



MILITARY & DEFENSE EDITION

DL Series
MIL-DTL-38999 Series 1
MILITARY STYLE CONNECTORS

- IP67 Rated Waterproof Connectors
- Covers, Gaskets, Mounting Plates
- Hermetic Receptacles, Tooling

GET THE WHOLE KIT & CABOODLE WITHOUT THE PAIN IN THE BOODLE

Advanced Connectors

Ruggedized and environmentally protected connectors that feature a wide variety of contacts, materials, and finishes for the ultimate in design flexibility.

EMI/RFI Backshells

For mission-critical applications, EMI/RFI environmental backshells offer total protection from environmental hazards and radiated interference.

Protective Covers

Quickly match the correct cover with your custom connector to protect contacts and ensure a reliable environmental seal when it is not in use.



Contacts

Gold plated contacts ensure superior signal and power fidelity and are included with every connector.

Mounting Hardware

Securely mount and seal your connector with a mounting bracket, sealing gasket, and stainless steel sealing screws.

Order Matching Accessories—Every Time!

The search for matching connector accessories is over! Our simple part builders make it easy to build a complete connector kit with everything you need for mission-critical applications. Kits include protective covers, gaskets, mounting hardware, and a variety of backshells. Get complete protection with Milnec connector kits.

MILNEC
INTERCONNECT SYSTEMS

About Us

MILNEC INTERCONNECT SYSTEMS is a leader in the design, manufacture, and supply of high-performance cylindrical interconnect systems. From research stations in the Antarctic to spacecraft on the plains of Mars, our high-reliability connector systems conquer the most demanding environments. Milnec is a supplier to leading companies in 24 countries in the following industries:

- Military & Defense
- Aerospace & Space
- Railway & Mass Transit
- Industrial & Heavy Equipment
- Alternative Energy, Nuclear, Oil & Gas



Logistics Solutions for Global Applications

Global logistics and support means we deliver products on time every time to any destination. To support your immediate requirements, we have extensive inventories, making most systems readily available for today's compressed design and production schedules. On average, custom connector solutions made to your exact configuration ship within seven days from the time of order placement.

- Worldwide shipping (restricted to NATO countries only)
- Web access to inventory, prices, & delivery information
- A large stock of popular parts for greater availability
- Competitive pricing and short lead times
- Impeccable customer service & technical support

Milnec Interconnect Systems

3947 West Lincoln Highway #192
Downingtown, PA 19335

1-855-4MILNEC Toll Free
(1-855-464-5632)

technical-support@milnec.com

U.S. Military Cage Code: 6STX5

NAICS Code: 423690

High Reliability—Simplified

Just because your interconnect problem is complicated does not mean acquiring the solution has to be. Milnec connector systems and our "all-in-one" kits provide engineers the most complete and professional connector solutions with ease and technical clarity.

- Complete, high-reliability solutions
- Simple to understand technical data & configurations
- Online part builder tools, drawings, & documentation
- Field installable & serviceable



Performance With Environmental Responsibility

RoHS compliant products are available to support environmental responsibility and legislative conformity. Through simple modification codes, Milnec provides a wide variety of material options to easily provide customers with fully compliant and eco-friendly connector components.

- RoHS compliant materials & finishes
- Simple material modification codes
- Lead-free solder contacts



Highest Manufacturing Quality

We invest in the finest equipment and modern production processes to ensure that our connectors will exceed your quality and performance expectations. Our production processes include advanced computer numerical control machining, cosmetic and metal finishing, heat treatment, and stainless steel passivation.

- Traceability on 100% of the parts
- Quick production lead times
- Quantity support from R&D to production
- "Just-in-time" delivery, kitting, & special packaging
- Rapid tooling & prototyping for custom designs



Features & Benefits

DL Series • MIL-DTL-38999 Series I Style Connectors

MIL-DTL-38999 Series I Style Connectors

The DL Series of connectors features drop-in replacements for all MIL-DTL-38999 Series I interconnects. DL connectors are built to meet or exceed the military 38999 specifications for performance and reliability. The series features bayonet coupling for simple and secure mating, a scoop-proof shell design for contact protection during blind-mate applications, shielding for EMI/RFI protection, and full IP67 environmental sealing. In addition, the DL Series offers a wide variety of contacts, including thermocouples, RF contacts, and fiber optics. The DL Series also includes a number of modern upgrades to the mil-spec, including mating hermetic connectors, alternate contact options, and a variety of sealing connector accessories.

- MIL-DTL-38999 Series I compatibility
- Quick-disconnect bayonet coupling
- 100% scoop-proof shell design for contact protection
- IP67 environmental sealing
- Hermetic receptacles available for vacuum applications



Specialty Contacts for New Designs

The DL Series provides extensive flexibility in contact design, density, and shell size. Insert patterns with up to 128 x #22D contacts are available. The connectors can accommodate power, coax, twinax, and fiber optic contacts. In addition, thermocouple contacts are available in many popular sizes.

- High-density insert patterns—up to 128 x #22D contacts
- 87 insert patterns
- Coax & twinax contacts
- Thermocouples

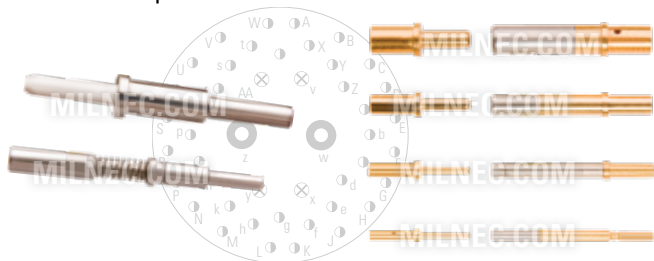


Table of Contents

About Us	N-1
Features & Benefits	N-2
Component Overview	N-4
Series Specifications	N-6
Contact Specifications	N-8
Contacts, Sealing Plugs, & Tooling	N-9
Shell Keying & Torque	N-12
Materials & Finishes	N-13
Part Builder	N-14
Insert Arrangements	N-16
Insert Arrangement Drawings	N-18
(DL06) Plug	N-23
(DL00) Wall Mount Receptacle (Front Mount).	N-24
(DL04) Wall Mount Receptacle (Rear Mount).	N-25
(DL02) Box Mount Receptacle (Front Mount).	N-26
(DL03) Box Mount Receptacle (Rear Mount).	N-27
(DL07) Jam Nut Receptacle	N-28
(DL01) Cable Mount Receptacle.	N-29
(DL22) Thru-Bulkhead Receptacle	N-30
(DL24) Jam Nut Thru-Bulkhead Receptacle.	N-31
(DL27) Jam Nut Thru-Bulkhead Recept. (Hermetic)	N-32
(DL10) Wall Mount Receptacle (Hermetic)	N-33
(DL13) Jam Nut Receptacle (Hermetic)	N-34
(DL19) Solder Mount Receptacle (Hermetic).	N-35
(DLB2) Strain Relief Backshells.	N-36
(DLR2) Straight EMI/RFI Env. Backshell	N-38
(DLR3) 45° EMI/RFI Env. Backshell	N-42
(DLR4) 90° EMI/RFI Env. Backshell	N-44
(DLSC) Shorting Cap Backshell.	N-46
(DLK2) Straight Shrink Boot	N-48
(DLK4) 90° Shrink Boot	N-49
(DLAB) Boot Adapter	N-50
(DLD2) EMI/RFI Banding Boot Adapters	N-51
(DLCP) Protective Covers	N-52
(DLCD) Stowage Receptacle	N-53
(DLGE) Mounting Gasket.	N-54
(DLMB) Mounting Bracket & Screws.	N-55
Hand Crimpers & Positioners	N-56
Soldering Station	N-57
Heat Gun	N-58
Banding Tool & Bands	N-59

Complete EMI/RFI & Environmental Backshells

The series offers a wide selection of EMI/RFI environmental backshells for complete system protection and reliability from the harshest conditions. Options include metal backshells, as well as the latest EMI/RFI banding backshells with a boot option.



IP67 Environmental Protection

The DL Series offers an integrated interfacial seal that provides environmental resistance to mated connectors, as well as an elastomer seal to prevent moisture penetration from the rear of the connector. The series offers excellent component corrosion resistance with standard olive drab cadmium and electroless nickel plating options.



- Moisture resistance comparable to MIL-PRF-7808, MIL-PRF-23699, MIL-PRF-5606, SAE ASM1424 Type 1
- Individual wire seals around each contact
- Interfacial seal and wire sealing grommet
- IP67 rated for environmental protection

Hermetic Connectors for Vacuum Applications

Hermetics are the best option for applications that require a true airtight seal or the ultimate in environmental protection. Hermetic receptacles feature stainless steel shells and dielectric glass-fused inserts and are rigorously tested to ensure high-reliability.

- Three hermetic receptacles available
- Compression glass inserts
- Stainless steel shells



Integrated Accessory Options

With Milnec's comprehensive part builder, DL Series connectors can be easily matched with a full line of sealing accessories for applications that demand the highest level of environmental and EMI/RFI protection. It's simple to find and order backshells, dust covers, gaskets, mounting brackets, and necessary installation tooling.

- Mounting brackets & sealing screws
- Sealing & EMI/RFI gaskets
- Protective dust covers
- Dummy stowage receptacles



Features & Benefits

Plug

- Straight w/ RFI grounding fingers

Receptacles

- Wall mount (front mount)
- Wall mount (rear mount)
- Box mount (front mount)
- Box mount (rear mount)
- Jam nut
- Cable mount

Hermetic Receptacles

- Wall mount, jam nut, solder mount

Backshells

- Strain relief, EMI/RFI environmental
- Shrink boots with EMI/RFI banding

Contacts

- Crimp power, coax, twinax, thermocouple
- Fiber optic

Inserts

- Heat & fluid resistant
- 86 insert combinations
- 6 alternate key positions

Accessories

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

Material

- Aluminum
- Stainless steel (hermetics)

Finishes

- Olive drab cadmium
- Electroless nickel
- RoHS compliant finishes available

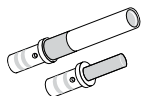
Coupling

- Bayonet coupling
- 1/3 turn for complete coupling
- Vibration resistant locking mechanism

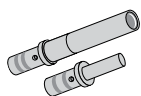
Component Overview

DL Series • MIL-DTL-38999 Series I Style Connectors

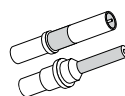
Contacts



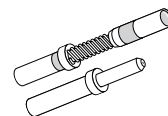
Power
p. N-9



Thermocouple
p. N-9

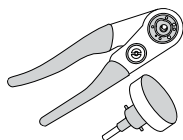


Coax & Twinax
p. N-10

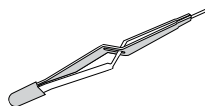


Fiber Optic
p. N-11

Tools



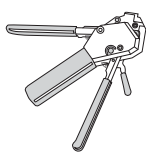
Crimper & Positioner
p. N-9



Insertion/Extraction
p. N-9



Heat Gun
p. N-58

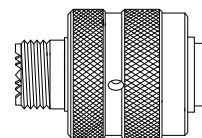


Banding Tool
p. N-59



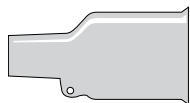
Band
p. N-59

Plug

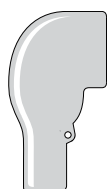


Plug
p. N-23

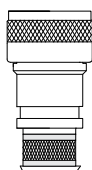
Backshells



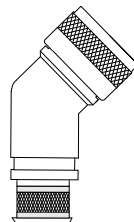
Shrink Boots
Straight
p. N-48



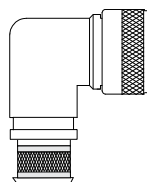
90°
p. N-49



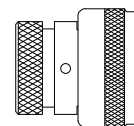
EMI/RFI Banding Boot Adapters
Straight
p. N-51



45°
p. N-51



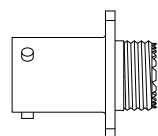
90°
p. N-51



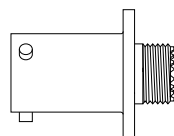
Boot Adapter
p. N-50

Rev. 2219

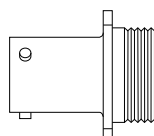
Receptacles



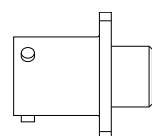
**Wall Mount
(Front Mount)**
p. N-24



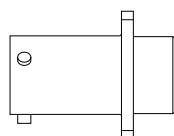
**Wall Mount
(Rear Mount)**
p. N-25



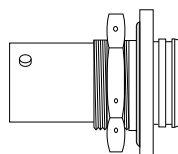
**Wall Mount
(Hermetic)**
p. N-33



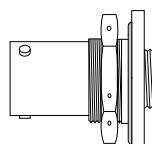
**Box Mount
(Front Mount)**
p. N-26



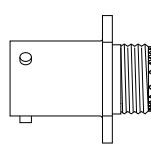
**Box Mount
(Rear Mount)**
p. N-27



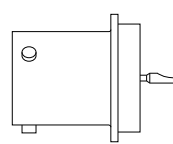
**Jam Nut
(Hermetic)**
p. N-34



Jam Nut
p. N-28

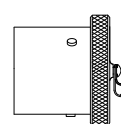


Cable Mount
p. N-29

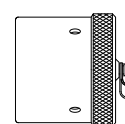


**Solder Mount
(Hermetic)**
p. N-35

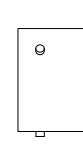
Covers



Plug Cover
p. N-52

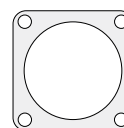


Receptacle Cover
p. N-52

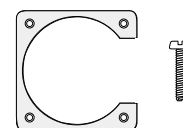


Storage Receptacle
p. N-53

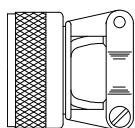
Mounting



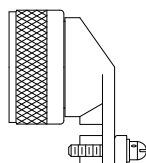
Gasket
p. N-54



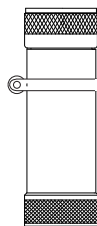
Bracket & Screws
p. N-55



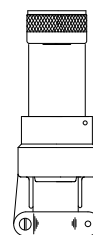
Strain Relief
Straight
p. N-36



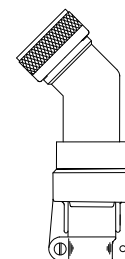
90°
p. N-36



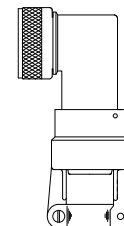
Shorting Cap
p. N-46



Straight
p. N-38



45°
p. N-42



90°
p. N-44

Series Specifications

DL Series • MIL-DTL-38999 Series I Style Connectors

Performance Specifications

Built to meet or exceed MIL-DTL-38999 specifications
Guaranteed fully compatible and interchangeable with respect to physical and performance characteristics with all existing MIL-DTL-38999 Series I commercial, military, NASA, ESA (European Space Agency) derivatives

Environmental Characteristics

Temperature Range

-67° to +392°F (-55° to +200°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): 45,000 hours

392°F (200°C): 1,000 hours

Water Pressure

IP67 rating (environmental sealing) when used in conjunction with proper sealing accessories
Fully submersible to 3.3 ft (1m) for minimum of 30 min

Air Leakage Rate

Environmental

Air leakage not to exceed 1 inch³/hr (4.55 x 10⁻³ cm³/sec) at 30 psi (2.11 kg/cm²) pressure differential with all contact cavities filled

Hermetic

Helium leakage not to exceed 0.01 micron per ft³/hr (1.0 x 10⁻⁶ cc³/sec) at 15 psi (1.1 kg/cm²)
Hermetic inserts rated up to 14,000 psi (984 kg/cm²) when precision welded or solder mounted

Thermal Vacuum Outgassing

Outgassed at high vacuum (5 x 10⁻⁵ torr) for 48 hours at 350°F (176°C); components shall not release greater than 1.0% total mass loss (TML) and 0.1% collected volatile condensable material (CVCM)

Salt Spray Rating

See Materials & Finishes, p. N-13

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

Lightning Strike Resistance

Per EIA/ECA-364-75, mated connectors with full wire braid shield assembly will show resistance to indirect lightning strike with the following peak currents (amps):
Aluminum & Stainless Steel Shells: 10,000A

Physical Characteristics

Coupling

3-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

Scoop-Proof

Shell design is 100% scoop-proof to prevent contact raking in blind-mate applications

Coupling Torque

Engagement & Disengagement Force (max / min)

Shell Size 9: .67 ft-lb_f (.904 N-m) / .08 ft-lb_f (.113 N-m)

Shell Size 11: .83 ft-lb_f (1.13 N-m) / .08 ft-lb_f (.113 N-m)

Shell Size 13: 1.17 ft-lb_f (1.58 N-m) / .17 ft-lb_f (.226 N-m)

Shell Size 15: 1.42 ft-lb_f (1.92 N-m) / .33 ft-lb_f (.452 N-m)

Shell Size 17: 1.92 ft-lb_f (2.60 N-m) / .33 ft-lb_f (.452 N-m)

Shell Size 19: 2.17 ft-lb_f (2.94 N-m) / .33 ft-lb_f (.452 N-m)

Shell Size 21: 2.58 ft-lb_f (3.50 N-m) / .50 ft-lb_f (.678 N-m)

Shell Size 23: 3.16 ft-lb_f (4.29 N-m) / .58 ft-lb_f (.791 N-m)

Shell Size 25: 3.16 ft-lb_f (4.29 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

86 standard, custom inserts available

Alternate Keying

Normal polarization (N), plus 4 alternate shell keying polarizations (A, B, C, D)

Endurance Characteristics

Coupling Cycles

500 coupling cycles (minimum)

Shock

Half-sine wave with 300g's (±15%) magnitude with duration of 3 milliseconds with less than 1 microsecond maximum discontinuity with no cracking, loosening of parts, or other failures

High-Impact Shock

Per MIL-S-901, a 400 lbs (181 kg) hammer dropped onto assembly from height of 1 ft (30 cm), 3 ft (91 cm), and 5 ft (152 cm) applied to connector assembly in 3 axes, totaling 9 impacts, connector assembly experienced less than 1 microsecond maximum discontinuity with no cracking, loosening of parts, or other failures

Sine Vibration

Random vibration at 10 to 2,000 Hz (15 g's) experienced less than 1 microsecond maximum discontinuity with no cracking, loosening of parts, or other failures

Random Vibration

Per MIL-STD-1344, method 205, V & VI or EIA-364-28

Rev. 2219

Material Characteristics

Shell

Environmental

Aluminum, solid, one piece, seamless construction

Hermetic

Stainless Steel, solid, one piece, seamless construction

Shell Plating (Standard Finishes)

W Finish

Electrically conductive cadmium plate finish with an olive drab chromate after-treat for additional corrosion resistance (500 hr salt spray rating)

N Finish

Electrically conductive electroless nickel plating (48 hr salt spray rating)

G Finish

Electrically conductive electroless nickel plating (48 hr salt spray rating)

RFI Grounding Fingers

Beryllium copper alloy or stainless steel

Shell Conductivity (Standard Finishes)

Per MIL-STD-1344, method 3008, maximum conductivity potential drop shall not exceed the following:

W Finish

2.5 millivolts across assembly shell-to-shell
5.0 millivolts across assembly shell-to-braid

N Finish

1.0 millivolts across assembly shell-to-shell
3.5 millivolts across assembly shell-to-braid

G Finish

1.0 millivolts across assembly shell-to-shell
3.5 millivolts across assembly shell-to-braid

HA, HB, HG Finishes

10.0 millivolts across assembly shell-to-shell
15.0 millivolts across assembly shell-to-braid

Magnetic Permeability

Less than 2.0 μ when measured to EIA-364-54

Insert

Glass filled liquid crystal polymer (LCP)

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, wire rope able to withstand a 25 lb (11.3 kg) tensile force without damage

Adhesives

RTV and epoxies

Grommet, Peripheral Seal, O-Ring, & Interfacial Seal

Blended fluorosilicone (70%) and silicone (30%) elastomer

Contact Characteristics

Contact Design

Environmental

Removable, rear-release crimp contacts

Hermetic

Solder style, permanently bonded to insert

Contact Sizes

#8 (Coax, Twinax), #12, #16, #20, #22, #22M, #22D

Contacts Crimp

Beryllium copper alloy, per ASTM B197

Contacts Hermetic

Nickel-iron (Type 52 alloy), per ASTM F30

Contact Plating

Standard Crimp

Gold plate over nickel, 50 μ inches (1.27 μ m) minimum

Hermetic

Gold plate over nickel, 50 μ inches (1.27 μ m) minimum

Socket Contact Hood

Stainless steel, passivated

Max Number of Contacts

128 x #22D contacts standard, custom inserts available

Max Contact Resistance

Size #22D: 14.6 milliohm maximum

Size #20: 7.3 milliohm maximum

Size #16: 3.8 milliohm maximum

Size #12: 1.7 milliohm maximum

Size #8: 3.0 milliohm maximum

Max Voltage Drop

Crimp Contacts

<73 millivolt maximum drop (initial)

Hermetic Contacts

<85 millivolt maximum drop (initial)

Contact Retention

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

Electrical Characteristics

Current Rating

23 amps (test current) at 68°F (20°C)

Max Operating Voltage

900 VAC (RMS) at sea level

Insulation Resistance

>5,000 megohms at 77°F (25°C)

Wire Size

12 to 28 (AWG)

Wire Sealing Range

Designed for individual wire sealing

Sealing is only guaranteed if wires meet

MIL-W-5086 or within permitted ranges

Contact Specifications

DL Series • MIL-DTL-38999 Series I Style Connectors

Wire & Crimp Contact Dimensions

Contact Size	Wire Range		Potential Drop (Millivolts)	Crimp Well Diameter	Min Crimp Well Depth	Wire Jacket Diameter Sealing Range		Contact Retention Min Axial Load Pounds (Newtons)
	AWG	Dia				Min	Max	
#22D	22, 24, 26, 28	.012-.025 (.32-.64)	<73	.035 (.89)	.141 (3.58)	.030 (.76)	.054 (1.37)	10 (44.5)
#22M	24, 26, 28	.012-.020 (.32-.51)	<45	.028 (.71)	.141 (3.58)	.030 (.76)	.054 (1.37)	10 (44.5)
#22	22, 24, 26	.016-.025 (.41-.64)	<73	.037 (.93)	.141 (3.58)	.034 (.86)	.086 (2.18)	10 (44.5)
#20	20, 22, 24	.020-.032 (.51-.81)	<55	.047 (1.19)	.209 (5.31)	.040 (1.02)	.083 (2.11)	15 (66.7)
#16	16, 18, 20	.032-.050 (.81-1.29)	<49	.067 (1.70)	.209 (5.31)	.065 (1.65)	.109 (2.77)	25 (111.2)
#12	12, 14	.064-.080 (1.62-2.05)	<42	.100 (2.54)	.209 (5.31)	.097 (2.46)	.142 (3.61)	30 (133.4)

Dimensions are in inches (mm) unless otherwise noted.

Wire & Solder Contact Dimensions (Hermetic)

Contact Size	Wire Range		Potential Drop (Millivolts)	Solder Well Diameter	Min Solder Well Depth
	AWG	Dia			
#22D	22, 24, 26, 28	.012-.025 (.32-.64)	<85	.036 (.91)	.094 (2.39)
#22M	24, 26, 28	.012-.020 (.32-.51)	<60	.029 (.74)	.094 (2.39)
#22	22, 24, 26	.016-.025 (.41-.64)	<85	.036 (.91)	.094 (2.39)
#20	20, 22, 24	.020-.032 (.51-.81)	<60	.044 (1.12)	.125 (3.18)
#16	16, 18, 20, 22	.025-.050 (.64-1.29)	<85	.078 (1.98)	.141 (3.58)
#12	12, 14	.064-.080 (1.62-2.05)	<82	.116 (2.95)	.141 (3.58)

Dimensions are in inches (mm) unless otherwise noted.

Current Rating By Contact Size & Wire Size

Wire Size (AWG)	Contact Size					
	#22D	#22M	#22	#20	#16	#12
28	1.5A	1.5A	-	-	-	-
26	2A	2A	2A	-	-	-
24	3A	3A	3A	3A	-	-
22	5A	-	5A	5A	-	-
20	-	-	-	7.5A	7.5A	-
18	-	-	-	-	10A	-
16	-	-	-	-	13A	-
14	-	-	-	-	-	17A
12	-	-	-	-	-	23A

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.

Mated Connector Dimensions

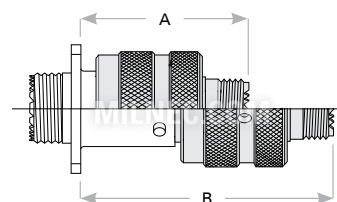
Shell Size	A Max	B Max	C Max	D Max
9	1.311 (33.3)	1.866 (47.40)	1.598 (40.60)	2.154 (54.70)
11	1.311 (33.3)	1.866 (47.40)	1.598 (40.60)	2.154 (54.70)
13	1.311 (33.3)	1.866 (47.40)	1.598 (40.60)	2.154 (54.70)
15	1.311 (33.3)	1.866 (47.40)	1.598 (40.60)	2.154 (54.70)
17	1.311 (33.3)	1.866 (47.40)	1.598 (40.60)	2.154 (54.70)
19	1.311 (33.3)	1.866 (47.40)	1.598 (40.60)	2.154 (54.70)
21	1.280 (32.5)	1.839 (46.70)	1.598 (40.60)	2.154 (54.70)
23	1.280 (32.5)	1.839 (46.70)	1.598 (40.60)	2.154 (54.70)
25	1.280 (32.5)	1.839 (46.70)	1.598 (40.60)	2.154 (54.70)

Dimensions are in inches (mm).

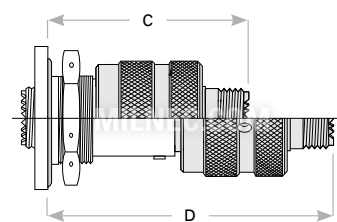
Contact Derating Specifications

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)
M	400	500	1,300	550	350	200
N	300	450	1,000	400	260	200
I	600	850	1,800	600	400	200
II	900	1,250	2,300	800	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.



DL00 Recept. & DL06 Plug



DL07 Recept. & DL06 Plug

Shielding Effectiveness

Freq Range (Mhz)	Attenuation Minimum (dB)
100	90
200	88
300	88
400	87
800	85
1,000	85
1,500	69
2,000	65
3,000	61
4,000	58
6,000	55
10,000	50

Effective over a range of 100 MHz to 10 GHz with a minimum 50 dB effectiveness at 10 GHz, in accordance with test method EIA-364-10.

Rev. 2219

Contacts, Sealing Plugs, & Tooling

Contact Size	Contact Style	Part Number	Wire Size (AWG)	Wire Range (Dia)	Jacket Strip Length	Crimping Tool	Positioner	Insertion Tool	Extraction Tool
#22D	Standard Pin	DLPP22	22, 24, 26, 28	.012–.025 (.32–.64)	.157 (4.00)	TK201	TP209	TN801	TX802
	Standard Socket	DLSS22					TP207		
	Sealing Plug	DLSP22					No Tooling Required		
#22M	Standard Pin	DLPP22M	24, 26, 28	.012–.020 (.32–.51)	.157 (4.00)	TK201	TP209	TN801	TX802
	Standard Socket	DLSS22M					TP207		
	Sealing Plug	DLSP22M					No Tooling Required		
#22	Standard Pin	DLPP22A	22, 24, 26	.016–.025 (.41–.64)	.157 (4.00)	TK201	TP209	TN803	TX804
	Standard Socket	DLSS22A					TP207		
	Sealing Plug	DLSP22A					No Tooling Required		
#20	Standard Pin	DLPP20	20, 22, 24	.020–.032 (.51–.81)	.197 (5.00)	TK101A	TP104 (Turret)	TN805	TX806
	Standard Socket	DLSS20							
	Sealing Plug	DLSP20					No Tooling Required		
#16	Standard Pin	DLPP16	16, 18, 20	.032–.050 (.81–1.29)	.236 (6.00)	TK101A	TP104 (Turret)	TN807	TX808
	Standard Socket	DLSS16							
	Sealing Plug	DLSP16					No Tooling Required		
#12	Standard Pin	DLPP12	12, 14	.064–.080 (1.62–2.05)	.236 (6.00)	TK101A	TP104 (Turret)	TN809	TX810
	Standard Socket	DLSS12							
	Sealing Plug	DLSP12					No Tooling Required		

Dimensions are in inches (mm) unless otherwise noted.

Thermocouple Contacts

Contact Size	Contact Style	Part Number	Wire Size (AWG)	Wire Range (Dia)	Jacket Strip Length	Crimping Tool	Positioner	Insertion Tool	Extraction Tool
#22D Alumel	Pin	DLPA22	22, 24, 26, 28	.012--.025 (.32--.64)	.157 (4.00)	TK201	TP209	TN801	TX802
	Socket	DLSA22					TP207		
#22D Chromel	Pin	DLPR22					TP209		
	Socket	DLSR22					TP207		
#22D Constantan	Pin	DLPK22					TP209		
	Socket	DLSK22					TP207		
#22D Iron	Pin	DLPE22					TP209		
	Socket	DLSE22					TP207		
#20 Alumel	Pin	DLPA20	20, 22, 24	.020--.032 (.51--.81)	.197 (5.00)	TK101A	TP104 (Turret)	TN805	TX806
	Socket	DLSA20							
#20 Chromel	Pin	DLPR20							
	Socket	DLSR20							
#20 Constantan	Pin	DLPK20							
	Socket	DLSK20							
#20 Iron	Pin	DLPE20							
	Socket	DLSE20							
#16 Alumel	Pin	DLPA16	16, 18, 20	.032--.050 (.81--1.29)	.236 (6.00)	TK101A		TN807	TX808
	Socket	DLSA16							
#16 Chromel	Pin	DLPR16							
	Socket	DLSR16							
#16 Constantan	Pin	DLPK16							
	Socket	DLSK16							
#16 Iron	Pin	DLPE16							
	Socket	DLSE16							

Dimensions are in inches (mm) unless otherwise noted.

Rev. 2219

Coax & Twinax Contacts

DL Series • MIL-DTL-38999 Series I Style Connectors

Coax Contacts

Cable	Contact Size	Part Number		Crimping Tools		Positioners		Installation Tools	
		Pin	Socket	Inner	Outer	Inner	Outer	Insertion	Extraction
RG-178B/U RG-196A/U M17/093-RG178 M17/169-00001	#16	DLPX16-002	DLSX16-003		TK401	TP235	TP402	TN807	TX808
RG-161/U RG-174A/U RG-179B/U RG-187A/U RG-188A/U RG-316/U		DLPX16-004	DLSX16-005						
Haveg 8100207 Times (HS-179) AA3248 Teledyne 11299 Thermax 75-738-BCCWWE Tensolite 3088/L707YX-1		DLPX12-006	DLSX12-007	TK201					
M17/119-RG174 M17/094-RG179 M17/113-RG316	#12				TK3101	TP234	TP3102	TN809	TX810
RG-180B/U RG-195A/U Raychem 9528A1318 Raychem 9527D1514-2L Microdot 293-3922		DLPX12-008	DLSX12-009						
M17/095-RG180									
M17/113-RG316 M17/094-RG179		DLPX12-010	DLSX12-011	TK992		TP1360	TP503		
RG-180B/U RG-195A/U Raychem 9527D1514-2L M17/095-RG180	#8	DLPX08-012	DLSX08-013	TK201	TK501	TP231	TP505	—	TX814

Twinax Contacts

Cable	Contact Size	Part Number		Crimping Tools		Positioners		Installation Tools	
		Pin	Socket	Inner	Outer	Inner	Outer	Insertion	Extraction
M17/176-00002	#8	DLPW08-002	DLSW08-003	TK201	TK501	TP231	TP505	—	TX2648

Custom PC Tail Lengths & Dimensions

We realize that every engineering application is different, that's why we're able to provide custom PC tail contacts for MIL-DTL-38999 Series I connectors. Options include custom tail lengths, shoulder extensions, or 90° angled configurations. For applications requiring high-speed data transmission, we can also provide coax, twinax, and quadrx contacts with PC tails for termination directly to your PC board to provide the highest signal integrity. Please contact an authorized distributor for ordering assistance.



PC Tail Contacts Available
PC tail contacts come in a variety of tail lengths to meet your design requirements.

Rev. 2219

Size #16 Fiber Optic Contacts

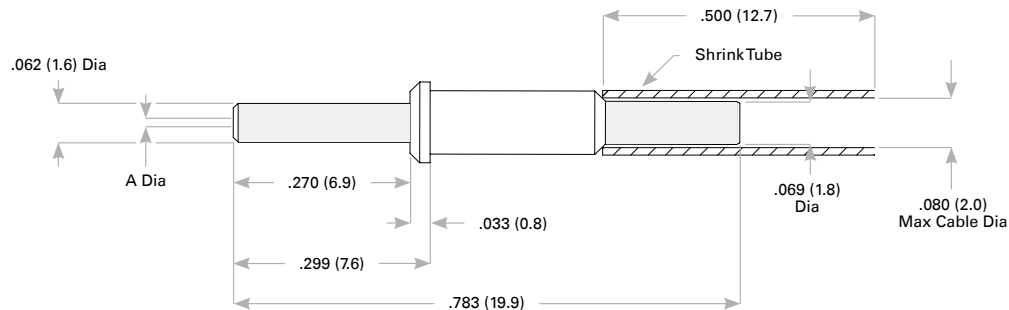
Pin Part Number	Socket Part Number	Fiber Size Core/Cladding	Mode	A Dia (Microns)	Tooling
DLPF-125S*	DLSF-125S*	9/125	Single	125.5	
DLPF-126S*	DLSF-126S*	9/125	Single	126	
DLPF-126M	DLSF-126M*	50/125 & 62.5/125	Multi	126	
DLPF-127M	DLSF-127M	50/125 & 62.5/125	Multi	127	
DLPF-142M	DLSF-142M	100/140	Multi	142	
DLPF-144M	DLSF-144M	100/140	Multi	144	
DLPF-145M*	DLSF-145M*	100/140	Multi	145	Insertion Tool
DLPF-156M*	DLSF-156M*	62.5/125/155 (Polyimide)	Multi	156	TN807
DLPF-157M*	DLSF-157M*	62.5/125/155 (Polyimide)	Multi	157	
DLPF-173M	DLSF-173M	100/140/172 (Polyimide)	Multi	173	Removal Tool
DLPF-175M*	DLSF-175M*	100/140/172 (Polyimide)	Multi	175	TX808
DLPF-231M*	DLSF-231M*	200/230	Multi	231	
DLPF-236M*	DLSF-236M*	200/233	Multi	236	
DLPF-286M*	DLSF-286M*	200/280	Multi	286	
DLPF-448M*	DLSF-448M*	400/440	Multi	448	
DLPF-533M*	DLSF-533M*	486/500	Multi	533	

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

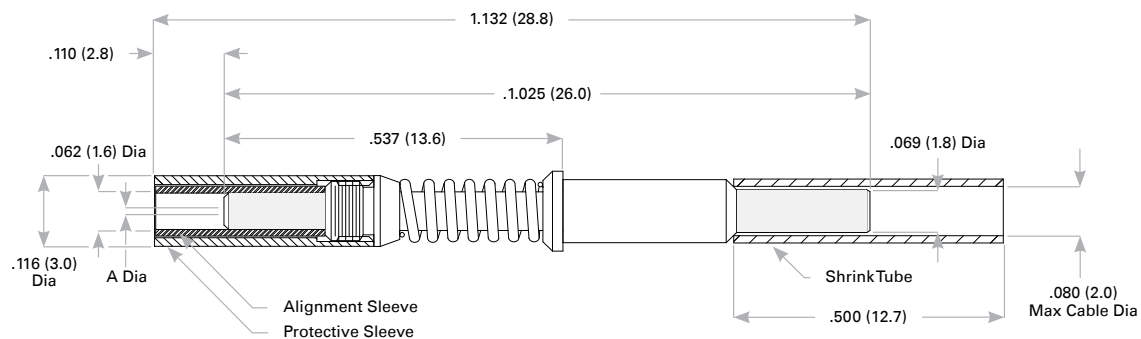


High-Performance Fiber Optic Contacts

Fiber optic termini are used in avionics, robotics, weapons systems, sensors, and other high-performance applications in which low data loss and reliable, repeatable performance is a necessity. These fiber optic termini can be used in any DL Series insert that accommodates standard #16 contacts.



Size 16 Fiber Optic Pin Termini



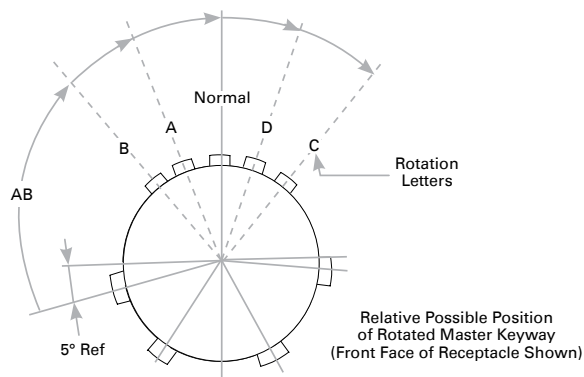
Size 16 Fiber Optic Socket Termini

Shell Keying & Torque

DL Series • MIL-DTL-38999 Series I Style Connectors

DL Series Shell Keying

Alternate key positions should be used to avoid cross-mating of connectors with the same (or similar) insert pattern that are in close proximity to one another, such as on a high-density control panel. A plug with a given key position letter will only mate with a receptacle with the same letter. Inserts maintain a fixed position regardless of keying. For example, receptacle "N" will only mate with plug "N," and a second receptacle with an "A" keying will only mate with the "A" cable plug. In this manner, cross-mating of similar connectors by accident becomes impossible. ■



Master Key/Keyway Position

Shell Size	Normal	A	B	C	D
9	95°	77°	—	—	113°
11	95°	81°	67°	123°	109°
13	95°	75°	63°	127°	115°
15	95°	74°	61°	129°	116°
17	95°	77°	65°	125°	113°
19	95°	77°	65°	125°	113°
21	95°	77°	65°	125°	113°
23	95°	80°	69°	121°	110°
25	95°	80°	69°	121°	110°

Cable Clamp Screw Torque

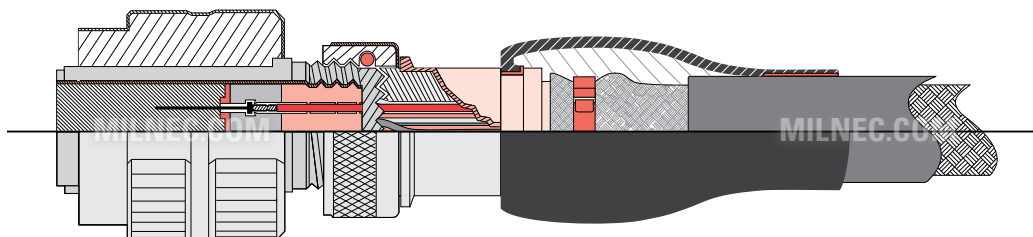
Screw Size	Min	Max
#2-56	1.5 (.2)	2.5 (.3)
#4-40	3.5 (.4)	4.5 (.5)
#6-32	5 (.6)	7 (.8)
#8-32	7 (.8)	9 (1.0)
#10-32	9 (1.0)	11 (1.2)
#250-20	11 (1.2)	13 (1.5)

Units are in inch pounds (Newton meters).

Accessory & Jam Nut Torque

Shell Size	Connector Accessory Metric Thread Dimension	Aluminum & Stainless Steel			
		Accessory Thread Torque		Jam Nut Torque	
		Min	Max	Min	Max
9	.4375-28 UNEF	70 (7.9)	75 (8.5)	30 (3.4)	36 (4.1)
11	.5625-24 UNEF	80 (9.0)	85 (9.6)	40 (4.5)	46 (5.2)
13	.6875-24 UNEF	100 (11.3)	110 (12.4)	55 (6.2)	60 (6.8)
15	.8125-20 UNEF	140 (15.8)	150 (17.0)	70 (7.9)	75 (8.5)
17	.9375-20 UNEF	160 (18.1)	170 (19.2)	80 (9.0)	85 (9.6)
19	1.0625-18 UNEF	210 (23.7)	230 (26.0)	90 (10.2)	95 (10.7)
21	1.1875-18 UNEF	260 (29.4)	280 (31.6)	100 (11.3)	110 (12.4)
23	1.3125-18 UNEF	280 (31.6)	300 (33.9)	110 (12.4)	120 (13.6)
25	1.4375-18 UNEF	300 (33.9)	325 (36.7)	120 (13.6)	130 (14.7)

Units are in inch pounds (Newton meters).



Rev. 2219

DL Series Materials & Finishes

The material of a connector is the foundation of its protective ability, providing strength and durability. The finish (or plating) offers the foundation material added corrosion resistance along with an aesthetic look. Each material and finish combination offers unique properties and should be selected according to your application requirements.

The DL Series features aluminum and stainless steel as standard materials, with electroless nickel and olive drab cadmium as finish options. In addition to the standard options, a wide variety of special materials and finishes is available, including space-grade approved materials and RoHS compliant finishes for eco-friendly designs. ■

Standard DL Series Materials & Finishes

Finish Code	Finish	Hermetic Only	Electrically Conductive	RoHS Compliant	Appearance	Shell Material	Salt Spray Rating	Recommended Operating Temperature Range
W	Olive Drab Cadmium		✓		Drab Olive Green	Aluminum	500 hrs	-85° to +347°F (-65° to +175°C)
N	Electroless Nickel		✓+	✓	Bright Metal	Aluminum	48 hrs	-85° to +392°F (-65° to +200°C)
G	Electroless Nickel (Space-Grade)†		✓+	✓	Bright Metal	Aluminum	48 hrs	-85° to +392°F (-65° to +200°C)
HA	Passivated	✓	✓	✓	Matte Metal	SST Steel	1,000 hrs	-85° to +392°F (-65° to +200°C)
HB	Electrodeposited Nickel	✓	✓+	✓	Bright Metal	SST Steel	48 hrs	-85° to +392°F (-65° to +200°C)
HG	Electroless Nickel (Space-Grade)†	✓	✓+	✓	Bright Metal	SST Steel	48 hrs	-85° to +392°F (-65° to +200°C)

† Outgassed per NASA specifications ATSM E-595 and EEE-INST-002.

✓+ Indicates improved conductivity for shielding effectiveness.

Special DL Series Materials & Finishes*

Finish Code	Finish	Hermetic Only	Electrically Conductive	RoHS Compliant	Appearance	Shell Material	Salt Spray Rating	Recommended Operating Temperature Range
T	Hard Anodic			✓	Grey Metal	Aluminum	500 hrs	-85° to +347°F (-65° to +175°C)
Z	Zinc Nickel		✓	✓	Black	Aluminum	500 hrs	-85° to +347°F (-65° to +175°C)

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

† Outgassed per NASA specifications ATSM E-595 and EEE-INST-002.

✓+ Indicates improved conductivity for shielding effectiveness.

About RoHS Finishes

The European Union's Restriction of Hazardous Substances (RoHS) 2002/95/EC Directive and its subsequent amendments restricts the incorporation of six hazardous materials in the manufacture of various types of electronic and electrical equipment. It is closely linked with the Waste Electrical and Electronic Equipment Directive (WEEE) 2002/96/EC, which sets collection, recycling, and recovery targets for electrical goods and equipment.



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

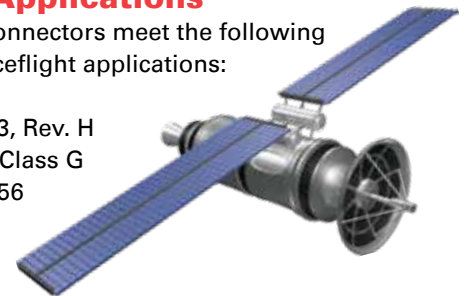
Please consult the latest European Union general and regional regulations to ensure materials are appropriate for your application and compliance requirements.

MIL-DTL-38999 Series I Style Connectors for Spaceflight Applications

For spaceflight applications, Milnec offers specialized space-grade connectors ("G" Finish) with a conductive electroless nickel finish that are rigorously outgassed at high vacuum (5×10^{-5} torr) for 48 hours at 350°F (176°C). This process guarantees that all metallic materials such as rubber, plastic, ink, adhesives, and potting compounds shall not release greater than 1.0% total mass loss (TML) and 0.1% collected volatile condensable material (CVCM).

Milnec space-grade connectors meet the following specifications for spaceflight applications:

- NASA SSP-30423, Rev. H
- MIL-DTL-38999, Class G
- ESA/SCC 3401/056
- ATSM E-595
- EEE-INST-002



Part Builder

DL Series • MIL-DTL-38999 Series I Style Connectors

How to Build Your DL 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 a DL Series connector that designates, 1) DL Series wall mount receptacle, 2) electroless nickel finish over aluminum, 3) 15-35 insert arrangement, 4) pin contacts, 5) normal keying, 6) EMI/RFI environmental backshell (dash number indicates size, length, and cable range), and 7) integrated accessory kit. ■

DL00 N 15-35 P N R2(025) - 03

1 2 3 4 5 6 7

1 Series Shell Style

Standard Environmental Shells

DL06	Plug with RFI grounding fingers, p. N-23
.....	
DL00	Wall mount recept. (front mount), p. N-24
DL04	Wall mount recept. (rear mount), p. N-25
DL02	Box mount recept. (front mount), p. N-26
DL03	Box mount recept. (rear mount), p. N-27
DL07	Jam nut receptacle, p. N-28
DL01	Cable mount receptacle, p. N-29

For non-standard shell styles including hermetic receptacles, please see specific datasheet for part numbering and kit options.

2 Material & Finish

Aluminum

N	Electroless nickel
G	Electroless nickel (space-grade)
W	Olive drab cadmium

For complete material and finish options, including RoHS finishes, see p. N-13.

3 Shell Size & Insert Arrangement

See Insert Arrangement Selection table, p. N-16

4 Contact Style

Standard Power Contacts

P	Pin, p. N-9
S	Socket, p. N-9
A	Pin insert, supplied without contacts
B	Socket insert, supplied without contacts

5 Alternate Keying

Normal Keying

N	Normal
----------	--------

Alternate Keying

A, B, C, D	Alternate keying
-------------------	------------------

6 Optional Backshell Kit (Omit for None)

Strain Relief Backshell (Self-Locking)

B2	Straight, p. N-36
B4	90°, p. N-36

EMI/RFI Environmental Backshell*

R2 ()	Straight, p. N-38
R3 ()	45°, p. N-42
R4 ()	90°, p. N-44

Supply specific Dash No. on referenced datasheet page for appropriate connector shell size.

Shrink Boot & Boot Adapter*

K2	Straight boot, p. N-48, & adapter, p. N-50
K4	90° boot, p. B-49, & adapter, p. N-50

K2 supplied with recommended boot in 100 material, p. N-48.
K4 supplied with recommended boot in 100 material, p. N-49.

Shrink Boot, EMI/RFI Banding Boot Adapter, & Band*

D2	Straight adapter, p. N-51, w/ boot & band
D4	90° adapter, p. N-51, w/ boot & band

Supplied with recommended straight boot in 100 material, p. N-48, and TB250 band, p. N-59.

* Backshell kits will be supplied with matching connector material, except stainless steel.

7 Optional Accessory Kit (Omit for None)

01 For Plugs:

Protective cover, p. N-52

02 For Receptacles:

Protective cover, p. N-52 +
Mounting gasket, p. N-54

03 For Receptacles:

Protective cover, p. N-52 +
Mounting gasket, p. N-54 +
Mounting bracket, p. N-55
with (4x) sealing screws

Kits with EMI/RFI backshells will be supplied with DLGS RFI shielding gaskets.

Rev. 2219

COMPLETE PROTECTION, LOW-PROFILE DESIGN



O-Ring

Seals threads on backshell's rear assembly and the junction between connector and backshell.



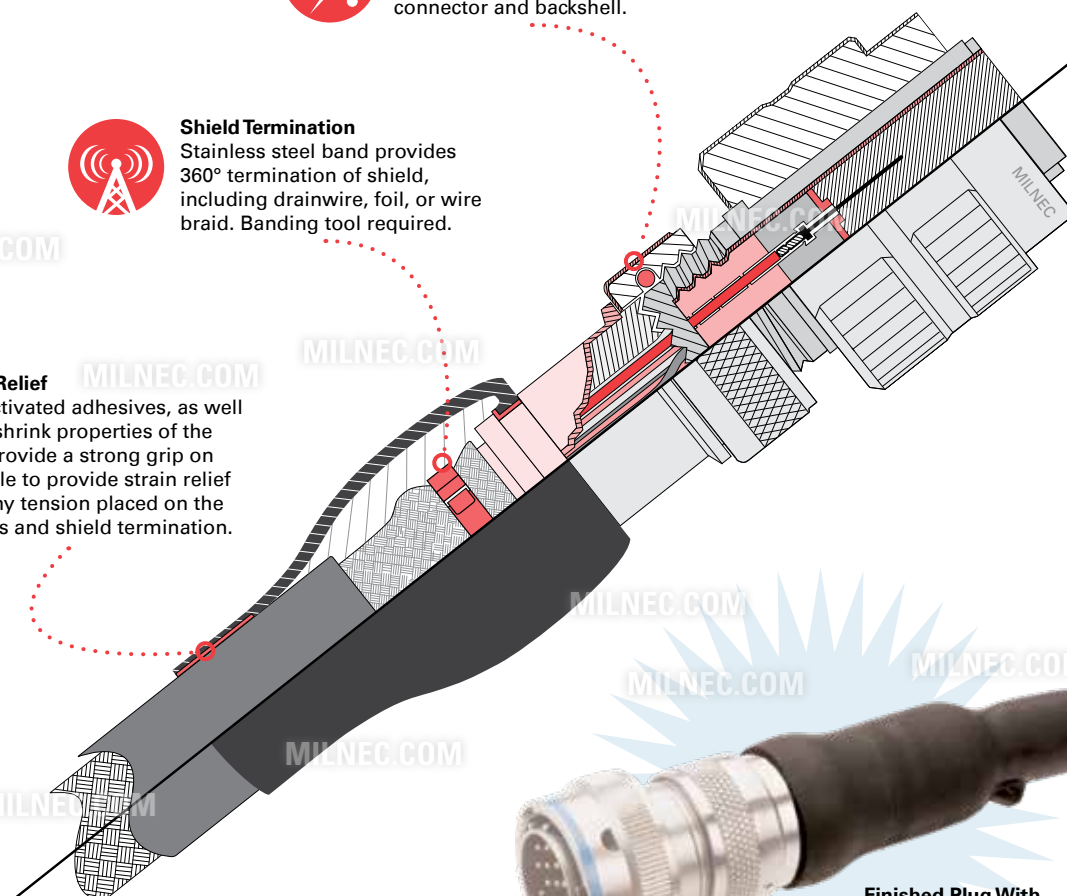
Shield Termination

Stainless steel band provides 360° termination of shield, including drainwire, foil, or wire braid. Banding tool required.



Strain Relief

Heat activated adhesives, as well as the shrink properties of the boot, provide a strong grip on the cable to provide strain relief from any tension placed on the contacts and shield termination.



Finished Plug With
Banding Boot Adapter
& Shrink Boot

360° EMI/RFI & Environmental Protection

Get complete protection from shrink boots with a banding boot adapter. The adapter attaches easily to connectors via a spin coupling and offers 360° shield termination. The overlaying boot provides superior strain relief and environmental sealing for applications that require low-profile backshells.

MILNEC
INTERCONNECT SYSTEMS

Insert Arrangements

DL Series • MIL-DTL-38999 Series I Style Connectors

Selecting Your Insert Arrangement

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 quantity.

Each insert arrangement has a unique number to identify its size and contact arrangement. The first number is the shell size. The second number is the contact arrangement. It does not, however, always equal the total number of contacts. ■

Insert Arrangement Selection

Insert Arrangement	Total Contacts	Hermetic Available	Service Rating	Contact Size								
				#22D	#22M	#22	#20	#16	#12	#12 Coax ¹	#8 Coax ²	#8 Twinax ³
9-3 [†]	3		M				3					
9-6	6		M		6							
9-7 [†]	7		M		7							
9-22 [†]	2		I				2					
9-35	6	✓	M	6								
9-44	4		M			4						
9-98	3	✓	I				3					
11-2	2		I					2				
11-4	4	✓	I				4					
11-5	5	✓	I				5					
11-6 [†]	6		I				6					
11-13	13		M		13							
11-35	13	✓	M	13								
11-98	6	✓	I				6					
11-99	7		I				7					
13-3 [†]	3		II					3				
13-4	4	✓	I					4				
13-8	8	✓	I				8					
13-22	22		M		22							
13-35	22	✓	M	22								
13-98	10		I				10					
15-4 [†]	4		I						4			
15-5	5	✓	II					5				
15-15	15	✓	I				14	1				
15-18	18	✓	I				18					
15-19	19		I				19					
15-35	37	✓	M	37								
15-37	37		M		37							
15-68 [†]	8		I					8				
15-97	12		I				8	4				
17-2	39		M	38								1
17-6	6	✓	I						6			
17-8	8		II					8				
17-13 [†]	13		I					13				
17-22 [†]	4		Coax							2	2	
17-25 [†]	24		M	22							2	
17-26	26	✓	I				26					
17-35	55	✓	M	55								
17-42 [†]	42		M			42						
17-55	55		M		55							
17-99	23	✓	I				21	2				

(Continued on next page)

Rev. 2219

Insert Arrangement Selection (Continued from previous page)

Insert Arrangement	Total Contacts	Hermetic Available	Service Rating	Contact Size								
				#22D	#22M	#22	#20	#16	#12	#12 Coax ¹	#8 Coax ²	#8 Twinax ³
19-11	11	✓	II					11				
19-18	18		M	14								4
19-28 [‡]	28		I				26	2				
19-30 [‡]	30		I				29	1				
19-32	32	✓	I				32					
19-35	66	✓	M	66								
19-53 [‡]	53		M			53						
19-67 [‡]	67		M		67							
19-68 [‡]	18		I					18				
21-1	79		M		79							
21-2 [‡]	65		M			65						
21-11	11	✓	I						11			
21-16	16		II					16				
21-24	24	✓	I				24					
21-25 [‡]	25		I				25					
21-27 [‡]	27		I				27					
21-35	79	✓	M	79								
21-39	39		I				37	2				
21-41	41	✓	I				41					
21-75	4		N									4
21-79 [‡]	19		II	17							2	
23-1	100		M		100							
23-2	85		M			85						
23-6 [‡]	6		M									6
23-14 [‡]	14		I						14			
23-21	21		II					21				
23-32 [‡]	32		I				32					
23-34 [‡]	34		I				34					
23-35	100	✓	M	100								
23-53	53		I				53					
23-55	55		I				55					
23-97 [‡]	16		II					16				
23-99 [‡]	11		II					11				
25-1	128		M		128							
25-2	100		M			100						
25-4	56	✓	I				48	8				
25-7 [‡]	99		M	97								2
25-19	19		I						19			
25-24	24		I					12	12			
25-29	29		I					29				
25-35	128	✓	M	128								
25-37	37		I					37				
25-43	43		I				23	20				
25-46	46		I				40	4			2	
25-61	61		I				61					

¹ Includes the following #12 coax contacts: DLPX12-006 (pin) or DLSX12-007 (socket) contacts, see p. N-10 for more information.

² Includes the following #8 coax contacts: DLPX08-010 (pin) or DLSX08-011 (socket) contacts, see p. N-10 for more information.

³ Includes the following #8 twinax contacts: DLPW08-002 (pin) or DLSW08-003 (socket) contacts, see p. N-10 for more information.

[‡] Special order contact arrangement.

Insert Arrangement Drawings

DL Series • MIL-DTL-38999 Series I Style Connectors

Pattern
Service Rating
Number of Contacts



9-3

M

3 x #20



9-6

M

6 x #22M



9-7

M

7 x #22M



9-22

I

2 x #20



9-35

M

6 x #22D



9-44

M

4 x #22

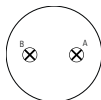


9-98

I

3 x #20

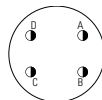
Pattern
Service Rating
Number of Contacts



11-2

I

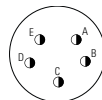
2 x #16



11-4

I

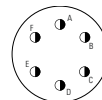
4 x #20



11-5

I

5 x #20



11-6

I

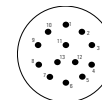
6 x #20



11-13

M

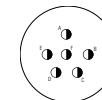
13 x #22M



11-35

M

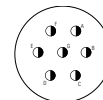
13 x #22D



11-98

I

6 x #20

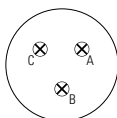


11-99

I

7 x #20

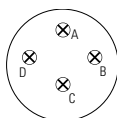
Pattern
Service Rating
Number of Contacts



13-3

II

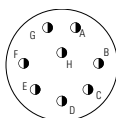
3 x #16



13-4

I

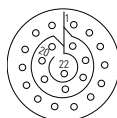
4 x #16



13-8

I

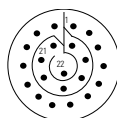
8 x #20



13-22

M

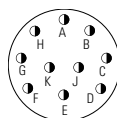
22 x #22M



13-35

M

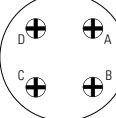
22 x #22D



13-98

I

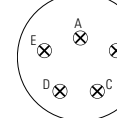
10 x #20



15-4

I

4 x #12

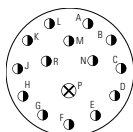


15-5

II

5 x #16

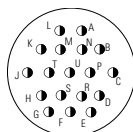
Pattern
Service Rating
Number of Contacts



15-15

I

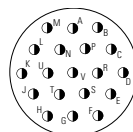
14 x #20
1 x #16



15-18

I

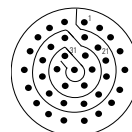
18 x #20



15-19

I

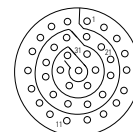
19 x #20



15-35

M

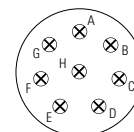
37 x #22D



15-37

M

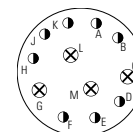
37 x #22M



15-68

I

8 x #16

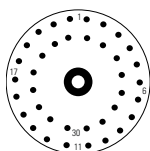


15-97

I

8 x #20
4 x #16

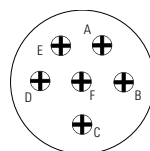
Pattern
Service Rating
Number of Contacts



17-2

M

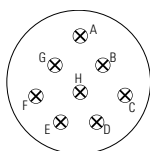
38 x #22D
1 x #8 Twinax



17-6

I

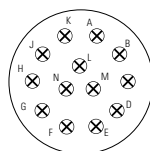
6 x #12



17-8

II

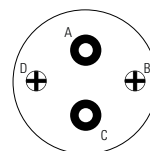
8 x #16



17-13

I

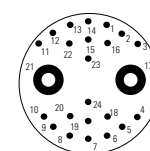
13 x #16



17-22

Coax

2 x #12 Coax
2 x #8 Twinax



17-25

M

22 x #22D
2 x #8 Coax

Contact Legend: 8 12 16 20 22 22M 22D

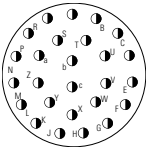
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Rev. 2219

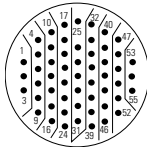
Insert Arrangement Drawings

DL Series • MIL-DTL-38999 Series I Style Connectors

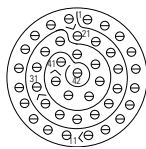
(Continued from previous page)



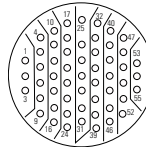
17-26
I
26 x #20



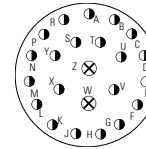
17-35
M
55 x #22D



17-42
M
42 x #22

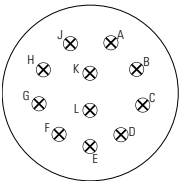


17-55
M
55 x #22M

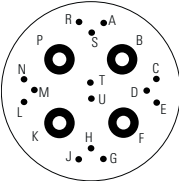


17-99
I
21 x #20
2 x #16

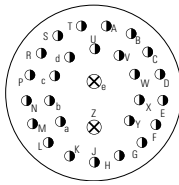
Pattern
Service Rating
Number of Contacts



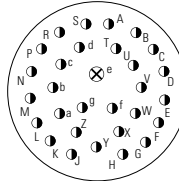
19-11
II
11 x #16



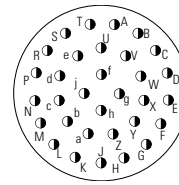
19-18
M
14 x #22D
4 x #8 Twinax



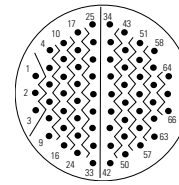
19-28
I
26 x #20
2 x #16



19-30
I
29 x #20
1 x #16

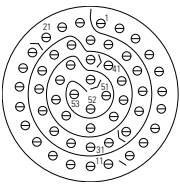


19-32
I
32 x #20

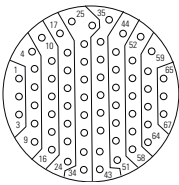


19-35
M
66 x #22D

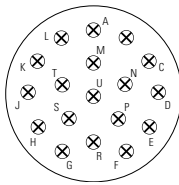
Pattern
Service Rating
Number of Contacts



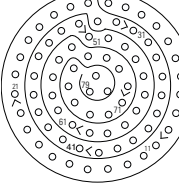
19-53
M
53 x #22



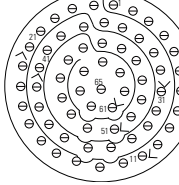
19-67
M
67 x #22M



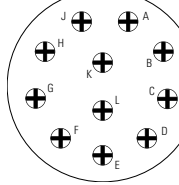
19-68
M
18 x #16



21-1
M
79 x #22M

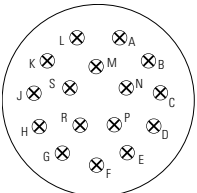


21-2
M
65 x #22

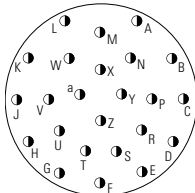


21-11
I
11 x #12

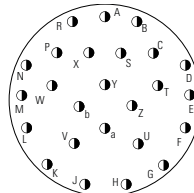
Pattern
Service Rating
Number of Contacts



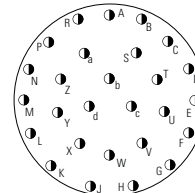
21-16
II
16 x #16



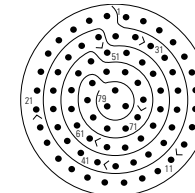
21-24
I
24 x #20



21-25
I
25 x #20



21-27
I
27 x #20



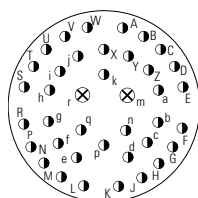
21-35
M
79 x #22D

Pattern
Service Rating
Number of Contacts

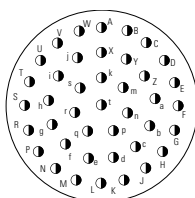
Insert Arrangement Drawings

DL Series • MIL-DTL-38999 Series I Style Connectors

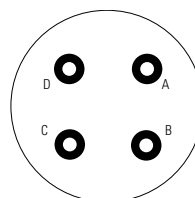
Pattern
Service Rating
Number of Contacts



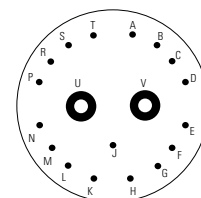
21-39
I
37 x #20
2 x #16



21-41
I
41 x #20

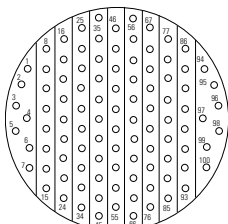


21-75
N
4 x #8 Twinax

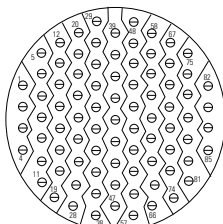


21-79
II
17 x #22D
2 x #8 Coax

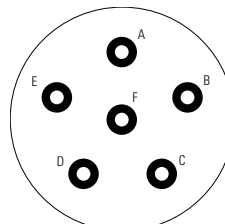
Pattern
Service Rating
Number of Contacts



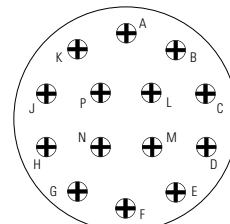
23-1
M
100 x #22M



23-2
M
85 x #22

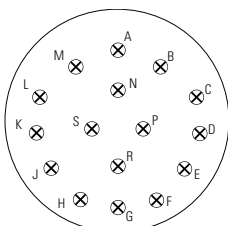


23-6
M
6 x #8 Twinax

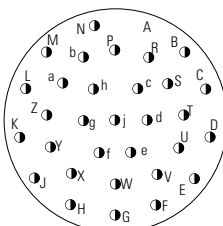


23-14
I
14 x #12

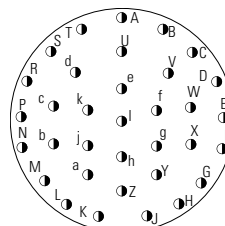
Pattern
Service Rating
Number of Contacts



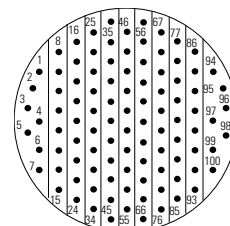
23-21
II
21 x #16



23-32
I
32 x #20

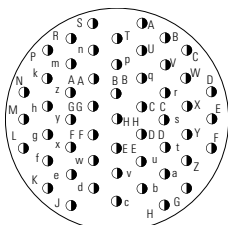


23-34
I
34 x #20

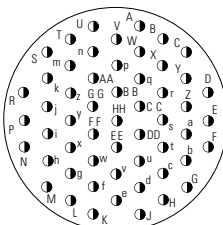


23-35
M
100 x #22D

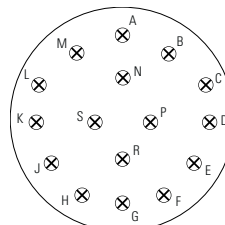
Pattern
Service Rating
Number of Contacts



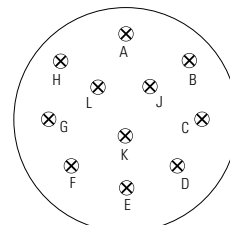
23-53
I
53 x #20



23-55
I
55 x #20



23-97
II
16 x #16



23-99
II
11 x #16

Contact Legend: 8 12 16 20 22 22M 22D

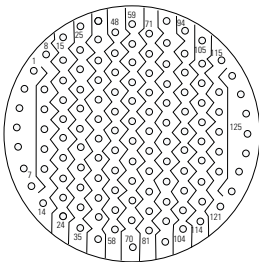
(Continued on next page)

Rev. 2219

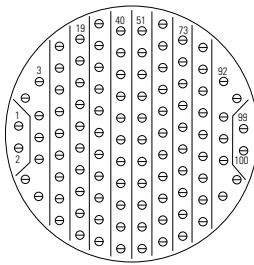
Insert Arrangement Drawings

DL Series • MIL-DTL-38999 Series I Style Connectors

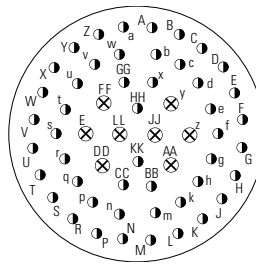
(Continued from previous page)



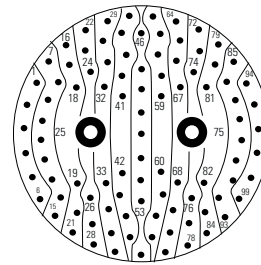
25-1
M
128 x #22M



25-2
M
100 x #22

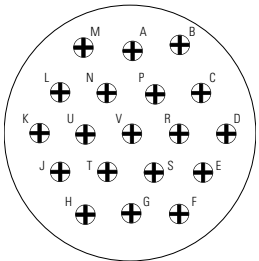


25-4
I
48 x #20
8 x #16

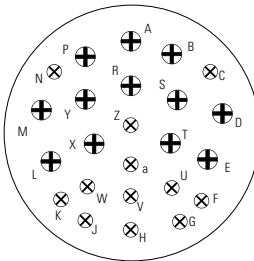


25-7
M
97 x #22D
2 x #8 Twinax

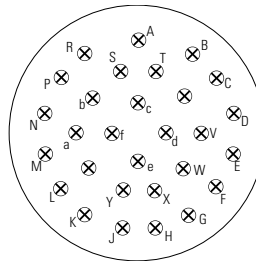
Pattern
Service Rating
Number of Contacts



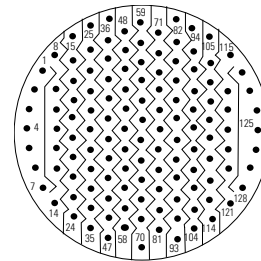
25-19
I
19 x #12



25-24
I
12 x #16
12 x #12

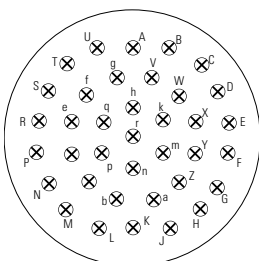


25-29
I
29 x #16

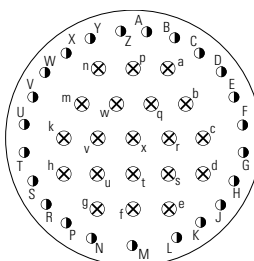


25-35
M
128 x #22D

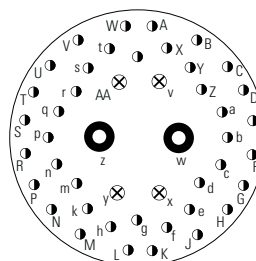
Pattern
Service Rating
Number of Contacts



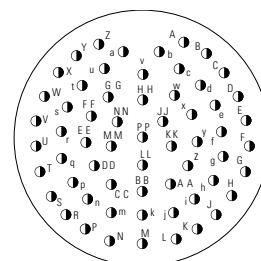
25-37
I
37 x #16



25-43
I
23 x #20
20 x #16



25-46
I
40 x #20
4 x #16
2 x #8 Coax



25-61
I
61 x #20

Pattern
Service Rating
Number of Contacts

CONNECTOR SOLUTIONS FOR THE MODERN BATTLEFIELD



Mil-Spec Reliability with COTS Flexibility

DL Series connectors are built to the MIL-DTL-38999 Series I standard and are compatible with all mil-spec components. They feature bayonet coupling for quick-disconnect convenience and crimp contacts for reliability, in addition to a wide array of protective accessories and mounting hardware that is unavailable in the mil-spec.



MS27467 Connector Type Datasheet

DL Series • MIL-DTL-38999 Series I Style Connectors

DL06 N 13-35 P N - R2(015) - 01

- 1 **BASIC PART NUMBER**
DL06 Plug with RFI grounding fingers
- 2 **MATERIAL & FINISH**
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- 3 **SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. N-16
- 4 **CONTACT STYLE**
P Pin
S Socket
- 5 **ALTERNATE KEYING**
N NORMAL or A, B, C, D
- 6 **OPTIONAL BACKSHELL KIT** (OMIT FOR NONE)
B2 Straight strain relief (self-locking), p. N-36
R2() Straight EMI/RFI environmental, p. N-38
(Add dash number for appropriate shell size, see p. N-38)
K2 Boot adapter, p. N-50, & straight shrink boot, p. N-48
- 7 **OPTIONAL ACCESSORY KIT** (OMIT FOR NONE)
01 Protective cover

Note: See part builder (p. N-14) for additional kit options.



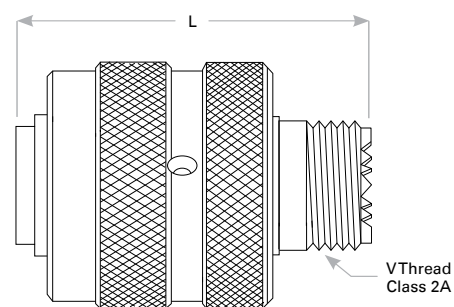
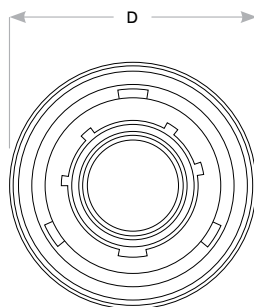
DL06 Cross-Reference & Compatibility

Compatible Brands	Equivalents	Mates
MIL-DTL-38999 Series I	MS27467	MS27466, MS27656, MS27496, MS27505, MS27468
Aero / Conesys	AE167	AE105, AE156, AE166, AE168, AE196
Amphenol	LJT06, LJTS06	LJT00, LJTPQ00, LJT01, LJT02, LJTP02, LJT07
Deutsch	DJT6	DJT0, DJT4
ITT Cannon	KJL6	KJL0, KJL3, KJL5, KJL7
Souriau	8LT5	8LT0, 8LT1, 8LT2, 8LT3, 8LT7

Plug Dimensions

Shell Size	D	L	V Thread Class 2A
9	.844 (21.4)	1.219 (31.0)	.4375-28 UNEF
11	.969 (24.6)	1.219 (31.0)	.5625-24 UNEF
13	1.141 (29.0)	1.219 (31.0)	.6875-24 UNEF
15	1.266 (32.2)	1.219 (31.0)	.8125-20 UNEF
17	1.391 (35.3)	1.219 (31.0)	.9375-20 UNEF
19	1.500 (38.1)	1.219 (31.0)	1.0625-18 UNEF
21	1.625 (41.3)	1.219 (31.0)	1.1875-18 UNEF
23	1.750 (44.5)	1.219 (31.0)	1.3125-18 UNEF
25	1.875 (47.6)	1.219 (31.0)	1.4375-18 UNEF

Dimensions are in inches (mm).



MS27466 Connector Type Datasheet

DL Series • MIL-DTL-38999 Series I Style Connectors



DL00 Cross-Reference & Compatibility

Compatible Brands	Equivalents	Mates
MIL-DTL-38999 Series I	MS27466	MS27467
Aero / Conesys	AE166	AE167
Amphenol	LJT00	LJT06, LJTS06
Deutsch	DJT0	DJT6
ITT Cannon	KJL0	KJL6
Souriau	8LT0	8LT5

DL00 N 13-35 S N - R2(015) - 03

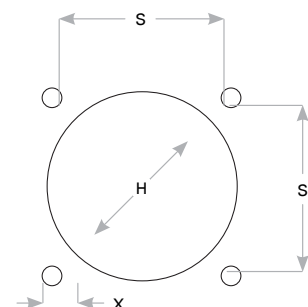
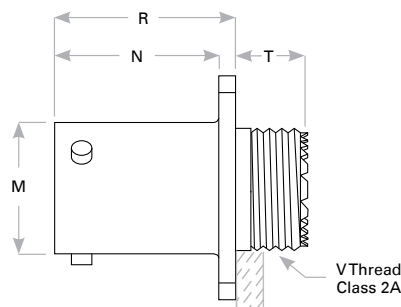
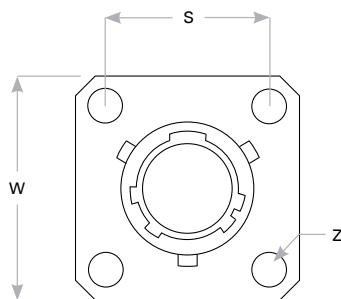
- BASIC PART NUMBER**
DL00 Wall mount receptacle (front mount)
- MATERIAL & FINISH**
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. N-16
- CONTACT STYLE**
P Pin
S Socket
- ALTERNATE KEYING**
N NORMAL or A, B, C, D
- OPTIONAL BACKSHELL KIT (OMIT FOR NONE)**
B2 Straight strain relief (self-locking), p. N-36
R2() Straight EMI/RFI environmental, p. N-38
(Add dash number for appropriate shell size, see p. N-38)
K2 Boot adapter, p. N-50, & straight shrink boot, p. N-48
- OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover + mounting gasket
03 02 kit + mounting bracket + sealing screws

Note: See part builder (p. N-14) for additional kit options.

Receptacle Dimensions

Shell Size	W	Z	R	N	T	M	V Thread Class 2A	S	X	H Front Mount
9	.938 (23.8)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.496 (12.6)	.572 (14.5)	.4375-28 UNEF	.719 (18.3)	.128 (3.3)	.516 (13.1)
11	1.031 (26.2)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.496 (12.6)	.700 (17.8)	.5625-24 UNEF	.812 (20.6)	.128 (3.3)	.625 (15.9)
13	1.125 (28.6)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.496 (12.6)	.850 (21.6)	.6875-24 UNEF	.906 (23.0)	.128 (3.3)	.750 (19.1)
15	1.219 (31.0)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.496 (12.6)	.975 (24.8)	.8125-20 UNEF	.969 (24.6)	.128 (3.3)	.906 (23.0)
17	1.312 (33.3)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.496 (12.6)	1.100 (27.9)	.9375-20 UNEF	1.062 (27.0)	.128 (3.3)	1.016 (25.8)
19	1.438 (36.5)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.496 (12.6)	1.207 (30.7)	1.0625-18 UNEF	1.156 (29.4)	.128 (3.3)	1.141 (29.0)
21	1.562 (39.7)	.128 (3.3)	.717 (18.2)	.602 (15.3)	.496 (12.6)	1.332 (33.8)	1.1875-18 UNEF	1.250 (31.8)	.128 (3.3)	1.266 (32.2)
23	1.688 (42.9)	.147 (3.7)	.717 (18.2)	.602 (15.3)	.496 (12.6)	1.457 (37.0)	1.3125-18 UNEF	1.375 (34.9)	.147 (3.7)	1.375 (34.9)
25	1.812 (46.0)	.147 (3.7)	.717 (18.2)	.602 (15.3)	.496 (12.6)	1.582 (40.2)	1.4375-18 UNEF	1.500 (38.1)	.147 (3.7)	1.484 (37.7)

Dimensions are in inches (mm).



Panel Cutout

Rev. 2219

MS27656 Connector Type Datasheet

DL Series • MIL-DTL-38999 Series I Style Connectors

DL04 N 13-35 S N - R2(015) - 03

- 1 **BASIC PART NUMBER**
DL04 Wall mount receptacle (rear mount)
- 2 **MATERIAL & FINISH**
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- 3 **SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. N-16
- 4 **CONTACT STYLE**
P Pin
S Socket
- 5 **ALTERNATE KEYING**
N NORMAL or A, B, C, D
- 6 **OPTIONAL BACKSHELL KIT (OMIT FOR NONE)**
B2 Straight strain relief (self-locking), p. N-36
R2() Straight EMI/RFI environmental, p. N-38
(Add dash number for appropriate shell size, see p. N-38)
K2 Boot adapter, p. N-50, & straight shrink boot, p. N-48
- 7 **OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover + mounting gasket
03 02 kit + mounting bracket + sealing screws



DL04 Cross-Reference & Compatibility

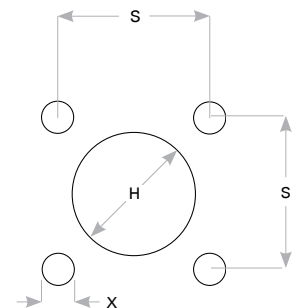
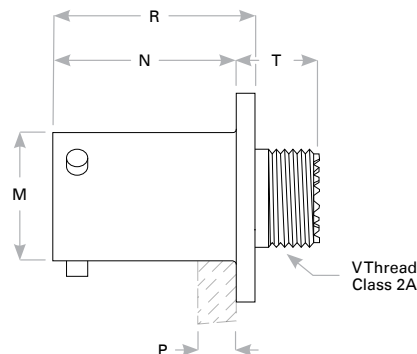
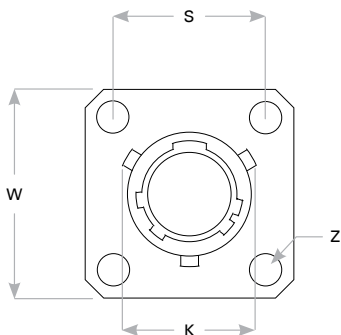
Compatible Brands	Equivalents	Mates
MIL-DTL-38999 Series I	MS27656	MS27467
Aero / Conesys	AE156	AE167
Amphenol	LTJPD00	LJT06, LJTS06
Deutsch	—	DJT6
ITT Cannon	KJL3	KJL6
Souriau	—	8LT5

Note: See part builder (p. N-14) for additional kit options.

Receptacle Dimensions

Shell Size	W	K	Z	R	N	T	M	V Thread Class 2A	P Max Rear Panel†	S	X	H Rear Mount
9	.938 (23.8)	.662 (16.8)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.453 (11.5)	.572 (14.5)	.4375-28 UNEF	.234 (5.9)	.719 (18.3)	.128 (3.3)	.656 (16.7)
11	1.031 (26.2)	.810 (20.6)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.453 (11.5)	.700 (17.8)	.5625-24 UNEF	.234 (5.9)	.812 (20.6)	.128 (3.3)	.796 (20.2)
13	1.125 (28.6)	.960 (24.4)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.453 (11.5)	.850 (21.6)	.6875-24 UNEF	.234 (5.9)	.906 (23.0)	.128 (3.3)	.922 (23.4)
15	1.219 (31.0)	1.085 (27.6)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.453 (11.5)	.975 (24.8)	.8125-20 UNEF	.234 (5.9)	.969 (24.6)	.128 (3.3)	1.047 (26.6)
17	1.312 (33.3)	1.210 (30.7)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.453 (11.5)	1.100 (27.9)	.9375-20 UNEF	.234 (5.9)	1.062 (27.0)	.128 (3.3)	1.219 (31.0)
19	1.438 (36.5)	1.317 (33.5)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.453 (11.5)	1.207 (30.7)	1.0625-18 UNEF	.234 (5.9)	1.156 (29.4)	.128 (3.3)	1.297 (32.9)
21	1.562 (39.7)	1.442 (36.6)	.128 (3.3)	.905 (23.0)	.790 (20.1)	.484 (12.3)	1.332 (33.8)	1.1875-18 UNEF	.204 (5.2)	1.250 (31.8)	.128 (3.3)	1.422 (36.1)
23	1.688 (42.9)	1.567 (39.8)	.147 (3.7)	.905 (23.0)	.790 (20.1)	.484 (12.3)	1.457 (37.0)	1.3125-18 UNEF	.204 (5.2)	1.375 (34.9)	.147 (3.7)	1.547 (39.3)
25	1.812 (46.0)	1.692 (43.0)	.147 (3.7)	.905 (23.0)	.790 (20.1)	.484 (12.3)	1.582 (40.2)	1.4375-18 UNEF	.193 (4.9)	1.500 (38.1)	.147 (3.7)	1.672 (42.5)

Dimensions are in inches (mm). † Max panel thickness will ensure proper coupling clearance.



Panel Cutout

Rev. 2219

MS27496 Connector Type Datasheet

DL Series • MIL-DTL-38999 Series I Style Connectors



DL02 Cross-Reference & Compatibility

Compatible Brands	Equivalents	Mates
MIL-DTL-38999 Series I	MS27496	MS27467
Aero / Conesys	AE196	AE167
Amphenol	LJT02	LJT06, LJTS06
Deutsch	—	DJT6
ITT Cannon	—	KJL6
Souriau	8LT2	8LT5

DL02 N 13-35 S N - 03

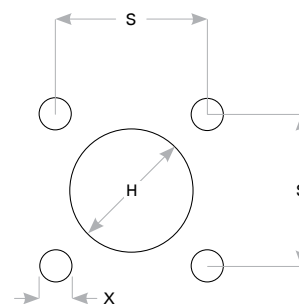
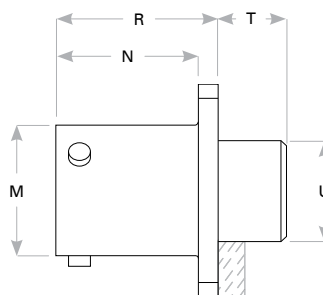
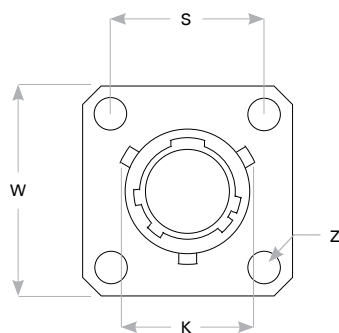
- 1 **BASIC PART NUMBER**
DL02 Box mount receptacle (front mount)
- 2 **MATERIAL & FINISH**
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- 3 **SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. N-16
- 4 **CONTACT STYLE**
P Pin
S Socket
- 5 **ALTERNATE KEYING**
N NORMAL or A, B, C, D
- 6 **OPTIONAL ACCESSORY KIT** (OMIT FOR NONE)
02 Protective cover + mounting gasket
03 02 kit + mounting bracket + sealing screws

Note: See part builder (p. N-14) for additional kit options.

Receptacle Dimensions

Shell Size	W	K	Z	R	N	T	M	U	S	X	H Front Mount
9	.938 (23.8)	.662 (16.8)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.297 (7.5)	.572 (14.5)	.433 (11.0)	.719 (18.3)	.128 (3.3)	.516 (13.1)
11	1.031 (26.2)	.810 (20.6)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.297 (7.5)	.700 (17.8)	.557 (14.1)	.812 (20.6)	.128 (3.3)	.625 (15.9)
13	1.125 (28.6)	.960 (24.4)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.297 (7.5)	.850 (21.6)	.676 (17.2)	.906 (23.0)	.128 (3.3)	.750 (19.1)
15	1.219 (31.0)	1.085 (27.6)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.297 (7.5)	.975 (24.8)	.801 (20.4)	.969 (24.6)	.128 (3.3)	.906 (23.0)
17	1.312 (33.3)	1.210 (30.7)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.297 (7.5)	1.100 (27.9)	.926 (23.5)	1.062 (27.0)	.128 (3.3)	1.016 (25.8)
19	1.438 (36.5)	1.317 (33.5)	.128 (3.3)	.717 (18.2)	.632 (16.1)	.297 (7.5)	1.207 (30.7)	1.032 (26.2)	1.156 (29.4)	.128 (3.3)	1.141 (29.0)
21	1.562 (39.7)	1.442 (36.6)	.128 (3.3)	.717 (18.2)	.602 (15.3)	.297 (7.5)	1.332 (33.8)	1.157 (29.4)	1.250 (31.8)	.128 (3.3)	1.266 (32.2)
23	1.688 (42.9)	1.567 (39.8)	.147 (3.7)	.717 (18.2)	.602 (15.3)	.297 (7.5)	1.457 (37.0)	1.282 (32.6)	1.375 (34.9)	.147 (3.7)	1.375 (34.9)
25	1.812 (46.0)	1.692 (43.0)	.147 (3.7)	.717 (18.2)	.602 (15.3)	.297 (7.5)	1.582 (40.2)	1.407 (35.7)	1.500 (38.1)	.147 (3.7)	1.484 (37.7)

Dimensions are in inches (mm).



Panel Cutout

Rev. 2219

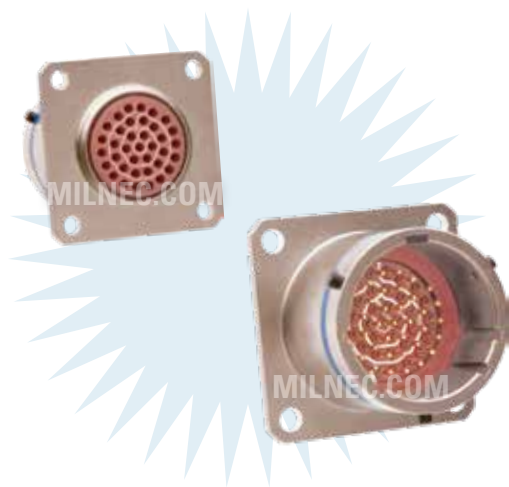
MS27505 Connector Type Datasheet

DL Series • MIL-DTL-38999 Series I Style Connectors

DL03 N 13-35 S N - 03

- 1 **BASIC PART NUMBER**
DL03 Box mount receptacle (rear mount)
- 2 **MATERIAL & FINISH**
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- 3 **SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. N-16
- 4 **CONTACT STYLE**
P Pin
S Socket
- 5 **ALTERNATE KEYING**
N NORMAL or A, B, C, D
- 6 **OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover + mounting gasket
03 02 kit + mounting bracket + sealing screws

Note: See part builder (p. N-14) for additional kit options.



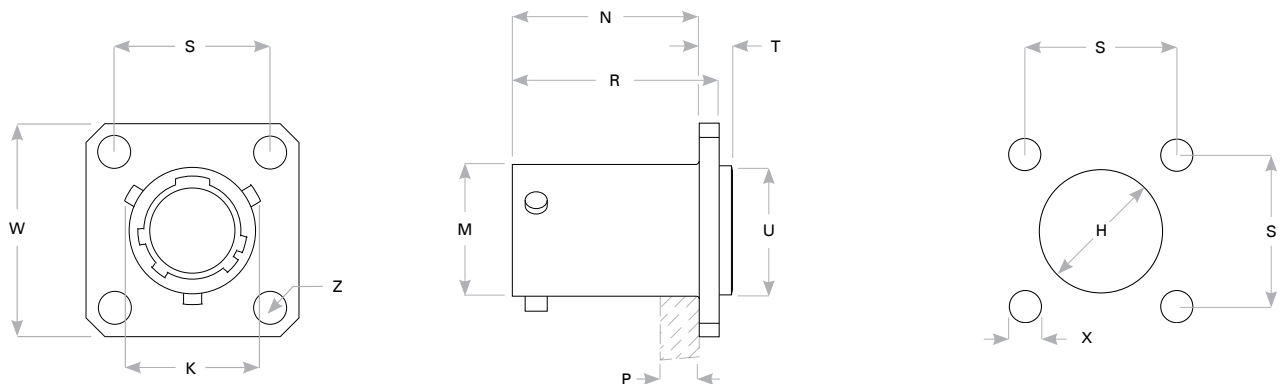
DL03 Cross-Reference & Compatibility

Compatible Brands	Equivalents	Mates
MIL-DTL-38999 Series I	MS27505	MS27467
Aero / Conesys	AE105	AE167
Amphenol	LJTP02	LJT06, LJTS06
Deutsch	—	DJT6
ITT Cannon	KJL5	KJL6
Souriau	—	8LT5

Receptacle Dimensions

Shell Size	W	K	Z	R	N	T	M	U	P Max Rear Panel†	S	X	H Rear Mount
9	.938 (23.8)	.662 (16.8)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.203 (5.2)	.572 (14.5)	.433 (11.0)	.234 (5.9)	.719 (18.3)	.128 (3.3)	.656 (16.7)
11	1.031 (26.2)	.810 (20.6)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.203 (5.2)	.700 (17.8)	.557 (14.1)	.234 (5.9)	.812 (20.6)	.128 (3.3)	.796 (20.2)
13	1.125 (28.6)	.960 (24.4)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.203 (5.2)	.850 (21.6)	.676 (17.2)	.234 (5.9)	.906 (23.0)	.128 (3.3)	.922 (23.4)
15	1.219 (31.0)	1.085 (27.6)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.203 (5.2)	.975 (24.8)	.801 (20.4)	.234 (5.9)	.969 (24.6)	.128 (3.3)	1.047 (26.6)
17	1.312 (33.3)	1.210 (30.7)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.203 (5.2)	1.100 (27.9)	.926 (23.5)	.234 (5.9)	1.062 (27.0)	.128 (3.3)	1.219 (31.0)
19	1.438 (36.5)	1.317 (33.5)	.128 (3.3)	.905 (23.0)	.820 (20.8)	.203 (5.2)	1.207 (30.7)	1.032 (26.2)	.234 (5.9)	1.156 (29.4)	.128 (3.3)	1.297 (32.9)
21	1.562 (39.7)	1.442 (36.6)	.128 (3.3)	.905 (23.0)	.790 (20.1)	.234 (5.9)	1.332 (33.8)	1.157 (29.4)	.204 (5.2)	1.250 (31.8)	.128 (3.3)	1.422 (36.1)
23	1.688 (42.9)	1.567 (39.8)	.147 (3.7)	.905 (23.0)	.790 (20.1)	.234 (5.9)	1.457 (37.0)	1.282 (32.6)	.204 (5.2)	1.375 (34.9)	.147 (3.7)	1.547 (39.3)
25	1.812 (46.0)	1.692 (43.0)	.147 (3.7)	.905 (23.0)	.790 (20.1)	.234 (5.9)	1.582 (40.2)	1.407 (35.7)	.193 (4.9)	1.500 (38.1)	.147 (3.7)	1.672 (42.5)

Dimensions are in inches (mm). † Max panel thickness will ensure proper coupling clearance.



Panel Cutout

Rev. 2219

MS27468 Connector Type Datasheet

DL Series • MIL-DTL-38999 Series I Style Connectors



DL07 Cross-Reference & Compatibility

Compatible Brands	Equivalents	Mates
MIL-DTL-38999 Series I	MS27468	MS27467
Aero / Conesys	AE168	AE167
Amphenol	LJT07	LJT06, LJTS06
Deutsch	DJT4	DJT6
ITT Cannon	KJL7	KJL6
Souriau	8LT7	8LT5

DL07 N 13-35 S N - R2(015) - 02

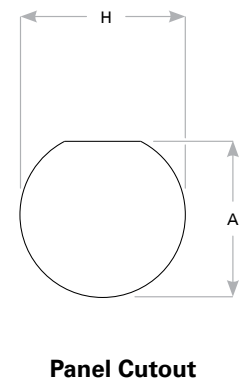
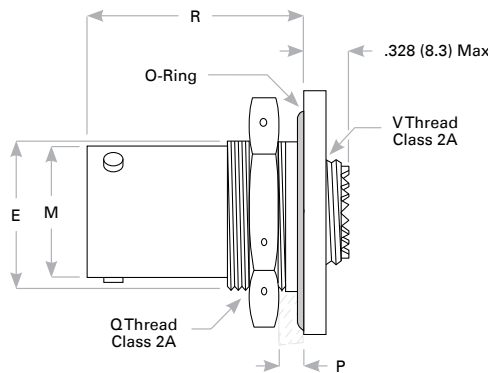
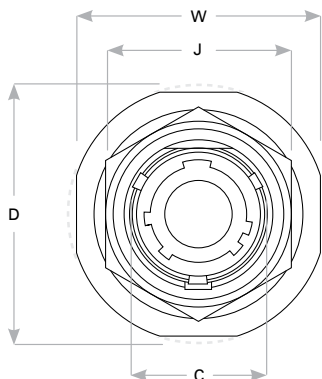
- 1 **BASIC PART NUMBER**
DL07 Jam nut receptacle
- 2 **MATERIAL & FINISH**
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- 3 **SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. N-16
- 4 **CONTACT STYLE**
P Pin
S Socket
- 5 **ALTERNATE KEYING**
N NORMAL or A, B, C, D
- 6 **OPTIONAL BACKSHELL KIT (OMIT FOR NONE)**
B2 Straight strain relief (self-locking), p. N-36
R2() Straight EMI/RFI environmental, p. N-38
(Add dash number for appropriate shell size, see p. N-38)
K2 Boot adapter, p. N-50, & straight shrink boot, p. N-48
- 7 **OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover

Note: See part builder (p. N-14) for additional kit options.

Receptacle Dimensions

Shell Size	W	D	C	J Hex	R	E	M	Q Thread Class 2A	V Thread Class 2A	P Max Rear Panel†	H	A
9	1.062 (27.0)	1.199 (30.5)	.697 (17.7)	.875 (22.2)	.915 (23.2)	.669 (17.0)	.572 (14.5)	.6875-24 UNEF	.4375-28 UNEF	.125 (3.2)	.700 (17.8)	.670 (17.0)
11	1.250 (31.8)	1.386 (35.2)	.822 (20.9)	1.000 (25.4)	.915 (23.2)	.769 (19.5)	.700 (17.8)	.8125-20 UNEF	.5625-24 UNEF	.125 (3.2)	.825 (21.0)	.771 (19.6)
13	1.375 (34.9)	1.511 (38.4)	1.007 (25.6)	1.188 (30.2)	.915 (23.2)	.955 (24.3)	.850 (21.6)	1.0000-20 UNEF	.6875-24 UNEF	.125 (3.2)	1.010 (25.7)	.955 (24.3)
15	1.500 (38.1)	1.636 (41.6)	1.134 (28.8)	1.312 (33.3)	.915 (23.2)	1.084 (27.5)	.975 (24.8)	1.1250-18 UNEF	.8125-20 UNEF	.125 (3.2)	1.135 (28.8)	1.085 (27.6)
17	1.625 (41.3)	1.761 (44.7)	1.259 (32.0)	1.438 (36.5)	.915 (23.2)	1.208 (30.7)	1.100 (27.9)	1.2500-18 UNEF	.9375-20 UNEF	.125 (3.2)	1.260 (32.0)	1.210 (30.7)
19	1.812 (46.0)	1.949 (49.5)	1.384 (35.2)	1.562 (39.7)	.915 (23.2)	1.333 (33.9)	1.207 (30.7)	1.3750-18 UNEF	1.0625-18 UNEF	.125 (3.2)	1.385 (35.2)	1.335 (33.9)
21	1.938 (49.2)	2.073 (52.7)	1.507 (38.3)	1.688 (42.9)	.915 (23.2)	1.459 (37.1)	1.332 (33.8)	1.5000-18 UNEF	1.1875-18 UNEF	.125 (3.2)	1.510 (38.4)	1.460 (37.1)
23	2.062 (52.4)	2.199 (55.9)	1.634 (41.5)	1.812 (46.0)	.915 (23.2)	1.580 (40.1)	1.457 (37.0)	1.6250-18 UNEF	1.3125-18 UNEF	.125 (3.2)	1.635 (41.5)	1.585 (40.3)
25	2.188 (55.6)	2.323 (59.0)	1.759 (44.7)	2.000 (50.8)	.915 (23.2)	1.709 (43.4)	1.582 (40.2)	1.7500-18 UNS	1.4375-18 UNEF	.125 (3.2)	1.760 (44.7)	1.710 (43.4)

Dimensions are in inches (mm). † Max panel thickness will ensure proper coupling clearance.



Panel Cutout

Rev. 2219

Cable Mount Receptacle

DL Series • MIL-DTL-38999 Series I Style Connectors

DL01 N 13-35 S N - R2(015) - 02

- 1 **BASIC PART NUMBER**
DL01 Cable mount receptacle
- 2 **MATERIAL & FINISH**
N Aluminum, electroless nickel
W Aluminum, olive drab
- 3 **SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. N-16
- 4 **CONTACT STYLE**
P Pin
S Socket
- 5 **ALTERNATE KEYING**
N NORMAL or A, B, C, D
- 6 **OPTIONAL BACKSHELL KIT (OMIT FOR NONE)**
B2 Straight strain relief (self-locking), p. N-36
R2() Straight EMI/RFI environmental, p. N-38
(Add dash number for appropriate shell size, see p. N-38)
K2 Boot adapter, p. N-50, & straight shrink boot, p. N-48
- 7 **OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover

Note: See part builder (p. N-14) for additional kit options.



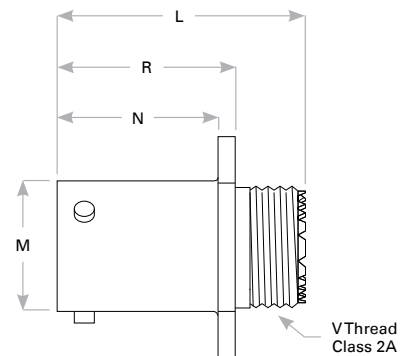
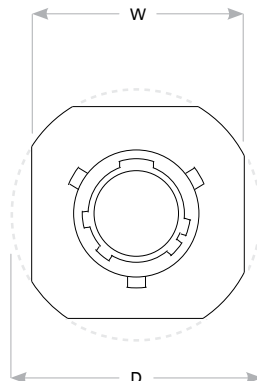
DL01 Compatibility

Compatible Brands	Equivalents	Mates
MIL-DTL-38999 Series I	—	MS27467
Aero / Conesys	—	AE167
Amphenol	LJT01	LJT06, LJTS06
Deutsch	—	DJT6
ITT Cannon	KJA0	KJL6
Souriau	8LT1	8LT5

Receptacle Dimensions

Shell Size	W	D	L	R	N	M	V Thread Class 2A
9	.938 (23.8)	1.094 (27.8)	1.219 (31.0)	.717 (18.2)	.632 (16.1)	.572 (14.5)	.4375-28UNEF
11	1.031 (26.2)	1.188 (30.2)	1.219 (31.0)	.717 (18.2)	.632 (16.1)	.700 (17.8)	.5625-24UNEF
13	1.125 (28.6)	1.281 (32.5)	1.219 (31.0)	.717 (18.2)	.632 (16.1)	.850 (21.6)	.6875-24UNEF
15	1.219 (31.0)	1.375 (34.9)	1.219 (31.0)	.717 (18.2)	.632 (16.1)	.975 (24.8)	.8125-20UNEF
17	1.312 (33.3)	1.469 (37.3)	1.219 (31.0)	.717 (18.2)	.632 (16.1)	1.100 (27.9)	.9375-20UNEF
19	1.438 (36.5)	1.594 (40.5)	1.219 (31.0)	.717 (18.2)	.632 (16.1)	1.207 (30.7)	1.0625-18UNEF
21	1.562 (39.7)	1.719 (43.7)	1.219 (31.0)	.717 (18.2)	.602 (15.3)	1.332 (33.8)	1.1875-18UNEF
23	1.688 (42.9)	1.844 (46.8)	1.219 (31.0)	.717 (18.2)	.602 (15.3)	1.457 (37.0)	1.3125-18UNEF
25	1.812 (46.0)	1.969 (50.0)	1.219 (31.0)	.717 (18.2)	.602 (15.3)	1.582 (40.2)	1.4375-18UNEF

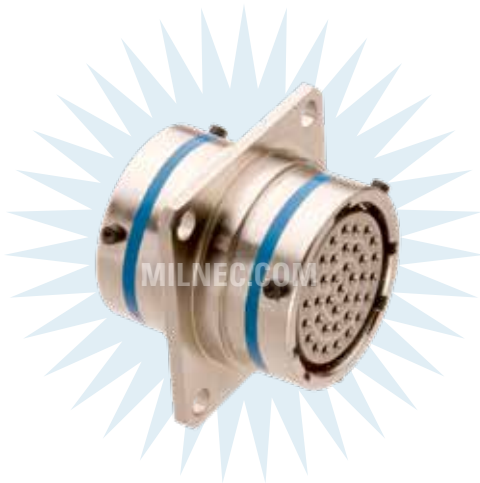
Dimensions are in inches (mm).



Rev. 2219

Thru-Bulkhead Receptacle

DL Series • MIL-DTL-38999 Series I Style Connectors



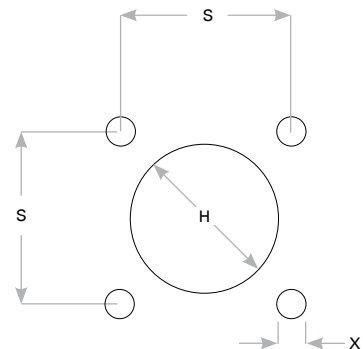
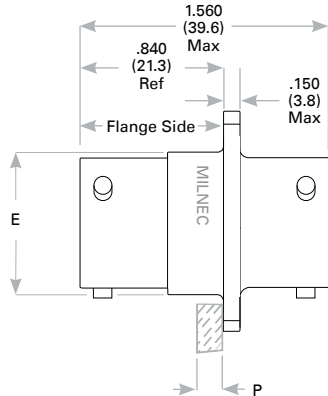
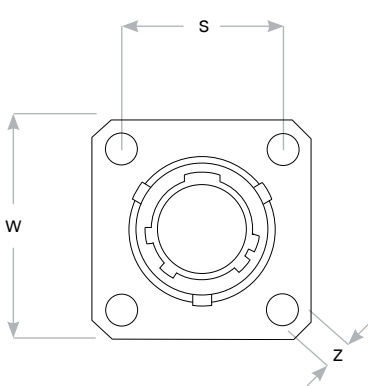
DL22 Compatibility

Compatible Brands	Mates
MIL-DTL-38999 Series I	MS27467
Aero / Conesys	AE167
Amphenol	LJT06, LJTS06
Deutsch	DJT6
ITT Cannon	KJL6
Souriau	8LT5

Receptacle Dimensions

Shell Size	W	Z	E	S	H	X	P Max Panel†
9	.938 (23.8)	.125 (3.2)	.573 (14.6)	.719 (18.3)	.703 (17.9)	.135 (3.4)	See Option 5 for Panel Range
11	1.031 (26.2)	.125 (3.2)	.701 (17.8)	.812 (20.6)	.827 (21.0)	.135 (3.4)	
13	1.125 (28.6)	.125 (3.2)	.851 (21.6)	.906 (23.0)	1.015 (25.8)	.135 (3.4)	
15	1.219 (31.0)	.125 (3.2)	.976 (24.8)	.969 (24.6)	1.140 (29.0)	.135 (3.4)	
17	1.312 (33.3)	.125 (3.2)	1.101 (28.0)	1.062 (27.0)	1.265 (32.1)	.135 (3.4)	
19	1.438 (36.5)	.125 (3.2)	1.208 (30.7)	1.156 (29.4)	1.390 (35.3)	.135 (3.4)	
21	1.562 (39.7)	.125 (3.2)	1.333 (33.9)	1.250 (31.8)	1.515 (38.5)	.135 (3.4)	
23	1.688 (42.9)	.156 (4.0)	1.458 (37.0)	1.375 (34.9)	1.640 (41.7)	.166 (4.2)	
25	1.812 (46.0)	.156 (4.0)	1.583 (40.2)	1.500 (38.1)	1.765 (44.8)	.166 (4.2)	

Dimensions are in inches (mm). † Max panel thickness will ensure proper coupling clearance.



Panel Cutout

DL22 N 13-35 P 1 N - 03

- BASIC PART NUMBER**
DL22 Thru-bulkhead receptacle
- MATERIAL & FINISH**
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. B-19
- CONTACT STYLE**
P Pins on flange side, sockets opposite
S Sockets on flange side, pins opposite
- PANEL RANGE**
1 .063 (1.6) Min — .125 (3.2) Max
2 .063 (1.6) Min — .250 (6.4) Max
3 .063 (1.6) Min — .500 (12.7) Max
- ALTERNATE KEYING**
N NORMAL or A, B, C, D
- OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover (2x)
03 02 kit + mounting bracket + sealing screws

Jam Nut Thru-Bulkhead Recept.

DL Series • MIL-DTL-38999 Series I Style Connectors

DL24 N 13-35 P 1 N - 02



DL24 Compatibility

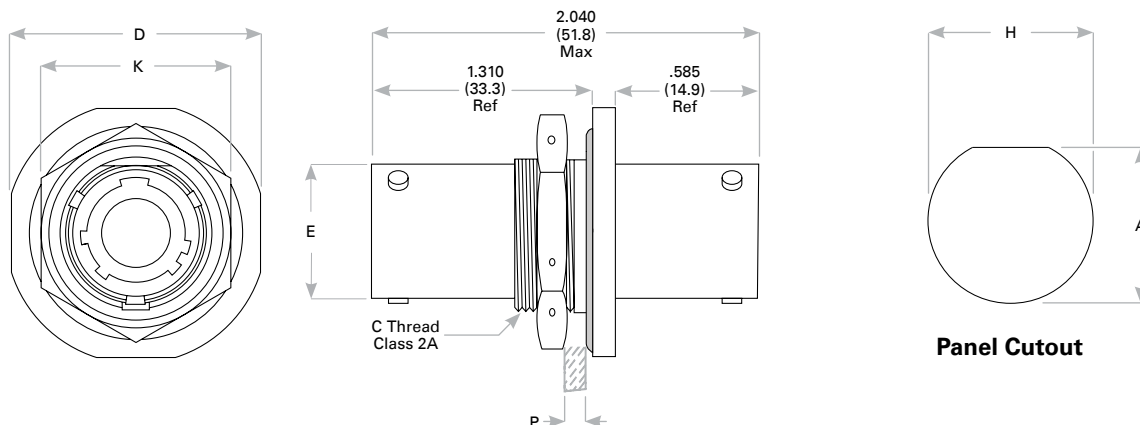
Compatible Brands	Mates
MIL-DTL-38999 Series I	MS27467
Aero / Conesys	AE167
Amphenol	LJT06, LJTS06
Deutsch	DJT6
ITT Cannon	KJL6
Souriau	8LT5

- 1 **BASIC PART NUMBER**
DL24 Jam nut thru-bulkhead receptacle
- 2 **MATERIAL & FINISH**
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- 3 **SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. B-19
- 4 **CONTACT STYLE**
P Pins on jam nut side, sockets opposite
S Sockets on jam nut side, pins opposite
- 5 **PANEL RANGE**
1 .063 (1.6) Min — .125 (3.2) Max
2 .063 (1.6) Min — .250 (6.4) Max
3 .063 (1.6) Min — .500 (12.7) Max
- 6 **ALTERNATE KEYING**
N NORMAL or A, B, C, D
- 7 **OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover (2x)

Receptacle Dimensions

Shell Size	K	D	E	C Thread Class 2A	H	A	P Max Panel [‡]
9	.875 (22.2)	1.062 (27.0)	.573 (14.6)	.688-24 UNEF	.703 (17.9)	.657 (16.7)	See Option 5 for Panel Range
11	1.000 (25.4)	1.250 (31.8)	.701 (17.8)	.813-20 UNEF	.830 (21.1)	.771 (19.6)	
13	1.188 (30.2)	1.375 (34.9)	.851 (21.6)	1.000-20 UNEF	1.015 (25.8)	.955 (24.3)	
15	1.312 (33.3)	1.500 (38.1)	.976 (24.8)	1.125-18 UNEF	1.140 (29.0)	1.085 (27.6)	
17	1.438 (36.5)	1.625 (41.3)	1.101 (28.0)	1.250-18 UNEF	1.265 (32.1)	1.120 (28.5)	
19	1.562 (39.7)	1.812 (46.0)	1.208 (30.7)	1.375-18 UNEF	1.390 (35.3)	1.335 (33.9)	
21	1.688 (42.9)	1.938 (49.2)	1.333 (33.9)	1.500-18 UNEF	1.515 (38.5)	1.460 (37.1)	
23	1.812 (46.0)	2.062 (52.4)	1.458 (37.0)	1.625-18 UNEF	1.640 (41.7)	1.585 (40.3)	
25	2.000 (50.8)	2.188 (55.6)	1.583 (40.2)	1.750-18 UNS	1.765 (44.8)	1.710 (43.4)	

Dimensions are in inches (mm). ‡ Max panel thickness will ensure proper coupling clearance.



Rev. 2219

Jam Nut Thru-Bulkhead (Hermetic)

DL Series • MIL-DTL-38999 Series I Style Connectors



DL27 Compatibility

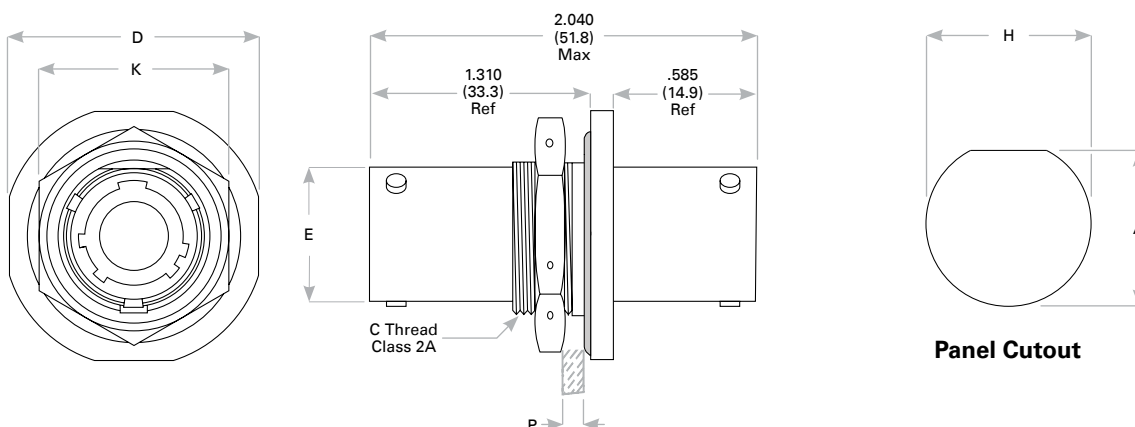
Compatible Brands	Mates
MIL-DTL-38999 Series I	MS27467
Aero / Conesys	AE167
Amphenol	LJT06, LJTS06
Deutsch	DJT6
ITT Cannon	KJL6
Souriau	8LT5

DL27 HA 13-98 P 1 N - 02

- 1 **BASIC PART NUMBER**
DL27 Hermetic jam nut thru-bulkhead receptacle
Helium leakage < 1.0 x10⁻⁷ cc³/sec at
15 psi (1.1 kg/cm²). Insert rated to 14,000 psi
(984 kg/cm²) when precision welded or soldered.
- 2 **MATERIAL & FINISH**
HA Stainless steel, passivated
HB Stainless steel, electrodeposited nickel
- 3 **SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. N-16
(Verify hermetic availability on table)
- 4 **CONTACT STYLE**
P Pins on jam nut side, sockets opposite
S Sockets on jam nut side, pins opposite
- 5 **PANEL RANGE**
1 .063 (1.6) Min — .125 (3.2) Max
2 .063 (1.6) Min — .250 (6.4) Max
3 .063 (1.6) Min — .500 (12.7) Max
- 6 **ALTERNATE KEYING**
N NORMAL or A, B, C, D
- 7 **OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover

Receptacle Dimensions

Shell Size	K	D	E	C Thread Class 2A	H	A	P Max Panel [†]
9	.875 (22.2)	1.062 (27.0)	.573 (14.6)	.688-24 UNEF	.703 (17.9)	.657 (16.7)	See Option 5 for Panel Range
11	1.000 (25.4)	1.250 (31.8)	.701 (17.8)	.813-20 UNEF	.830 (21.1)	.771 (19.6)	
13	1.188 (30.2)	1.375 (34.9)	.851 (21.6)	1.000-20 UNEF	1.015 (25.8)	.955 (24.3)	
15	1.312 (33.3)	1.500 (38.1)	.976 (24.8)	1.125-18 UNEF	1.140 (29.0)	1.085 (27.6)	
17	1.438 (36.5)	1.625 (41.3)	1.101 (28.0)	1.250-18 UNEF	1.265 (32.1)	1.120 (28.5)	
19	1.562 (39.7)	1.812 (46.0)	1.208 (30.7)	1.375-18 UNEF	1.390 (35.3)	1.335 (33.9)	
21	1.688 (42.9)	1.938 (49.2)	1.333 (33.9)	1.500-18 UNEF	1.515 (38.5)	1.460 (37.1)	
23	1.812 (46.0)	2.062 (52.4)	1.458 (37.0)	1.625-18 UNEF	1.640 (41.7)	1.585 (40.3)	
25	2.000 (50.8)	2.188 (55.6)	1.583 (40.2)	1.750-18 UNS	1.765 (44.8)	1.710 (43.4)	



Panel Cutout

Rev. 2219

Wall Mount Receptacle (Hermetic)

DL Series • MIL-DTL-38999 Series I Style Connectors

DL10 HA 9-35 P N - R2(004) -03

- 1 **BASIC PART NUMBER**
DL10 Hermetic wall mount receptacle
Helium leakage < 1.0×10^{-7} cc³/sec at
15 psi (1.1 kg/cm²). Insert rated to 14,000 psi
(984 kg/cm²) when precision welded or soldered.
- 2 **MATERIAL & FINISH**
HA Stainless steel, passivated
HB Stainless steel, electrodeposited nickel
- 3 **SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. N-16
- 4 **CONTACT STYLE**
P Pin, gold plated, solder cup termination
H* Socket, gold plated, solder cup termination
- 5 **ALTERNATE KEYING**
N NORMAL or A, B, C, D
- 6 **OPTIONAL BACKSHELL KIT (OMIT FOR NONE)**
B2 Straight strain relief (self-locking), p. N-36
R2() Straight EMI/RFI environmental, p. N-38
(Add dash number for appropriate shell size, see p. N-38)
- 7 **OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover + mounting gasket
03 02 kit + mounting bracket + sealing screws

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



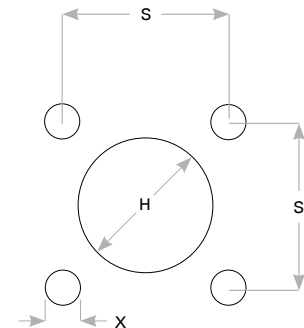
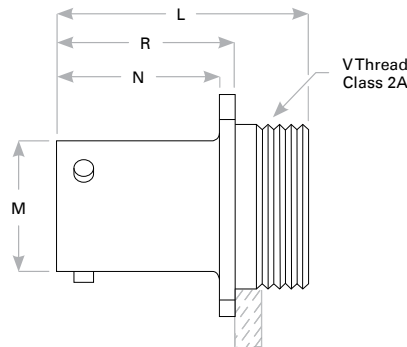
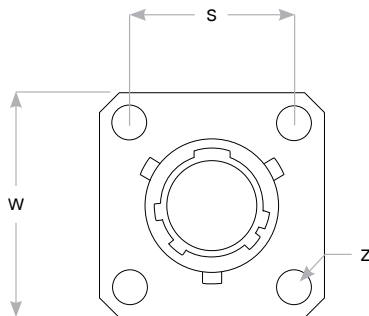
DL10 Compatibility

Compatible Brands	Mates
MIL-DTL-38999 Series I	MS27467
Aero / Conesys	AE167
Amphenol	LJT06, LJTS06
Deutsch	DJT6
ITT Cannon	KJL6
Souriau	8LT5

Receptacle Dimensions

Shell Size	W	Z	L	R	N	M	V Thread Class 2A	S	X	H Front Mount
9	.938 (23.8)	.128 (3.3)	1.047 (26.6)	.741 (18.8)	.659 (16.7)	.572 (14.5)	.6875-24 UNEF	.719 (18.3)	.125 (3.2)	.750 (19.1)
11	1.031 (26.2)	.128 (3.3)	1.047 (26.6)	.741 (18.8)	.659 (16.7)	.700 (17.8)	.8125-20 UNEF	.812 (20.6)	.125 (3.2)	.906 (23.0)
13	1.125 (28.6)	.128 (3.3)	1.047 (26.6)	.741 (18.8)	.659 (16.7)	.850 (21.6)	.9375-20 UNEF	.906 (23.0)	.125 (3.2)	1.016 (25.8)
15	1.219 (31.0)	.128 (3.3)	1.047 (26.6)	.741 (18.8)	.659 (16.7)	.975 (24.8)	1.0625-18 UNEF	.969 (24.6)	.125 (3.2)	1.141 (29.0)
17	1.312 (33.3)	.128 (3.3)	1.047 (26.6)	.741 (18.8)	.659 (16.7)	1.100 (27.9)	1.1875-18 UNEF	1.062 (27.0)	.125 (3.2)	1.266 (32.2)
19	1.438 (36.5)	.128 (3.3)	1.047 (26.6)	.741 (18.8)	.659 (16.7)	1.207 (30.7)	1.3125-18 UNEF	1.156 (29.4)	.125 (3.2)	1.375 (34.9)
21	1.562 (39.7)	.128 (3.3)	1.047 (26.6)	.741 (18.8)	.659 (16.7)	1.332 (33.8)	1.4375-18 UNEF	1.250 (31.8)	.125 (3.2)	1.484 (37.7)
23	1.688 (42.9)	.147 (3.7)	1.047 (26.6)	.741 (18.8)	.659 (16.7)	1.457 (37.0)	1.5625-18 UNEF	1.375 (34.9)	.152 (3.9)	1.610 (40.9)
25	1.812 (46.0)	.147 (3.7)	1.047 (26.6)	.741 (18.8)	.659 (16.7)	1.582 (40.2)	1.6875-18 UNEF	1.500 (38.1)	.152 (3.9)	1.719 (43.7)

Dimensions are in inches (mm).



Panel Cutout

Rev. 2219

Jam Nut Receptacle (Hermetic)

DL Series • MIL-DTL-38999 Series I Style Connectors



DL13 Compatibility

Compatible Brands	Mates
MIL-DTL-38999 Series I	MS27467
Aero / Conesys	AE167
Amphenol	LJT06, LJTS06
Deutsch	DJT6
ITT Cannon	KJL6
Souriau	8LT5

DL13 HA 13-98 P N - 02

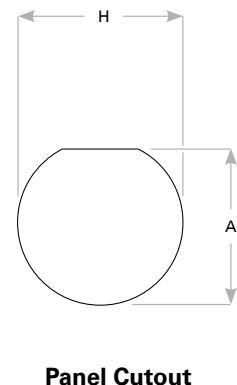
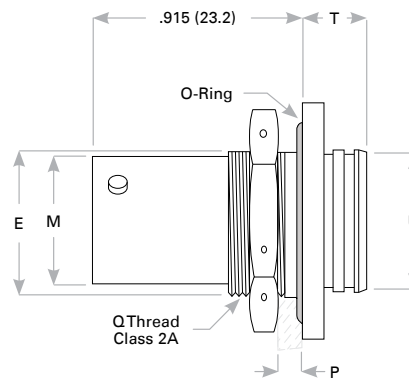
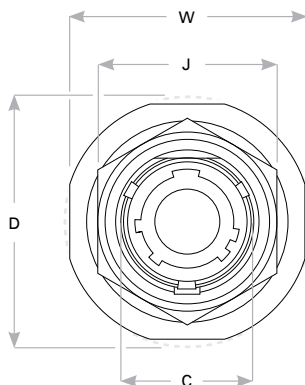
- BASIC PART NUMBER**
DL13 Hermetic jam nut receptacle
 Helium leakage < 1.0 x10⁻⁷ cc³/sec at 15 psi (1.1 kg/cm²). Insert rated to 14,000 psi (984 kg/cm²) when precision welded or soldered.
- MATERIAL & FINISH**
HA Stainless steel, passivated
HB Stainless steel, electrodeposited nickel
- SHELL SIZE & INSERT ARRANGEMENT**
 See Insert Arrangement Selection table, p. N-16
 (Verify hermetic availability on table)
- CONTACT STYLE**
P Pin, gold plated, solder cup termination
H* Socket, gold plated, solder cup termination
- ALTERNATE KEYING**
N NORMAL or A, B, C, D
- OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover

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

Receptacle Dimensions

Shell Size	W	D	C	J Hex	T	E	M	Q Thread Class 2A	U	P Max Rear Panel†	H	A
9	1.062 (27.0)	1.199 (30.5)	.697 (17.7)	.875 (22.2)	.297 (7.5)	.669 (17.0)	.572 (14.5)	.6875-24 UNEF	.642 (16.3)	.125 (3.2)	.700 (17.8)	.670 (17.0)
11	1.250 (31.8)	1.386 (35.2)	.822 (20.9)	1.000 (25.4)	.297 (7.5)	.769 (19.5)	.700 (17.8)	.8125-20 UNEF	.766 (19.5)	.125 (3.2)	.825 (21.0)	.771 (19.6)
13	1.375 (34.9)	1.511 (38.4)	1.007 (25.6)	1.188 (30.2)	.297 (7.5)	.955 (24.3)	.850 (21.6)	1.0000-20 UNEF	.892 (22.7)	.125 (3.2)	1.010 (25.7)	.955 (24.3)
15	1.500 (38.1)	1.636 (41.6)	1.134 (28.8)	1.312 (33.3)	.297 (7.5)	1.084 (27.5)	.975 (24.8)	1.1250-18 UNEF	1.018 (25.9)	.125 (3.2)	1.135 (28.8)	1.085 (27.6)
17	1.625 (41.3)	1.761 (44.7)	1.259 (32.0)	1.438 (36.5)	.297 (7.5)	1.208 (30.7)	1.100 (27.9)	1.2500-18 UNEF	1.142 (29.0)	.125 (3.2)	1.260 (32.0)	1.210 (30.7)
19	1.812 (46.0)	1.949 (49.5)	1.384 (35.2)	1.562 (39.7)	.328 (8.3)	1.333 (33.9)	1.207 (30.7)	1.3750-18 UNEF	1.268 (32.2)	.125 (3.2)	1.385 (35.2)	1.335 (33.9)
21	1.938 (49.2)	2.073 (52.7)	1.507 (38.3)	1.688 (42.9)	.328 (8.3)	1.459 (37.1)	1.332 (33.8)	1.5000-18 UNEF	1.392 (35.4)	.125 (3.2)	1.510 (38.4)	1.460 (37.1)
23	2.062 (52.4)	2.199 (55.9)	1.634 (41.5)	1.812 (46.0)	.328 (8.3)	1.580 (40.1)	1.457 (37.0)	1.6250-18 UNEF	1.518 (38.6)	.125 (3.2)	1.635 (41.5)	1.585 (40.3)
25	2.188 (55.6)	2.328 (59.0)	1.759 (44.7)	2.000 (50.8)	.328 (8.3)	1.709 (43.4)	1.582 (40.2)	1.7500-18 UNS	1.642 (41.7)	.125 (3.2)	1.760 (44.7)	1.710 (43.4)

Dimensions are in inches (mm). † Max panel thickness will ensure proper coupling clearance.



Panel Cutout

Rev. 2219

Solder Mount Recept. (Hermetic)

DL Series • MIL-DTL-38999 Series I Style Connectors

DL19 HA 13-98 P N - 02



1 2 3 4 5 6

- 1 **BASIC PART NUMBER**
DL19 Hermetic solder mount receptacle
Helium leakage < 1.0×10^{-7} cc³/sec at
15 psi (1.1 kg/cm²). Insert rated to 14,000 psi
(984 kg/cm²) when precision welded or soldered.
- 2 **MATERIAL & FINISH**
HA Stainless steel, passivated
HB Stainless steel, electrodeposited nickel
- 3 **SHELL SIZE & INSERT ARRANGEMENT**
See Insert Arrangement Selection table, p. N-16
(Verify hermetic availability on table)
- 4 **CONTACT STYLE**
P Pin, gold plated, solder cup termination
H* Socket, gold plated, solder cup termination
- 5 **ALTERNATE KEYING**
N NORMAL or A, B, C, D
- 6 **OPTIONAL ACCESSORY KIT (OMIT FOR NONE)**
02 Protective cover

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

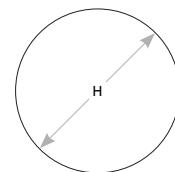
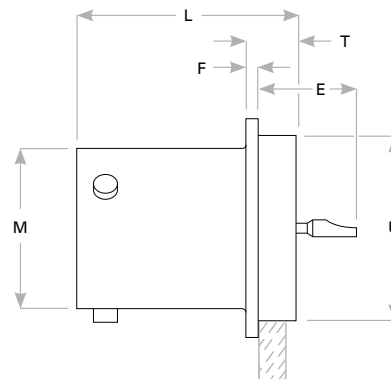
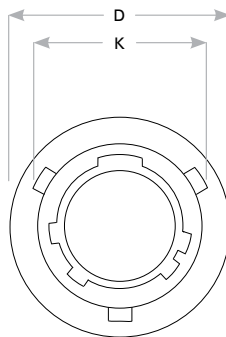
DL19 Compatibility

Compatible Brands	Mates
MIL-DTL-38999 Series I	MS27467
Aero / Conesys	AE167
Amphenol	LJT06, LJTS06
Deutsch	DJT6
ITT Cannon	KJL6
Souriau	8LT5

Receptacle Dimensions

Shell Size	K	D	L	F	T	E	M	U	H Front Mount
9	.662 (16.8)	.750 (19.1)	.789 (20.0)	.031 (.8)	.125 (3.2)	.304 (7.7)	.572 (14.5)	.672 (17.1)	.702 (17.8)
11	.810 (20.6)	.844 (21.4)	.789 (20.0)	.031 (.8)	.125 (3.2)	.304 (7.7)	.700 (17.8)	.781 (19.8)	.811 (20.6)
13	.960 (24.4)	.969 (24.6)	.789 (20.0)	.031 (.8)	.125 (3.2)	.304 (7.7)	.850 (21.6)	.906 (23.0)	.936 (23.8)
15	1.085 (27.6)	1.094 (27.8)	.789 (20.0)	.031 (.8)	.125 (3.2)	.304 (7.7)	.975 (24.8)	1.031 (26.2)	1.061 (27.0)
17	1.210 (30.7)	1.218 (30.9)	.789 (20.0)	.031 (.8)	.125 (3.2)	.304 (7.7)	1.100 (27.9)	1.156 (29.4)	1.186 (30.1)
19	1.317 (33.5)	1.312 (33.3)	.789 (20.0)	.031 (.8)	.125 (3.2)	.304 (7.7)	1.207 (30.7)	1.250 (31.8)	1.280 (32.5)
21	1.442 (36.6)	1.438 (36.5)	.789 (20.0)	.031 (.8)	.125 (3.2)	.304 (7.7)	1.332 (33.8)	1.375 (34.9)	1.405 (35.7)
23	1.567 (39.8)	1.563 (39.7)	.821 (20.9)	.031 (.8)	.156 (4.0)	.304 (7.7)	1.457 (37.0)	1.500 (38.1)	1.530 (38.9)
25	1.692 (43.0)	1.688 (42.9)	.821 (20.9)	.031 (.8)	.156 (4.0)	.304 (7.7)	1.582 (40.2)	1.625 (41.3)	1.655 (42.0)

Dimensions are in inches (mm).



Panel Cutout

Rev. 2219

Strain Relief Backshells

DL Series • MIL-DTL-38999 Series I Style Connectors



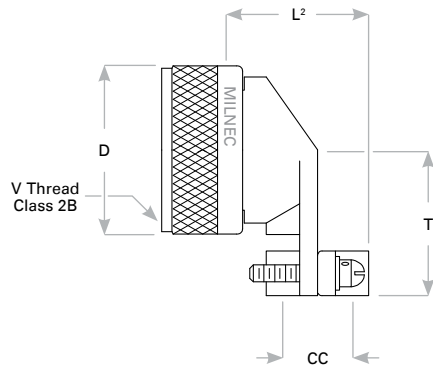
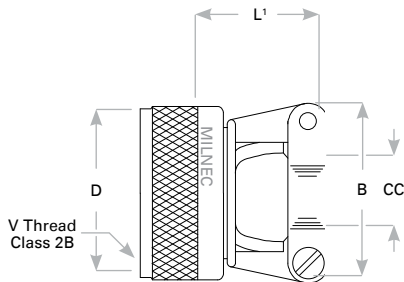
DLB2 Compatibility

Compatible Brands	Connectors
MIL-DTL-38999 Series I	MS27466, MS27467, MS27468, MS27656
Aero / Conesys	AE156, AE167, AE166, AE168
Amphenol	LJT00, LTJPQ00, LJT01, LJT06, LJTS06, LJT07
Deutsch	DJT0, DJT4, DJT6
ITT Cannon	KJA0, KJL0, KJL3, KJL6, KJL7
Souriau	8LT0, 8LT1, 8LT5, 8LT7

Strain Relief Dimensions

Shell Size	D	L ¹	L ²	T	B	V Thread Class 2B	CC Cable Clearance	
							Min	Max
9	.858 (21.8)	.910 (23.1)	1.200 (30.5)	1.000 (25.4)	.850 (21.6)	.438-28 UNEF	.098 (2.5)	.234 (5.9)
11	.984 (25.0)	.910 (23.1)	1.200 (30.5)	1.100 (27.9)	.900 (22.9)	.562-24 UNEF	.153 (3.9)	.234 (5.9)
13	1.157 (29.4)	1.010 (25.7)	1.400 (35.6)	1.100 (27.9)	1.100 (27.9)	.688-24 UNEF	.190 (4.8)	.328 (8.3)
15	1.279 (32.5)	1.060 (26.9)	1.450 (36.8)	1.250 (31.8)	1.150 (29.2)	.813-20 UNEF	.260 (6.6)	.457 (11.6)
17	1.406 (35.7)	1.160 (29.5)	1.600 (40.6)	1.300 (33.0)	1.300 (33.0)	.938-20 UNEF	.283 (7.2)	.614 (15.6)
19	1.516 (38.5)	1.410 (35.8)	1.700 (43.2)	1.350 (34.3)	1.500 (38.1)	1.063-18 UNEF	.325 (8.3)	.634 (16.1)
21	1.642 (41.7)	1.510 (38.4)	1.850 (47.0)	1.600 (40.6)	1.600 (40.6)	1.188-18 UNEF	.343 (8.7)	.698 (17.7)
23	1.768 (44.9)	1.660 (42.2)	1.950 (49.5)	1.750 (44.5)	1.700 (43.2)	1.313-18 UNEF	.381 (9.7)	.823 (20.9)
25	1.889 (48.0)	1.760 (44.7)	2.100 (53.3)	1.850 (47.0)	1.800 (45.7)	1.438-18 UNEF	.418 (10.6)	.853 (21.7)

Dimensions are in inches (mm).



DLB2 - S - 15 N

- BASIC PART NUMBER**
DLB2 Straight strain relief backshell
DLB4 90° strain relief backshell
- COUPLING STYLE**
N Non-self-locking coupling
S Self-locking coupling
- SHELL SIZE**
See Strain Relief Dimensions table below
- MATERIAL & FINISH**
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium

Note: See part builder (p. N-14) for additional kit options.

DON'T GET SHOCKED BY UNEXPECTED SYSTEM FAILURE



Get Complete IP67 & EMI/RFI Protection

Our EMI/RFI environmental backshells offer the ultimate protection for shielded applications. In addition to providing complete IP67 environmental protection, they protect your system against electromagnetic and radio frequency interference, which may cause system malfunction or catastrophic failure. Full protection—complete peace of mind.



Straight EMI/RFI Env. Backshell

DL Series • MIL-DTL-38999 Series I Style Connectors



Photo for example only

DLR2 - 035 N

- 1 BASIC PART NUMBER
- 2 DASH NO.
- 3 MATERIAL & FINISH

DLR2 Straight EMI/RFI environmental backshell

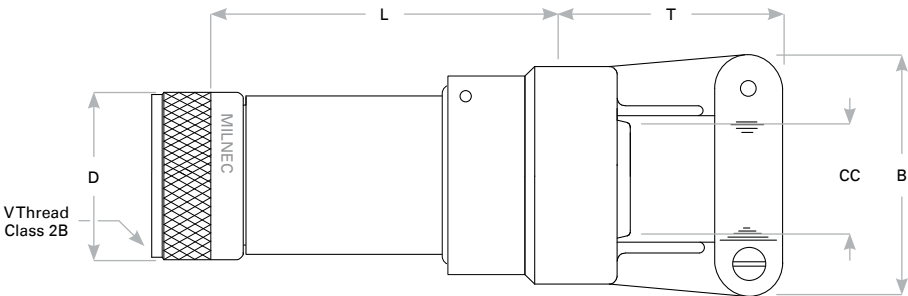
See Backshell Dimensions table below

- N Aluminum, electroless nickel
- W Aluminum, olive drab cadmium

Note: See part builder (p. N-14) for additional kit options.

DLR2 Compatibility

Compatible Brands	Connectors
MIL-DTL-38999 Series I	MS27466, MS27467, MS27468, MS27656
Aero / Conesys	AE156, AE167, AE166, AE168
Amphenol	LJT00, LTJPQ00, LJT01, LJT06, LJTS06, LJT07
Deutsch	DJT0, DJT4, DJT6
ITT Cannon	KJA0, KJL0, KJL3, KJL6, KJL7
Souriau	8LT0, 8LT1, 8LT5, 8LT7



Bachshell Dimensions

Dash No.	Shell Size	V Thread Class 2B	D	T	B	L	CC Cable Clearance	
							Min	Max
001	9	.438-28 UNEF	.571 (14.5)	1.250 (31.8)	.781 (19.8)	1.500 (38.1)	.062 (1.6)	.125 (3.2)
002	9	.438-28 UNEF	.571 (14.5)	1.250 (31.8)	.781 (19.8)	2.500 (63.5)	.062 (1.6)	.125 (3.2)
003	9	.438-28 UNEF	.571 (14.5)	1.250 (31.8)	.969 (24.6)	1.500 (38.1)	.125 (3.2)	.250 (6.4)
004	9	.438-28 UNEF	.571 (14.5)	1.250 (31.8)	.969 (24.6)	2.500 (63.5)	.125 (3.2)	.250 (6.4)
005	11	.562-24 UNEF	.701 (17.8)	1.250 (31.8)	.781 (19.8)	1.500 (38.1)	.062 (1.6)	.125 (3.2)
006	11	.562-24 UNEF	.701 (17.8)	1.250 (31.8)	.781 (19.8)	2.500 (63.5)	.062 (1.6)	.125 (3.2)
007	11	.562-24 UNEF	.701 (17.8)	1.250 (31.8)	.969 (24.6)	1.500 (38.1)	.125 (3.2)	.250 (6.4)
008	11	.562-24 UNEF	.701 (17.8)	1.250 (31.8)	.969 (24.6)	2.500 (63.5)	.125 (3.2)	.250 (6.4)
009	11	.562-24 UNEF	.701 (17.8)	1.250 (31.8)	1.062 (27.0)	1.500 (38.1)	.250 (6.4)	.375 (9.5)
010	11	.562-24 UNEF	.701 (17.8)	1.250 (31.8)	1.062 (27.0)	2.500 (63.5)	.250 (6.4)	.375 (9.5)

Dimensions are in inches (mm).

(Continued on next page)

Rev. 2219

Backshell Dimensions (Continued from previous page)

Dash No.	Shell Size	V Thread Class 2B	D	T	B	L	CC Cable Clearance	
							Min	Max
011	13	.688-24 UNEF	.831 (21.1)	1.250 (31.8)	.969 (24.6)	1.500 (38.1)	.125 (3.2)	.250 (6.4)
012	13	.688-24 UNEF	.831 (21.1)	1.250 (31.8)	.969 (24.6)	2.500 (63.5)	.125 (3.2)	.250 (6.4)
013	13	.688-24 UNEF	.831 (21.1)	1.250 (31.8)	1.062 (27.0)	1.500 (38.1)	.250 (6.4)	.375 (9.5)
014	13	.688-24 UNEF	.831 (21.1)	1.250 (31.8)	1.062 (27.0)	2.500 (63.5)	.250 (6.4)	.375 (9.5)
015	13	.688-24 UNEF	.831 (21.1)	1.250 (31.8)	1.156 (29.4)	1.500 (38.1)	.375 (9.5)	.500 (12.7)
016	13	.688-24 UNEF	.831 (21.1)	1.250 (31.8)	1.156 (29.4)	2.500 (63.5)	.375 (9.5)	.500 (12.7)
017	15	.813-20 UNEF	.949 (24.1)	1.250 (31.8)	.969 (24.6)	1.500 (38.1)	.125 (3.2)	.250 (6.4)
018	15	.813-20 UNEF	.949 (24.1)	1.250 (31.8)	.969 (24.6)	2.500 (63.5)	.125 (3.2)	.250 (6.4)
019	15	.813-20 UNEF	.949 (24.1)	1.250 (31.8)	.969 (24.6)	3.500 (88.9)	.125 (3.2)	.250 (6.4)
020	15	.813-20 UNEF	.949 (24.1)	1.250 (31.8)	1.062 (27.0)	1.500 (38.1)	.250 (6.4)	.375 (9.5)
021	15	.813-20 UNEF	.949 (24.1)	1.250 (31.8)	1.062 (27.0)	2.500 (63.5)	.250 (6.4)	.375 (9.5)
022	15	.813-20 UNEF	.949 (24.1)	1.250 (31.8)	1.062 (27.0)	3.500 (88.9)	.250 (6.4)	.375 (9.5)
023	15	.813-20 UNEF	.949 (24.1)	1.250 (31.8)	1.156 (29.4)	1.500 (38.1)	.375 (9.5)	.500 (12.7)
024	15	.813-20 UNEF	.949 (24.1)	1.250 (31.8)	1.156 (29.4)	2.500 (63.5)	.375 (9.5)	.500 (12.7)
025	15	.813-20 UNEF	.949 (24.1)	1.250 (31.8)	1.156 (29.4)	3.500 (88.9)	.375 (9.5)	.500 (12.7)
026	15	.813-20 UNEF	.949 (24.1)	1.312 (33.3)	1.250 (31.8)	1.500 (38.1)	.500 (12.7)	.625 (15.9)
027	15	.813-20 UNEF	.949 (24.1)	1.312 (33.3)	1.250 (31.8)	2.500 (63.5)	.500 (12.7)	.625 (15.9)
028	15	.813-20 UNEF	.949 (24.1)	1.312 (33.3)	1.250 (31.8)	3.500 (88.9)	.500 (12.7)	.625 (15.9)
029	17	.938-20 UNEF	1.079 (27.4)	1.250 (31.8)	.969 (24.6)	1.500 (38.1)	.125 (3.2)	.250 (6.4)
030	17	.938-20 UNEF	1.079 (27.4)	1.250 (31.8)	.969 (24.6)	2.500 (63.5)	.125 (3.2)	.250 (6.4)
031	17	.938-20 UNEF	1.079 (27.4)	1.250 (31.8)	.969 (24.6)	3.500 (88.9)	.125 (3.2)	.250 (6.4)
032	17	.938-20 UNEF	1.079 (27.4)	1.250 (31.8)	1.062 (27.0)	1.500 (38.1)	.250 (6.4)	.375 (9.5)
033	17	.938-20 UNEF	1.079 (27.4)	1.250 (31.8)	1.062 (27.0)	2.500 (63.5)	.250 (6.4)	.375 (9.5)
034	17	.938-20 UNEF	1.079 (27.4)	1.250 (31.8)	1.062 (27.0)	3.500 (88.9)	.250 (6.4)	.375 (9.5)
035	17	.938-20 UNEF	1.079 (27.4)	1.250 (31.8)	1.156 (29.4)	1.500 (38.1)	.375 (9.5)	.500 (12.7)
036	17	.938-20 UNEF	1.079 (27.4)	1.250 (31.8)	1.156 (29.4)	2.500 (63.5)	.375 (9.5)	.500 (12.7)
037	17	.938-20 UNEF	1.079 (27.4)	1.250 (31.8)	1.156 (29.4)	3.500 (88.9)	.375 (9.5)	.500 (12.7)
038	17	.938-20 UNEF	1.079 (27.4)	1.312 (33.3)	1.250 (31.8)	1.500 (38.1)	.500 (12.7)	.625 (15.9)
039	17	.938-20 UNEF	1.079 (27.4)	1.312 (33.3)	1.250 (31.8)	2.500 (63.5)	.500 (12.7)	.625 (15.9)
040	17	.938-20 UNEF	1.079 (27.4)	1.312 (33.3)	1.250 (31.8)	3.500 (88.9)	.500 (12.7)	.625 (15.9)
041	17	.938-20 UNEF	1.079 (27.4)	1.375 (34.9)	1.375 (34.9)	1.500 (38.1)	.625 (15.9)	.750 (19.1)
042	17	.938-20 UNEF	1.079 (27.4)	1.375 (34.9)	1.375 (34.9)	2.500 (63.5)	.625 (15.9)	.750 (19.1)
043	17	.938-20 UNEF	1.079 (27.4)	1.375 (34.9)	1.375 (34.9)	3.500 (88.9)	.625 (15.9)	.750 (19.1)
044	19	1.063-18 UNEF	1.201 (30.5)	1.250 (31.8)	1.062 (27.0)	1.500 (38.1)	.250 (6.4)	.375 (9.5)
045	19	1.063-18 UNEF	1.201 (30.5)	1.250 (31.8)	1.062 (27.0)	2.500 (63.5)	.250 (6.4)	.375 (9.5)
046	19	1.063-18 UNEF	1.201 (30.5)	1.250 (31.8)	1.062 (27.0)	3.500 (88.9)	.250 (6.4)	.375 (9.5)
047	19	1.063-18 UNEF	1.201 (30.5)	1.250 (31.8)	1.156 (29.4)	1.500 (38.1)	.375 (9.5)	.500 (12.7)
048	19	1.063-18 UNEF	1.201 (30.5)	1.250 (31.8)	1.156 (29.4)	2.500 (63.5)	.375 (9.5)	.500 (12.7)
049	19	1.063-18 UNEF	1.201 (30.5)	1.250 (31.8)	1.156 (29.4)	3.500 (88.9)	.375 (9.5)	.500 (12.7)
050	19	1.063-18 UNEF	1.201 (30.5)	1.312 (33.3)	1.250 (31.8)	1.500 (38.1)	.500 (12.7)	.625 (15.9)
051	19	1.063-18 UNEF	1.201 (30.5)	1.312 (33.3)	1.250 (31.8)	2.500 (63.5)	.500 (12.7)	.625 (15.9)
052	19	1.063-18 UNEF	1.201 (30.5)	1.312 (33.3)	1.250 (31.8)	3.500 (88.9)	.500 (12.7)	.625 (15.9)
053	19	1.063-18 UNEF	1.201 (30.5)	1.375 (34.9)	1.375 (34.9)	1.500 (38.1)	.625 (15.9)	.750 (19.1)
054	19	1.063-18 UNEF	1.201 (30.5)	1.375 (34.9)	1.375 (34.9)	2.500 (63.5)	.625 (15.9)	.750 (19.1)
055	19	1.063-18 UNEF	1.201 (30.5)	1.375 (34.9)	1.375 (34.9)	3.500 (88.9)	.625 (15.9)	.750 (19.1)
056	19	1.063-18 UNEF	1.201 (30.5)	1.500 (38.1)	1.500 (38.1)	1.500 (38.1)	.750 (19.1)	.875 (22.2)
057	19	1.063-18 UNEF	1.201 (30.5)	1.500 (38.1)	1.500 (38.1)	2.500 (63.5)	.750 (19.1)	.875 (22.2)
058	19	1.063-18 UNEF	1.201 (30.5)	1.500 (38.1)	1.500 (38.1)	3.500 (88.9)	.750 (19.1)	.875 (22.2)

Dimensions are in inches (mm).

(Continued on next page)

Rev. 2219

Straight EMI/RFI Env. Backshell

DL Series • MIL-DTL-38999 Series I Style Connectors

Backshell Dimensions (Continued from previous page)

Dash No.	Shell Size	V Thread Class 2B	D	T	B	L	CC Cable Clearance	
							Min	Max
059	21	1.188-18 UNEF	1.331 (33.8)	1.250 (31.8)	1.062 (27.0)	1.500 (38.1)	.250 (6.4)	.375 (9.5)
060	21	1.188-18 UNEF	1.331 (33.8)	1.250 (31.8)	1.062 (27.0)	2.500 (63.5)	.250 (6.4)	.375 (9.5)
061	21	1.188-18 UNEF	1.331 (33.8)	1.250 (31.8)	1.062 (27.0)	3.500 (88.9)	.250 (6.4)	.375 (9.5)
062	21	1.188-18 UNEF	1.331 (33.8)	1.250 (31.8)	1.062 (27.0)	4.500 (114.3)	.250 (6.4)	.375 (9.5)
063	21	1.188-18 UNEF	1.331 (33.8)	1.250 (31.8)	1.156 (29.4)	1.500 (38.1)	.375 (9.5)	.500 (12.7)
064	21	1.188-18 UNEF	1.331 (33.8)	1.250 (31.8)	1.156 (29.4)	2.500 (63.5)	.375 (9.5)	.500 (12.7)
065	21	1.188-18 UNEF	1.331 (33.8)	1.250 (31.8)	1.156 (29.4)	3.500 (88.9)	.375 (9.5)	.500 (12.7)
066	21	1.188-18 UNEF	1.331 (33.8)	1.250 (31.8)	1.156 (29.4)	4.500 (114.3)	.375 (9.5)	.500 (12.7)
067	21	1.188-18 UNEF	1.331 (33.8)	1.312 (33.3)	1.250 (31.8)	1.500 (38.1)	.500 (12.7)	.625 (15.9)
068	21	1.188-18 UNEF	1.331 (33.8)	1.312 (33.3)	1.250 (31.8)	2.500 (63.5)	.500 (12.7)	.625 (15.9)
069	21	1.188-18 UNEF	1.331 (33.8)	1.312 (33.3)	1.250 (31.8)	3.500 (88.9)	.500 (12.7)	.625 (15.9)
070	21	1.188-18 UNEF	1.331 (33.8)	1.312 (33.3)	1.250 (31.8)	4.500 (114.3)	.500 (12.7)	.625 (15.9)
071	21	1.188-18 UNEF	1.331 (33.8)	1.375 (34.9)	1.375 (34.9)	1.500 (38.1)	.625 (15.9)	.750 (19.1)
072	21	1.188-18 UNEF	1.331 (33.8)	1.375 (34.9)	1.375 (34.9)	2.500 (63.5)	.625 (15.9)	.750 (19.1)
073	21	1.188-18 UNEF	1.331 (33.8)	1.375 (34.9)	1.375 (34.9)	3.500 (88.9)	.625 (15.9)	.750 (19.1)
074	21	1.188-18 UNEF	1.331 (33.8)	1.375 (34.9)	1.375 (34.9)	4.500 (114.3)	.625 (15.9)	.750 (19.1)
075	21	1.188-18 UNEF	1.331 (33.8)	1.500 (38.1)	1.500 (38.1)	1.500 (38.1)	.750 (19.1)	.875 (22.2)
076	21	1.188-18 UNEF	1.331 (33.8)	1.500 (38.1)	1.500 (38.1)	2.500 (63.5)	.750 (19.1)	.875 (22.2)
077	21	1.188-18 UNEF	1.331 (33.8)	1.500 (38.1)	1.500 (38.1)	3.500 (88.9)	.750 (19.1)	.875 (22.2)
078	21	1.188-18 UNEF	1.331 (33.8)	1.500 (38.1)	1.500 (38.1)	4.500 (114.3)	.750 (19.1)	.875 (22.2)
079	21	1.188-18 UNEF	1.331 (33.8)	1.625 (41.3)	1.625 (41.3)	1.500 (38.1)	.875 (22.2)	1.000 (25.4)
080	21	1.188-18 UNEF	1.331 (33.8)	1.625 (41.3)	1.625 (41.3)	2.500 (63.5)	.875 (22.2)	1.000 (25.4)
081	21	1.188-18 UNEF	1.331 (33.8)	1.625 (41.3)	1.625 (41.3)	3.500 (88.9)	.875 (22.2)	1.000 (25.4)
082	21	1.188-18 UNEF	1.331 (33.8)	1.625 (41.3)	1.625 (41.3)	4.500 (114.3)	.875 (22.2)	1.000 (25.4)
083	23	1.313-18 UNEF	1.449 (36.8)	1.250 (31.8)	1.062 (27.0)	1.500 (38.1)	.250 (6.4)	.375 (9.5)
084	23	1.313-18 UNEF	1.449 (36.8)	1.250 (31.8)	1.062 (27.0)	2.500 (63.5)	.250 (6.4)	.375 (9.5)
085	23	1.313-18 UNEF	1.449 (36.8)	1.250 (31.8)	1.062 (27.0)	3.500 (88.9)	.250 (6.4)	.375 (9.5)
086	23	1.313-18 UNEF	1.449 (36.8)	1.250 (31.8)	1.062 (27.0)	4.500 (114.3)	.250 (6.4)	.375 (9.5)
087	23	1.313-18 UNEF	1.449 (36.8)	1.250 (31.8)	1.156 (29.4)	1.500 (38.1)	.375 (9.5)	.500 (12.7)
088	23	1.313-18 UNEF	1.449 (36.8)	1.250 (31.8)	1.156 (29.4)	2.500 (63.5)	.375 (9.5)	.500 (12.7)
089	23	1.313-18 UNEF	1.449 (36.8)	1.250 (31.8)	1.156 (29.4)	3.500 (88.9)	.375 (9.5)	.500 (12.7)
090	23	1.313-18 UNEF	1.449 (36.8)	1.250 (31.8)	1.156 (29.4)	4.500 (114.3)	.375 (9.5)	.500 (12.7)
091	23	1.313-18 UNEF	1.449 (36.8)	1.312 (33.3)	1.250 (31.8)	1.500 (38.1)	.500 (12.7)	.625 (15.9)
092	23	1.313-18 UNEF	1.449 (36.8)	1.312 (33.3)	1.250 (31.8)	2.500 (63.5)	.500 (12.7)	.625 (15.9)
093	23	1.313-18 UNEF	1.449 (36.8)	1.312 (33.3)	1.250 (31.8)	3.500 (88.9)	.500 (12.7)	.625 (15.9)
094	23	1.313-18 UNEF	1.449 (36.8)	1.312 (33.3)	1.250 (31.8)	4.500 (114.3)	.500 (12.7)	.625 (15.9)
095	23	1.313-18 UNEF	1.449 (36.8)	1.375 (34.9)	1.375 (34.9)	1.500 (38.1)	.625 (15.9)	.750 (19.1)
096	23	1.313-18 UNEF	1.449 (36.8)	1.375 (34.9)	1.375 (34.9)	2.500 (63.5)	.625 (15.9)	.750 (19.1)
097	23	1.313-18 UNEF	1.449 (36.8)	1.375 (34.9)	1.375 (34.9)	3.500 (88.9)	.625 (15.9)	.750 (19.1)
098	23	1.313-18 UNEF	1.449 (36.8)	1.375 (34.9)	1.375 (34.9)	4.500 (114.3)	.625 (15.9)	.750 (19.1)
099	23	1.313-18 UNEF	1.449 (36.8)	1.500 (38.1)	1.500 (38.1)	1.500 (38.1)	.750 (19.1)	.875 (22.2)
100	23	1.313-18 UNEF	1.449 (36.8)	1.500 (38.1)	1.500 (38.1)	2.500 (63.5)	.750 (19.1)	.875 (22.2)
101	23	1.313-18 UNEF	1.449 (36.8)	1.500 (38.1)	1.500 (38.1)	3.500 (88.9)	.750 (19.1)	.875 (22.2)
102	23	1.313-18 UNEF	1.449 (36.8)	1.500 (38.1)	1.500 (38.1)	4.500 (114.3)	.750 (19.1)	.875 (22.2)
103	23	1.313-18 UNEF	1.449 (36.8)	1.625 (41.3)	1.625 (41.3)	1.500 (38.1)	.875 (22.2)	1.000 (25.4)
104	23	1.313-18 UNEF	1.449 (36.8)	1.625 (41.3)	1.625 (41.3)	2.500 (63.5)	.875 (22.2)	1.000 (25.4)
105	23	1.313-18 UNEF	1.449 (36.8)	1.625 (41.3)	1.625 (41.3)	3.500 (88.9)	.875 (22.2)	1.000 (25.4)

Dimensions are in inches (mm).

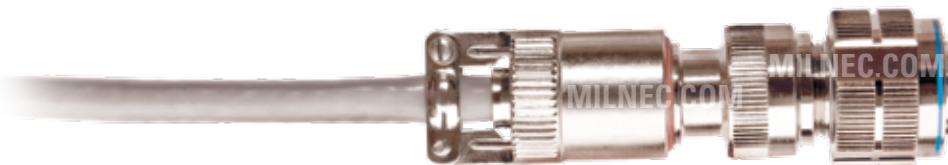
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Backshell Dimensions (Continued from previous page)

Dash No.	Shell Size	V Thread Class 2B	D	T	B	L	CC Cable Clearance	
							Min	Max
106	23	1.313-18 UNEF	1.449 (36.8)	1.625 (41.3)	1.625 (41.3)	4.500 (114.3)	.875 (22.2)	1.000 (25.4)
107	23	1.313-18 UNEF	1.449 (36.8)	1.625 (41.3)	1.750 (44.5)	1.500 (38.1)	1.000 (25.4)	1.125 (28.6)
108	23	1.313-18 UNEF	1.449 (36.8)	1.625 (41.3)	1.750 (44.5)	2.500 (63.5)	1.000 (25.4)	1.125 (28.6)
109	23	1.313-18 UNEF	1.449 (36.8)	1.625 (41.3)	1.750 (44.5)	3.500 (88.9)	1.000 (25.4)	1.125 (28.6)
110	23	1.313-18 UNEF	1.449 (36.8)	1.625 (41.3)	1.750 (44.5)	4.500 (114.3)	1.000 (25.4)	1.125 (28.6)
111	25	1.438-18 UNEF	1.579 (40.1)	1.250 (31.8)	1.156 (29.4)	1.500 (38.1)	.375 (9.5)	.500 (12.7)
112	25	1.438-18 UNEF	1.579 (40.1)	1.250 (31.8)	1.156 (29.4)	2.500 (63.5)	.375 (9.5)	.500 (12.7)
113	25	1.438-18 UNEF	1.579 (40.1)	1.250 (31.8)	1.156 (29.4)	3.500 (88.9)	.375 (9.5)	.500 (12.7)
114	25	1.438-18 UNEF	1.579 (40.1)	1.250 (31.8)	1.156 (29.4)	4.500 (114.3)	.375 (9.5)	.500 (12.7)
115	25	1.438-18 UNEF	1.579 (40.1)	1.312 (33.3)	1.250 (31.8)	1.500 (38.1)	.500 (12.7)	.625 (15.9)
116	25	1.438-18 UNEF	1.579 (40.1)	1.312 (33.3)	1.250 (31.8)	2.500 (63.5)	.500 (12.7)	.625 (15.9)
117	25	1.438-18 UNEF	1.579 (40.1)	1.312 (33.3)	1.250 (31.8)	3.500 (88.9)	.500 (12.7)	.625 (15.9)
118	25	1.438-18 UNEF	1.579 (40.1)	1.312 (33.3)	1.250 (31.8)	4.500 (114.3)	.500 (12.7)	.625 (15.9)
119	25	1.438-18 UNEF	1.579 (40.1)	1.375 (34.9)	1.375 (34.9)	1.500 (38.1)	.625 (15.9)	.750 (19.1)
120	25	1.438-18 UNEF	1.579 (40.1)	1.375 (34.9)	1.375 (34.9)	2.500 (63.5)	.625 (15.9)	.750 (19.1)
121	25	1.438-18 UNEF	1.579 (40.1)	1.375 (34.9)	1.375 (34.9)	3.500 (88.9)	.625 (15.9)	.750 (19.1)
122	25	1.438-18 UNEF	1.579 (40.1)	1.375 (34.9)	1.375 (34.9)	4.500 (114.3)	.625 (15.9)	.750 (19.1)
123	25	1.438-18 UNEF	1.579 (40.1)	1.500 (38.1)	1.500 (38.1)	1.500 (38.1)	.750 (19.1)	.875 (22.2)
124	25	1.438-18 UNEF	1.579 (40.1)	1.500 (38.1)	1.500 (38.1)	2.500 (63.5)	.750 (19.1)	.875 (22.2)
125	25	1.438-18 UNEF	1.579 (40.1)	1.500 (38.1)	1.500 (38.1)	3.500 (88.9)	.750 (19.1)	.875 (22.2)
126	25	1.438-18 UNEF	1.579 (40.1)	1.500 (38.1)	1.500 (38.1)	4.500 (114.3)	.750 (19.1)	.875 (22.2)
127	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.625 (41.3)	1.500 (38.1)	.875 (22.2)	1.000 (25.4)
128	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.625 (41.3)	2.500 (63.5)	.875 (22.2)	1.000 (25.4)
129	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.625 (41.3)	3.500 (88.9)	.875 (22.2)	1.000 (25.4)
130	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.625 (41.3)	4.500 (114.3)	.875 (22.2)	1.000 (25.4)
131	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.750 (44.5)	1.500 (38.1)	1.000 (25.4)	1.125 (28.6)
132	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.750 (44.5)	2.500 (63.5)	1.000 (25.4)	1.125 (28.6)
133	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.750 (44.5)	3.500 (88.9)	1.000 (25.4)	1.125 (28.6)
134	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.750 (44.5)	4.500 (114.3)	1.000 (25.4)	1.125 (28.6)
135	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.875 (47.6)	1.500 (38.1)	1.125 (28.6)	1.250 (31.8)
136	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.875 (47.6)	2.500 (63.5)	1.125 (28.6)	1.250 (31.8)
137	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.875 (47.6)	3.500 (88.9)	1.125 (28.6)	1.250 (31.8)
138	25	1.438-18 UNEF	1.579 (40.1)	1.625 (41.3)	1.875 (47.6)	4.500 (114.3)	1.125 (28.6)	1.250 (31.8)

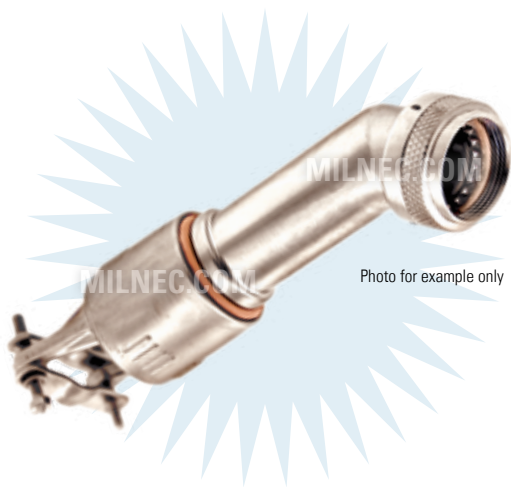
Dimensions are in inches (mm).

DL



45° EMI/RFI Env. Backshell

DL Series • MIL-DTL-38999 Series I Style Connectors



DLR3 - 015 N

- 1

2

3
- 1

2

3
- BASIC PART NUMBER**
DLR3 45° EMI/RFI environmental backshell

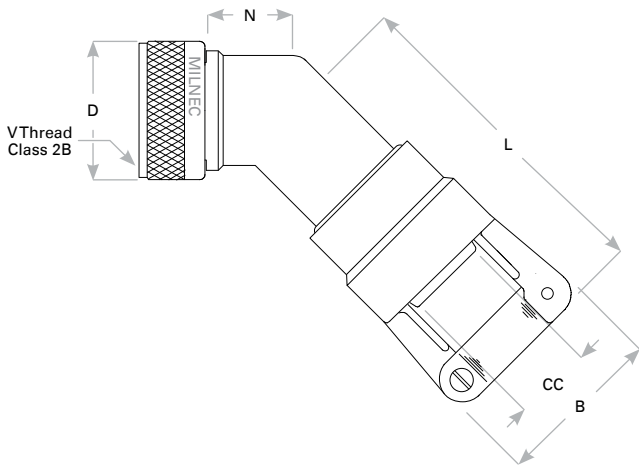
DASH NO.
See Backshell Dimensions table below

MATERIAL & FINISH
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium

Note: See part builder (p. N-14) for additional kit options.

DLR3 Compatibility

Compatible Brands	Connectors
MIL-DTL-38999 Series I	MS27466, MS27467, MS27468, MS27656
Aero / Conesys	AE156, AE167, AE166, AE168
Amphenol	LJT00, LTJPD00, LJT01, LJT06, LJTS06, LJT07
Deutsch	DJT0, DJT4, DJT6
ITT Cannon	KJA0, KJL0, KJL3, KJL6, KJL7
Souriau	8LT0, 8LT1, 8LT5, 8LT7



Backshell Dimensions

Dash No.	Shell Size	V Thread Class 2B	N	D	B	L	CC Cable Clearance	
							Min	Max
001	9	.438-28 UNEF	.398 (10.1)	.750 (19.1)	.800 (20.3)	3.088 (78.4)	.062 (1.6)	.125 (3.2)
002	9	.438-28 UNEF	.398 (10.1)	.750 (19.1)	1.000 (25.4)	3.088 (78.4)	.125 (3.2)	.250 (6.4)
003	11	.562-24 UNEF	.458 (11.6)	.850 (21.6)	.800 (20.3)	3.148 (80.0)	.062 (1.6)	.125 (3.2)
004	11	.562-24 UNEF	.458 (11.6)	.850 (21.6)	1.000 (25.4)	3.148 (80.0)	.125 (3.2)	.250 (6.4)
005	11	.562-24 UNEF	.458 (11.6)	.850 (21.6)	1.100 (27.9)	3.148 (80.0)	.250 (6.4)	.375 (9.5)
006	13	.688-24 UNEF	.518 (13.2)	1.000 (25.4)	1.000 (25.4)	3.208 (81.5)	.125 (3.2)	.250 (6.4)
007	13	.688-24 UNEF	.518 (13.2)	1.000 (25.4)	1.100 (27.9)	3.208 (81.5)	.250 (6.4)	.375 (9.5)
008	13	.688-24 UNEF	.518 (13.2)	1.000 (25.4)	1.200 (30.5)	3.208 (81.5)	.375 (9.5)	.500 (12.7)
009	15	.813-20 UNEF	.588 (14.9)	1.150 (29.2)	1.000 (25.4)	3.298 (83.8)	.125 (3.2)	.250 (6.4)
010	15	.813-20 UNEF	.588 (14.9)	1.150 (29.2)	1.100 (27.9)	3.298 (83.8)	.250 (6.4)	.375 (9.5)

Dimensions are in inches (mm).

(Continued on next page)

Rev. 2219



Backshell Dimensions (Continued from previous page)

Dash No.	Shell Size	V Thread Class 2B	N	D	B	L	CC Cable Clearance	
							Min	Max
011	15	.813-20 UNEF	.588 (14.9)	1.150 (29.2)	1.200 (30.5)	3.298 (83.8)	.375 (9.5)	.500 (12.7)
012	15	.813-20 UNEF	.588 (14.9)	1.150 (29.2)	1.250 (31.8)	3.298 (83.8)	.500 (12.7)	.625 (15.9)
013	17	.938-20 UNEF	.678 (17.2)	1.250 (31.8)	1.000 (25.4)	3.408 (86.6)	.125 (3.2)	.250 (6.4)
014	17	.938-20 UNEF	.678 (17.2)	1.250 (31.8)	1.100 (27.9)	3.408 (86.6)	.250 (6.4)	.375 (9.5)
015	17	.938-20 UNEF	.678 (17.2)	1.250 (31.8)	1.200 (30.5)	3.408 (86.6)	.375 (9.5)	.500 (12.7)
016	17	.938-20 UNEF	.678 (17.2)	1.250 (31.8)	1.250 (31.8)	3.408 (86.6)	.500 (12.7)	.625 (15.9)
017	17	.938-20 UNEF	.678 (17.2)	1.250 (31.8)	1.400 (35.6)	3.408 (86.6)	.625 (15.9)	.750 (19.1)
018	19	1.063-18 UNEF	.868 (22.0)	1.400 (35.6)	1.100 (27.9)	3.598 (91.4)	.250 (6.4)	.375 (9.5)
019	19	1.063-18 UNEF	.868 (22.0)	1.400 (35.6)	1.200 (30.5)	3.598 (91.4)	.375 (9.5)	.500 (12.7)
020	19	1.063-18 UNEF	.868 (22.0)	1.400 (35.6)	1.250 (31.8)	3.598 (91.4)	.500 (12.7)	.625 (15.9)
021	19	1.063-18 UNEF	.868 (22.0)	1.400 (35.6)	1.400 (35.6)	3.598 (91.4)	.625 (15.9)	.750 (19.1)
022	19	1.063-18 UNEF	.868 (22.0)	1.400 (35.6)	1.500 (38.1)	3.598 (91.4)	.750 (19.1)	.875 (22.2)
023	21	1.188-18 UNEF	.868 (22.0)	1.550 (39.4)	1.100 (27.9)	3.598 (91.4)	.250 (6.4)	.375 (9.5)
024	21	1.188-18 UNEF	.868 (22.0)	1.550 (39.4)	1.200 (30.5)	3.598 (91.4)	.375 (9.5)	.500 (12.7)
025	21	1.188-18 UNEF	.868 (22.0)	1.550 (39.4)	1.250 (31.8)	3.598 (91.4)	.500 (12.7)	.625 (15.9)
026	21	1.188-18 UNEF	.868 (22.0)	1.550 (39.4)	1.400 (35.6)	3.598 (91.4)	.625 (15.9)	.750 (19.1)
027	21	1.188-18 UNEF	.868 (22.0)	1.550 (39.4)	1.500 (38.1)	3.598 (91.4)	.750 (19.1)	.875 (22.2)
028	21	1.188-18 UNEF	.868 (22.0)	1.550 (39.4)	1.650 (41.9)	3.598 (91.4)	.875 (22.2)	1.000 (25.4)
029	23	1.313-18 UNEF	.958 (24.3)	1.650 (41.9)	1.100 (27.9)	3.748 (95.2)	.250 (6.4)	.375 (9.5)
030	23	1.313-18 UNEF	.958 (24.3)	1.650 (41.9)	1.200 (30.5)	3.748 (95.2)	.375 (9.5)	.500 (12.7)
031	23	1.313-18 UNEF	.958 (24.3)	1.650 (41.9)	1.250 (31.8)	3.748 (95.2)	.500 (12.7)	.625 (15.9)
032	23	1.313-18 UNEF	.958 (24.3)	1.650 (41.9)	1.400 (35.6)	3.748 (95.2)	.625 (15.9)	.750 (19.1)
033	23	1.313-18 UNEF	.958 (24.3)	1.650 (41.9)	1.500 (38.1)	3.748 (95.2)	.750 (19.1)	.875 (22.2)
034	23	1.313-18 UNEF	.958 (24.3)	1.650 (41.9)	1.650 (41.9)	3.748 (95.2)	.875 (22.2)	1.000 (25.4)
035	23	1.313-18 UNEF	.958 (24.3)	1.650 (41.9)	1.750 (44.5)	3.748 (95.2)	1.000 (25.4)	1.125 (28.6)
036	25	1.438-18 UNEF	.958 (24.3)	1.850 (47.0)	1.200 (30.5)	3.748 (95.2)	.375 (9.5)	.500 (12.7)
037	25	1.438-18 UNEF	.958 (24.3)	1.850 (47.0)	1.250 (31.8)	3.748 (95.2)	.500 (12.7)	.625 (15.9)
038	25	1.438-18 UNEF	.958 (24.3)	1.850 (47.0)	1.400 (35.6)	3.748 (95.2)	.625 (15.9)	.750 (19.1)
039	25	1.438-18 UNEF	.958 (24.3)	1.850 (47.0)	1.500 (38.1)	3.748 (95.2)	.750 (19.1)	.875 (22.2)
040	25	1.438-18 UNEF	.958 (24.3)	1.850 (47.0)	1.650 (41.9)	3.748 (95.2)	.875 (22.2)	1.000 (25.4)
041	25	1.438-18 UNEF	.958 (24.3)	1.850 (47.0)	1.750 (44.5)	3.748 (95.2)	1.000 (25.4)	1.125 (28.6)
042	25	1.438-18 UNEF	.958 (24.3)	1.850 (47.0)	1.900 (48.3)	3.748 (95.2)	1.125 (28.6)	1.250 (31.8)

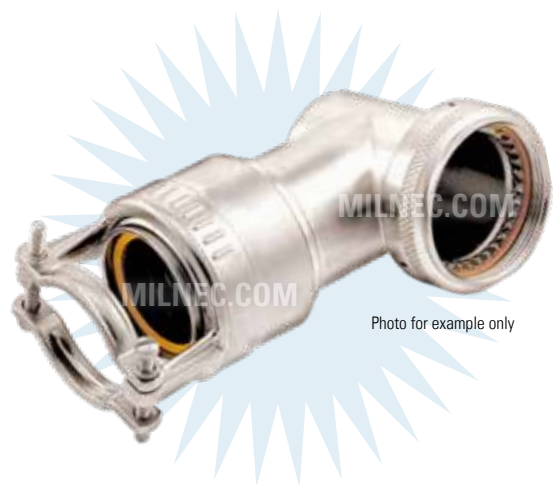
Dimensions are in inches (mm).



Rev. 2219

90° EMI/RFI Env. Backshell

DL Series • MIL-DTL-38999 Series I Style Connectors



DLR4 - 015 N

- 1

2

3
- 1

2

3
- BASIC PART NUMBER**

DLR4 90° EMI/RFI environmental backshell

DASH NO.

See Backshell Dimensions table below

MATERIAL & FINISH

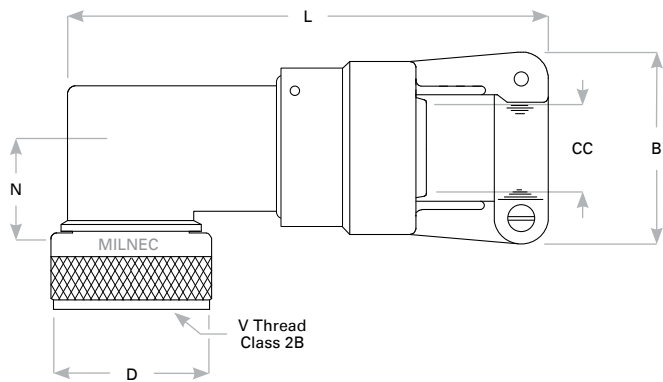
N Aluminum, electroless nickel

W Aluminum, olive drab cadmium

Note: See part builder (p. N-14) for additional kit options.

DLR4 Compatibility

Compatible Brands	Connectors
MIL-DTL-38999 Series I	MS27466, MS27467, MS27468, MS27656
Aero / Conesys	AE156, AE167, AE166, AE168
Amphenol	LJT00, LTJPD00, LJT01, LJT06, LJTS06, LJT07
Deutsch	DJT0, DJT4, DJT6
ITT Cannon	KJA0, KJL0, KJL3, KJL6, KJL7
Souriau	8LT0, 8LT1, 8LT5, 8LT7



Backshell Dimensions

Dash No.	Shell Size	V Thread Class 2B	N	D	B	L	CC Cable Clearance	
							Min	Max
001	9	.438-28 UNEF	.532 (13.5)	.750 (19.1)	.800 (20.3)	3.267 (83.0)	.062 (1.6)	.125 (3.2)
002	9	.438-28 UNEF	.532 (13.5)	.750 (19.1)	1.000 (25.4)	3.267 (83.0)	.125 (3.2)	.250 (6.4)
003	11	.562-24 UNEF	.627 (15.9)	.850 (21.6)	.800 (20.3)	3.387 (86.0)	.062 (1.6)	.125 (3.2)
004	11	.562-24 UNEF	.627 (15.9)	.850 (21.6)	1.000 (25.4)	3.387 (86.0)	.125 (3.2)	.250 (6.4)
005	11	.562-24 UNEF	.627 (15.9)	.850 (21.6)	1.100 (27.9)	3.407 (86.5)	.250 (6.4)	.375 (9.5)
006	13	.688-24 UNEF	.642 (16.3)	1.000 (25.4)	1.000 (25.4)	3.407 (86.5)	.125 (3.2)	.250 (6.4)
007	13	.688-24 UNEF	.642 (16.3)	1.000 (25.4)	1.100 (27.9)	3.407 (86.5)	.250 (6.4)	.375 (9.5)
008	13	.688-24 UNEF	.642 (16.3)	1.000 (25.4)	1.200 (30.5)	3.407 (86.5)	.375 (9.5)	.500 (12.7)
009	15	.813-20 UNEF	.719 (18.3)	1.150 (29.2)	1.000 (25.4)	3.477 (88.3)	.125 (3.2)	.250 (6.4)
010	15	.813-20 UNEF	.719 (18.3)	1.150 (29.2)	1.100 (27.9)	3.477 (88.3)	.250 (6.4)	.375 (9.5)

Dimensions are in inches (mm).

(Continued on next page)

Rev. 2219

Backshell Dimensions (Continued from previous page)

Dash No.	Shell Size	V Thread Class 2B	N	D	B	L	CC Cable Clearance	
							Min	Max
011	15	.813-20 UNEF	.719 (18.3)	1.150 (29.2)	1.200 (30.5)	3.477 (88.3)	.375 (9.5)	.500 (12.7)
012	15	.813-20 UNEF	.719 (18.3)	1.150 (29.2)	1.250 (31.8)	3.477 (88.3)	.500 (12.7)	.625 (15.9)
013	17	.938-20 UNEF	.774 (19.7)	1.250 (31.8)	1.000 (25.4)	3.567 (90.6)	.125 (3.2)	.250 (6.4)
014	17	.938-20 UNEF	.774 (19.7)	1.250 (31.8)	1.100 (27.9)	3.567 (90.6)	.250 (6.4)	.375 (9.5)
015	17	.938-20 UNEF	.774 (19.7)	1.250 (31.8)	1.200 (30.5)	3.567 (90.6)	.375 (9.5)	.500 (12.7)
016	17	.938-20 UNEF	.774 (19.7)	1.250 (31.8)	1.250 (31.8)	3.567 (90.6)	.500 (12.7)	.625 (15.9)
017	17	.938-20 UNEF	.774 (19.7)	1.250 (31.8)	1.400 (35.6)	3.567 (90.6)	.625 (15.9)	.750 (19.1)
018	19	1.063-18 UNEF	.854 (21.7)	1.400 (35.6)	1.100 (27.9)	3.737 (94.9)	.250 (6.4)	.375 (9.5)
019	19	1.063-18 UNEF	.854 (21.7)	1.400 (35.6)	1.200 (30.5)	3.737 (94.9)	.375 (9.5)	.500 (12.7)
020	19	1.063-18 UNEF	.854 (21.7)	1.400 (35.6)	1.250 (31.8)	3.737 (94.9)	.500 (12.7)	.625 (15.9)
021	19	1.063-18 UNEF	.854 (21.7)	1.400 (35.6)	1.400 (35.6)	3.737 (94.9)	.625 (15.9)	.750 (19.1)
022	19	1.063-18 UNEF	.854 (21.7)	1.400 (35.6)	1.500 (38.1)	3.737 (94.9)	.750 (19.1)	.875 (22.2)
023	21	1.188-18 UNEF	.899 (22.8)	1.550 (39.4)	1.100 (27.9)	3.737 (94.9)	.250 (6.4)	.375 (9.5)
024	21	1.188-18 UNEF	.899 (22.8)	1.550 (39.4)	1.200 (30.5)	3.737 (94.9)	.375 (9.5)	.500 (12.7)
025	21	1.188-18 UNEF	.899 (22.8)	1.550 (39.4)	1.250 (31.8)	3.737 (94.9)	.500 (12.7)	.625 (15.9)
026	21	1.188-18 UNEF	.899 (22.8)	1.550 (39.4)	1.400 (35.6)	3.737 (94.9)	.625 (15.9)	.750 (19.1)
027	21	1.188-18 UNEF	.899 (22.8)	1.550 (39.4)	1.500 (38.1)	3.737 (94.9)	.750 (19.1)	.875 (22.2)
028	21	1.188-18 UNEF	.899 (22.8)	1.550 (39.4)	1.650 (41.9)	3.737 (94.9)	.875 (22.2)	1.000 (25.4)
029	23	1.313-18 UNEF	1.009 (25.6)	1.650 (41.9)	1.100 (27.9)	3.847 (97.7)	.250 (6.4)	.375 (9.5)
030	23	1.313-18 UNEF	1.009 (25.6)	1.650 (41.9)	1.200 (30.5)	3.847 (97.7)	.375 (9.5)	.500 (12.7)
031	23	1.313-18 UNEF	1.009 (25.6)	1.650 (41.9)	1.250 (31.8)	3.847 (97.7)	.500 (12.7)	.625 (15.9)
032	23	1.313-18 UNEF	1.009 (25.6)	1.650 (41.9)	1.400 (35.6)	3.847 (97.7)	.625 (15.9)	.750 (19.1)
033	23	1.313-18 UNEF	1.009 (25.6)	1.650 (41.9)	1.500 (38.1)	3.847 (97.7)	.750 (19.1)	.875 (22.2)
034	23	1.313-18 UNEF	1.009 (25.6)	1.650 (41.9)	1.650 (41.9)	3.847 (97.7)	.875 (22.2)	1.000 (25.4)
035	23	1.313-18 UNEF	1.009 (25.6)	1.650 (41.9)	1.750 (44.5)	3.847 (97.7)	1.000 (25.4)	1.125 (28.6)
036	25	1.438-18 UNEF	1.024 (26.0)	1.850 (47.0)	1.200 (30.5)	3.847 (97.7)	.375 (9.5)	.500 (12.7)
037	25	1.438-18 UNEF	1.024 (26.0)	1.850 (47.0)	1.250 (31.8)	3.847 (97.7)	.500 (12.7)	.625 (15.9)
038	25	1.438-18 UNEF	1.024 (26.0)	1.850 (47.0)	1.400 (35.6)	3.847 (97.7)	.625 (15.9)	.750 (19.1)
039	25	1.438-18 UNEF	1.024 (26.0)	1.850 (47.0)	1.500 (38.1)	3.847 (97.7)	.750 (19.1)	.875 (22.2)
040	25	1.438-18 UNEF	1.024 (26.0)	1.850 (47.0)	1.650 (41.9)	3.847 (97.7)	.875 (22.2)	1.000 (25.4)
041	25	1.438-18 UNEF	1.024 (26.0)	1.850 (47.0)	1.750 (44.5)	3.847 (97.7)	1.000 (25.4)	1.125 (28.6)
042	25	1.438-18 UNEF	1.024 (26.0)	1.850 (47.0)	1.900 (48.3)	3.847 (97.7)	1.125 (28.6)	1.250 (31.8)

Dimensions are in inches (mm).



Shorting Cap Backshell

DL Series • MIL-DTL-38999 Series I Style Connectors



DLSC - 13 - 3 N 1

- 1 BASIC PART NUMBER
DLSC Shorting cap backshell
- 2 SHELL SIZE
See Backshell Dimensions table below
- 3 BACKSHELL LENGTH
Length in whole inches (1 inch = 25.4 mm)
- 4 MATERIAL & FINISH
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- 5 ATTACHMENT STYLE
1 No strap attachment
2 Body strap with bolt attachment

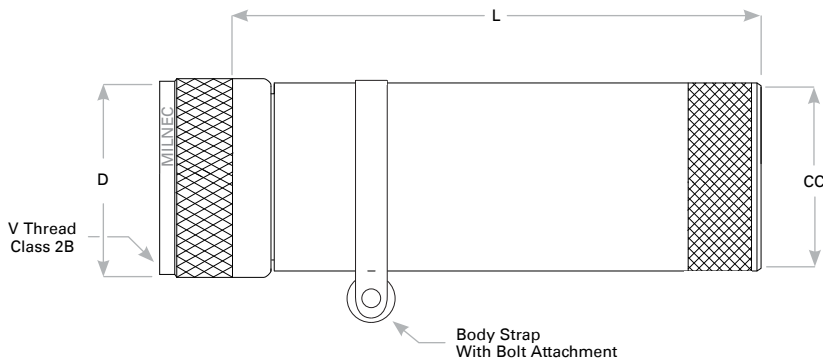
DLSC Compatibility

Table with 2 columns: Compatible Brands, Connectors. Rows include MIL-DTL-38999 Series I, Aero / Conesys, Amphenol, Deutsch, ITT Cannon, and Souriau.

Backshell Dimensions

Table with 5 columns: Shell Size, D, V Thread Class 2B, CC Internal Dia, L. Rows 9 through 25. Includes notes on ordering increments.

Dimensions are in inches (mm).



Rev. 2219

CUSTOM TAILORED CONNECTORS



- Complete Mil-Spec Compatibility
- Wide Variety of Materials & Finishes
- More Backshells
- Specialized Contacts
- Additional Inserts
- More Shell Options

Military Strength—COTS Flexibility

Milnec builds connectors that meet and exceed established military specifications, while also providing additional options and features unavailable under the mil-spec. These commercial off the shelf (COTS) upgrades provide the strength and reliability of military specifications with the flexibility demanded by modern designs.



Straight Shrink Boot

DL Series • MIL-DTL-38999 Series I Style Connectors

DLK2 - 4 - 100

- 1 **BASIC PART NUMBER**
DLK2 Straight shrink boot
- 2 **BOOT SIZE**
See Boot Dimensions table below
- 3 **STANDARD MATERIAL**

- 100** Halogen-free, semi-flexible elastomer pre-coated with hot-melt adhesive. Material has excellent fire-safety characteristics and is especially suited where people are confined in enclosed spaces (mass transit, aviation, vehicles, offshore, etc).
- Temp: -22° to +302°F (-30° to +150°C)
 - Low-smoke index as defined by NES 711
 - Low-toxicity index as defined by NES 713
 - High-temp index as defined by NES 715

Environmental protection, low-profile design

A shrink boot provides complete IP67 environmental protection and strain relief. Must be used with a boot adapter.

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

Boot Size Recommendations

Boot Size	Cable Range		Shell Size									
	Min	Max	9	11	13	15	17	19	21	23	25	
2	.220 (5.6)	.550 (14.0)	✓	*	✓	*						
3	.230 (5.9)	.590 (15.0)				✓	*	✓	*			
4	.280 (7.1)	.710 (18.0)						*	*			
5	.330 (8.4)	.830 (21.0)						✓	✓	*	*	
6	.390 (9.9)	.980 (25.0)								✓		✓
7	.620 (15.7)	1.540 (39.0)										
8	.660 (16.8)	1.650 (42.0)										

Dimensions are in inches (mm). ✓ Recommended boot size for (DLAB) Boot Adapter, p. N-48.

★ Recommended boot size for (DLD2, DLD3, DLD4) EMI/RFI Banding Boot Adapter, p. N-49.

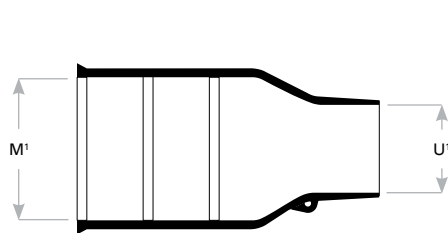
Boot Dimensions

Boot Size	M ¹	U ¹	M ²	U ²	L ¹	R ¹	T [*]	W ¹	FF [*]
2	.940 (24.0)	.550 (14.0)	.410 (10.4)	.220 (5.6)	1.500 (38.0)	.830 (21.0)	.330 (8.5)	.470 (12.0)	.060 (1.6)
3	1.180 (30.0)	.590 (15.0)	.560 (14.2)	.230 (5.9)	2.170 (55.0)	1.260 (32.0)	.450 (11.5)	.470 (12.0)	.070 (1.8)
4	1.220 (31.0)	.710 (18.0)	.710 (18.0)	.280 (7.1)	2.640 (67.0)	1.380 (35.0)	.670 (17.0)	.790 (20.0)	.070 (1.8)
5	1.420 (36.0)	.830 (21.0)	.880 (22.4)	.330 (8.4)	3.150 (80.0)	1.650 (42.0)	.760 (19.5)	.790 (20.0)	.080 (2.0)
6	1.690 (43.0)	.980 (25.0)	1.110 (28.2)	.390 (9.9)	3.900 (99.0)	2.400 (61.0)	.820 (21.0)	.790 (20.0)	.090 (2.2)
7	2.050 (52.0)	1.540 (39.0)	1.380 (35.1)	.620 (15.7)	5.120 (130.0)	2.830 (72.0)	1.530 (39.0)	.790 (20.0)	.130 (3.2)
8	2.600 (66.0)	1.650 (42.0)	1.750 (44.5)	.660 (16.8)	6.690 (170.0)	3.540 (90.0)	2.020 (51.5)	.790 (20.0)	.150 (3.8)

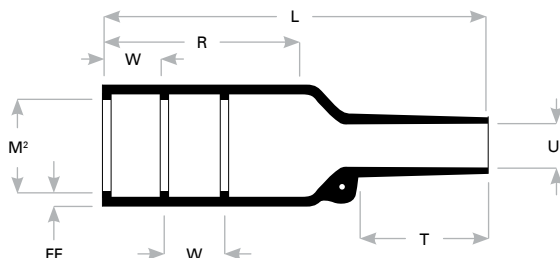
Dimensions are in inches (mm).

† Dimensions ±10% before and after heat activation.

★ Dimensions ±10% before heat activation, ±20% after heat activation.



Before Heat Activation



After Heat Activation

Rev. 2219

DLK4 - 4 - 100

1 2 3

1 BASIC PART NUMBER

DLK4 90° shrink boot

2 BOOT SIZE

See Boot Dimensions table below

3 STANDARD MATERIAL

100

Halogen-free, semi-flexible elastomer pre-coated with hot-melt adhesive. Material has excellent fire-safety characteristics and is especially suited where people are confined in enclosed spaces (mass transit, aviation, vehicles, offshore, etc).

- Temp: -22° to +302°F (-30° to +150°C)
- Low-smoke index as defined by NES 711
- Low-toxicity index as defined by NES 713
- High-temp index as defined by NES 715

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

**Angled boot for simple cable management**

A 90° shrink boot offers simple cable management, strain relief, and environmental protection. For proper installation, it must be used with a boot adapter.

Boot Size Recommendations

Boot Size	Cable Range		Shell Size								
	Min	Max	9	11	13	15	17	19	21	23	25
2	.220 (5.6)	.550 (14.0)	✓	*	✓	*	✓	*			
3	.230 (5.9)	.590 (15.0)				✓	*	✓	*		
4	.280 (7.1)	.710 (18.0)						*	*		
5	.330 (8.4)	.830 (21.0)						✓	✓	*	*
6	.390 (9.9)	.980 (25.0)								✓	✓
7	.620 (15.7)	1.540 (39.0)									
8	.660 (16.8)	1.650 (42.0)									

Dimensions are in inches (mm). ✓ Recommended boot size for (DLA8) Boot Adapter, p. N-48.

★ Recommended boot size for (DLD2, DLD3, DLD4) EMI/RFI Banding Boot Adapter, p. N-49.

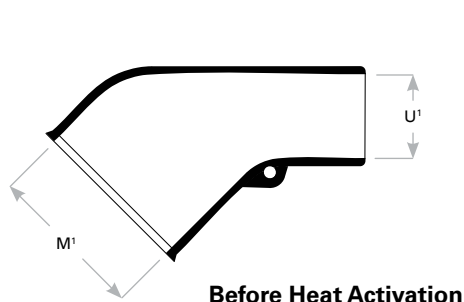
Boot Dimensions

Boot Size	M ¹	U ¹	M ²	U ²	L ¹	R ¹	T [*]	W ¹	FF [*]
2	.940 (24.0)	.550 (14.0)	.410 (10.4)	.220 (5.6)	.980 (25.0)	.980 (25.0)	.630 (16.0)	.750 (19.0)	.050 (1.3)
3	1.180 (30.0)	.590 (15.0)	.560 (14.2)	.230 (5.9)	1.260 (32.0)	1.060 (27.0)	.790 (20.0)	.790 (20.0)	.060 (1.5)
4	1.220 (31.0)	.710 (18.0)	.710 (18.0)	.280 (7.1)	1.540 (39.0)	1.220 (31.0)	.790 (20.0)	.830 (21.0)	.070 (1.8)
5	1.420 (36.0)	.830 (21.0)	.880 (22.4)	.330 (8.4)	1.810 (46.0)	1.500 (38.0)	.980 (25.0)	1.020 (26.0)	.070 (1.8)
6	1.690 (43.0)	.980 (25.0)	1.110 (28.2)	.390 (9.9)	2.171 (55.0)	1.770 (45.0)	1.180 (30.0)	1.180 (30.0)	.080 (2.0)
7	2.050 (52.0)	1.540 (39.0)	1.380 (35.1)	.620 (15.7)	3.150 (80.0)	2.130 (54.0)	1.770 (45.0)	1.380 (35.0)	.130 (3.3)
8	2.600 (66.0)	1.650 (42.0)	1.750 (44.5)	.660 (16.8)	4.250 (108.0)	2.680 (68.0)	2.760 (70.0)	1.650 (42.0)	.150 (3.8)

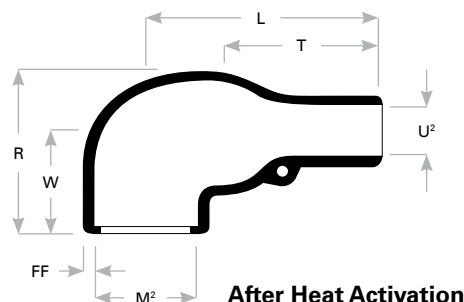
Dimensions are in inches (mm).

† Dimensions ±10% before and after heat activation.

★ Dimensions ±10% before heat activation, ±20% after heat activation.



Before Heat Activation



After Heat Activation

Rev. 2219

Boot Adapter

DL Series • MIL-DTL-38999 Series I Style Connectors



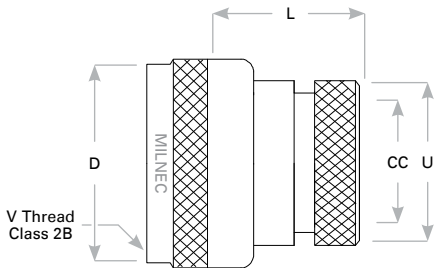
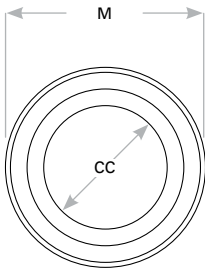
DLAB Compatibility

Compatible Brands	Connectors
MIL-DTL-38999 Series I	MS27466, MS27467, MS27468, MS27656
Aero / Conesys	AE156, AE167, AE166, AE168
Amphenol	LJT00, LTJPD00, LJT01, LJT06, LJTS06, LJT07
Deutsch	DJT0, DJT4, DJT6
ITT Cannon	KJA0, KJL0, KJL3, KJL6, KJL7
Souriau	8LT0, 8LT1, 8LT5, 8LT7

Adapter Dimensions

Shell Size	CC Cable Clearance	L	D	U	V Thread Class 2B
9	.250 (6.4)	.710 (18.0)	.600 (15.2)	.533 (13.5)	.438-28 UNEF
11	.375 (9.5)	.710 (18.0)	.717 (18.2)	.605 (15.4)	.562-24 UNEF
13	.500 (12.7)	.710 (18.0)	.834 (21.2)	.774 (19.7)	.688-24 UNEF
15	.625 (15.9)	.710 (18.0)	.990 (25.2)	.838 (21.3)	.813-20 UNEF
17	.750 (19.1)	.710 (18.0)	1.107 (28.1)	.963 (24.5)	.938-20 UNEF
19	.812 (20.6)	.710 (18.0)	1.224 (31.1)	1.042 (26.5)	1.063-18 UNEF
21	.938 (23.8)	.710 (18.0)	1.341 (34.1)	1.217 (30.9)	1.188-18 UNEF
23	1.062 (27.0)	.710 (18.0)	1.453 (36.9)	1.355 (34.4)	1.313-18 UNEF
25	1.188 (30.2)	.710 (18.0)	1.567 (39.8)	1.443 (36.7)	1.438-18 UNEF

Dimensions are in inches (mm).



DLAB - 15 B - K2

- BASIC PART NUMBER**
DLAB Boot adapter
- SHELL SIZE**
See Adapter Dimensions table below
- MATERIAL & FINISH**
B Aluminum, hardcoat anodize
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- OPTIONAL BOOT KIT (OMIT FOR NONE)**
K2 Includes recommended straight shrink boot in standard material 100, p. N-48
K4 Includes recommended 90° shrink boot in standard material 100, p. N-49

Note: See part builder (p. N-14) for additional kit options.

DL

EMI/RFI Banding Boot Adapters

DL Series • MIL-DTL-38999 Series I Style Connectors

DLD2 - 15 N - K2

1 2 3 4

1 BASIC PART NUMBER

- DLD2** Straight EMI/RFI banding boot adapter
DLD3 45° EMI/RFI banding boot adapter
DLD4 90° EMI/RFI banding boot adapter
 (Includes shield termination band TB250, p. N-57)

2 SHELL SIZE

See Adapter Dimensions table below

3 MATERIAL & FINISH

- N** Aluminum, electroless nickel
W Aluminum, olive drab cadmium

4 OPTIONAL BOOT KIT (OMIT FOR NONE)

- K2** Includes recommended straight shrink boot in standard material 100, p. N-48



Photo for example only

DLD2 Compatibility

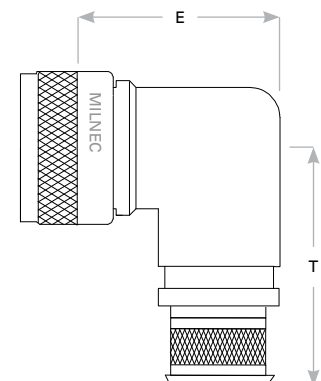
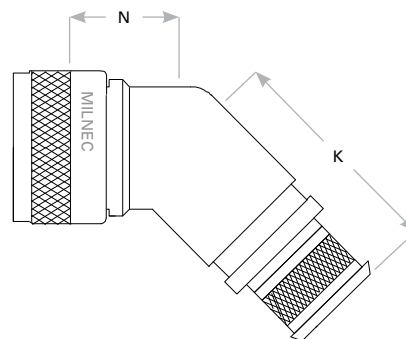
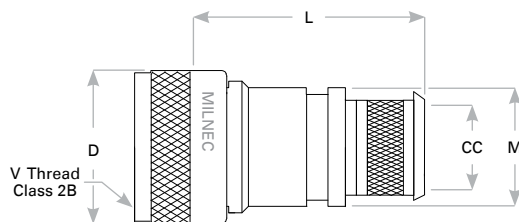
Compatible Brands	Connectors
MIL-DTL-38999 Series I	MS27466, MS27467, MS27468, MS27656
Aero / Conesys	AE156, AE167, AE166, AE168
Amphenol	LJT00, LTJPD00, LJT01, LJT06, LJTS06, LJT07
Deutsch	DJT0, DJT4, DJT6
ITT Cannon	KJA0, KJL0, KJL3, KJL6, KJL7
Souriau	8LT0, 8LT1, 8LT5, 8LT7

Note: Designed for use with straight shrink boot (DLK2, p. N-48).
 See part builder (p. N-14) for additional kit options.

Adapter Dimensions

Shell Size	CC Cable Clearance	M	D	L	N	K	E	T	V Thread Class 2B
9	.250 (6.4)	.437 (11.1)	.858 (21.8)	1.350 (34.3)	1.012 (25.7)	1.161 (29.5)	1.375 (34.9)	1.417 (36.0)	.438-28 UNEF
11	.312 (7.9)	.500 (12.7)	.998 (25.4)	1.350 (34.3)	1.031 (26.2)	1.189 (30.2)	1.437 (36.5)	1.480 (37.6)	.562-24 UNEF
13	.438 (11.1)	.624 (15.8)	1.161 (29.5)	1.350 (34.3)	1.059 (26.9)	1.209 (30.7)	1.562 (39.7)	1.553 (39.4)	.688-24 UNEF
15	.562 (14.3)	.750 (19.1)	1.280 (32.5)	1.350 (34.3)	1.079 (27.4)	1.240 (31.5)	1.687 (42.8)	1.614 (41.0)	.813-20 UNEF
17	.625 (15.9)	.812 (20.6)	1.409 (35.8)	1.350 (34.3)	1.110 (28.2)	1.260 (32.0)	1.750 (44.5)	1.678 (42.6)	.938-20 UNEF
19	.750 (19.1)	.937 (23.8)	1.520 (38.6)	1.350 (34.3)	1.118 (28.4)	1.272 (32.3)	1.875 (47.6)	1.733 (44.0)	1.063-18 UNEF
21	.812 (20.6)	1.000 (25.4)	1.642 (41.7)	1.350 (34.3)	1.150 (29.2)	1.299 (33.0)	1.938 (49.2)	1.796 (45.6)	1.188-18 UNEF
23	.938 (23.8)	1.124 (28.5)	1.772 (45.0)	1.350 (34.3)	1.169 (29.7)	1.331 (33.8)	2.062 (52.4)	1.859 (47.2)	1.313-18 UNEF
25	1.000 (25.4)	1.187 (30.1)	1.890 (48.0)	1.350 (34.3)	1.201 (30.5)	1.350 (34.3)	2.125 (54.0)	1.919 (48.7)	1.438-18 UNEF

Dimensions are in inches (mm).



Rev. 2219

Protective Covers

DL Series • MIL-DTL-38999 Series I Style Connectors



DLCP & DLCR Compatibility

Compatible Brands	Plugs	Receptacles
MIL-DTL-38999 Series I	MS27467	MS27466, MS27656, MS27496, MS27505, MS27468
Aero / Conesys	AE167	AE105, AE156, AE166, AE168, AE196
Amphenol	LJT06, LJTS06	LJT00, LJTPQ00, LJT01, LJT02, LJTP02, LJT07
Deutsch	DJT6	DJT0, DJT4
ITT Cannon	KJL6	KJL0, KJL3, KJL5, KJL7
Souriau	8LT5	8LT0, 8LT1, 8LT2, 8LT3, 8LT7

Protective Cover Dimensions

Shell Size	L ¹	D ¹	L ²	D ²	H	E	J Chain Length
9	.902 (22.9)	.820 (20.8)	.819 (20.8)	.819 (20.8)	.701 (17.8)	.167 (4.2)	3.000 (76.2)
11	.902 (22.9)	.940 (23.9)	.819 (20.8)	.941 (23.9)	.839 (21.3)	.167 (4.2)	3.000 (76.2)
13	.902 (22.9)	1.070 (27.2)	.819 (20.8)	1.098 (27.9)	1.012 (25.7)	.167 (4.2)	3.500 (88.9)
15	.902 (22.9)	1.190 (30.2)	.819 (20.8)	1.220 (31.0)	1.142 (29.0)	.167 (4.2)	3.500 (88.9)
17	.902 (22.9)	1.320 (33.5)	.819 (20.8)	1.339 (34.0)	1.260 (32.0)	.167 (4.2)	3.500 (88.9)
19	.902 (22.9)	1.440 (36.6)	.819 (20.8)	1.461 (37.1)	1.390 (35.3)	.167 (4.2)	3.500 (88.9)
21	.902 (22.9)	1.570 (39.9)	.819 (20.8)	1.579 (40.1)	1.512 (38.4)	.167 (4.2)	4.000 (101.6)
23	.902 (22.9)	1.690 (42.9)	.819 (20.8)	1.701 (43.2)	1.645 (41.7)	.167 (4.2)	4.000 (101.6)
25	.902 (22.9)	1.820 (46.2)	.819 (20.8)	1.831 (46.5)	1.760 (44.7)	.167 (4.2)	4.000 (101.6)

Dimensions are in inches (mm).

DLCP - 15 N E

- 1234
- 1

BASIC PART NUMBER
DLCP Plug cover w/ sash chain
DLCR Receptacle cover w/ sash chain
- 2

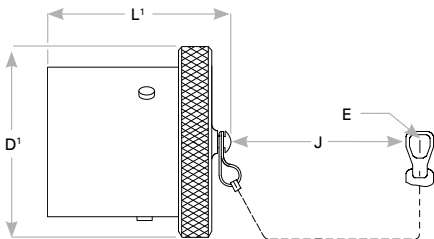
SHELL SIZE
See Protective Cover Dimensions table below
- 3

MATERIAL & FINISH
N Aluminum, electroless nickel
W Aluminum, olive drab cadmium
- 4

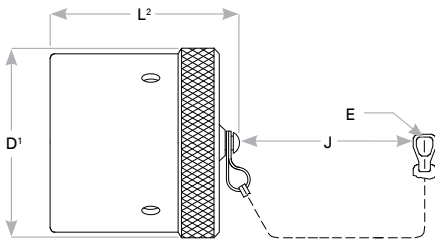
ATTACHMENT TYPE
E Eyelet attachment on sash chain
J Jam nut ring attachment on sash chain
(For use with DL07 & DL13 jam nut receptacles)
N No attachment

Note: See part builder (p. N-14) for additional kit options.

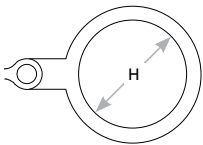
DL



Plug Cover



Receptacle Cover

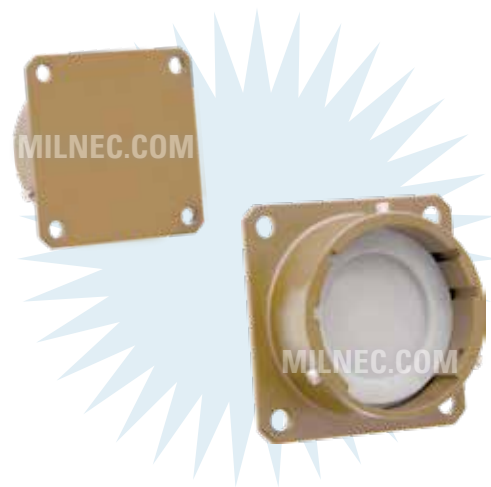


Jam Nut Ring Attachment

Rev. 2219

DLCD - 15 W - 03

- 1 **BASIC PART NUMBER**
DLCD Stowage receptacle
- 2 **SHELL SIZE**
See Stowage Receptacle Dimensions table below
- 3 **MATERIAL & FINISH**
N Aluminum, electroless nickel
W 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. N-14) for additional kit options.

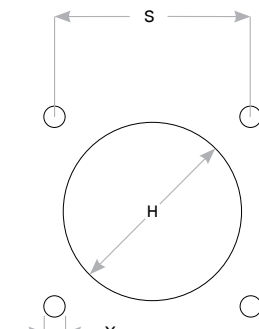
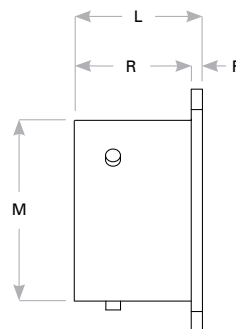
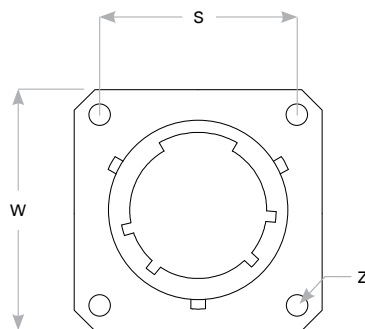
DLCD Compatibility

Compatible Brands	Plugs
MIL-DTL-38999 Series I	MS27467
Aero / Conesys	AE167
Amphenol	LJT06, LJTS06
Deutsch	DJT6
ITT Cannon	KJL6
Souriau	8LT5

Stowage Receptacle Dimensions

Shell Size	W	M	Z	R	F	S	X	H	P Max Rear Panel
9	.958 (24.3)	.572 (14.5)	.128 (3.3)	.727 (18.5)	.085 (2.2)	.719 (18.3)	.128 (3.3)	.656 (16.7)	.234 (5.9)
11	1.051 (26.7)	.700 (17.8)	.128 (3.3)	.727 (18.5)	.085 (2.2)	.812 (20.6)	.128 (3.3)	.796 (20.2)	.234 (5.9)
13	1.145 (29.1)	.850 (21.6)	.128 (3.3)	.727 (18.5)	.085 (2.2)	.906 (23.0)	.128 (3.3)	.922 (23.4)	.234 (5.9)
15	1.239 (31.5)	.975 (24.8)	.128 (3.3)	.727 (18.5)	.085 (2.2)	.969 (24.6)	.128 (3.3)	1.047 (26.6)	.234 (5.9)
17	1.332 (33.8)	1.100 (27.9)	.128 (3.3)	.727 (18.5)	.085 (2.2)	1.062 (27.0)	.128 (3.3)	1.219 (31.0)	.234 (5.9)
19	1.458 (37.0)	1.207 (30.7)	.128 (3.3)	.727 (18.5)	.085 (2.2)	1.156 (29.4)	.128 (3.3)	1.297 (32.9)	.234 (5.9)
21	1.582 (40.2)	1.332 (33.8)	.128 (3.3)	.697 (17.7)	.115 (2.9)	1.250 (31.8)	.128 (3.3)	1.422 (36.1)	.204 (5.2)
23	1.708 (43.4)	1.457 (37.0)	.147 (3.7)	.697 (17.7)	.115 (2.9)	1.375 (34.9)	.147 (3.7)	1.547 (39.3)	.204 (5.2)
25	1.832 (46.5)	1.582 (40.2)	.147 (3.7)	.697 (17.7)	.115 (2.9)	1.500 (38.1)	.147 (3.7)	1.672 (42.5)	.193 (4.9)

Dimensions are in inches (mm).



Panel Cutout

Rev. 2219

Mounting Gasket

DL Series • MIL-DTL-38999 Series I Style Connectors



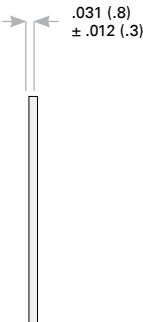
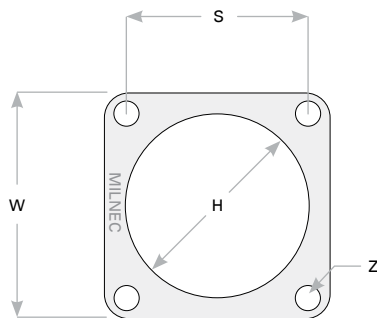
DLGE Compatibility

Compatible Brands	Receptacles
MIL-DTL-38999 Series I	MS27466, MS27496, MS27505, MS27656
Aero / Conesys	AE105, AE156, AE166, AE196
Amphenol	LJT00, LJTPQ00, LJT02
Deutsch	DJT0
ITT Cannon	KJL0, KJL3, KJL5
Souriau	8LT0, 8LT2, 8LT3

Gasket Dimensions

Shell Size	W	S	Z	H
9	.937 (23.8)	.719 (18.3)	.125 (3.2)	.687 (17.4)
11	1.031 (26.2)	.812 (20.6)	.125 (3.2)	.772 (19.6)
13	1.125 (28.6)	.906 (23.0)	.125 (3.2)	.937 (23.8)
15	1.250 (31.8)	.969 (24.6)	.125 (3.2)	1.063 (27.0)
17	1.343 (34.1)	1.062 (27.0)	.125 (3.2)	1.187 (30.1)
19	1.467 (37.3)	1.156 (29.4)	.125 (3.2)	1.312 (33.3)
21	1.562 (39.7)	1.250 (31.8)	.125 (3.2)	1.437 (36.5)
23	1.703 (43.3)	1.375 (34.9)	.152 (3.9)	1.562 (39.7)
25	1.812 (46.0)	1.500 (38.1)	.152 (3.9)	1.600 (40.6)

Dimensions are in inches (mm).



DLGE - 15

1 2

1 BASIC PART NUMBER

- DLGE** Neoprene environmental (weather resistant)
Temp. range -40°F to +230°F (-40°C to +110°C)
- DLGS** Conductive EMI-RFI neoprene, Ni-Cu alloy mesh
Temp. range -40°F to +230°F (-40°C to +110°C)
- DLGL** Fluorosilicone (jet fuel & oil resistant)
Temp. range -70°F to +392°F (-56°C to +200°C)
Per MIL-DTL-25988, Class 1, Grade 6
- DLGD** 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
Per MIL-DTL-83528, Type D

2 SHELL SIZE

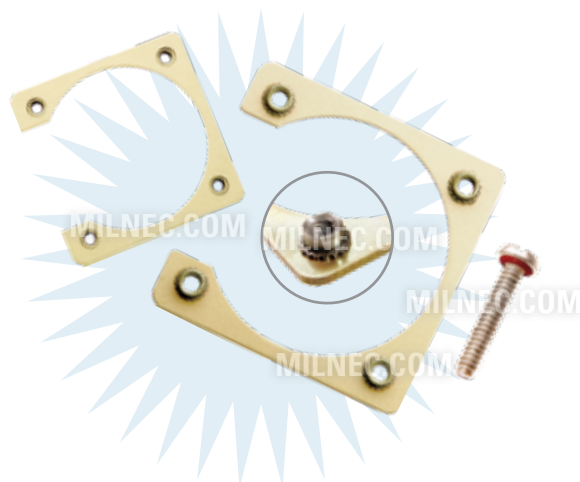
See Gasket Dimensions table below

Note: See part builder (p. N-14) for additional kit options.

DLMB - 15 - A

- 1 **BASIC PART NUMBER**
DLMB 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)
 - B** A kit + environmental gasket
 - D** A kit + fluorosilicone EMI/RFI gasket

Note: See part builder (p. N-14) for additional kit options.



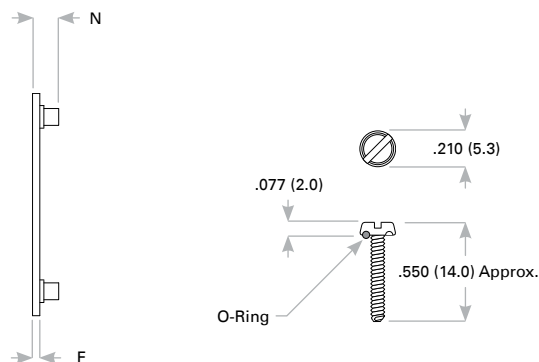
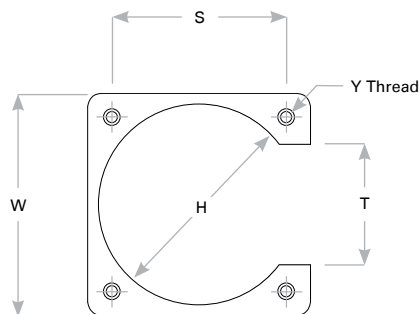
DLMB Compatibility

Compatible Brands	Receptacles
MIL-DTL-38999 Series I	MS27466, MS27496, MS27505, MS27656
Aero / Conesys	AE105, AE156, AE166, AE196
Amphenol	LJT00, LJTPQ00, LJT02
Deutsch	DJT0
ITT Cannon	KJL0, KJL3, KJL5
Souriau	8LT0, 8LT2, 8LT3

Bracket Dimensions

Shell Size	W	S	T	H	N	F	Screw Size	Y Thread
9	1.019 (25.9)	.719 (18.3)	.433 (11.0)	.720 (18.3)	.136 (3.5)	.040 (1.0)	#4	4-40 UNJC-3B
11	1.104 (28.0)	.812 (20.6)	.530 (13.5)	.855 (21.7)	.136 (3.5)	.040 (1.0)	#4	4-40 UNJC-3B
13	1.198 (30.4)	.906 (23.0)	.624 (15.8)	.984 (25.0)	.136 (3.5)	.040 (1.0)	#4	4-40 UNJC-3B
15	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
17	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
19	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
21	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
23	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
25	1.891 (48.0)	1.500 (38.1)	1.125 (28.6)	1.658 (42.1)	.153 (3.9)	.040 (1.0)	#6	6-32 UNJC-3B

Dimensions are in inches (mm).



Hand Crimpers & Positioners

DL Series • MIL-DTL-38999 Series I Style Connectors



Precision Hand Crimpers

A crimp tool provides reliable crimp termination of contacts for mission-critical applications. A hand crimper is suitable for contacts from size #12 to #22D. For production environments, pneumatic crimpers are also available.

Our tools feature an 8-impession crimp, which ensures maximum tensile strength between wire and contact. Their cycle controlled ratchets are consistent and accurate and do not permit half crimps, ensuring complete and precise crimping every time.

The tool frames have a built-in 8-step selector knob for easy adjustment of crimp depth to accommodate the size of wire being used. Data plates on positioners provide setting information specific to the size of wires and contacts being used.

There are a variety of crimp tools and positioners available to fit the various sized contacts within each connector series. We have paired our most popular models with their required positioner(s) to ensure complete compatibility.

Hand Crimper & Positioner Kits

Part Number	Kit Includes the Following Items	Contacts Sizes	Milnec Series Compatibility	Mil-Spec Series Compatibility
TK101-KIT	TK101A crimp tool with TP104 turret positioner	#20, #16, #12	DL Series, DS, Series, TX Series	MIL-DTL-38999 Series I, II, III
TK101B-KIT	TK101A crimp tool with TP102 turret positioner	#20, #16, #12	BM Series, EV Series, TM Series, HR Series	MIL-DTL-26482 Series I, II MIL-DTL-83723 Series III MIL-DTL-5015 Crimp*
TK201-KIT	TK201 crimp tool with the following positioners: TP209 (for pins), TP207 (for sockets)	#22, #22M, #22D	DL Series, TX Series	MIL-DTL-38999 Series I MIL-DTL-38999 Series III
TK201B-KIT	TK201 crimp tool with the following positioners: TP209 (for pins), TP206 (for sockets)	#22, #22M, #22D	DS Series	MIL-DTL-38999 Series II

* Contacts size #8 and larger require pneumatic crimper. When this is not an option, wires may be soldered directly into contact wire well. For mission critical applications, crimping is preferred termination method. Rev. 2219



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 $\pm 1.8^{\circ}\text{F}$ (1.0°C)
- Ceramic heating element and sensor 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)	

Heat Gun

DL Series • MIL-DTL-38999 Series I Style Connectors



TH1910E Professional Heat Gun

Our professional heat gun kit provides a complete solution for installing shrink boots. Interchangeable nozzles help to concentrate heat flow or to direct hot air evenly around a target while protecting sensitive equipment nearby.

Features & Benefits

- Temperature range 120° to 1,100°F (49° to 593°C)
- 3 interchangeable nozzle attachments
- Adjustable temperature control dial
- 3 stage switch to control airflow from 3.6 to 17.6 ft³/min
- Ergonomic design for ease and comfort

Note: The above lists standard options readily available in stock. Please consult an authorized distributor for full range of heat guns and specialized nozzle accessories.

Heat Gun Kit

Part Number	Kit Includes The Following Items
TH1910E	120V / 1,500W variable temperature heat gun, ring holder, and 3 interchangeable nozzles

Consult with authorized distributor for 220V, 230V, & 240V models suitable for your region.

Nozzle Attachments

Part Number	Description
TH101	10mm reduction nozzle
TH102	39mm reflector nozzle
TH103	13mm reflector nozzle



Rev. 2219

TB058 Banding Tool

The TB058 banding tool is the only tool needed to professionally install shielding termination bands to all Milnec EMI/RFI banding adapters. This simple hand tool positions, tightens, and trims the shield termination band with just a few easy steps for a foolproof, high-precision installation.

Features & Benefits

- One tool for all adapter sizes
- Ergonomic & lightweight: 1.18 lbs (0.5 kg)
- Tension range: 100 to 180 lbs (45.3 to 81.6 kg)

Banding Tool

Part Number	Kit Includes The Following Items
TB058	Banding tool for TB250 shield termination bands

Note: Please consult an authorized distributor for full range of pneumatic banding tools for high-volume production environments.



TB250 Shield Termination Band

The TB250 band will professionally attach shielding to Milnec EMI/RFI banding boot adapters of all sizes. The TB250 band can be quickly and reliably installed with the specially designed TB058 banding tool. Bands come pre-coiled for faster installation.

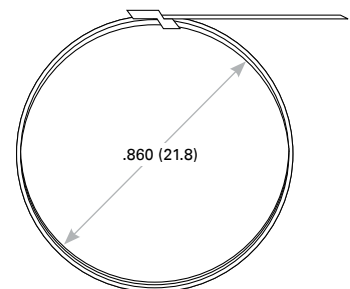
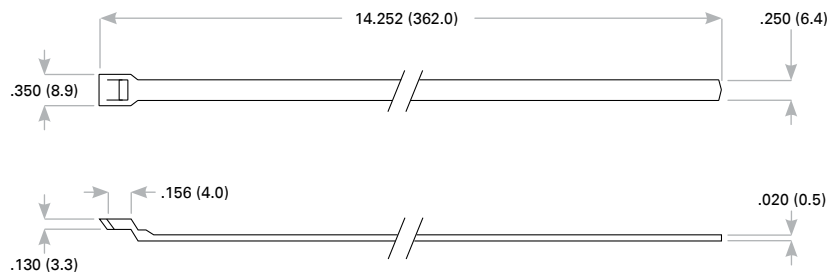
Features & Benefits

- Double-wrapped bands will accommodate diameters up to approximately 0.88 inches (22.4 mm)
- 300 series stainless steel single-piece construction



Shield Termination Band

Part Number	Kit Includes The Following Items
TB250	Single stainless steel shield termination band

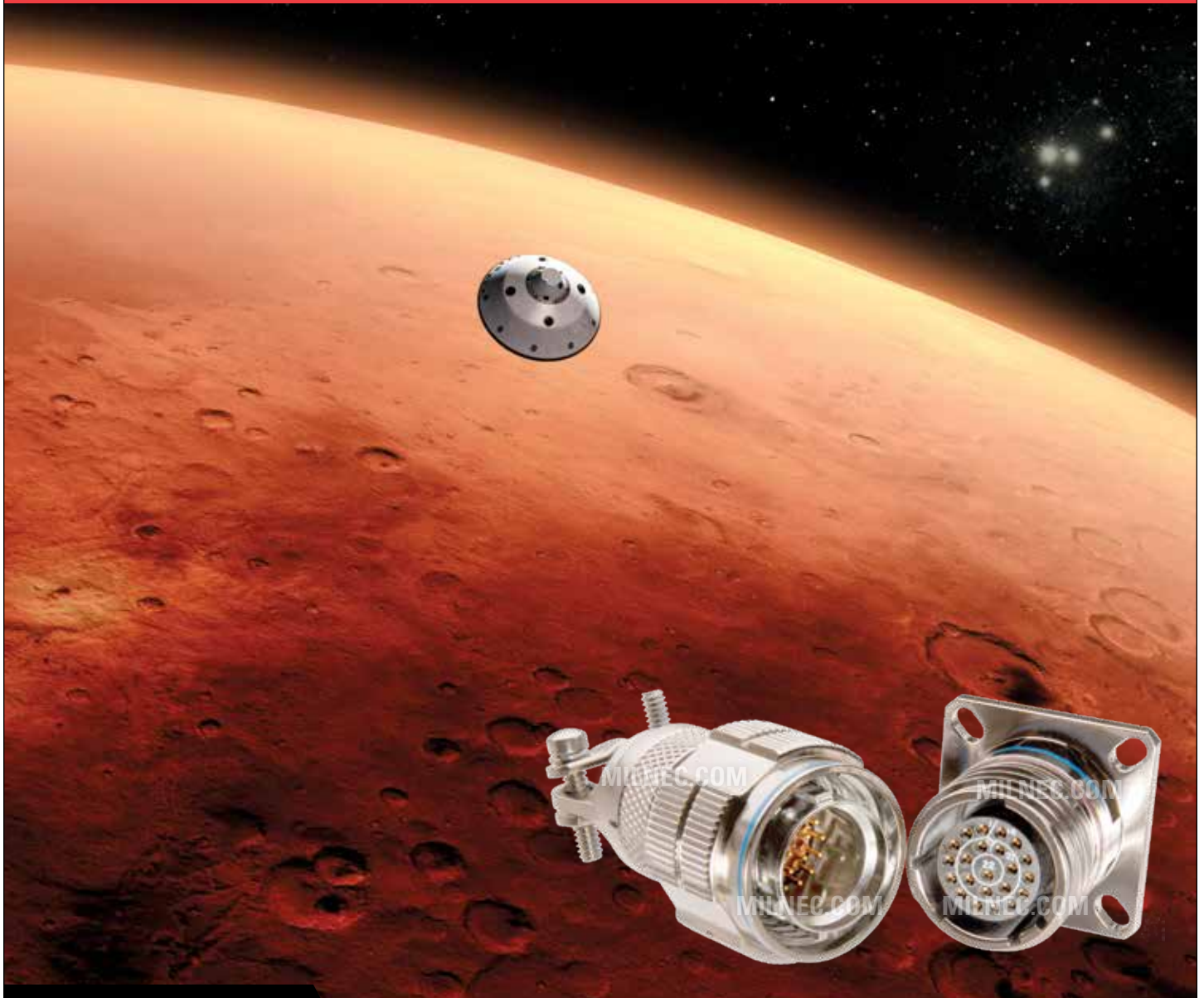


Pre-coiled Band

Dimensions are in inches (mm).

Rev. 2219

SPACE-GRADE CONNECTORS FOR THE FINAL FRONTIER



Don't Lose Touch With Mission Control

Rely on Milnec space-grade connectors for all your high-altitude and space applications. Our space-grade connectors meet all NASA specifications for outgassing and feature triple-start and impact resistant stub threads with self-locking ratchet coupling to ensure secure mating, even in high-vibration environments.



