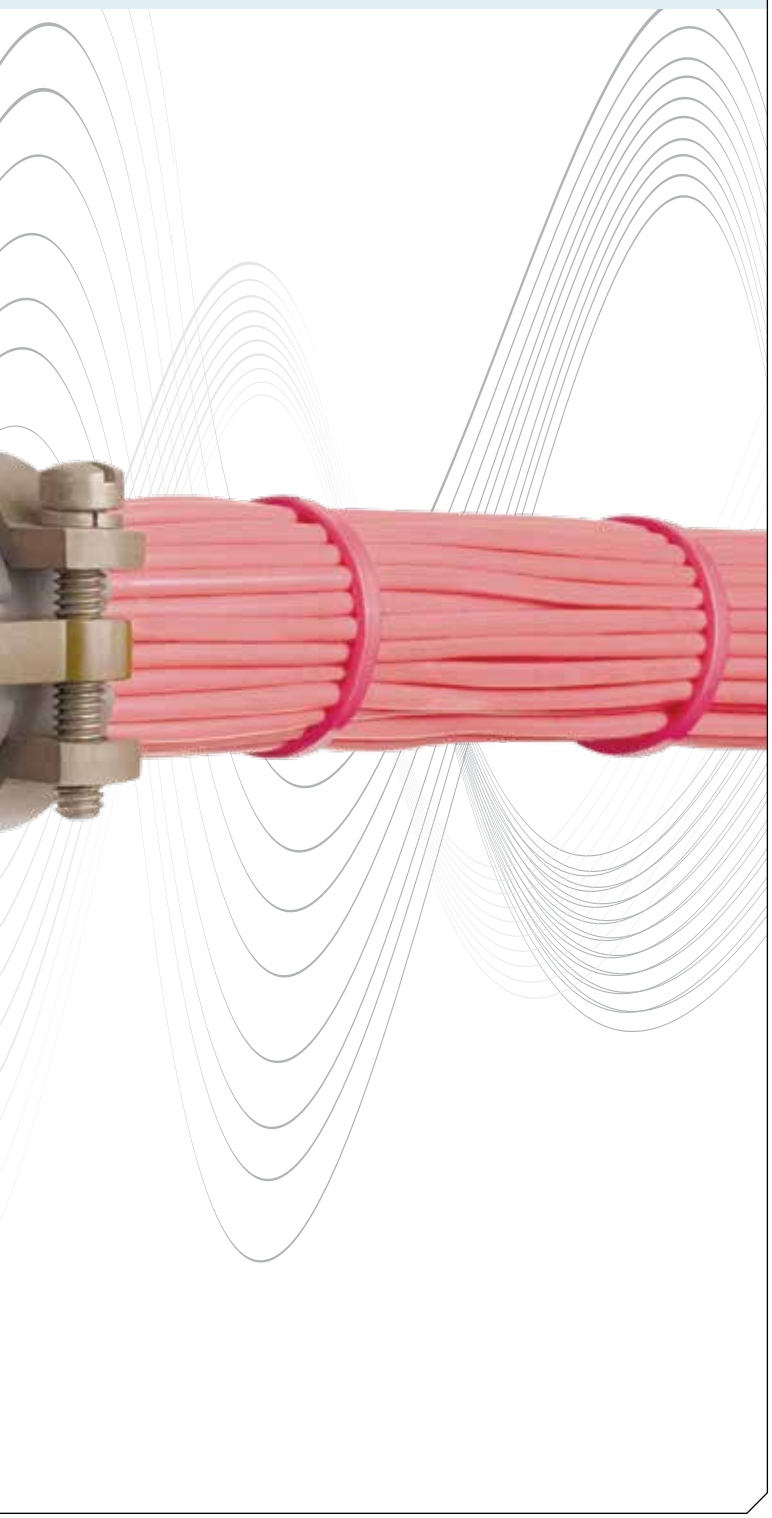
HS Series

HIGH DENSITY

The HS Series of ruggedized electrical connectors provides high contact density with up to 61 gold plated contacts in a compact form factor. Simple bayonet coupling provides quick-disconnect convenience and reliability, even in high-vibration environments. Eight receptacle styles provide unmatched mounting flexibility.

- IP67 Environmental Rating
- Quick-Disconnect Coupling
- 30 Insert Arrangements
- 16 to 24 AWG Compatible
- 500 Coupling Cycles
- Hermetic Receptacles Available

Rev. 1806



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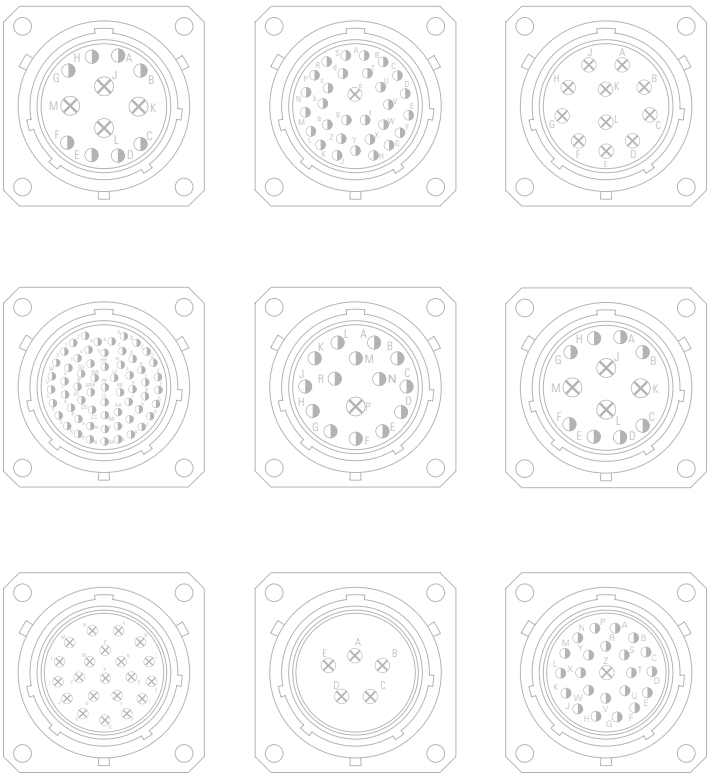


High Density & High Reliability

The HS Series features advanced bayonet coupling and 30 insert arrangements, along with thru-bulkhead and hermetic receptacles. This component offering provides engineers with a wide range of options to match any application requiring IP67 protection in a high-density, high-reliability, ruggedized solder connector.

- IP67 environmental rating when mated or covered
- Compression grommet seals each contact and wire
- Integrated strain relief clamp with cable bushing
- Design allows field service without special tools

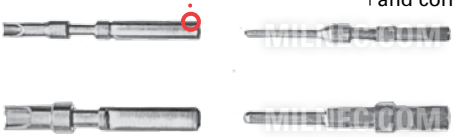
Wide Variety of Sizes
Size comparison between size 24 and size 8 plugs (shown actual size).

Corrosion Resistant Gold Plated Contacts

HS Series contacts are machined from copper alloy and are gold plated for the highest electrical continuity and corrosion resistance. Using smaller size #20 contacts provides higher contact densities—up to 3x higher density than other similarly sized cylindrical connectors.

- Gold plated contacts for low resistance
- Contact sizes of #16 & #20 are suitable for 16–24 AWG
- 1,000 VAC (RMS) max operating voltage (at sea level)
- Up to 61 contacts in one connector
- 13 amps rated

High-Quality Contacts
Machined contacts are gold plated for high conductivity and corrosion resistance.



Quick-Disconnect Three-Point Bayonet Coupling

A bayonet coupling mechanism provides quick and secure coupling, even under high-vibration applications. With clear audible, tactile, and visual cues to signal complete coupling, the HS Series is ideally suited for blind-mate applications.

- Quick-disconnect with 1/3 turn
- Audible and tactile "click" coupling confirmation
- Vibration and shock resistant locking mechanism
- Rated for minimum of 500 coupling cycles

Reliable Coupling
Passivated stainless steel bayonet pins are rated to 500 minimum coupling cycles.

Protect Contacts and Equipment
Master and minor keyways ensure proper shell alignment before coupling begins.

Heavy-Duty Shell Construction

Connector shells are machined from heavy-duty, aircraft-grade aluminum and finished with corrosion resistant cadmium plate with an olive drab chromate finish. A single-piece, monolithic neoprene insert ensures a long service life. The compression grommet individually seals each wire from environmental factors to ensure high reliability.

- Aircraft-grade aluminum shells
- -67° to +257°F (-55° to +125°C) temperature range
- 500 hour dynamic salt spray rating
- Heat and fluid resistant inserts
- Conductive shell plating

Integrated O-Ring
Jam nut receptacle with integrated O-ring for single hole panel mounting.

Rev. 1806

Hermetic Receptacles for Vacuum Applications

The HS Series offers a wide selection of hermetic receptacles for maintaining pressure differentials in pressurized enclosures or vacuum chambers. Hermetic receptacles may also be used by those who want the ultimate in environmental sealing for the most demanding applications.

- Helium leak test of 0.1 micron per ft^3/hr (1.0 $x10^{-6}$ cc^3/sec)
- Inserts rated to 75 psi (5.3 kg/cm^2) pressure
- 3 hermetic receptacle styles available
- Compression glass inserts
- High-strength steel shells

Single Mounting Hole
Hermetic jam nut design features single hole mounting and an integrated O-ring.

Thru-Bulkhead Receptacles

Pass signal and power through a bulkhead with ease with thru-bulkhead receptacles. These connectors feature receptacles on both sides of the shell in order to accept plugs from both sides of the bulkhead.

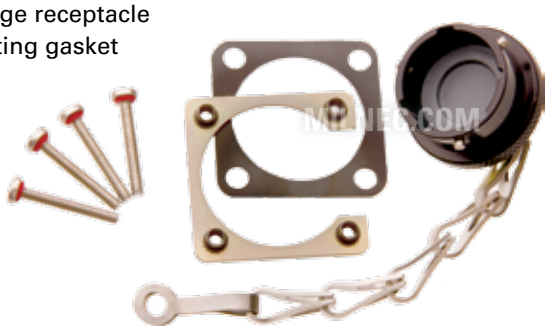
- Deep-reach shell design
- Environmentally sealed

Dual Receptacle Ends
Deep-reach shell design allows trouble-free mounting even with a heavy gauge panel.

Accessory Options Available

When your connectors are not mated, keep them out of harm's way and sealed from all environmental hazards with a protective cover or stowage receptacle. In addition, these accessories will help to maintain the environmental integrity of your enclosure by sealing the mounting location.

- Mounting plate with sealing screws
- Stowage receptacle
- Mounting gasket



Features & Benefits

Plugs
- Straight w/ backshell
- 90° w/ backshell

Receptacles
- Wall mount w/ backshell
- Box mount
- Jam nut w/ backshell
- Cable mount w/ backshell
- Thru-bulkhead

Hermetic Receptacles
- Box mount, jam nut, solder mount

Backshells
- Environmental with individual wire seals
- Built-in strain relief cable clamp with bushing

Contacts
- Copper alloy, gold plated
- Contact sizes #16, #20
- Minimum of 500 coupling cycles
- Wire gauges 16–24 AWG

Inserts
- Heat and fluid resistant
- 30 insert combinations
- 5 different rotations

Accessories
- Protective cover with sash chain
- Stowage receptacle
- Mounting gasket
- Mounting bracket with sealing screws

Material
- Aluminum

Finishes
- Standard finish with 500 hr salt spray rating
- RoHS compliant finishes available

Termination
- Solder

Coupling
- Three-point bayonet with 1/3 turns to couple

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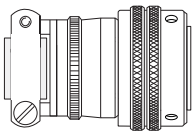
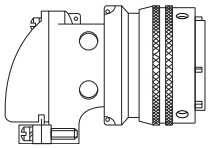
Plugs

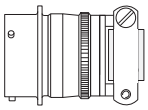


Straight Plug
p. B-15

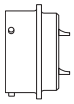


90° Plug
p. B-16

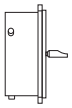
Receptacles



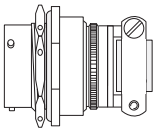
Wall Mount
p. B-17



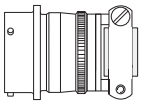
Box Mount
p. B-18



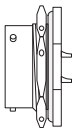
Box Mount (Hermetic)
p. B-22



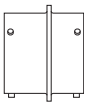
Jam Nut
p. B-19



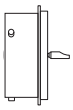
Cable Mount
p. B-20



Jam Nut (Hermetic)
p. B-23

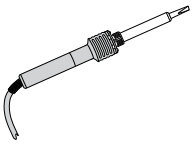


Thru-Bulkhead
p. B-21



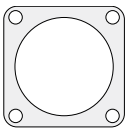
Solder Mount (Hermetic)
p. B-24

Tools

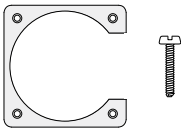


Soldering Station Kit
p. A-25

Mounting

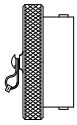


Mounting Gasket
p. B-27

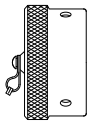


Mounting Bracket & Screws
p. B-28

Covers

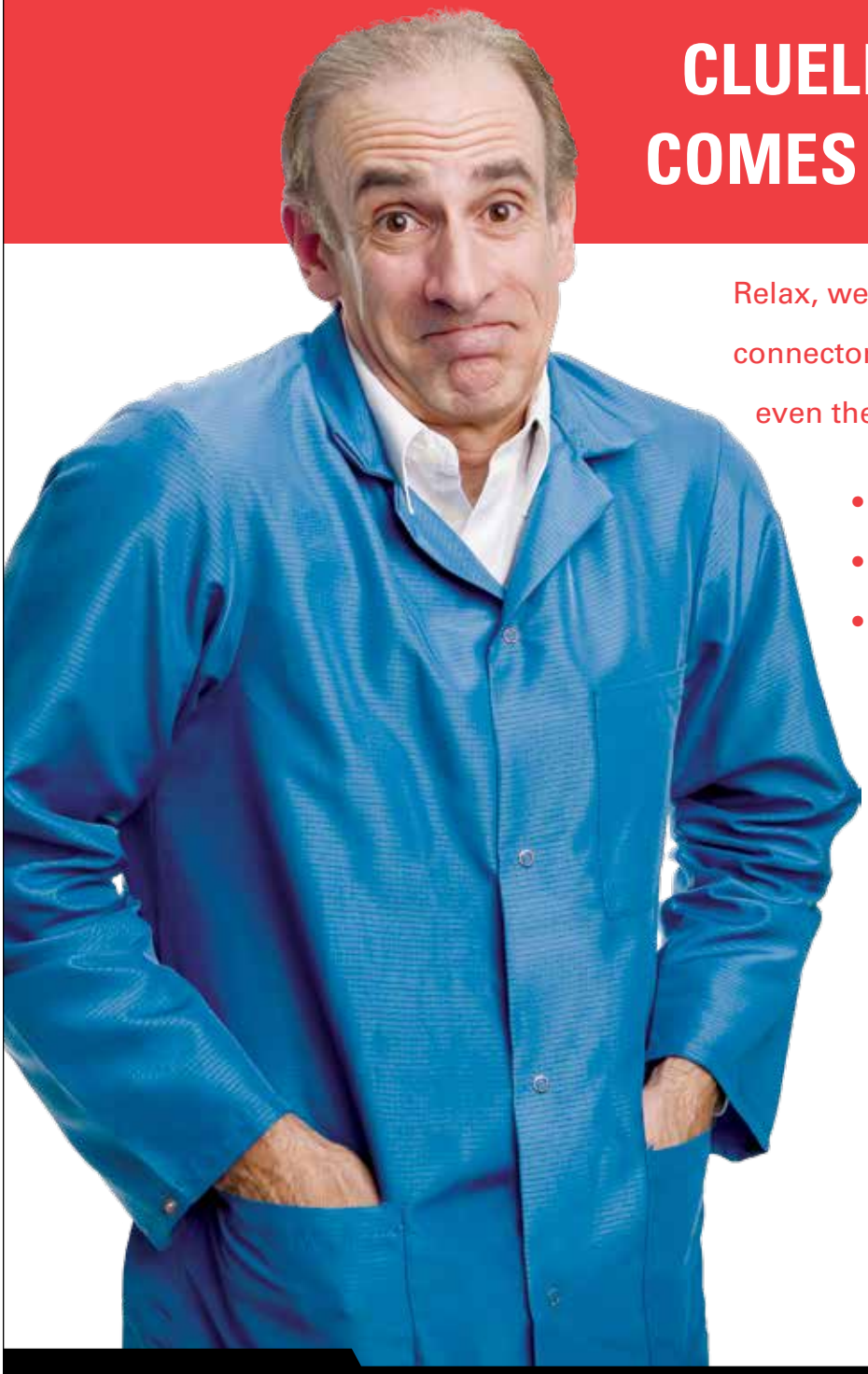


Plug Cover
p. B-25



Receptacle Cover
p. B-25

Stowage Receptacle
p. B-26



CLUELESS WHEN IT COMES TO ORDERING?

Relax, we've made ordering complete connector solutions easy enough for even the most brilliant engineers.

- Complete Connector Kits
- Simple Part Builder
- Short Lead Times

MILNEC® INTERCONNECT SYSTEMS

Build Complete Connector Solutions Easily

Take the guess work out of trying to determine individual components for your connector. With our simple part builder, complete connector kits can be quickly configured to include all the necessary components, including protective covers, gaskets, mounting hardware, and fasteners.

We ensure you receive everything you need to make a secure and highly reliable electrical connection for your systems. And with our short production lead times, you will have your components in about a week. We told you it was easy, now get back to being brilliant.

Performance Specifications

Built to meet or exceed MIL-DTL-26482 specifications
Guaranteed fully compatible and interchangeable with respect to physical and performance characteristics with all existing MIL-DTL-26482 Series I military and commercial derivatives

Environmental Characteristics

Temperature Range

-67° to +257°F (-55° to +125°C)
Service life varies with the maximum internal hot spot temperature resulting from any combination of electrical load or ambient temperature:

77°F (25°C): Continuous
221°F (105°C): 1,000 hours
257°F (125°C): 250 hours

Water Pressure

IP67 rating (environmental sealing)
Fully submersible to 3.3 ft (1m) for minimum of 30 min

Air Leakage Rate

Environmental

Air leakage not to exceed 1 $inch^3$/hr (4.55 $x10^{-3}$ cm^3/sec) at 30 psi (2.11 kg/cm^2) pressure differential

Hermetic

Helium leakage not to exceed 0.1 micron per ft^3/hr (1.0 $x10^{-6}$ cc^3/sec) at 15 psi (1.1 kg/cm^2)
Hermetic inserts rated to 75 psi (5.3 kg/cm^2)

Salt Spray Rating

See Materials & Finishes, p. B-9

Humidity

Mated connectors shall maintain an insulation resistance of 100 megohms or greater at 77°F (25°C) with 95% humidity for duration of 20 days

Chemical Resistance to Fluids

20 hour full immersion (unmated) in hydraulic fluid and lubricating oil without damage or material degradation

Coupling

Three-point bayonet, stainless steel bayonet pins spaced at 120° on receptacle shells, corresponding ramps on plug coupling ring with locking detent
1/3 turn to couple and uncouple

Coupling Torque

Engagement & Disengagement Force (max / min)
Shell Size 8: .67 ft-lb_f (.904 N-m) / .08 ft-lb_f (.113 N-m)
Shell Size 10: 1.00 ft-lb_f (1.36 N-m) / .08 ft-lb_f (.113 N-m)
Shell Size 12: 1.33 ft-lb_f (1.81 N-m) / .17 ft-lb_f (.226 N-m)
Shell Size 14: 1.67 ft-lb_f (2.26 N-m) / .33 ft-lb_f (.452 N-m)
Shell Size 16: 2.00 ft-lb_f (2.71 N-m) / .33 ft-lb_f (.452N-m)
Shell Size 18: 2.33 ft-lb_f (3.16 N-m) / .33 ft-lb_f (.452 N-m)
Shell Size 20: 2.66 ft-lb_f (3.61 N-m) / .50 ft-lb_f (.678 N-m)
Shell Size 22: 3.00 ft-lb_f (4.07 N-m) / .58 ft-lb_f (.791N-m)
Shell Size 24: 3.67 ft-lb_f (4.97 N-m) / .58 ft-lb_f (.791 N-m)

Polarization

Single master key and keyway on top position of shell
Four minor keys and keyways on shell

Insert Arrangements

30 standard, custom inserts available

Insert Rotations

Normal polarization (N), plus 4 alternate insert rotational polarizations (W, X, Y, Z)

Endurance Characteristics

Coupling Cycles

500 coupling cycles (minimum)

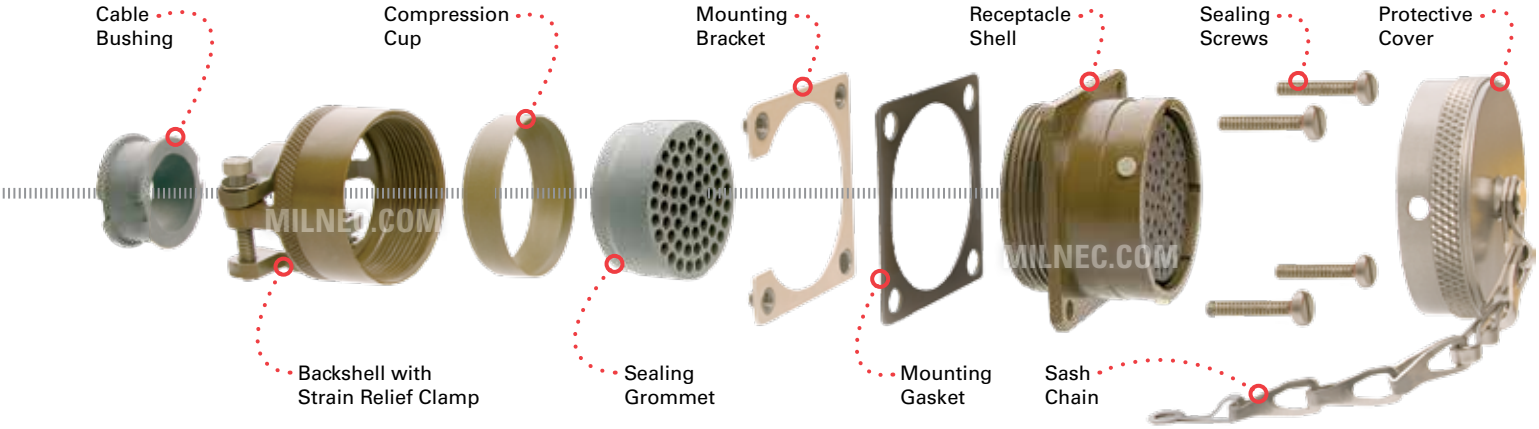
Shock

50g's, 11ms duration, three major axes, 10 microseconds maximum discontinuity

Vibration

Random vibration at 10 to 2,000Hz (15g's), 10 microseconds maximum discontinuity

Physical Characteristics



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Material Characteristics

Shell
- **Environmental**
  - Aluminum, solid, one piece, seamless construction
- **Hermetic**
  - Carbon steel or stainless steel (special order)

Shell Plating
- **Environmental**
  - Standard (F) finish is electrically conductive cadmium plate finish with an olive drab chromate after-treat for additional corrosion resistance (See p. B-9 for all available finishes)
- **Hermetic**
  - Tin plate over nickel (H) finish, suitable for soldering

Shell Conductivity
- Maximum shell-to-shell conductivity potential drop shall not exceed 200 millivolts across assembly

Jam Nut
- Aluminum

Bayonet Pins
- Passivated stainless steel

Insert
- Resilient polychlorophrene (neoprene)
- Non-removable and mechanically bonded to shell

Hermetic Insert
- Vitreous (glass compression)
- Non-removable and mechanically bonded to shell

Protective Cover Chain
- Passivated stainless steel, sash chain able to withstand a 25 lb (11.3 kg) tensile force without damage

Sealing Grommet
- Neoprene

O-Ring Seal
- Neoprene or silicone

Mounting Gasket
- Neoprene or silicone

Contact Characteristics

Contact Design
- Solder style, permanently bonded to insert
- Solder cups are not pre-tinned

Contact Sizes
- #16, #20

Contacts
- Copper alloy

Contact Plating
- **Environmental**
  - Gold plate, 50 µinches (1.27 µm) minimum
- **Hermetic**
  - Tin plate, 50 µinches (1.27 µm) minimum
  - Gold plated contacts (special order)

Max Number of Contacts
- 2 to 61 standard, custom inserts available

Max Contact Resistance
- 9 milliohm maximum resistance

Max Voltage Drop
- <55 millivolt maximum voltage drop (initial)

Contact Retention
- Pin and socket contacts are designed to resist severe vibration and repeated connection and disconnection

Electrical Characteristics

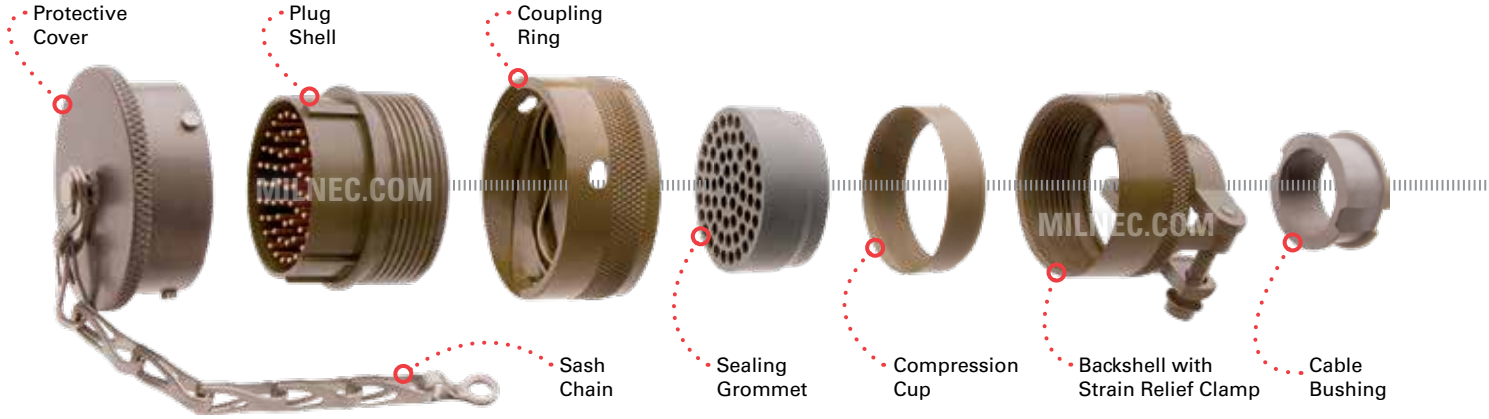
Current Rating
- 13 amps (test current) at 68°F (20°C)

Max Operating Voltage
- 1,000 VAC (RMS) at sea level

Insulation Resistance
- >5,000 megohms at 77°F (25°C)

Wire Size
- 16 to 24 (AWG)

Wire Sealing Range
- Designed for individual wire sealing
- Sealing is only guaranteed if wires meet MIL-W-5086 or within permitted ranges



Rev. 1806

HS Series Finishes

A connector's finish does more than simply provide good looks. The finish is the first line of defense for a connector. It provides enhanced corrosion resistance and can be made conductive to provide electrical continuity across connector shells for EMI/RFI shielding applications. Olive drab cadmium is the standard finish for the HS Series. Olive drab cadmium offers excellent corrosion resistance and will match the aesthetic design of most industrial and military applications. In addition to the standard finish, a number of specialty finishes are available for the HS Series, including RoHS compliant finishes for environmentally friendly designs. The HS Series also offers hermetic receptacles for true airtight applications such as vacuum chambers. ■

Standard HS Series Materials & Finishes

Finish Code	Finish	Hermetic Only	Electrically Conductive	Pre-Tinned Solder Cups	RoHS Compliant	Appearance	Shell Material	Salt Spray Rating	Recommended Operating Temperature Range
F	Olive Drab Cadmium		✓	✓		Drab Olive Green	Aluminum	500 hrs	-67° to +257°F (-55° to +125°C)
H	Tin Over Nickel	✓		✓		Bright Metal	Carbon Steel	48 hrs	-67° to +392°F (-55° to +200°C)

Special HS Series Materials & Finishes *

Finish Code	Finish	Hermetic Only	Electrically Conductive	Pre-Tinned Solder Cups	RoHS Compliant	Appearance	Shell Material	Salt Spray Rating	Recommended Operating Temperature Range
B	Hardcoat Anodize			✓		Grey to Black	Aluminum	336 hrs	-67° to +257°F (-55° to +125°C)
BA					✓				
N	Electroless Nickel		✓	✓		Bright Metal	Aluminum	48 hrs	-67° to +257°F (-55° to +125°C)
NA					✓				
C	Zinc Cobalt			✓		Black	Aluminum	125 hrs	-67° to +257°F (-55° to +125°C)
CA					✓				
CB			✓	✓					
CC					✓				
T	Hard Anodic			✓		Grey	Aluminum	500 hrs	-67° to +257°F (-55° to +125°C)
TA					✓				
HA	Passivated	✓	✓		✓	Matte Metal	SST Steel	1,000 hrs	-67° to +392°F (-55° to +200°C)

* Please consult an authorized distributor for lead time information and minimum quantity requirements for special order finishes.

Olive Drab Cadmium—Durable & Economical

Olive drab cadmium (F) plating is the standard finish for HS Series connectors due to its high corrosion resistance. This finish is conductive, making it suitable for shielding or grounding applications, and is resistive to galling. Its olive drab appearance matches most equipment. Olive drab cadmium is suitable for all general duty, industrial, military, and marine applications.

- Finish Specification: SAE-AMS-QQ-P-416 II Class 2
- Appearance: Military Olive Drab Green
- Sheen: Flat, Low Gloss
- Max Temp. Rating: 347°F (175°C)
- Salt Spray Rating: 500 hours
- Lubricity: Good
- Galling Resistance: High
- Conductive: Yes
- RoHS Compliant: No

RoHS Compliant Parts

Milnec provides a full offering of RoHS compliant finishes in conductive and non-conductive versions to best suit your application requirements.

Please consult the latest European Union general and regional regulations to ensure materials are appropriate for your application and compliance requirements.

CONQUER HIGH PRESSURE WITH NO PRESSURE

Hermetic Connectors for High Pressure Jobs

Our hermetic receptacles are the first choice for specialized applications requiring an airtight seal. Applications include sensors, valves, vacuum chambers, and laboratory experiments. Connectors feature high grade steel shells with glass fused inserts rated at up to 75 psi (5.3 kg/cm^2) to ensure reliability, even under cryogenic temperatures.

MILNEC®
INTERCONNECT SYSTEMS

How to Build Your HS Connector Part Number

A part number is comprised of a string of characters that represent the different elements of a connector. High-performance connectors are built to order from component form using a unique part number as a blueprint to specify particular characteristics. Each modifier of the part number represents a particular configuration.

Below is an example part number for an HS Series connector that designates, 1) Milnec HS Series wall mount receptacle, 2) olive drab cadmium finish over aluminum, 3) 14-18 insert arrangement, 4) socket contacts, 5) normal rotation, and 6) integrated kit including protective cover and mounting gasket. ■

HS00	F	14-18	S	N	-	02
1	2	3	4	5		6

1 Series Shell Style

Standard Environmental Shells

- **HS06** Straight plug w/ backshell, p. B-15
- **HS08** 90° plug w/ backshell, p. B-16
- **HS00** Wall mount receptacle w/ backshell, p. B-17
- **HS01** Cable mount receptacle w/ backshell, p. B-20
- **HS02** Box mount receptacle, p. B-18
- **HS07** Jam nut receptacle w/ backshell, p. B-19

Hermetic Receptacle Shells

- **12** Box mount receptacle, p. B-22
- **13** Jam nut receptacle, p. B-23
- **19** Solder mount receptacle, p. B-24

For non-standard shell styles, including thru-bulkhead receptacles, please see specific datasheet for part numbering and kitting options.

2 Material & Finish

- **F** Olive drab cadmium (aluminum)
  500 hr. dynamic salt spray rating
- **H** Tin over nickel (carbon steel)
  (Hermetic receptacles only)
  48 hr. dynamic salt spray rating

For complete materials and finishes options, including RoHS, see p. B-9.

3 Shell Size & Insert Arrangement

See Insert Arrangement Selection table, p. B-12

4 Contact Style

Standard Solder Contacts

- **P** Pin
- **S** Socket

Hermetic Receptacle Solder Contacts

- **P** Pin only, tin plated (standard)
- **G*** Pin only, gold plated (special order)

5 Insert Rotation

Normal Rotation

- **N** Normal rotation

Alternate Rotations

- **W, X, Y, Z** Alternate rotations

See Insert Arrangement Selection table on p. B-12
(not all rotations are available for every arrangement)

6 Optional Accessory Kit (Omit for None)

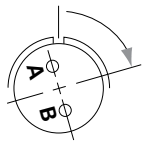
- **01** **For Plugs:**
  Protective cover, p. B-25
- **02** **For Receptacles:**
  Protective cover, p. B-25 +
  Mounting gasket, p. B-27
- **03** **For Receptacles:**
  Protective cover, p. B-25 +
  Mounting gasket, p. B-27 +
  Mounting bracket, p. B-28
  with (4x) sealing screws

* Please consult an authorized distributor for lead time and minimum quantity requirements.

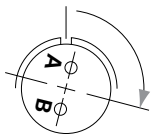
Selecting Your Insert Arrangement & Rotation

Below is a chart that represents every available shell and insert arrangement within the series. To choose the proper insert arrangement, you must first distinguish your application requirements for contact size and amount.

Rotations are designated at the time of ordering using rotation labels N (normal), W, X, Y, and Z. Some insert arrangements have limited or no alternate rotation options. Refer to the chart below for possible rotations for specific arrangements. ■



Position W



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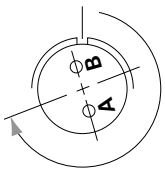
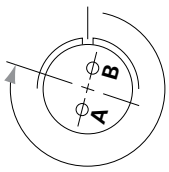


Position Y



Position Z

Looking into front face of pin insert or rear of socket insert.

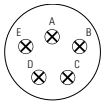
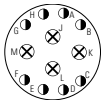
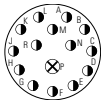
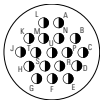
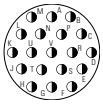
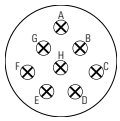
Insert Arrangement Selection

Insert Arrangement	Total Contacts	Contact Size		Service Rating	Alternate Insert Rotation			
		#20	#16		W	X	Y	Z
8-2	2	2		I	58°	122°		
8-3	3	3		I	60°	210°		
8-4	4	4		I	45°	97°	184°	
10-6	6	6		I	90°			
10-98	6	6		I	90°	180°	240°	270°
12-3	3		3	II			180°	
12-8	8	8		I	90°	112°	203°	292°
12-10	10	10		I	60°	155°	270°	295°
14-5	5		5	II	40°	92°	184°	273°
14-12	12	8	4	I	43°	90°		
14-15	15	14	1	I	17°	110°	155°	234°
14-18	18	18		I	15°	90°	180°	270°
14-19	19	19		I	30°	165°	315°	
16-8	8		8	II	54°	152°	180°	331°
16-23	23	22	1	I	158°	270°		
16-26	26	26		I	60°		275°	338°
16-99	23	21	2	I	66°	156°	223°	340°
18-11	11		11	II	62°	119°	241°	340°
18-30	30	29	1	I	180°	193°	285°	350°
18-32	32	32		I	85°	138°	222°	265°
20-16	16		16	II	238°	318°	333°	347°
20-24	24	24		I	70°	145°	215°	290°
20-27	27	27		I	72°	144°	216°	288°
20-39	39	37	2	I	63°	144°	252°	333°
20-41	41	41		I	45°	126°	225°	
22-21	21		21	II	16°	135°	175°	349°
22-32	32	32		I	72°	145°	215°	288°
22-41	41	27	14	I	39°	135°	264°	
22-55	55	55		I	30°	142°	226°	314°
24-61	61	61		I	90°	180°	270°	324°

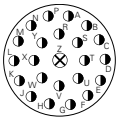
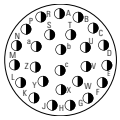
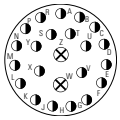
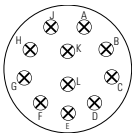
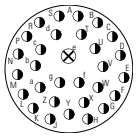
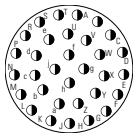
* Option is unavailable if left blank.

Rev. 1806

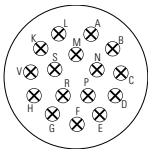
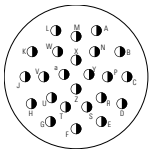
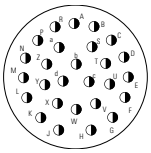
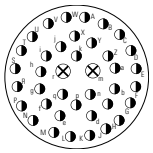
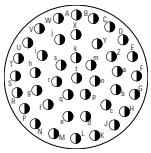
Arrangement	**8-2**	**8-3**	**8-4**	**10-6**	**10-98**	**12-3**	**12-8**
Service Rating	I	I	I	I	I	II	I
Number of Contacts	2 x #20	3 x #20	4 x #20	6 x #20	6 x #20	3 x #16	8 x #20

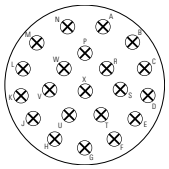
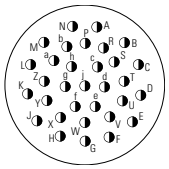
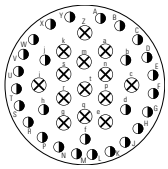
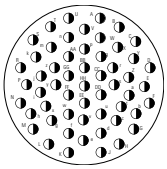
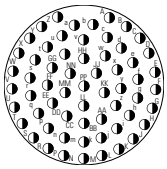
Arrangement	**12-10**	**14-5**	**14-12**	**14-15**	**14-18**	**14-19**	**16-8**
Service Rating	I	II	I	I	I	I	II
Number of Contacts	10 x #20	5 x #16	8 x #20 4 x #16	14 x #20 1 x #16	18 x #20	19 x #20	8 x #16

Arrangement	**16-23**	**16-26**	**16-99**	**18-11**	**18-30**	**18-32**
Service Rating	I	I	I	II	I	I
Number of Contacts	22 x #20 1 x #16	26 x #20	21 x #20 2 x #16	11 x #16	29 x #20 1 x #16	32 x #20

Arrangement	**20-16**	**20-24**	**20-27**	**20-39**	**20-41**
Service Rating	II	I	I	I	I
Number of Contacts	16 x #16	24 x #20	27 x #20	37 x #20 2 x #16	41 x #20

Arrangement	**22-21**	**22-32**	**22-41**	**22-55**	**24-61**
Service Rating	II	I	I	I	I
Number of Contacts	21 x #16	32 x #20	27 x #20 14 x #16	55 x #20	61 x #20

Contact Legend #16 ⊗ #20 ◑

Rev. 1806

Wire & Solder Dimensions

Contact Size	Wire Range		Potential Drop (Millivolts)	Max Contact Resistance (Milliohm)	Solder Well Depth	Solder Well Inside Diameter	Solder Well OutsideDiameter	Contact Retention Min Axial Load Pounds (Newtons)
	AWG	Dia						
#20	20, 22, 24	.020–.032 (.51–.81)	<55	9	.125 (3.2)	.046 (1.2)	.063 (1.6)	15 (66.7)
#16	16, 18, 20	.032–.050 (.81–1.29)	<50	6	.188 (4.8)	.078 (2.0)	.100 (2.5)	25 (111.2)

Dimensions are in inches (mm) unless otherwise noted.

Current Rating By Contact Size & Wire Size

Wire Size (AWG)	Contact Size	
	#20	#16
24	3A	
20	7.5A	7.5A
16		13A

Test ratings only. A connector cannot withstand maximum current through all contacts continuously. Please note that the establishment of electrical safety factors is left entirely in the designer's hands, since he or she is in the best position to know what peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

Contact Derating Specifications

Service Rating	Max Operating Voltage Sea Level		Test Voltage			
	AC (RMS)	DC	Sea Level AC (RMS)	50,000 ft AC (RMS)	70,000 ft AC (RMS)	110,000 ft AC (RMS)
I	600	850	1,500	500	375	200
II	1,000	1,275	2,300	750	500	200

Test ratings only. A connector cannot withstand maximum current through all contacts continuously. Please note that the establishment of electrical safety factors is left entirely in the designer's hands, since he or she is in the best position to know what peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

Coupling Torque

Shell Size	Maximum Engagement & Disengagement	Minimum Disengagement
8	8 (.904)	1 (.113)
10	12 (1.36)	
12	16 (1.81)	2 (.266)
14	20 (2.26)	4 (.452)
16	24 (2.71)	
18	28 (3.16)	
20	32 (3.61)	6 (.678)
22	36 (4.07)	7 (.791)
24	44 (4.97)	

Units are in inch pounds (Newton meters).

Torque Values For Cable Clamp Screws

Screw Size	Recommended Torque	
	Min	Max
#2-56	1.5 (.2)	2.5 (.3)
#4-40	3.5 (.4)	4.5 (.5)
#6-32	5 (.6)	7 (.8)
#8-32	7 (.8)	9 (1.0)
#10-32	9 (1.0)	11 (1.2)
#.250-20	11 (1.2)	13 (1.5)

Units are in inch pounds (Newton meters).

Wire Sealing Range

Contact Size	Wire Size (AWG)	Insulation Outside Diameter Range	
		Min	Max
#20	20, 22, & 24	.060 (1.52)	.083 (2.11)
#16	16, 18, & 20	.066 (1.68)	.109 (2.77)

Dimensions are in inches (mm).

Recommended Insulation Strip Length

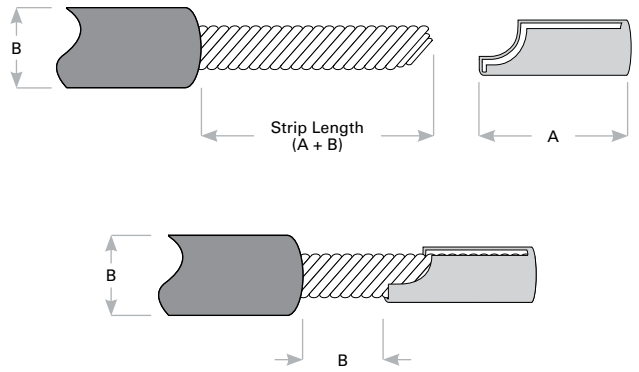
The recommended insulation strip length found in the table below can be used for standard insulated wire. For heavy jacketed wire, insulation strip length can be quickly and easily calculated by adding the contact solder well depth (A) to the wire's outside insulation diameter (B). The conductor should be exposed to a length that will bring the insulation clearance above the solder cup equal to the outside diameter of the insulation (B) when the wire is inserted in the solder cup to its full depth.

When removing the insulation from conductors always use a thermal precision cutter or jacket stripping device. Care must be exercised to prevent damage to the individual wire strands or conductor when cutting the jacket insulation.

Strip Length

Contact Size	(A) Well Depth	Recommended Strip Length
#20	.165 (4.2)	.250 (6.6)
#16	.245 (6.2)	.350 (8.9)

Dimensions are in inches (mm).



Rev. 1806

Straight Plug

HS Series • High-Performance Solder Connectors

HS06 F 14-19 P N - 01

1 2 3 4 5 6

1 **BASIC PART NUMBER**
- **HS06** Straight plug w/ integrated backshell

2 **MATERIAL & FINISH**
- **F** Aluminum, olive drab cadmium

3 **SHELL SIZE & INSERT ARRANGEMENT**
- See Insert Arrangement Selection table, p. B-12

4 **CONTACT STYLE**
- **P** Pin
- **S** Socket

5 **INSERT ROTATION**
- **N** Normal or W, X, Y, Z, see p. B-12 for availability

6 **OPTIONAL ACCESSORY KIT** (OMIT FOR NONE)
- **01** Protective cover

Note: See part builder (p. B-11) for additional kit options.

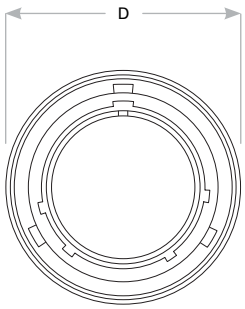
Straight plug with environmental backshell

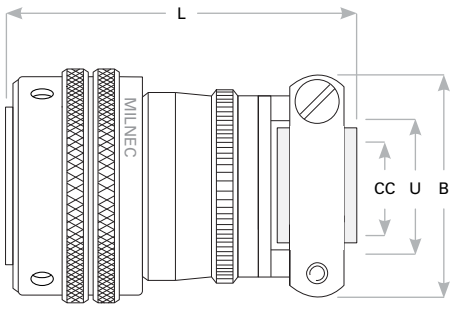
The integrated backshell provides IP67 environmental sealing, while cable clamps provide necessary cable strain relief. Always use a protective cover when plug is disconnected to protect contacts from environmental contaminants and impact.

Plug Dimensions

Shell Size	D	L	B	U	CC Cable Clearance
8	.750 (19.1)	1.906 (48.4)	.812 (20.6)	.240 (6.1)	.125 (3.2)
10	.859 (21.8)	1.906 (48.4)	.875 (22.2)	.302 (7.7)	.188 (4.8)
12	1.013 (25.7)	1.906 (48.4)	1.000 (25.4)	.428 (10.9)	.312 (7.9)
14	1.156 (29.4)	1.906 (48.4)	1.125 (28.6)	.552 (14.0)	.375 (9.5)
16	1.281 (32.5)	2.047 (52.0)	1.188 (30.2)	.615 (15.6)	.500 (12.7)
18	1.319 (33.5)	2.078 (52.8)	1.438 (36.5)	.740 (18.8)	.625 (15.9)
20	1.531 (38.9)	2.250 (57.2)	1.438 (36.5)	.740 (18.8)	.625 (15.9)
22	1.656 (42.1)	2.250 (57.2)	1.625 (41.3)	.928 (23.6)	.750 (19.1)
24	1.776 (45.1)	2.312 (58.7)	1.750 (44.5)	.990 (25.1)	.800 (20.3)

Dimensions are in inches (mm).





HS08 F 14-19 P N - 01

1 2 3 4 5 6

1. **BASIC PART NUMBER**
   - **HS08** 90° plug w/ integrated backshell
2. **MATERIAL & FINISH**
   - **F** Aluminum, olive drab cadmium
3. **SHELL SIZE & INSERT ARRANGEMENT**
   - See Insert Arrangement Selection table, p. B-12
4. **CONTACT STYLE**
   - **P** Pin
   - **S** Socket
5. **INSERT ROTATION**
   - **N** Normal or W, X, Y, Z, see p. B-12 for availability
6. **OPTIONAL ACCESSORY KIT** (OMIT FOR NONE)
   - **01** Protective cover

Note: See part builder (p. B-11) for additional kit options.

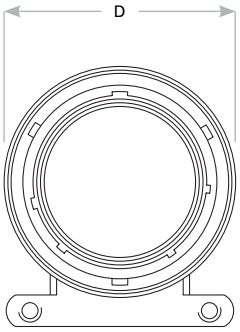
Angled plug for tight or difficult spaces

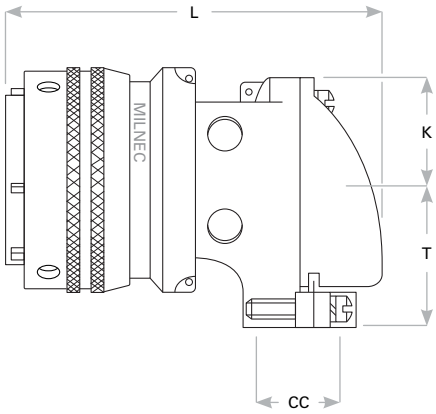
The 90° elbow on the plug's backshell allows for coupling in tight locations, and it provides simple cable management. The integrated backshell maintains IP67 environmental protection, while a cable clamp provides necessary cable strain relief.

Plug Dimensions

Shell Size	D	L	K	T	CC Cable Clearance
8	.796 (20.2)	1.786 (45.4)	.339 (8.6)	.655 (16.6)	.169 (4.3)
10	.921 (23.4)	1.880 (47.8)	.393 (10.0)	.749 (19.0)	.170 (4.3)
12	1.046 (26.6)	1.965 (49.9)	.450 (11.4)	.812 (20.6)	.264 (6.7)
14	1.171 (29.7)	2.113 (53.7)	.519 (13.2)	.905 (23.0)	.310 (7.9)
16	1.297 (32.9)	2.315 (58.8)	.583 (14.8)	1.030 (26.2)	.330 (8.4)
18	1.422 (36.1)	2.423 (61.5)	.621 (15.8)	1.015 (25.8)	.444 (11.3)
20	1.562 (39.7)	2.695 (68.4)	.683 (17.3)	1.077 (27.4)	.510 (13.0)
22	1.672 (42.5)	2.742 (69.6)	.739 (18.8)	1.139 (28.9)	.515 (13.1)
24	1.797 (45.6)	2.980 (75.7)	.797 (20.2)	1.265 (32.1)	.656 (16.7)

Dimensions are in inches (mm).





Rev. 1806

Wall Mount Receptacle

HS Series • High-Performance Solder Connectors

HS00 F 14-18 S N - 03

1 2 3 4 5 6

1 **BASIC PART NUMBER**
- **HS00** Wall mount receptacle w/ integrated backshell

2 **MATERIAL & FINISH**
- **F** Aluminum, olive drab cadmium

3 **SHELL SIZE & INSERT ARRANGEMENT**
- See Insert Arrangement Selection table, p. B-12

4 **CONTACT STYLE**
- **P** Pin
- **S** Socket

5 **INSERT ROTATION**
- **N** Normal or W, X, Y, Z, see p. B-12 for availability

6 **OPTIONAL ACCESSORY KIT** (OMIT FOR NONE)
- **02** Protective cover + mounting gasket
- **03** 02 kit + mounting bracket + sealing screws

Note: See part builder (p. B-11) for additional kit options.

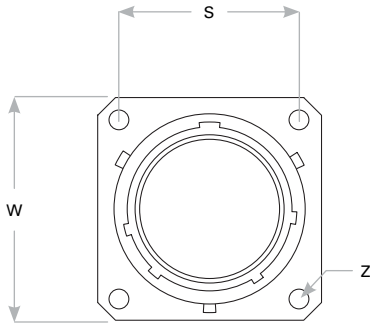
Wall mounted receptacle with backshell

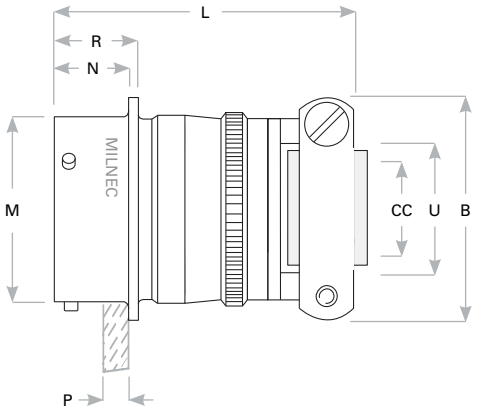
The wall mount receptacle has a standard four-hole flange for easy rear or front panel mounting. The integrated backshell provides IP67 environmental sealing and strain relief protection. Covers are recommended to protect the contacts from damage.

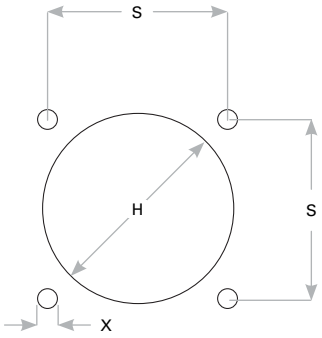
Receptacle Dimensions

Shell Size	W	Z	L	R	N	M	B	U	CC Cable Clearance	P Max Rear Panel‡	S	X	H
8	.812 (20.6)	.120 (3.0)	1.922 (48.8)	.493 (12.5)	.431 (10.9)	.473 (12.0)	.812 (20.6)	.240 (6.1)	.125 (3.2)	.087 (2.2)	.594 (15.1)	.120 (3.1)	.449 (11.4)
10	.938 (23.8)	.120 (3.0)	1.922 (48.8)	.493 (12.5)	.431 (10.9)	.590 (15.0)	.875 (22.2)	.302 (7.7)	.188 (4.8)	.087 (2.2)	.719 (18.3)	.120 (3.1)	.573 (14.6)
12	1.031 (26.2)	.120 (3.0)	1.922 (48.8)	.493 (12.5)	.431 (10.9)	.750 (19.1)	1.000 (25.4)	.428 (10.9)	.312 (7.9)	.087 (2.2)	.812 (20.6)	.120 (3.1)	.699 (17.8)
14	1.125 (28.6)	.120 (3.0)	1.922 (48.8)	.493 (12.5)	.431 (10.9)	.875 (22.2)	1.125 (28.6)	.552 (14.0)	.375 (9.5)	.087 (2.2)	.906 (23.0)	.120 (3.1)	.823 (20.9)
16	1.219 (31.0)	.120 (3.0)	2.047 (52.0)	.493 (12.5)	.431 (10.9)	1.000 (25.4)	1.188 (30.2)	.615 (15.6)	.500 (12.7)	.087 (2.2)	.969 (24.6)	.120 (3.1)	.949 (24.1)
18	1.312 (33.3)	.120 (3.0)	2.078 (52.8)	.493 (12.5)	.431 (10.9)	1.125 (28.6)	1.438 (36.5)	.740 (18.8)	.625 (15.9)	.087 (2.2)	1.062 (27.0)	.120 (3.1)	1.073 (27.3)
20	1.438 (36.5)	.120 (3.0)	2.344 (59.5)	.650 (16.5)	.556 (14.1)	1.250 (31.8)	1.438 (36.5)	.740 (18.8)	.625 (15.9)	.212 (5.4)	1.156 (29.4)	.120 (3.1)	1.199 (30.5)
22	1.562 (39.7)	.120 (3.0)	2.344 (59.5)	.650 (16.5)	.556 (14.1)	1.375 (34.9)	1.625 (41.3)	.928 (23.6)	.750 (19.1)	.212 (5.4)	1.250 (31.8)	.120 (3.1)	1.323 (33.6)
24	1.688 (42.9)	.147 (3.7)	2.406 (61.1)	.683 (17.3)	.589 (15.0)	1.500 (38.1)	1.719 (43.7)	.990 (25.1)	.800 (20.3)	.212 (5.4)	1.375 (34.9)	.147 (3.7)	1.449 (36.8)

Dimensions are in inches (mm). ‡ Max panel thickness applies only to rear mount applications to ensure proper coupling clearance.







Panel Cutout

Rev. 1806

HS02 F 14-19 S W - 03

1 2 3 4 5 6

1 BASIC PART NUMBER
- **HS02** Box mount receptacle

2 MATERIAL & FINISH
- **F** Aluminum, olive drab cadmium

3 SHELL SIZE & INSERT ARRANGEMENT
- See Insert Arrangement Selection table, p. B-12

4 CONTACT STYLE
- **P** Pin
- **S** Socket

5 INSERT ROTATION
- **N** Normal or W, X, Y, Z, see p. B-12 for availability

6 OPTIONAL ACCESSORY KIT (OMIT FOR NONE)
- **02** Protective cover + mounting gasket
- **03** 02 kit + mounting bracket + sealing screws

Note: See part builder (p. B-11) for additional kit options.

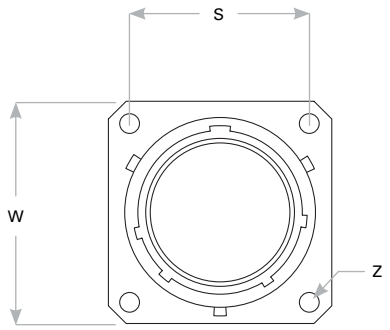
Box mounted receptacle for tight enclosures

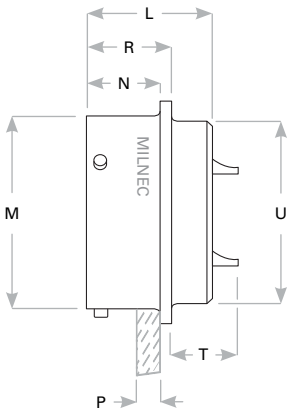
The box mount receptacle has a standard four-hole flange for front or rear panel mounting. A low-profile rear design without accessory threads permits it to be mounted in confined spaces. A gasket is recommended to seal the mounting location.

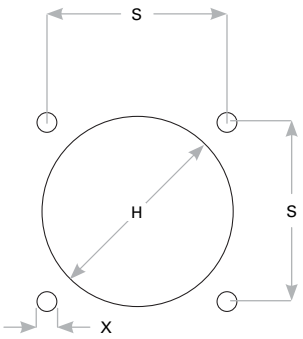
Receptacle Dimensions

Shell Size	W	Z	L	R	N	M	T	U	P Max Rear Panel‡	S	X	H
8	.812 (20.6)	.120 (3.0)	.825 (21.0)	.493 (12.5)	.431 (10.9)	.473 (12.0)	.465 (11.8)	.449 (11.4)	.087 (2.2)	.594 (15.1)	.120 (3.1)	.449 (11.4)
10	.938 (23.8)	.120 (3.0)	.825 (21.0)	.493 (12.5)	.431 (10.9)	.590 (15.0)	.465 (11.8)	.573 (14.6)	.087 (2.2)	.719 (18.3)	.120 (3.1)	.573 (14.6)
12	1.031 (26.2)	.120 (3.0)	.825 (21.0)	.493 (12.5)	.431 (10.9)	.750 (19.1)	.465 (11.8)	.699 (17.8)	.087 (2.2)	.812 (20.6)	.120 (3.1)	.699 (17.8)
14	1.125 (28.6)	.120 (3.0)	.825 (21.0)	.493 (12.5)	.431 (10.9)	.875 (22.2)	.465 (11.8)	.823 (20.9)	.087 (2.2)	.906 (23.0)	.120 (3.1)	.823 (20.9)
16	1.219 (31.0)	.120 (3.0)	.825 (21.0)	.493 (12.5)	.431 (10.9)	1.000 (25.4)	.465 (11.8)	.949 (24.1)	.087 (2.2)	.969 (24.6)	.120 (3.1)	.949 (24.1)
18	1.312 (33.3)	.120 (3.0)	.825 (21.0)	.493 (12.5)	.431 (10.9)	1.125 (28.6)	.465 (11.8)	1.073 (27.3)	.087 (2.2)	1.062 (27.0)	.120 (3.1)	1.073 (27.3)
20	1.438 (36.5)	.120 (3.0)	1.076 (27.3)	.650 (16.5)	.556 (14.1)	1.250 (31.8)	.526 (13.4)	1.199 (30.5)	.212 (5.4)	1.156 (29.4)	.120 (3.1)	1.199 (30.5)
22	1.562 (39.7)	.120 (3.0)	1.076 (27.3)	.650 (16.5)	.556 (14.1)	1.375 (34.9)	.526 (13.4)	1.323 (33.6)	.212 (5.4)	1.250 (31.8)	.120 (3.1)	1.323 (33.6)
24	1.688 (42.9)	.147 (3.7)	1.109 (28.2)	.683 (17.3)	.589 (15.0)	1.500 (38.1)	.493 (12.5)	1.449 (36.8)	.212 (5.4)	1.375 (34.9)	.147 (3.7)	1.449 (36.8)

Dimensions are in inches (mm). ‡ Max panel thickness applies only to rear mount applications to ensure proper coupling clearance.







Panel Cutout

Rev. 1806

Jam Nut Receptacle

HS Series • High-Performance Solder Connectors

HS07 F 14-18 S N - 02

1 2 3 4 5 6

1. **BASIC PART NUMBER**
   - **HS07** Jam nut recept. w/ integrated backshell
2. **MATERIAL & FINISH**
   - **F** Aluminum, olive drab cadmium
3. **SHELL SIZE & INSERT ARRANGEMENT**
   - See Insert Arrangement Selection table, p. B-12
4. **CONTACT STYLE**
   - **P** Pin
   - **S** Socket
5. **INSERT ROTATION**
   - **N** Normal or W, X, Y, Z, see p. B-12 for availability
6. **OPTIONAL ACCESSORY KIT** (OMIT FOR NONE)
   - **02** Protective cover

Note: See part builder (p. B-11) for additional kit options.

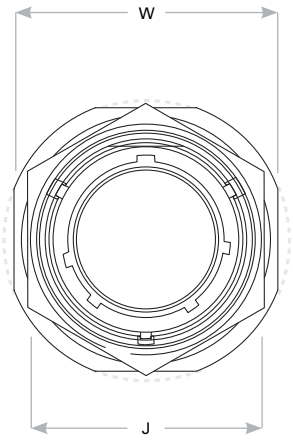
Jam nut receptacle with integrated O-ring

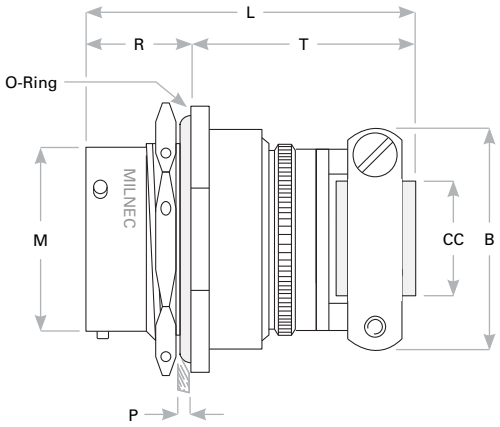
A jam nut receptacle provides increased environmental protection because it mounts through a single hole and seals with an integrated silicone O-ring. The backshell provides IP67 environmental protection and strain relief.

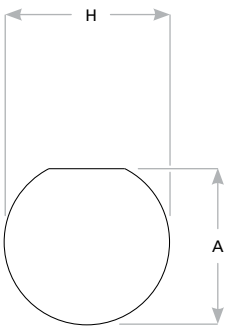
Receptacle Dimensions

Shell Size	W	J	L	R	M	T	B	CC Cable Clearance	P Max Rear Panel‡	H	A
8	.938 (23.8)	.750 (19.1)	1.758 (44.7)	.696 (17.7)	.473 (11.9)	1.062 (27.0)	0.781 (19.8)	0.250 (6.4)	.125 (3.2)	.572 (14.5)	.542 (13.8)
10	1.062 (27.0)	.875 (22.2)	1.758 (44.7)	.696 (17.7)	.590 (15.0)	1.062 (27.0)	0.844 (21.4)	0.312 (7.9)	.125 (3.2)	.697 (17.7)	.669 (17.0)
12	1.250 (31.8)	1.062 (27.0)	1.758 (44.7)	.696 (17.7)	.750 (19.1)	1.062 (27.0)	0.969 (24.6)	0.438 (11.1)	.125 (3.2)	.884 (22.5)	.830 (21.1)
14	1.375 (34.9)	1.188 (30.2)	1.758 (44.7)	.696 (17.7)	.875 (22.2)	1.062 (27.0)	1.094 (27.8)	0.562 (14.3)	.125 (3.2)	1.007 (25.6)	.955 (24.3)
16	1.500 (38.1)	1.312 (33.3)	1.884 (47.9)	.696 (17.7)	1.000 (25.4)	1.188 (30.2)	1.156 (29.4)	0.625 (15.9)	.125 (3.2)	1.134 (28.8)	1.084 (27.5)
18	1.625 (41.3)	1.438 (36.5)	1.884 (47.9)	.696 (17.7)	1.125 (28.6)	1.188 (30.2)	1.406 (35.7)	0.750 (19.1)	.125 (3.2)	1.259 (32.0)	1.208 (30.7)
20	1.812 (46.0)	1.562 (39.7)	2.134 (54.2)	.884 (22.4)	1.250 (31.8)	1.250 (31.8)	1.406 (35.7)	0.750 (19.1)	.250 (6.4)	1.384 (35.2)	1.333 (33.9)
22	1.938 (49.2)	1.688 (42.9)	2.134 (54.2)	.884 (22.4)	1.375 (35.0)	1.250 (31.8)	1.594 (40.5)	0.938 (23.8)	.250 (6.4)	1.507 (38.3)	1.459 (37.1)
24	2.062 (52.4)	1.816 (46.1)	2.167 (55.1)	.917 (23.3)	1.500 (38.1)	1.250 (31.8)	1.594 (40.5)	1.000 (25.4)	.250 (6.4)	1.634 (41.5)	1.575 (40.0)

Dimensions are in inches (mm). ‡ Max panel thickness applies only to rear mount applications to ensure proper coupling clearance.







Panel Cutout

Rev. 1806

HS01 F 14-18 S N - 02

1 2 3 4 5 6

1 BASIC PART NUMBER
HS01 Cable mount recept. w/ integrated backshell

2 MATERIAL & FINISH
F Aluminum, olive drab cadmium

3 SHELL SIZE & INSERT ARRANGEMENT
See Insert Arrangement Selection table, p. B-12

4 CONTACT STYLE
P Pin
S Socket

5 INSERT ROTATION
N Normal or W, X, Y, Z, see p. B-12 for availability

6 OPTIONAL ACCESSORY KIT (OMIT FOR NONE)
02 Protective cover

Note: See part builder (p. B-11) for additional kit options.

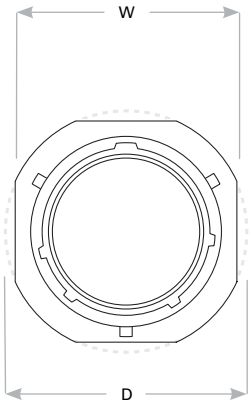
Receptacle for extension cord applications

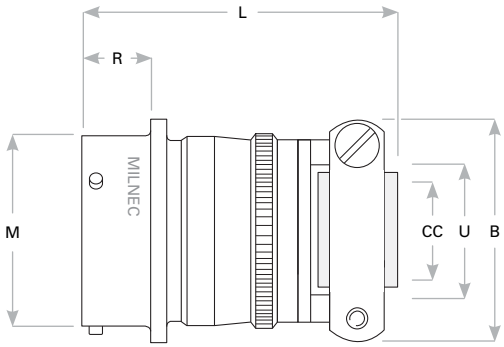
A reduced flange with rounded corners protects the connector from impact when the attached cable is dragged or dropped. An integrated backshell provides full environmental IP67 protection and cable strain relief. A protective cover is recommended to seal and protect the contacts from damage.

Receptacle Dimensions

Shell Size	W	D	L	R	M	B	U	CC Cable Clearance
8	.812 (20.6)	.938 (23.8)	1.922 (48.8)	.400 (10.2)	.473 (12.0)	.812 (20.6)	.240 (6.1)	.125 (3.2)
10	.938 (23.8)	1.062 (27.0)	1.922 (48.8)	.400 (10.2)	.590 (15.0)	.875 (22.2)	.302 (7.7)	.188 (4.8)
12	1.031 (26.2)	1.156 (29.4)	1.922 (48.8)	.400 (10.2)	.750 (19.1)	1.000 (25.4)	.428 (10.9)	.312 (7.9)
14	1.125 (28.6)	1.250 (31.8)	1.922 (48.8)	.400 (10.2)	.875 (22.2)	1.125 (28.6)	.552 (14.0)	.375 (9.5)
16	1.219 (31.0)	1.344 (34.1)	2.047 (52.0)	.400 (10.2)	1.000 (25.4)	1.188 (30.2)	.615 (15.6)	.500 (12.7)
18	1.312 (33.3)	1.438 (36.5)	2.078 (52.8)	.400 (10.2)	1.125 (28.6)	1.438 (36.5)	.740 (18.8)	.625 (15.9)
20	1.438 (36.5)	1.562 (39.7)	2.344 (59.5)	.535 (13.6)	1.250 (31.8)	1.438 (36.5)	.740 (18.8)	.625 (15.9)
22	1.562 (39.7)	1.688 (42.9)	2.344 (59.5)	.535 (13.6)	1.375 (34.9)	1.625 (41.3)	.928 (23.6)	.750 (19.1)
24	1.688 (42.9)	1.812 (46.0)	2.406 (61.1)	.568 (14.4)	1.500 (38.1)	1.719 (43.7)	.990 (25.1)	.800 (20.3)

Dimensions are in inches (mm).





Rev. 1806

Thru-Bulkhead Receptacle

HS Series • High-Performance Solder Connectors

HS22 F 14-18 PS N - 02

1 2 3 4 5 6

1. **BASIC PART NUMBER**
   - **HS22** Thru-bulkhead receptacle
2. **MATERIAL & FINISH**
   - **F** Aluminum, olive drab cadmium
3. **SHELL SIZE & INSERT ARRANGEMENT**
   - See Insert Arrangement Selection table, p. B-12
4. **CONTACT STYLE**
   - **PS** Pin / socket (non-configurable)
5. **INSERT ROTATION**
   - **N** Normal or W, X, Y, Z, see p. B-12 for availability
6. **OPTIONAL ACCESSORY KIT** (OMIT FOR NONE)
   - **02** Protective covers (2x) + mounting gasket
   - **03** 02 kit + mounting bracket + sealing screws

Note: See part builder (p. B-11) for additional kit options.

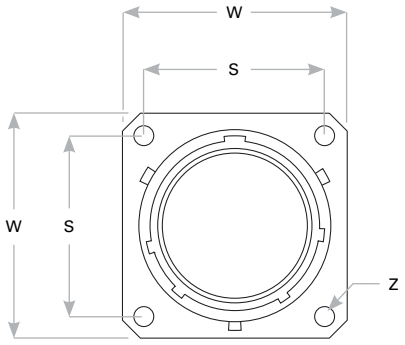
Bulkhead feed-thru with dual receptacle ends

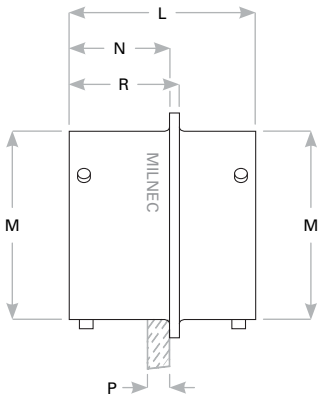
This unique connector has receptacles on both sides of the shell, allowing cable plugs to connect from both sides. The long side of the shell features socket contacts, the short side pin contacts. A mounting bracket and gasket are recommended.

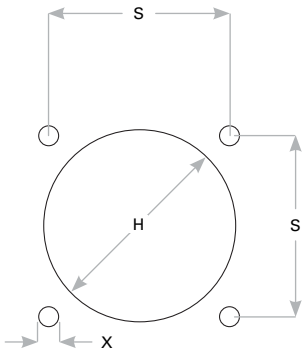
Receptacle Dimensions

Shell Size	W	Z	L	R	N	M	P Max Rear Panel‡	S	X	H
8	.812 (20.6)	.120 (3.0)	1.050 (26.7)	.625 (15.9)	.562 (14.3)	.473 (12.0)	.215 (5.4)	.594 (15.1)	.120 (3.1)	.533 (13.5)
10	.938 (23.8)	.120 (3.0)	1.050 (26.7)	.625 (15.9)	.562 (14.3)	.590 (15.0)	.215 (5.4)	.719 (18.3)	.120 (3.1)	.650 (16.5)
12	1.031 (26.2)	.120 (3.0)	1.050 (26.7)	.625 (15.9)	.562 (14.3)	.750 (19.1)	.215 (5.4)	.812 (20.6)	.120 (3.1)	.810 (20.6)
14	1.125 (28.6)	.120 (3.0)	1.050 (26.7)	.625 (15.9)	.562 (14.3)	.875 (22.2)	.215 (5.4)	.906 (23.0)	.120 (3.1)	.935 (23.8)
16	1.219 (31.0)	.120 (3.0)	1.050 (26.7)	.625 (15.9)	.562 (14.3)	1.000 (25.4)	.215 (5.4)	.969 (24.6)	.120 (3.1)	1.060 (26.9)
18	1.312 (33.3)	.120 (3.0)	1.050 (26.7)	.625 (15.9)	.562 (14.3)	1.125 (28.6)	.215 (5.4)	1.062 (27.0)	.120 (3.1)	1.185 (30.1)
20	1.438 (36.5)	.120 (3.0)	1.330 (33.8)	.781 (19.8)	.688 (17.5)	1.250 (31.8)	.340 (8.6)	1.156 (29.4)	.120 (3.1)	1.310 (33.3)
22	1.562 (39.7)	.120 (3.0)	1.330 (33.8)	.781 (19.8)	.688 (17.5)	1.375 (34.9)	.340 (8.6)	1.250 (31.8)	.120 (3.1)	1.435 (36.5)
24	1.688 (42.9)	.147 (3.7)	1.330 (33.8)	.781 (19.8)	.688 (17.5)	1.500 (38.1)	.310 (7.8)	1.375 (34.9)	.147 (3.7)	1.560 (39.6)

Dimensions are in inches (mm). ‡ Max panel thickness applies only to rear mount applications to ensure proper coupling clearance.







Panel Cutout

Rev. 1806

HS12 H 14-15 P N - 02

1 2 3 4 5 6

1 BASIC PART NUMBER

HS12 Hermetic box mount receptacle
Helium leakage < 1.0 x10^{-6} cc^3/sec at 15 psi
(1.1 kg/cm^2) Insert rated to 75 psi (5.3 kg/cm^2)

2 MATERIAL & FINISH

H Carbon steel, tin plating over nickel

3 SHELL SIZE & INSERT ARRANGEMENT

See Insert Arrangement Selection table, p. B-12

4 CONTACT STYLE

P Pin, tin plated
G* Pin, gold plated
S* Socket, tin plated
H* Socket, gold plated

5 INSERT ROTATION

N Normal or W, X, Y, Z, see p. B-12 for availability

6 OPTIONAL ACCESSORY KIT (OMIT FOR NONE)

02 Protective cover
03 02 kit + mounting bracket + sealing screws

* Please consult an authorized distributor for lead time and minimum quantity requirements.

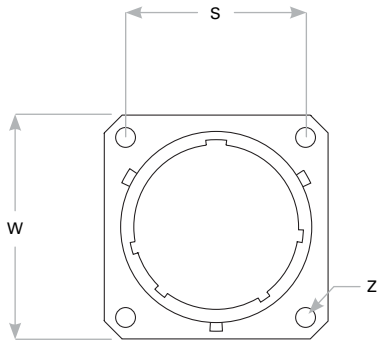
Hermetic box mount receptacle

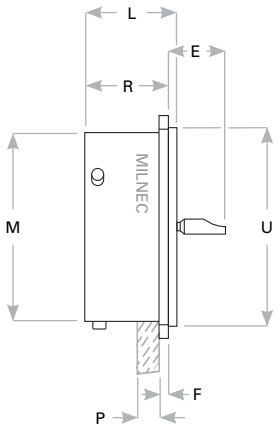
These receptacles are made with high-strength carbon steel shells and glass inserts to create a true hermetic seal. A low-profile rear design allows them to be mounted in cramped enclosures. A gasket and mounting bracket with sealing screws are recommended to help maintain an airtight seal.

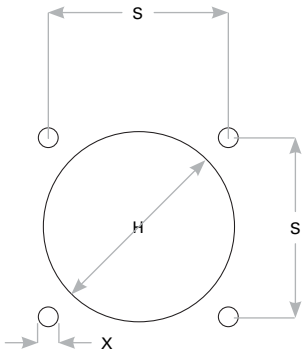
Receptacle Dimensions

Shell Size	W	Z	L	R	M	F	E	U	P Max Rear Panel‡	S	X	H
8	.812 (20.6)	.120 (3.1)	.541 (13.8)	.494 (12.6)	.473 (12.0)	.062 (1.6)	.344 (8.7)	.562 (14.3)	.087 (2.2)	.594 (15.1)	.120 (3.1)	.449 (11.4)
10	.938 (23.8)	.120 (3.1)	.541 (13.8)	.494 (12.6)	.590 (15.0)	.062 (1.6)	.344 (8.7)	.672 (17.1)	.087 (2.2)	.719 (18.3)	.120 (3.1)	.573 (14.6)
12	1.031 (26.2)	.120 (3.1)	.541 (13.8)	.494 (12.6)	.750 (19.1)	.062 (1.6)	.344 (8.7)	.781 (19.8)	.087 (2.2)	.812 (20.6)	.120 (3.1)	.699 (17.8)
14	1.125 (28.6)	.120 (3.1)	.541 (13.8)	.494 (12.6)	.875 (22.2)	.062 (1.6)	.344 (8.7)	.906 (23.0)	.087 (2.2)	.906 (23.0)	.120 (3.1)	.823 (20.9)
16	1.219 (31.0)	.120 (3.1)	.541 (13.8)	.494 (12.6)	1.000 (25.4)	.062 (1.6)	.344 (8.7)	1.031 (26.2)	.087 (2.2)	.969 (24.6)	.120 (3.1)	.949 (24.1)
18	1.312 (33.3)	.120 (3.1)	.541 (13.8)	.494 (12.6)	1.125 (28.6)	.062 (1.6)	.344 (8.7)	1.156 (29.4)	.087 (2.2)	1.062 (27.0)	.120 (3.1)	1.073 (27.3)
20	1.438 (36.5)	.120 (3.1)	.603 (15.3)	.556 (14.1)	1.250 (31.8)	.062 (1.6)	.344 (8.7)	1.250 (31.8)	.212 (5.4)	1.156 (29.4)	.120 (3.1)	1.199 (30.5)
22	1.562 (39.7)	.120 (3.1)	.635 (16.1)	.556 (14.1)	1.375 (34.9)	.062 (1.6)	.377 (9.6)	1.375 (34.9)	.212 (5.4)	1.250 (31.8)	.120 (3.1)	1.323 (33.6)
24	1.688 (42.9)	.147 (3.7)	.667 (16.9)	.588 (14.9)	1.500 (38.1)	.062 (1.6)	.377 (9.6)	1.500 (38.1)	.212 (5.4)	1.375 (34.9)	.147 (3.7)	1.449 (36.8)

Dimensions are in inches (mm). ‡ Max panel thickness applies only to rear mount applications to ensure proper coupling clearance.







Panel Cutout

Rev. 1806

Jam Nut Receptacle (Hermetic)

HS Series • High-Performance Solder Connectors

Receptacle with single-hole mounting design

Hermetic jam nut receptacles are the preferred hermetic shell style due to a single-hole mount design and an integrated silicone O-ring to seal the mounting location.

HS13 H 12-3 P N - 02

1 2 3 4 5 6

1 BASIC PART NUMBER

HS13 Hermetic jam nut receptacle
Helium leakage < 1.0 x10^{-6} cc^3/sec at 15 psi
(1.1 kg/cm^2) Insert rated to 75 psi (5.3 kg/cm^2)

2 MATERIAL & FINISH

H Carbon steel, tin plating over nickel

3 SHELL SIZE & INSERT ARRANGEMENT

See Insert Arrangement Selection table, p. B-12

4 CONTACT STYLE

P Pin, tin plated
G* Pin, gold plated
S* Socket, tin plated
H* Socket, gold plated

5 INSERT ROTATION

N Normal or W, X, Y, Z, see p. B-12 for availability

6 OPTIONAL ACCESSORY KIT (OMIT FOR NONE)

02 Protective cover

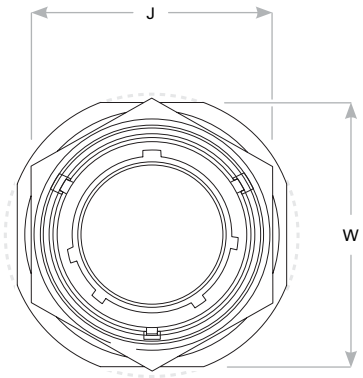
* Please consult an authorized distributor for lead time and minimum quantity requirements.

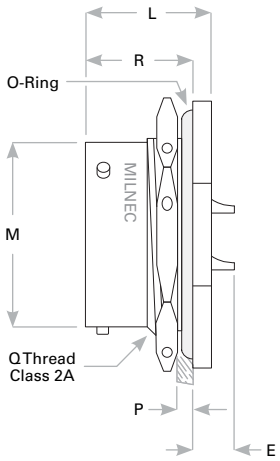
Note: See part builder (p. B-11) for additional kit options.

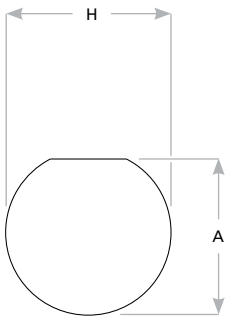
Receptacle Dimensions

Shell Size	W	J	L	R	M	Q Thread Class 2A	E	P Max Rear Panel‡	H	A
8	.938 (23.8)	.750 (19.1)	.790 (20.1)	.696 (17.7)	.473 (12.0)	.5625-24 NEF	.206 (5.2)	.125 (3.2)	.572 (14.5)	.542 (13.8)
10	1.062 (27.0)	.875 (22.2)	.790 (20.1)	.696 (17.7)	.590 (15.0)	.6875-24 NEF	.206 (5.2)	.125 (3.2)	.697 (17.7)	.669 (17.0)
12	1.250 (31.8)	1.062 (27.0)	.790 (20.1)	.696 (17.7)	.750 (19.1)	.8750-20 UNEF	.206 (5.2)	.125 (3.2)	.884 (22.5)	.830 (21.1)
14	1.375 (34.9)	1.188 (30.2)	.790 (20.1)	.696 (17.7)	.875 (22.2)	1.0000 20 UNEF	.206 (5.2)	.125 (3.2)	1.007 (25.6)	.955 (24.3)
16	1.500 (38.1)	1.312 (33.3)	.790 (20.1)	.696 (17.7)	1.000 (25.4)	1.1250-18 NEF	.206 (5.2)	.125 (3.2)	1.134 (28.8)	1.084 (27.5)
18	1.625 (41.3)	1.438 (36.5)	.790 (20.1)	.696 (17.7)	1.125 (28.6)	1.2500-18 NEF	.206 (5.2)	.125 (3.2)	1.259 (32.0)	1.208 (30.7)
20	1.812 (46.0)	1.562 (39.7)	1.009 (25.7)	.884 (22.5)	1.250 (31.8)	1.3750-18 NEF	.081 (2.1)	.250 (6.4)	1.384 (35.2)	1.333 (33.9)
22	1.938 (49.2)	1.688 (42.9)	1.009 (25.7)	.884 (22.5)	1.375 (34.9)	1.5000-18 NEF	.081 (2.1)	.250 (6.4)	1.507 (38.3)	1.459 (37.1)
24	2.062 (52.4)	1.812 (46.0)	1.042 (26.5)	.917 (23.3)	1.500 (38.1)	1.6250-18 NEF	.048 (1.2)	.250 (6.4)	1.634 (41.5)	1.575 (40.0)

Dimensions are in inches (mm). ‡ Max panel thickness applies only to rear mount applications to ensure proper coupling clearance.







Panel Cutout

Rev. 1806

HS19 H 14-19 P N

1 2 3 4 5

1 BASIC PART NUMBER

HS19 Hermetic solder mount receptacle
Helium leakage < 1.0 x10^{-6} cc^3/sec at 15 psi
(1.1 kg/cm^2) Insert rated to 75 psi (5.3 kg/cm^2)

2 MATERIAL & FINISH

H Carbon steel, tin plating over nickel

3 SHELL SIZE & INSERT ARRANGEMENT

See Insert Arrangement Selection table, p. B-12

4 CONTACT STYLE

P Pin, tin plated
G* Pin, gold plated
S* Socket, tin plated
H* Socket, gold plated

5 INSERT ROTATION

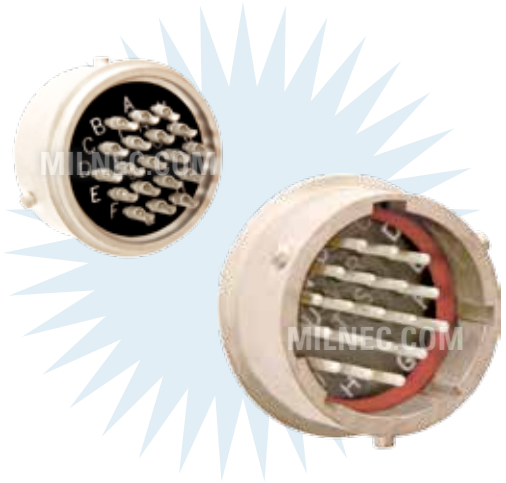
N Normal or W, X, Y, Z, see p. B-12 for availability

6 OPTIONAL ACCESSORY KIT (OMIT FOR NONE)

02 Protective cover

* Please consult an authorized distributor for lead time and minimum quantity requirements.

Note: See part builder (p. B-11) for additional kit options.



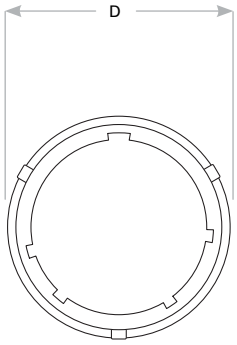
Hermetic receptacle for solder mounting

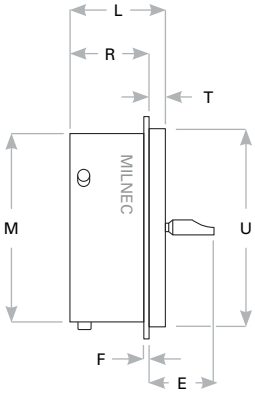
Hermetic receptacle with a flange specially designed to be solder mounted to a panel. The reduced flange permits the connector to have the smallest mounting footprint available. This feature is useful when mounting to probes or sensors, or when seeking the highest connector density on a panel.

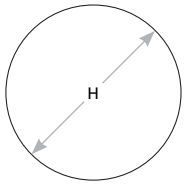
Receptacle Dimensions

Shell Size	D	L	R	M	F	T	E	U	H Front Mount
8	.636 (16.2)	.541 (13.8)	.447 (11.4)	.473 (12.0)	.031 (0.8)	.094 (2.4)	.386 (9.8)	.562 (14.3)	.582 (14.8)
10	.761 (19.3)	.541 (13.8)	.447 (11.4)	.590 (15.0)	.031 (0.8)	.094 (2.4)	.386 (9.8)	.672 (17.1)	.692 (17.6)
12	.855 (21.7)	.541 (13.8)	.447 (11.4)	.750 (19.1)	.031 (0.8)	.094 (2.4)	.386 (9.8)	.781 (19.8)	.801 (20.4)
14	.980 (24.9)	.541 (13.8)	.447 (11.4)	.875 (22.2)	.031 (0.8)	.094 (2.4)	.386 (9.8)	.906 (23.0)	.926 (23.5)
16	1.105 (28.1)	.541 (13.8)	.447 (11.4)	1.000 (25.4)	.031 (0.8)	.094 (2.4)	.386 (9.8)	1.031 (26.2)	1.051 (26.7)
18	1.229 (31.2)	.541 (13.8)	.447 (11.4)	1.125 (28.6)	.031 (0.8)	.094 (2.4)	.386 (9.8)	1.156 (29.4)	1.176 (29.9)
20	1.323 (33.6)	.603 (15.3)	.509 (12.9)	1.250 (31.8)	.031 (0.8)	.094 (2.4)	.386 (9.8)	1.250 (31.8)	1.395 (35.4)
22	1.449 (36.8)	.634 (16.1)	.509 (12.9)	1.375 (34.9)	.031 (0.8)	.125 (3.2)	.418 (10.6)	1.375 (34.9)	1.375 (34.9)
24	1.574 (40.0)	.667 (17.0)	.542 (13.8)	1.500 (38.1)	.031 (0.8)	.125 (3.2)	.418 (10.6)	1.500 (38.1)	1.520 (38.6)

Dimensions are in inches (mm).







Panel Cutout

Rev. 1806

HSCP - 14 B E

1 2 3 4

1 **BASIC PART NUMBER**
- **HSCP** Plug cover w/ sash chain
- **HSCR** Receptacle cover w/ sash chain

2 **SHELL SIZE**
- See Protective Cover Dimensions table below

3 **MATERIAL & FINISH**
- **B** Aluminum, anodize hardcoat

4 **ATTACHMENT TYPE**
- **E** Eyelet attachment on sash chain
- **J** Jam nut ring attachment on sash chain (for use with HS07 & HS13 jam nut receptacles)

Note: See part builder (p. B-11) for additional kit options.

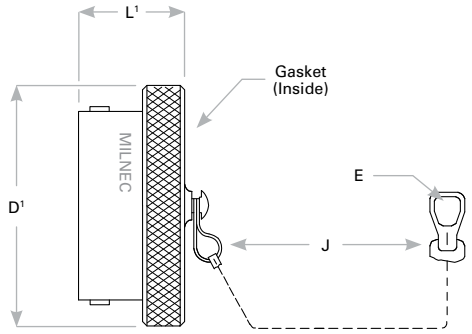
Always cover unmated connectors

Unmated connectors should always be paired with protective covers to environmentally seal and protect the contacts from impact or damage. Covers also keep dirt and debris from the coupling mechanism, ensuring reliable mating every time.

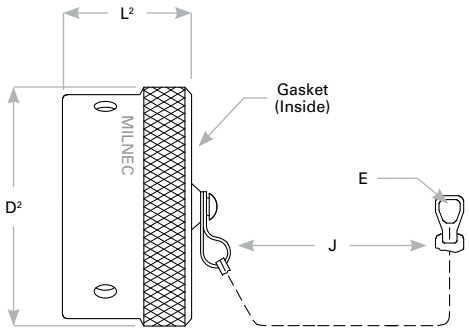
Protective Cover Dimensions

Shell Size	L¹	D¹	E	J Chain Length	L²	D²	H
8	.562 (14.3)	.719 (18.3)	1.67 (4.2)	3.00 (76.2)	.562 (14.3)	.734 (18.6)	.578 (14.7)
10	.562 (14.3)	.844 (21.4)	1.67 (4.2)	3.00 (76.2)	.562 (14.3)	.859 (21.8)	.703 (17.9)
12	.562 (14.3)	1.000 (25.4)	1.67 (4.2)	3.50 (88.9)	.562 (14.3)	1.000 (25.4)	.891 (22.6)
14	.562 (14.3)	1.125 (28.6)	1.67 (4.2)	3.50 (88.9)	.562 (14.3)	1.125 (28.6)	1.016 (25.8)
16	.562 (14.3)	1.250 (31.8)	1.67 (4.2)	3.50 (88.9)	.562 (14.3)	1.250 (31.8)	1.141 (29.0)
18	.562 (14.3)	1.375 (34.9)	1.67 (4.2)	3.50 (88.9)	.562 (14.3)	1.375 (34.9)	1.266 (32.2)
20	.625 (15.9)	1.500 (38.1)	1.67 (4.2)	4.00 (101.6)	.562 (14.3)	1.500 (38.1)	1.391 (35.3)
22	.625 (15.9)	1.625 (41.3)	1.67 (4.2)	4.00 (101.6)	.562 (14.3)	1.625 (41.3)	1.516 (38.5)
24	.658 (16.7)	1.750 (44.5)	1.67 (4.2)	4.00 (101.6)	.602 (15.3)	1.750 (44.5)	1.641 (41.7)

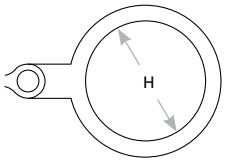
Dimensions are in inches (mm).



Plug Cover



Receptacle Cover



Jam Nut Ring Attachment

HSCD - 14 F - 03

1 2 3 4

1 **BASIC PART NUMBER**
- **HSCD** Stowage receptacle

2 **SHELL SIZE**
- See Stowage Receptacle Dimensions table below

3 **MATERIAL & FINISH**
- **F** Aluminum, olive drab cadmium

4 **OPTIONAL ACCESSORY KIT** (OMIT FOR NONE)
- **02** Protective cover + mounting gasket
- **03** 02 kit + mounting bracket + sealing screws

Note: See part builder (p. B-11) for additional kit options.

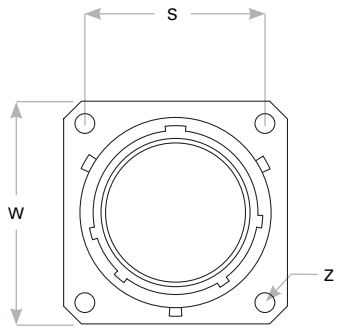
Stow your cable while protecting your plug

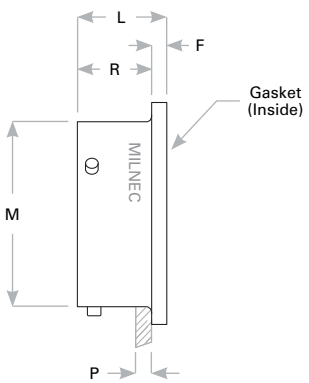
Prevent operator injury or connector damage by providing a safe place to stow and organize your unused cables. Protective covers are recommended to always keep stowage receptacles clean and dry.

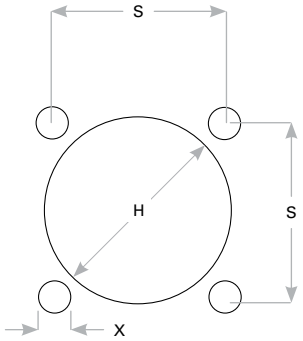
Stowage Receptacle Dimensions

Shell Size	W	Z	L	R	M	F	P Max Rear Panel‡	S	X	H
8	.828 (21.0)	.120 (3.0)	.540 (13.8)	.478 (12.2)	.471 (12.0)	.062 (1.6)	.125 (3.2)	.594 (15.1)	.120 (3.1)	.449 (11.4)
10	.954 (24.2)	.120 (3.0)	.540 (13.8)	.478 (12.2)	.588 (14.9)	.062 (1.6)	.125 (3.2)	.719 (18.3)	.120 (3.1)	.573 (14.6)
12	1.047 (26.6)	.120 (3.0)	.540 (13.8)	.478 (12.2)	.748 (19.0)	.062 (1.6)	.125 (3.2)	.812 (20.6)	.120 (3.1)	.699 (17.8)
14	1.141 (29.0)	.120 (3.0)	.540 (13.8)	.478 (12.2)	.873 (22.2)	.062 (1.6)	.125 (3.2)	.906 (23.0)	.120 (3.1)	.823 (20.9)
16	1.234 (31.3)	.120 (3.0)	.540 (13.8)	.478 (12.2)	.998 (25.3)	.062 (1.6)	.125 (3.2)	.969 (24.6)	.120 (3.1)	.949 (24.1)
18	1.328 (33.7)	.120 (3.0)	.540 (13.8)	.478 (12.2)	1.123 (28.5)	.062 (1.6)	.125 (3.2)	1.062 (27.0)	.120 (3.1)	1.073 (27.3)
20	1.453 (36.9)	.120 (3.0)	.666 (16.9)	.572 (14.5)	1.248 (31.7)	.094 (2.4)	.250 (6.4)	1.156 (29.4)	.120 (3.1)	1.199 (30.5)
22	1.578 (40.1)	.120 (3.0)	.666 (16.9)	.572 (14.5)	1.373 (34.9)	.094 (2.4)	.250 (6.4)	1.250 (31.8)	.120 (3.1)	1.323 (33.6)
24	1.703 (43.3)	.147 (3.7)	.699 (17.8)	.605 (15.4)	1.498 (38.0)	.094 (2.4)	.250 (6.4)	1.375 (34.9)	.147 (3.7)	1.449 (36.8)

Dimensions are in inches (mm). ‡ Max panel thickness applies only to rear mount applications to ensure proper coupling clearance.

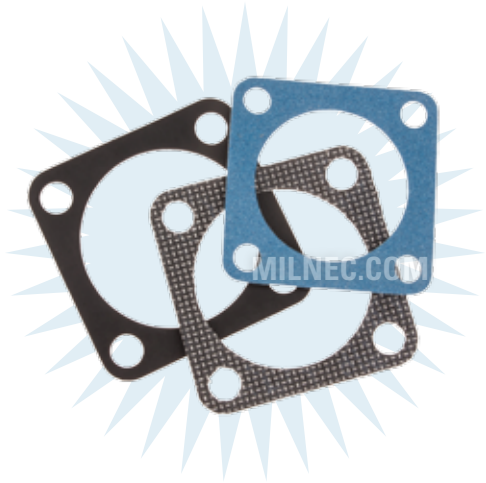






Panel Cutout

Rev. 1806



HSGE - 14

1 2

1 BASIC PART NUMBER

HSGE Neoprene environmental (weather resistant)
Temp. range -40˚F to +230˚F (-40˚C to +110˚C)

HSGL Fluorosilicone (jet fuel & oil resistant)
Temp. range -70˚F to +392˚F (-56˚C to +200˚C)

HSGD Conductive EMI-RFI fluorosilicone, Al-Ag filled
Temp. range -70˚F to +392˚F (-56˚C to +200˚C)
Shielding effectiveness at 90 dB @ 10 GHz

2 SHELL SIZE

See Gasket Dimensions table below

Note: See part builder (p. B-11) for additional kit options.

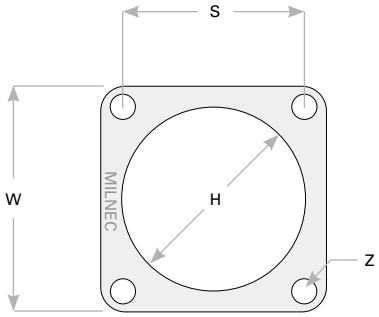
Environmentally seal your mounting point

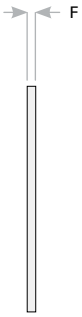
Mounting gaskets will seal the mounting space between the receptacles and the panel to maintain the environmental integrity of your enclosure. They may be used in either rear or front mount receptacle installations.

Gasket Dimensions

Shell Size	W	S	Z	H	F
8	.812 (20.6)	.594 (15.1)	.130 (3.3)	.500 (12.7)	.024 (.6)
10	.938 (23.8)	.719 (18.3)	.130 (3.3)	.625 (15.9)	.024 (.6)
12	1.031 (26.2)	.813 (20.7)	.130 (3.3)	.750 (19.1)	.024 (.6)
14	1.125 (28.6)	.906 (23.0)	.130 (3.3)	.875 (22.2)	.024 (.6)
16	1.219 (31.0)	.969 (24.6)	.130 (3.3)	1.000 (25.4)	.024 (.6)
18	1.312 (33.3)	1.063 (27.0)	.130 (3.3)	1.125 (28.6)	.024 (.6)
20	1.438 (36.5)	1.156 (29.4)	.130 (3.3)	1.250 (31.8)	.024 (.6)
22	1.563 (39.7)	1.250 (31.8)	.130 (3.3)	1.375 (34.9)	.024 (.6)
24	1.688 (42.9)	1.375 (34.9)	.130 (3.3)	1.500 (38.1)	.024 (.6)

Dimensions are in inches (mm).





HSMB - 14 - A

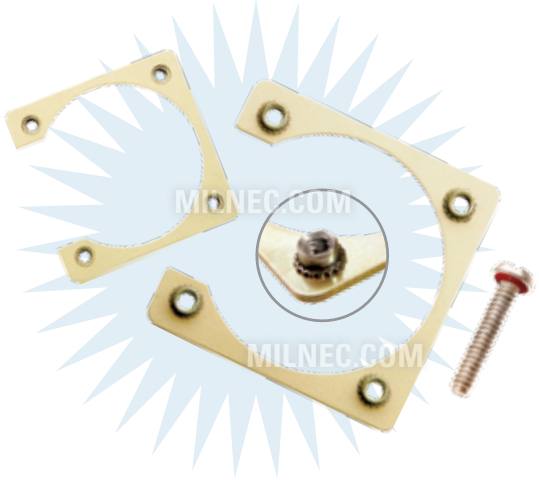
1 2 3

1 **BASIC PART NUMBER**
HSMB Mounting bracket, aluminum alloy with SST locking nuts

2 **SHELL SIZE**
See Bracket Dimensions table below

3 **OPTIONAL FASTENER KIT** (OMIT FOR NONE)
A Self-sealing SST fillister head screws (4x)

Note: See part builder (p. B-11) for additional kit options.



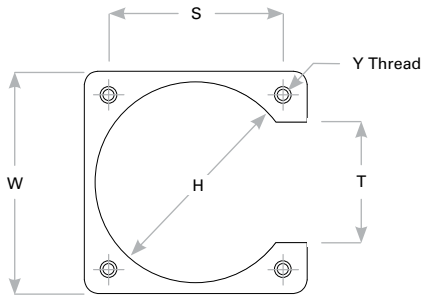
High-reliability mounting hardware

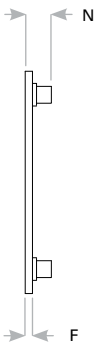
Mounting brackets with captive stainless steel locking nuts provide a safety measure to prevent loose fasteners from falling into susceptible areas, which may cause equipment failure. Optional sealing screws with O-rings will effectively seal the mounting holes on your enclosure from water ingress.

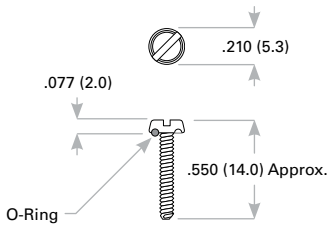
Bracket Dimensions

Shell Size	W	S	T	H	N	F	Screw Size	Y Thread
8	.880 (22.4)	.594 (15.1)	.308 (7.8)	.570 (14.5)	.136 (3.5)	.040 (1.0)	4	4-40 UNJC-3B
10	1.019 (25.9)	.719 (18.3)	.433 (11.0)	.720 (18.3)	.136 (3.5)	.040 (1.0)	4	4-40 UNJC-3B
12	1.104 (28.0)	.812 (20.6)	.530 (13.5)	.855 (21.7)	.136 (3.5)	.040 (1.0)	4	4-40 UNJC-3B
14	1.198 (30.4)	.906 (23.0)	.624 (15.8)	.984 (25.0)	.136 (3.5)	.040 (1.0)	4	4-40 UNJC-3B
16	1.280 (32.5)	.969 (24.6)	.687 (17.4)	1.094 (27.8)	.136 (3.5)	.040 (1.0)	4	4-40 UNJC-3B
18	1.406 (35.7)	1.062 (27.0)	.780 (19.8)	1.220 (31.0)	.136 (3.5)	.040 (1.0)	4	4-40 UNJC-3B
20	1.535 (39.0)	1.156 (29.4)	.874 (22.2)	1.345 (34.2)	.136 (3.5)	.040 (1.0)	4	4-40 UNJC-3B
22	1.665 (42.3)	1.250 (31.8)	.968 (24.6)	1.478 (37.5)	.136 (3.5)	.040 (1.0)	4	4-40 UNJC-3B
24	1.738 (44.1)	1.375 (34.9)	.907 (23.0)	1.483 (37.7)	.153 (3.9)	.040 (1.0)	6	6-32 UNJC-3B

Dimensions are in inches (mm).







Rev. 1806

H900 Soldering Station Kit

Our soldering station kit provides a complete solution for professionally terminating solder contacts to stranded or solid core wire.

Features & Benefits

- Temperature range 392° to 896°F (200° to 480°C)
- Adjustable temperature control dial with lock/set screw
- Idle temperature stability of ±1.8°F (1.0°C)
- Ceramic heating element and senor ensure rapid heat-up temperature (30 seconds) and fast thermal recovery
- Celsius or Fahrenheit temperature setting
- Slender iron handles are insulated and ergonomically designed for ease and comfort
- ESD-safe design suitable for controlled environments
- 5 interchangeable tips suitable for connector solder contacts ranging from #0 to #22D

Note: The above lists standard options readily available in stock. Please consult an authorized distributor for full range of solder stations, re-work stations, specialty tips, and accessories.

Soldering Station Kit

Part Number	Kit Includes The Following Items
H900	120V / 60W soldering station, iron holder, cleaning sponge, 5 interchangeable tips, rosin-core lead solder, instructions

Replacement Tips

Part Number	For Contact Size	Description	Image
H900-6D	#16, #20, #22D	Chisel (1.6mm Tip)	
H900-B	#16, #20	Conical (0.5mm Tip)	
H900-2C	#16	45° Beveled (2mm Tip)	
H900-4C	#8, #12	45° Beveled (4mm Tip)	
H900-S3	#0, #4	Chisel (5.2mm Tip)	

Rev. 1806