

Series Specifications

QS Series • MIL-DTL-22992 QWLD Type Connectors

Performance Specifications

Built to meet or exceed MIL-DTL-22992 specifications
Guaranteed fully compatible and interchangeable with respect to physical and performance characteristics with all existing MIL-DTL-22992 QWLD military and commercial derivatives.

Environmental Characteristics

Temperature Range

-67° to +257°F (-55° to +125°C)

Service life varies with the maximum internal hot spot temperature resulting from any combination of electrical load or ambient temperature:

77°F (25°C): Continuous

221°F (105°C): 35,000 hours

257°F (125°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 4 hrs

Air Leakage Rate

Environmental connector air leakage rate shall not exceed 1 inch³/hr (4.55 x10⁻³ cm³/sec) at 30 psi (2.11 kg/cm²) pressure differential

Salt Spray Rating

500 hr salt spray rating

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

Physical Characteristics

Coupling

Threaded, double-start stub threads, 2¼ turns to couple with knurled coupling ring

Coupling Torque

Engagement & Disengagement Force (max / min)

Shell Size 12: 2.07 ft-lb_f (2.8 N-m) / .17 ft-lb_f (.23 N-m)

Shell Size 14: 4.35 ft-lb_f (5.9 N-m) / .26 ft-lb_f (.35 N-m)

Shell Size 16: 5.16 ft-lb_f (7.0 N-m) / .34 ft-lb_f (.46 N-m)

Shell Size 18: 5.90 ft-lb_f (8.0 N-m) / .43 ft-lb_f (.58 N-m)

Shell Size 20: 6.64 ft-lb_f (9.0 N-m) / .52 ft-lb_f (.70 N-m)

Shell Size 22: 7.82 ft-lb_f (10.6 N-m) / .59 ft-lb_f (.80 N-m)

Shell Size 24: 9.51 ft-lb_f (12.9 N-m) / .59 ft-lb_f (.80 N-m)

Shell Size 28: 12.32 ft-lb_f (16.7 N-m) / .68 ft-lb_f (.92 N-m)

Shell Size 32: 13.35 ft-lb_f (18.1 N-m) / .75 ft-lb_f (1.02 N-m)

Shell Size 36: 17.63 ft-lb_f (23.9 N-m) / .77 ft-lb_f (1.05 N-m)

Polarization

Single master key, and 4 minor keys

Insert Arrangements

112 inserts available

Insert Rotations

Normal polarization (N), plus four alternate insert rotational polarizations (W, X, Y, Z). Refer to the Alternate Insert Rotations chart on p. W-12 for availability.

Endurance Characteristics

Coupling Cycles

250 coupling cycles (minimum)

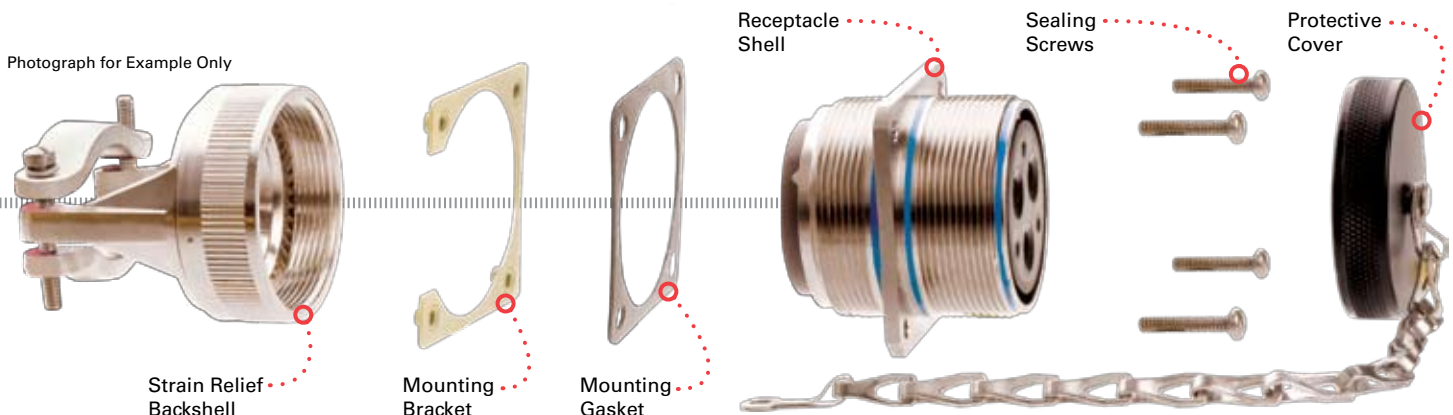
Shock

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

Vibration

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

Photograph for Example Only



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Material Characteristics

Shell

High-grade aluminum alloy

Shell Plating

C Finish

Electrically conductive cadmium plate finish with an olive drab (light to dark in color) chromate after-treat for corrosion resistance (500 hr salt spray rating). Thickness of the coating shall be approximately 0.0001 in (.00254 mm).

N Finish

Non-conductive anodized coating finish (gray to black in color) for corrosion resistance (500 hr salt spray rating). Thickness of the coating shall be approximately 0.001 in (.0254 mm).

Shell-to-Shell Conductivity for C Finish

Maximum shell-to-shell conductivity potential drop shall not exceed 200 millivolts before conditioning, and 400 millivolts after conditioning, across the assembly

Insert Assembly

Resilient neoprene dielectric, non-removable

Covers, Coupling Rings, Cable Sealing Adapters

High-grade aluminum alloy

Protective Cover Chain

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

Cable Gland (QSE2 Backshell)

Neoprene or silicone

O-Ring Seal

Neoprene or silicone

Mounting Gasket

Neoprene or silicone

Contact Characteristics

Contact Design

Solder Contacts

Permanently bonded to insert

Pre-tinned solder cups and solder wells standard

Crimp Contacts

Removable, rear-release crimp contacts

Contact Sizes

#16, #12, #8, #4, #0

Contacts

Copper alloy

Contact Plating

Silver alloy plate, .0002 in (.0051 mm) minimum

Max Number of Contacts

52

Max Contact Resistance

6 milliohm maximum resistance

Max Voltage Drop

<50 millivolt maximum drop for grounding contacts

Contact Retention

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

Electrical Characteristics

Current Rating

150 amps (rated current) at 68°F (20°C)

Max Operating Voltage

3,000 VAC (RMS) at sea level

Insulation Resistance

>5,000 megohms at 77°F (25°C)

Wire Size

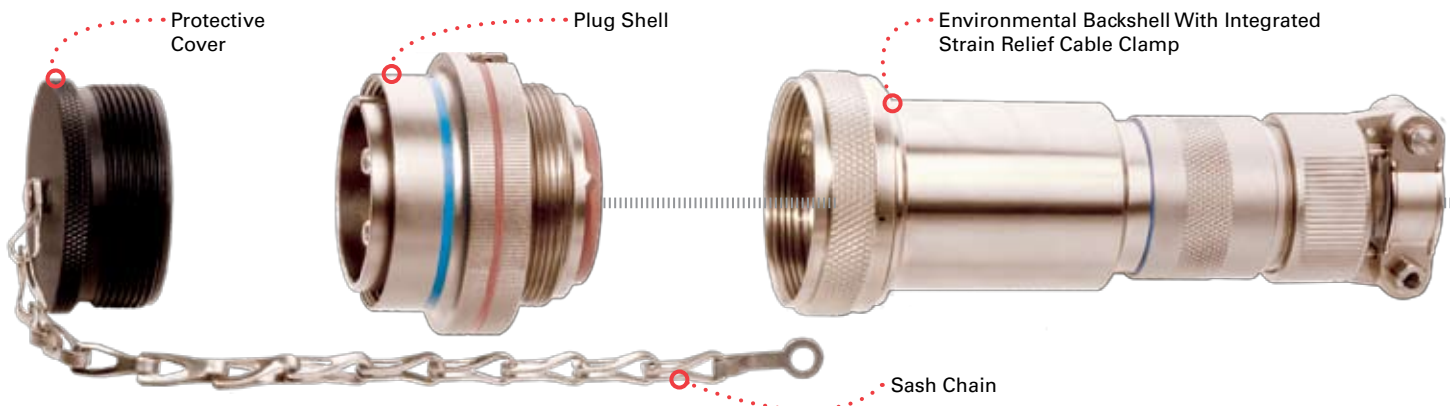
16 to 0 AWG

Wire Sealing Range

Designed for individual wire sealing

Sealing is only guaranteed if wires meet

MIL-W-5086 or within permitted ranges



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