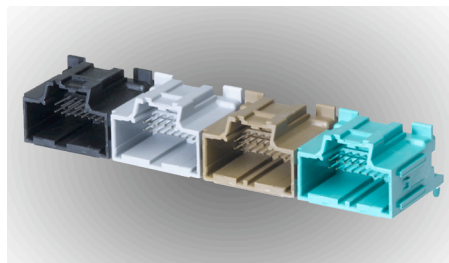
The standard product line based on the 0.64mm (.025") pitch terminal includes: 8-, 12-, 16- and 20-circuit connectors in both vertical and right-angle headers supporting low-level signal requirements. An additional 10-circuit 'power pocket' version, supporting power applications for 1.50 and 2.80mm (.059 and .110") pitch terminal systems, is available in vertical and right-angle configurations.

This Stac64 is a standard product system based on USCAR-2 Class II mechanical and electrical performance characteristics for unsealed connector applications. The connectors mate to existing wire-harness connectors designed to the USCAR/ EWCAP industry footprints.

The Stac64 standard product offering is currently tooled at high cavitation and is fully validated at the single-pocket level. This greatly reduces time-to-market by completely eliminating the need for additional tooling. For additional information visit: <http://www.molex.com/link/stac64.html>.

FEATURES AND BENEFITS

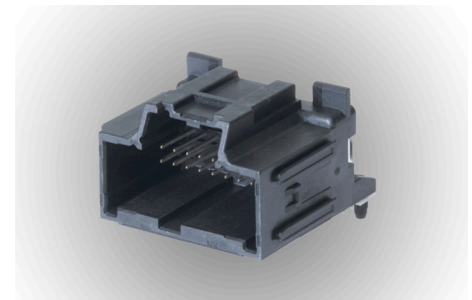
- Stackable connection system of readily available PCB headers ensure reduced time-to-market: engineering and validation times reduced significantly; no tooling necessary to produce custom multi-bay headers
- The header and female receptacle housings are molded in standard USCAR color schemes for visual polarization and to aid in connection system assembly
- Pre-assembled, linear Mylar PC tail alignment strip for right-angle headers reduces PCB packaging complexity and provides space savings
- Modular-housing design with standard dovetail features molded into the housings allows headers to be ganged together in large assemblies to meet growing terminal quantity requirements
- PCB alignment posts ensure all terminals are properly aligned into PCB through-holes during assembly and retain header to PCB during assembly and solder processing
- PCB stand-offs molded into housings provide an additional trace-routing area under the headers
- High-temperature thermoplastic housings withstand infra red (IR) and wave lead-free solder processing per ES-40000-5013 Molex specification, maximum temperature +260°C
- Female receptacle TPA release latches greatly reduce the possibility of seating TPA's during transit and handling plus they require no tools for service
- Pre-assembled TPA-to-receptacle housing shipped as single assembly provide applied assembly labor and cost savings



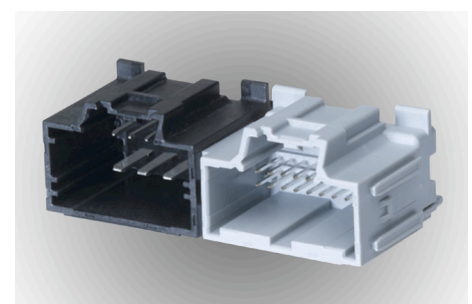
80-Circuit Right-Angle Ganged Header

Stac64™ Connection System 2.54mm (.100") Pitch

- 34690 Single-Bay Vertical Headers
- 34691 Single-Bay Right-Angle Headers
- 34695 Single-Bay Hybrid Vertical Headers
- 34696 Single-Bay Hybrid Right-Angle Headers
- 34707 Ganged Multi-Bay Vertical Headers
- 34708 Ganged Multi-Bay Right-Angle Headers
- 34729 8- to 20-Circuit Receptacle Connectors
- 31372 10-Circuit Hybrid Receptacle Assembly
- 34803 CTX64 Female Receptacle Terminals
- 33012 MX150 Female Receptacle Terminals



20-Circuit Right-Angle Single-Bay Header – Polarization A



30-Circuit Ganged Vertical Header – With Power-Pocket Option

Reference Information

Packaging:

Female Receptacle Connectors –
Bulk Pack

Male Vertical Headers – Tray or Tube
Terminals – Reel

Mates With:

Series 34729 and 31372 female
connectors mate to Series 34690,
34691, 34695, 34696 male
unsealed headers

Use With Terminals:

0.64mm (.025") female –
Molex CTX64 series 34803
1.50mm (.059") female –
Molex Series 33012
2.80mm (.110") female –
Tyco and Yazaki

Tooling: Tyco Electronics

(www.tycoelectronics.com)

Designed in: Millimeters

Electrical

Voltage (max.): 500V

Current (max.):

2.80mm (.110") – 30.0A
1.50mm (.059") – 20.0A
0.64mm (.025") – 10.0A

Contact Resistance:

2.80mm (.110") – 5 milliohms max.
1.50mm (.059") – 10 milliohms max.
0.64mm (.025") – 20 milliohms max.

Dielectric Withstanding Voltage:

500V DC

Isolation Resistance: 20 Megohms min.

Mechanical / Electrical

Mating Force: Less than 60N (13.5 lbf)

Unmating Force: Less than 60N (13.5 lbf)

Connector Retention (Primary latch):

110N (24.7 lbf) min.

Contact Retention to Housing:

2.80mm (.110") – 90N (20.2 lbf) min.
w/TPA, 60N (13.5 lbf) w/o TPA
1.50mm (.059") – 85N (19.1 lbf) min.
w/TPA, 45N (10.1 lbf) w/o TPA
0.64mm (.025") – 75N (16.9 lbf) min.
w/TPA, 30N (6.7 lbf) w/o TPA

Contact Insertion Force Into Housing:

30N (6.7 lbf) max.

Connector Audible Feedback:

7dB over ambient

Polarization Feature Effectiveness:

20-Circuit: 90N (20.2 lbf) min.
All other circuit sizes 220N
(49.5 lbf) min.

Durability: 10 milliohms max. – 10 cycles

TPA Insertion Force: 60N (13.5 lbf) max.

TPA Extraction Force: 60N (13.5 lbf) max.

Header Pin retention Force:

2.80mm (.110") – 70N (15.7 lbf) min.
1.50mm (.059") – 70N (15.7 lbf) min.
0.64mm (.025") – 15N (3.4 lbf) min.

Thermal Shock (Class 2, 100 cycles):

2.80mm (.110") – 5 milliohms max.
1.50mm (.059") – 10 milliohms max.
0.64mm (.025") – 20 milliohms max.

Vibration / Mechanical Shock (electrical):

2.80mm (.110") – 5 milliohms max.
1.50mm (.059") – 10 milliohms max.
0.64mm (.025") – 20 milliohms max.

Temperature / Humidity (electrical):

2.80mm (.110") – 5 milliohms max.
1.50mm (.059") – 10 milliohms max.
0.64mm (.025") – 20 milliohms max.

High Temperature Exposure (electrical):

2.80mm (.110") – 5 milliohms max.
1.50mm (.059") – 10 milliohms max.
0.64mm (.025") – 20 milliohms max.

Physical

Harness Housings:

30% glass filled SPS/nylon blend

TPA's: 15% glass filled polyester

Header Housings: 30% glass filled SPS

Contact:

2.80mm (.110") blades –
C19400 Copper (Cu) Alloy
1.50mm (.059") blades –
C19400 Copper (Cu) Alloy
0.64mm (.025") pins –
C26000 Copper (Cu) Alloy

Plating:

0.64mm (.110") signal pins:
Overplating – Tin (Sn)
Underplating – Nickel (Ni)
1.50mm (.059") blades:
Overplating – Tin (Sn)
Underplating – Nickel (Ni)
1.50mm (.059") receptacle terminals:
Overplating – Tin (Sn)
Underplating – Nickel (Ni)
2.80mm (.110") blades:
Overplating – Tin (Sn)
Underplating – Nickel (Ni)

Operating Temperature: -40 to +100°C

**Stac64™ Connection
System 2.54mm (.100")
Pitch**

34690 Single-Bay
Vertical Headers

34691 Single-Bay Right-Angle
Headers

34695 Single-Bay Hybrid
Vertical Headers

34696 Single-Bay Hybrid
Right-Angle Headers

34707 Ganged Multi-Bay
Vertical Headers

34708 Ganged Multi-Bay
Right-Angle Headers

34729 8- to 20-Circuit
Receptacle Connectors

31372 10-Circuit Hybrid
Receptacle Assembly

34803 CTX64 Female
Receptacle Terminals

33012 MX150 Female
Receptacle Terminals

APPLICATIONS

- Automotive Vehicles
 - Radios / DVD - Entertainment
 - Interior Lighting and Navigation
 - Instrument Panel Clusters
 - Power Seat Modules
 - Door Zone Modules
- Non-Automotive Transportation
 - Interior Electronic Modules
 - Body Electronic Modules
- Potential Customers
 - All Automotive OEM's
 - Automotive Device Tiers



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ORDERING INFORMATION

Single-Bay Headers

Order No.	Circuit Size	Orientation	Packaging	Assembly Features	Headers	
34690-008*	8	Vertical	Tray	Housing and pins assembly	Signal	
34690-012*	12					
34690-016*	16					
34690-020*	20					
34691-008*	8	Right Angle		Tray	Housing, pins and Mylar assembly	Signal
34691-012*	12					
34691-016*	16					
34691-020*	20					
34695-010*	10	Vertical	Tray		Housing and blades assembly	Power
34696-010*	10	Right Angle			Housing, blades and Mylar assembly	
34690-908*	8	Vertical	Tube		Housing and pins assembly	Signal
34690-912*	12					
34690-916*	16					
34690-920*	20					
34691-908*	8	Right Angle		Tube	Housing, pins and Mylar assembly	Signal
34691-912*	12					
34691-916*	16					
34691-920*	20					
34695-910*	10	Vertical	Tube		Housing and blades assembly	Power
34696-910*	10	Right Angle			Housing, blades and Mylar assembly	

*Multiple color and polarization options available; search Molex website on series number to view complete order numbers.

ORDERING INFORMATION

Ganged Multi-Bay Headers

Order No.	Number of Bays	Orientation	Assembly Features
34707-2***	2	Vertical	Housing and Pins Assembly
34708-2***		Right Angle	Housing, Pins and Mylar Assembly
34707-3***	3	Vertical	Housing and Pins Assembly
34708-3***		Right Angle	Housing, Pins and Mylar Assembly
34707-4***	4	Vertical	Housing and Pins Assembly
34708-4***		Right Angle	Housing, Pins and Mylar Assembly

* Multi-bay header configurations available; search Molex website on series number to view complete order numbers.

Contact Molex Inside Sales for configurations that are not yet defined on the sales drawings.

Receptacles

Order No.	Circuit Size	Assembly Features	Comment
34729-008*	8	Housing and TPA Assembly	0.64mm (.025") terminal size USCAR receptacle connectors
34729-012*	12		
34729-016*	16		
34729-020*	20		
31372-1*00	10		1.50 and 2.80mm (.059 and .110") terminal size hybrid receptacle connectors – Pol A

*Multiple color and polarization options available; search Molex website on series number to view complete order numbers.

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Terminals (Tin, Female)

Order No.	Terminal Type	Source	Gender	Plating	Wire Size (AWG)	Used in Molex Part
34803-0211	0.64mm (.025") CTX64	Molex	Female	Tin	22	8- to 20-Circuit Female Assemblies (Series 34729)
34803-0212					20	
33012-2001	1.50mm (.059") MX150	Molex			14 or 16	10-Circuit Female Assemblies (Series 31372)
33012-2002					18 or 20	
33012-2003					22	
1326030-4	2.80mm (.110")	Tyco			10 or 12	
1326030-3					14 or 16	
1326030-2					18 or 20	
1326030-1			22			