

TWINAX/TRIAX CONNECTORS

TWINAX/TRIAX CONNECTOR SPECIFICATIONS

Trompeter offers a broad line of connectors manufactured to meet or exceed the Mil-Specs governing twinax connectors. In fact, Mil-C-49142 was created from the Trompeter concentric twinax/triax connector design.

The following information reflects the specification requirements for each family of connectors in both twinax and triax applications. Use this chart to determine the proper connector type to be used in your application, based on the environment and electrical requirements of your design. Trompeter's technical support staff is available to answer any specification questions you may have.



MIL-Spec Triax Series	Trompeter Connector Series	Bayonet Typical Lug Count	Available Threaded	Gender	Equivalent Coax Series
TRB	70	3	Yes	Normal	BNC
TRC	80	2	Yes	Reverse	N
TRS	150	3	Yes	Normal	M-BNC
1553	450	3	Yes	Either	n/a

The following is the latest list from the MIL-STD-1553B supply:

Trompeter Number

PL75-47 or PL75C-201
 PL375C-201
 PL75C-201
 PL155AC-201
 PL3155AC-201
 PL155AC-201
 PL155AC-201
 PL3455ACS-201
 PL455ACP-201

MIL-STD-1553B Data Bus General Specifications Guide

Characteristic Requirements	70 Series TRB/TRT	80 Series TRC/TRN	150 Series TRS/TTM	450 Series TCS
Nominal Impedance	Non-constant	Non-constant	Non-constant	Non-constant
Frequency Range	0-500 MHz	0-500 MHz	0-500 MHz	0-2 MHz
Voltage Rating (max.) @ sea level	400 VRMS	500 VRMS	400 VRMS	900 VRMS
Voltage Rating (max.) @ 70,000 ft.	100 VRMS	125 VRMS	100 VRMS	N/A
Insulation Resistance	5000 MΩ	5000 MΩ	5000 MΩ	5000 MΩ
Dielectric Withstanding Voltage (between center cond. & inter. cond.)	1200 VRMS	1500 VRMS	1200 VRMS	900 VAC
Dielectric Withstanding Voltage (between inter. cond. & outer cond.)	500 VRMS	500 VRMS	500 VRMS	900 VAC
RF High Potential Withstanding Voltage (between center cond. & inter. cond.)	800 VRMS	1000 VRMS	500 VRMS	900 VAC @ 60 Hz
RF High Potential Withstanding Voltage (between inter. & outer cond.)	200 VRMS @ 5-7.5 MHz	350 VRMS @ 5-7.5 MHz	125 VRMS	N/A

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** Specifications are minimum unless otherwise stated. Trompeter connectors are designed to exceed all minimum specifications.*

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MIL-STD-1553B Data Bus General Specifications Guide (cont'd)

Characteristic Requirements	70 Series TRB/TRT	80 Series TRC/TRN	150 Series TRS/TTM	450 Series TCS
Corona Level (min.)	200 VRMS @ 70,000 ft.	375 VRMS @ 70,000 ft.	125 VRMS @ 70,000 ft.	250 VAC @ 50,000 ft.
Rise Time Degradation (max.)	400 rs	N/A	800 ps	800 ps
Permeability of Nonmagnetic Material	<2.0 mu except hermetic versions			
Hermetic Seal (Where Applicable)	<1 x 10 ⁻⁸ cc/sec	N/A	<1 x 10 ⁻⁶ cc/sec	N/A
Connector Durability	500 cycles minimum @ 12 cycles per minute max.			
Temperature Range	-65° to +165°C	-65° to +165°C	-65° to +200°C	-65° to 125°C
Force to Engage and Disengage Longitudinal (max.)	4 pounds	5 pounds	4 pounds	3 pounds
Torque (max.)	2.5 inch-pounds	4 inch-pounds	2.5 inch-pounds	2.5 inch-pounds
Center Contact Retention Axial Force (min.)				
Plug	6 pounds	6 pounds	4 pounds	6 pounds
Jack	6 pounds	6 pounds	2 pounds	6 pounds
Coupling Proof Torque (Threaded types only)	15 inch-pounds	15 inch-pounds	10 inch-pounds	N/A
Coupling Mechanism Retention Force (min.)	100 pounds	100 pounds	70 pounds	100 pounds
Cable Retention Force (min.)	40 pounds .200-.325 inch cable OD	65 pounds .242-.419 inch cable OD	40 pounds .120-.215 inch cable OD	40 pounds .120-.180 inch cable OD
Salt Spray (corrosion)	48 hrs minimum exposure (Standard nickel plating) 500 hrs minimum available (Call factory for plating types). Standard for 450 Series.			
Moisture Resistance (10 cycles)	Total 240 hour minimum exposure			
Thermal Shock (5 cycles) (No physical damage/Pass DWV)	Total 5 hours 50 minutes min -65°C to +85°C			-65°C to +125°C
Specified Shock (sawtooth waveform, within peak - 50g's, duration -11ms)	No discontinuity allowed. Velocity-change of shock pulse 10% of ideal value			
Vibration, High-frequency (36 cycles) (15g peak, 10-2000 Hz-10Hz in 20 minutes)	Total 12 hour minimum. No physical damage or loosening of parts. No discontinuity allowed.			

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