

# **QUADRAX D-SUB CONNECTORS**

RUGGED QUADRAX DESIGN ENABLES GIGABIT ETHERNET SPEEDS WITH SUPERIOR SHIELDING PERFORMANCE FOR SIGNAL INTEGRITY



# QUADRAX D-SUB CONNECTORS

**Quadrax High-Speed Connectors** 

## WELL ESTABLISHED TECHNOLOGY

- Provides excellent performance in harsh military and aerospace applications
- Enables Gigabit Ethernet speeds with excellent shielding effectiveness
- Rugged metal shell construction

#### **VERSATILE**

- Cable-to-cable and cable-to-board configurations
- Four Quadrax contacts in a size 3 shell (.5" x 2.0" window)
- Easy to assemble

#### **APPLICATIONS**

- Commercial Avionics Systems
- Aircraft Data Networks
- Military Communications
- In-Flight Entertainment Systems

#### Save Space, Boost Performance

Quadrax connectors from TE Connectivity (TE) provide four high-speed Quadrax contacts in a space-saving D-subminiature shell. Available as cable-to-cable and cable-to-board versions, the connectors support Gigabit Ethernet speeds with excellent shielding performance. The connectors are compatible with standard AMPLIMITE connector hardware.

#### More Choice in Quadrax Connectivity

Quadrax D-Sub connectors are only part of a wide-ranging family of TE products that help you achieve your high-speed performance goals for a variety of military and avionics applications. Compatible high-speed TE connectors and cable include:

- ARINC 600 Series Connectors
- General Purpose Rectangular Connectors
- MIL-DTL-38999 Connectors
- Quadrax-specific Connectors
- QUADLITE Quadraxial Cable

TE Components . . . TE Technology . . . TE Know-how . . .

AMP | Agastat | CII | Hartman | Kilovac | Microdot | Nanonics | Polamco | Raychem | Rochester | DEUTSCH

SEACON Phoenix | L.L. Rowe | Phoenix Optix | SEACON

Get your product to market faster with a smarter, better solution.





#### MECHANICAL/ENVIRONMENTAL

• Random Vibration: 16.4  $g_{RMS}$  between 50 to 2000 Hz

• Mechanical Shock: 50 g half-sine pulses of 11 ms duration

Durability: 100 mating cycles
Contact Retention: 35 lb. minimum

• Temperature Range: 125°C

• Salt Spray: 48 hours

Altitude Immersion: 50,000 ft.
Thermal Shock: -65°C to +125°C

• Humidity Temperature Cycling: 10 cycles between 25°C and 65°C at 80 to

100% humidity

#### **ELECTRICAL DATA**

• Electrical Performance: Meets requirements of TIA-568-B.2 for insertion loss, return loss, NEXT and FEXT

• Dielectric Withstanding Voltage:

Adjacent contacts: 1000  $V_{\rm RMS}$  Contact to shell: 500  $V_{\rm RMS}$ 

• Low-Level Contact Resistance:

15 m $\Omega$  max. initial 30 m $\Omega$  max. final

• Insulation Resistance: 5000 M $\Omega$  minimum • Shell-to-Shell Conductivity: 2.5 m $\Omega$  max

#### **MATERIALS**

Shells: Nickel-plated aluminum
 Mating Hardware: Stainless steel
 Strain Relief: Thermoplastic

• Contact Shells: Copper alloy, gold plated

Dielectrics: Thermoplastic
 Interfacial Seal: Fluorosilicone

#### **APPLICATION TOOLING**

• Inner Contacts: M225202-01 hand tool with K709 positioner

• Outer Shell: M22520/5 hand tool with die set M22520/5-45

• Ferrule Insertion Tool: 1976593-2 (pin), 1976593-1 (socket)

• Extraction Tool: 1738894-1

#### STANDARDS AND TEST REPORT

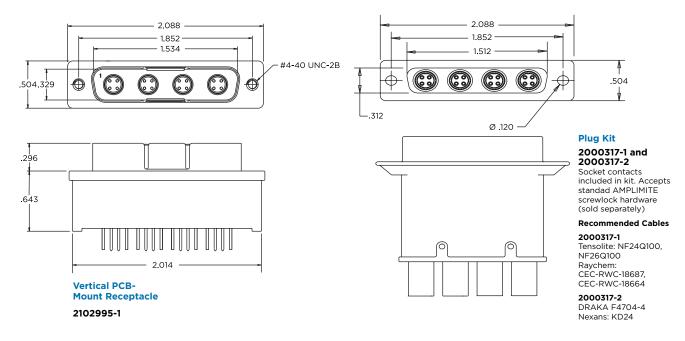
• TE Performance Specification: 108-2311

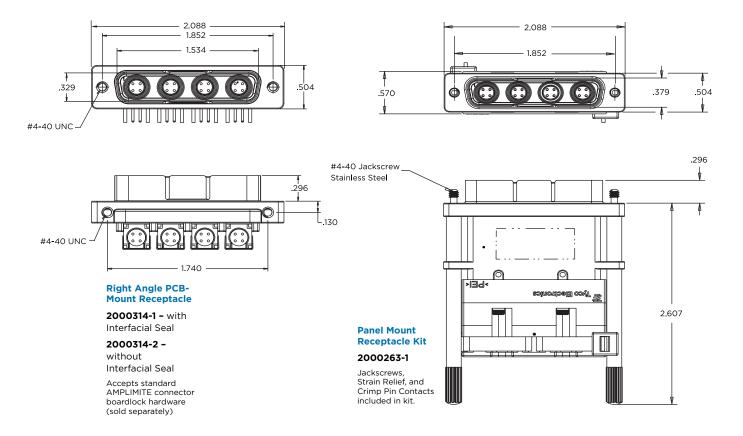
• TE Qualification Report: 501-738

• TE Application Specification: 114-13233



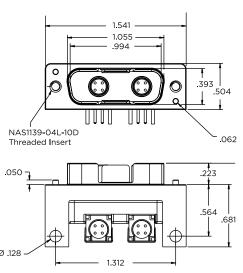
#### **Product Dimensions**







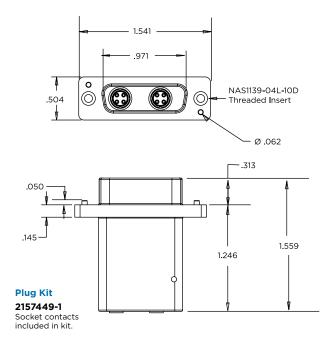
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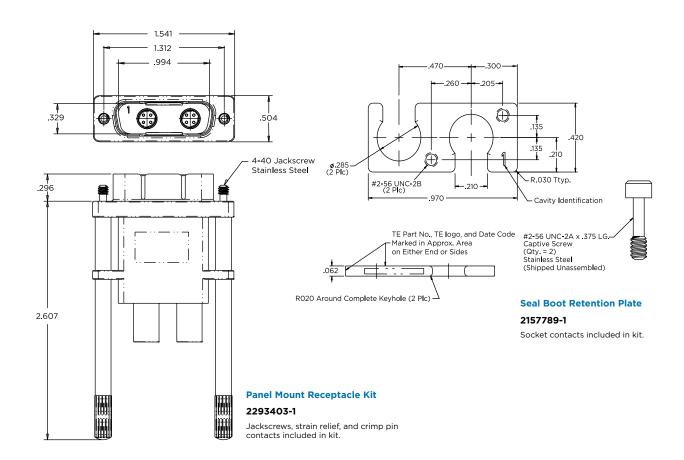


#### **Right Angle PCB-Mount Receptacle**

#### 2157447-1

Accepts standard AMPLIMITE connector boardlock hardware (sold separately)





#### For More Information

#### TE Technical Support Center

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Consult TE for the latest dimensions and design specifications.

