

PL-700SM-N SERIES

Plastic Shell Auto-Coupling Connectors

27 pole capacity circular shell connectors

PL-700SM-N FEATURES

Compact and configurable, the PL-700SM-N Series connector is Amphenol Alden's most versatile offering in a sub .700" diameter package. PL-700SM-N Series connectors attach to a cable with a Press & Seal™ backshell that provides the refined look and performance of an overmolded product.

Packaging (intuitive, compact, configurable)

- Pulse-Lok® auto-latch / mating confirmation
- Miniature .700" diameter circular shell
- Up to 27 contact positions
- 16 standard color combinations
- Multiple and proprietary keying options
- Available as an overmolded cable assembly
- Custom configurations available

Performance (for harsh environments)

- Water proof (IP-67 rated)
- Steam, EtO, & Gamma sterilizable
- Chemical resistant housing
- Up to 5,000 mating cycles (with std. Contacts)
- Factory terminated, overmolded cable assemblies for enhanced flex and strain relief

SPECIFICATIONS

Electrical (see below)

Mating Life: 5,000 cycles min.
Contact Resistance: < 10 milliohms*

Material

Connector Housing: Thermoplastic
Flex Reliefs: Thermoplastic Rubber
Contacts: Brass / BeCu,
Gold Plate per MIL-G-45204
Reusable Socket = 30-45μ" Gold over
50-200μ" Nickel strike
Disposable Pin = 10-30μ" Gold over
50-200μ" Nickel strike

Mechanical

Mating Cycles: 5K cycles max
Retention Force:
• Mated Connectors: 25 lbs. Minimum
• Cable to Connector: 35 lbs. Typical
• Backshell to Connector: 45 lbs. Minimum

Housing Styles (Page 2)

- Plug: In-Line
- Receptacles: Front & Rear Panel-Mount
- Receptacles: In-Line

Environmental

- Operating Temp: -20C to +105C**
- Moisture Resistance: to IP-67 (encapsulated)
- Sterilizable: gamma, EtO & Autoclave
- Chem. Resistance: common OR cleaning solvents

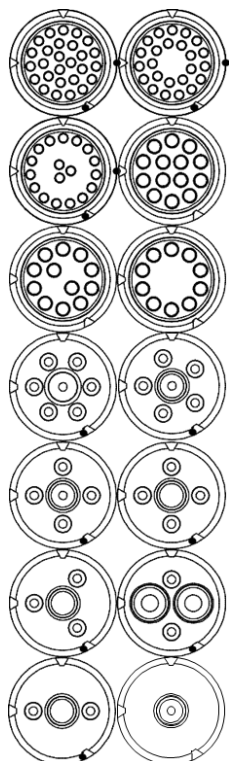
* post conditioning

**Dependent on overmold material

TABLE A:

STANDARD CONTACT CONFIGURATIONS & SPECIFICATIONS

Up to 27 Contact Positions



Number of Poles	Contact Size Pin ϕ (mm)	Max Wire Gauge	Operating Voltage Max	Operating Current Max (A)	Contact Resistance (ohms)
27	0.5	26	300 V RMS	0.5	<14m
24	0.5	26	300 V RMS	0.5	<14m
18	0.5	26	300 V RMS	0.9	<14m
14	0.7	22	300 V RMS	0.9	<6m
12	0.7	22	300 V RMS	1.2	<6m
10	0.7	22	300 V RMS	2.0	<6m
7	0.7	22	300 V RMS	2.1	<6m
6	0.7	22	300 V RMS	2.1	<6m
5	0.7	22	300 V RMS	2.4	<6m
4	0.7	22	300 V RMS	2.4	<6m
2+2	2(1.5)-2(0.7)	2(16)-2(22)	300 V RMS	7.0/3.0	<6m
3	0.7	22	300 V RMS	3.0	<6m
2	0.7	22	300 V RMS	3.0	<6m
2	1.5	16	300 V RMS	13.0	<2m
1	0.7	22	300 V RMS	3.0	<6m
1	2.3	12	300 V RMS	15.0	<2m

Custom contact inserts are available. Consult factory.

Standard Hybrid Circuit Arrangements
Coaxial & Custom Circuits Available

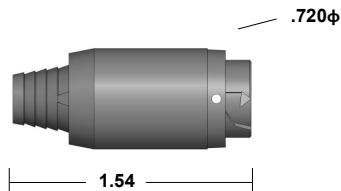
PL-700SM-N SERIES

Plastic Shell Auto-Coupling Connectors **27 pole** capacity circular shell connectors

STANDARD HOUSING OPTIONS

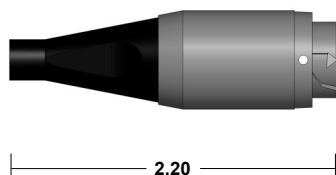
In-Line Receptacles

In-Line Receptacle Kit



Select this component from Table B

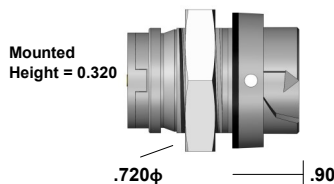
In-Line Receptacle Kit (w/ optional Press & Seal™ Backshell)



Select Press & Seal™ Backshell from Table C

Panel-Mount Receptacles

Front Panel-Mount Receptacle Assembly



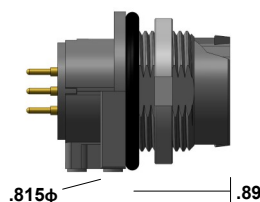
Panel thickness range to 0.187
Select this component from Table B

Front Panel-Mount Receptacle (w/ Dust Cover)



Select this component from Table B

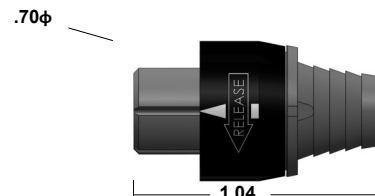
Rear Panel-Mount Receptacle



Select this component from Table B

In-Line Plugs

In-Line Plug Assembly



Select this component from Table B

In-Line Plug Kit (w/ optional Press & Seal™ Backshell)



Select this component from Table B

Note: Standard color configuration is black on black.
See our online configurator for more color options at:
www.amphenolalden.com/configurator

TABLE B:

STANDARD PART NUMBERS

Number of Poles	In-Line Receptacle	Front Panel-Mount Receptacle		FPM Receptacle (w/ Dust Cap)	Rear Panel-Mount Receptacle		In-Line Plug	In-Line Plug (Breakaway)
	Solder Cup	Solder Cup	PCB	Solder Cup	Solder Cup	PCB	Solder Cup	Solder Cup
27	300322	300196	330196	301589	301365	331196	300112	301784
24	301270	301004	330336	301575	301351	331336	300850	301778
18	301242	300990	330322	301561	301337	331322	300822	301772
14	300294	300182	330182	301547	301323	331182	300084	301766
12	301214	300976	330308	301533	301309	331308	300794	301760
10	301186	300962	330294	301519	300697	331294	300766	301754
7	300266*	300168*	330168*	301505*	300683*	331168*	300056*	301748*
6	301158*	300948*	330280*	301477*	300669*	331280*	300738*	301742*
5	301130*	300934*	330266*	301477*	300655*	331266*	300710*	301736*
4	301102*	300920*	330252*	301449*	300627*	331252*	300482*	301730*
2(16)+2(22)	300238*	300154*		301463*	300641*		300028*	301724*
3	300543*	300529*	330238*	301603*	301379*	331238*	300501*	301718*
2 (22)	301046*	300892*	330224*	301421*	300599*	331224*	300428*	301712*
2 (16)	301074*	300906*		301435*	300613*		300500*	301706*
1 (22)	301018*	300878*	330210*	301497*	300585*	331210*	300400*	301700*
1 (12)	300210*	300140*		301393*	300571*		300000*	301790*

Note: Part numbers cover black housings in Key 1 configuration. For other color and housing options utilize the Amphenol Alden connector configurator located at www.amphenolalden.com/configurator

Options Include:

Housing Color Options Black & Gray
Mating Key Options 2 Standard Keys, Proprietary Keys Available
Panel-Mount Thickness Options Up to .125 Standard

*Press & Seal™ contacts, crimp or solder termination

For additional information about this, or any other Amphenol Alden product, please contact an Amphenol Alden specialist today.

Phone: 508-427-7000
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CONNECTOR TERMINATION OPTIONS

Contact Termination

Press & Seal™ Features & Benefits

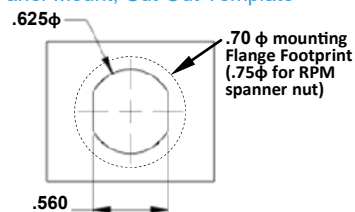
- Contacts provide IP-67 watertight seal when inserted into insulator
- Easy crimp & poke installation
- Excellent contact retention
- Contacts may be crimped or soldered

Press & Seal™ Contact System



- Available on 1 to 7-Pole Configurations
- Accepts multiple wire gauges 12, 16, 22 AWG

Panel-Mount, Cut-Out Template



Applies to both Front & Rear Panel-Mount Receptacles

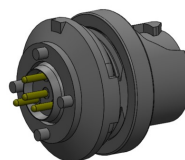
Solder Cup (Available for All)



Features & Benefits

Tiered solder cups provide easy access to center positions. Canted cups facilitate quick and easy wire positioning. Standard on 10-27 pole configurations

PCB (Panel-Mount Receptacles only)



Request Sales Drawing for PCB mounting template

Features & Benefits

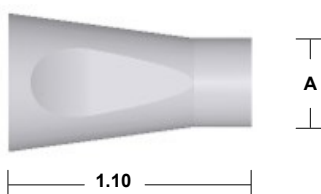
- Available in most pole counts from 1 to 27 Poles
- PCB stand-offs ensure proper positioning
- Convenient packaging high temperature contact cures may be soldered to PCB and snapped into panel-mounted receptacle housing later

Front Panel-Mount Receptacle Dust Cover



P/N **300390**
Black (std.), Gray (opt.)
Plug Soaking Cap

Plug Backshell



The PL-700 plug housing is designed to accept Amphenol Alden's one piece, Press & Seal PVC Backshell. This unique backshell simply snaps into place providing an IP-67 rated seal to the plug housing and cable exit without hardware resulting in a clean overmolded look. For optimum sealing we suggest selecting a wire exit i.d. that is at least .005" smaller than your nominal cable diameter.



P/N **300391**
Black (std.), Gray (opt.)

ACCESSORIES

Dimension A	Part #	Part #
(Inches)	(Black)	(Gray)
0.053	300350	300351
0.064	300352	300353
0.075	300354	300355
0.086	300356	300357
0.096	300358	300359
0.104	300360	300361
0.120	300362	300363
0.129	300364	300365
0.142	300366	300367
0.153	300368	300369
0.162	300370	300371
0.170	300372	300373
0.186	300374	300375
0.204	300376	300377
0.215	300378	300379
0.225	300380	300381
0.235	300382	300383
0.249	300384	300385
0.264	300386	300387
0.300	300388	300389

Note: accessories sold separately

Receptacles:

AI-PL700SMN-IR01 (1Pole, 12AWG)
AI-PL700SMN-IR02 (2+2Pole, 16/22AWG)
AI-PL700SMN-IR03 (1-7Pole, 22AWG)
AI-PL700SMN-IR04 (10-14Pole, 22AWG)
AI-PL700SMN-IR05 (18-27Pole, 26AWG)
AI-PL700SMN-PMR01 (1Pole, 12AWG)
AI-PL700SMN-PMR02 (2+2Pole, 16/22AWG)
AI-PL700SMN-PMR03 (1-7Pole, 22AWG)
AI-PL700SMN-PMR04 (10-14Pole, 22AWG)
AI-PL700SMN-PMR05 (18-27Pole, 26AWG)

Plugs:

AI-PL700SMN-P01 (1Pole, 12AWG)
AI-PL700SMN-P02 (2+2Pole, 16/22AWG)
AI-PL700SMN-P03 (1-7Pole, 22AWG)
AI-PL700SMN-P04 (10-14Pole, 22AWG)
AI-PL700SMN-P05 (18-27Pole, 26AWG)

ASSEMBLY INSTRUCTIONS

For additional information about this, or any other Amphenol Alden product, please contact an Amphenol Alden specialist today.

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