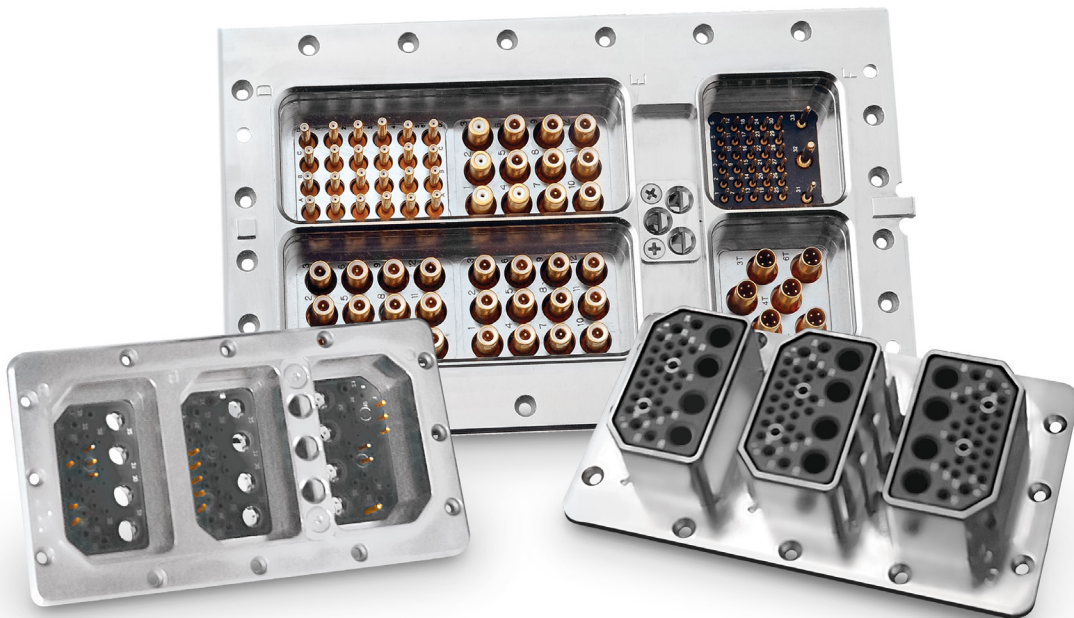
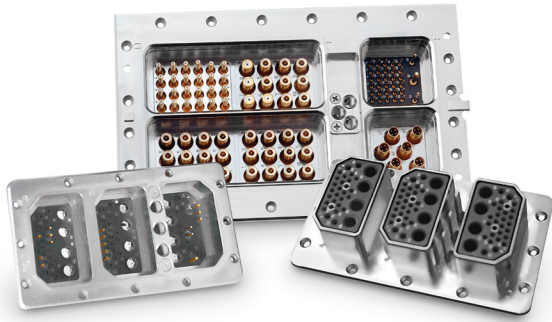


High Speed Rack & Panel Connectors



High Speed Rack & Panel



- Fibre Channel
- Ethernet: 10 Base-T, 100 Base-T, 1000 Base-T
- Firewire: IEEE 1394a and 1394b
- USB, DVII, HDMI and Infiniband

Smiths Interconnect offers a complete line of differential Twinax and Quadrx connectors, contacts and cable assemblies for high speed Ethernet, Firewire, and Fibre Channel applications. Differential pair quadrx and twinax connectors and cable assemblies offer superior performance in high speed matched impedance data-on-demand applications. The signal to signal and signal to shield characteristic impedance is maintained throughout the connector pair. A true twinaxial connector interface ensures signal integrity while minimizing jitter and data rate errors.

Testing Capabilities

Smiths Interconnect Quadrx and Twinax interconnects are characterized for testing eye pattern, jitter, skew, and insertion loss on differential pair 100 Ohm high speed Gigabit Ethernet applications with a wide variety of testing protocols. We utilize the Agilent E5071C 4 port network analyzer to measure the differential pair TDR impedance between Twinax connectors, cable assemblies, and quad cable Ethernet and Fibre Channel interconnect systems ensuring the most accurate acquired signal for high speed communications testing. The E5071C 4 port network analyzer is capable of highly accurate 100 Ohm differential measurements up to 20 GHz and can measure Eye Diagrams up to 16 Gbps.

Technical Characteristics Specifications

Temperature Rating	-55°C to + 125°C
Corrosion	MIL-STD-202 Method 101, Test Condition B
Shock	MIL-STD-202 Method 213, Test Condition B
Vibration	MIL-STD-202 Method 204, Test Condition B
Thermal Shock	MIL-STD-202 Method 107, Test Condition B
Durability	500 Mate/Unmate cycles/min
Dielectric Withstand Voltage	250 VDC
Insulation Resistance	5.000 megaOhm min
Contact Current Rating	3.0 Amps D.C. max
Bandwidth	Up to 3 GHz
Data Rates	Contacts designed to exceed 6 Gbps; assembly dependent upon type and length of cable used
Differential Pair Cable Impedance	150 Ohm \pm 15 Ohm and 100 Ohm \pm 10 Ohm
Signal to Shield Cable Impedance	75 Ohm \pm 10 Ohm and 50 Ohm \pm 7 Ohm

Material & Finishes

Shells & Inner Contacts	Brass per ASTM-B16, alloy UNS C3600 or BeCu per ASTM-B196, alloy UNS C17200, C17300 or leaded nickel copper, alloy UNS C19500, C19600 Gold plate per MIL-DTL-45204 Type II, Class 1
Insulators	PTFE per ASTM-D1710 or Ultem 1000
Connector Plug/ Receptacle Shells	Aluminum per ASTM-B211/221, 6061-T6 Electroless nickel plate per SAE AMS-C-26074 or Cadmium plate per SAE AMS QQ-P-416
Gasket/Seal	Silicone rubber per A-A-59588

Contents

ARINC 600	4
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How to Order	7
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Technical Characteristics	8
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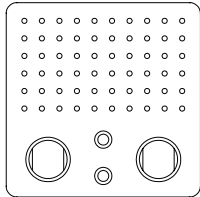
ARINC 600



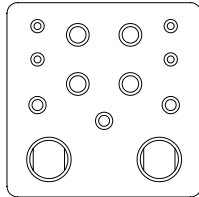
Smiths Interconnect's ARINC 600 connector series is designed for interconnect systems including 100 Base-T, Ethernet, and high speed video Hot-Link. These connectors can be fitted with Ethernet based Quad 100 Ohm contacts or differential pair 100 Ohm or 150 Ohm matched impedance contacts.

The ARINC 600 Series can also be routed with ruggedized expanded beam fiber optic contacts or concentric triaxial contacts designed for numerous low-loss twinaxial and concentric triax cables in a variety of impedance values.

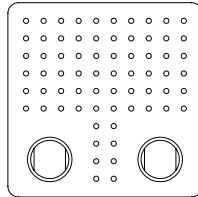
ARINC 600 Front Release/Front Removable Insert Layouts



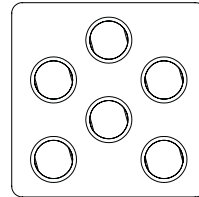
II - 62Q2
60 SIZE 22
2 SIZE 16
2 SIZE 8



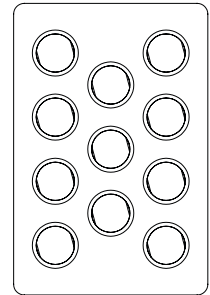
II - 11Q2
4 SIZE 20
3 SIZE 16
4 SIZE 12
2 SIZE 8



II - 68Q2
68 SIZE 22
2 SIZE 8

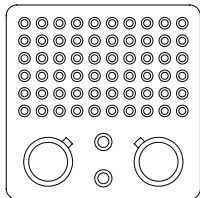


II - Q6
6 SIZE 8
METALLIC INSERT

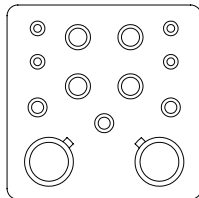


I - Q11
11 SIZE 8
METALLIC INSERT

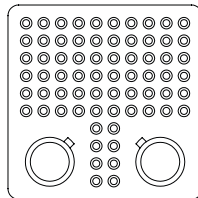
ARINC 600 Rear Release/Rear Removable Insert Layouts



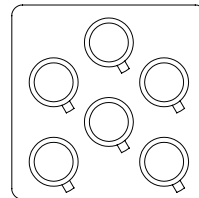
II - 62Q2
60 SIZE 22
2 SIZE 16
2 SIZE 8



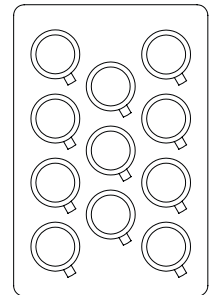
II - 11Q2
4 SIZE 20
3 SIZE 16
4 SIZE 12
2 SIZE 8



II - 68Q2
68 SIZE 22
2 SIZE 8



II - Q6
6 SIZE 8
METALLIC INSERT

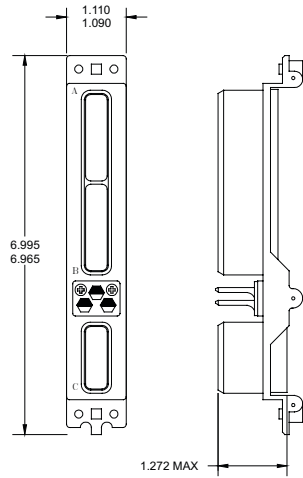


I - Q11
11 SIZE 8
METALLIC INSERT

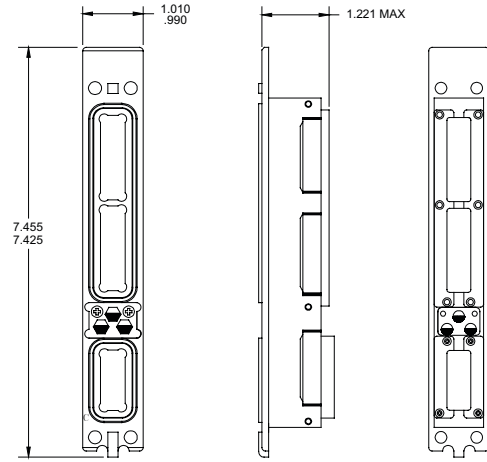
Note: Removable Size 8 Twinax and Quadax Contacts use removal tool M81969/14-06

Smiths Interconnect provides specialty, enhanced performance connectors and cable assemblies and does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Smiths Interconnect connectors are fully intermateable with applicable QPL products and meet the applicable requirements of all military standards listed in this catalog.

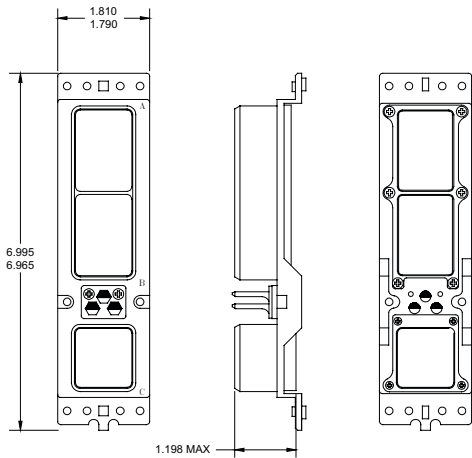
ARINC 600 Shell Size 1 Plug



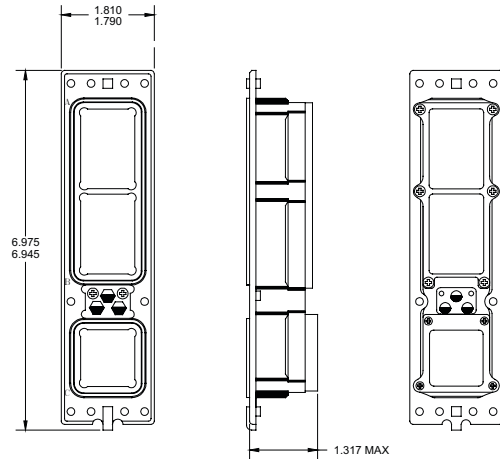
ARINC 600 Shell Size 1 Receptacle



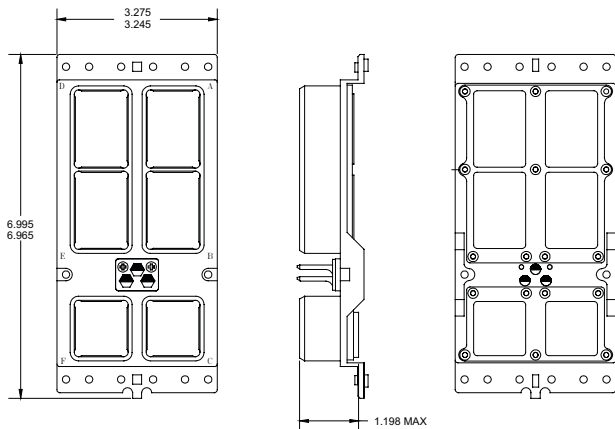
ARINC 600 Shell Size 2 Plug



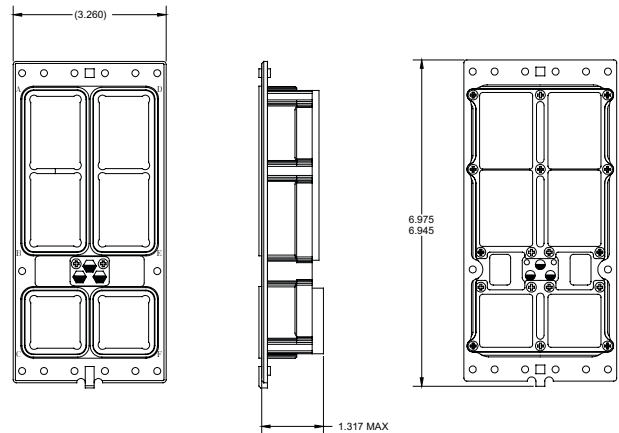
ARINC 600 Shell Size 2 Receptacle



ARINC 600 Shell Size 3 Plug



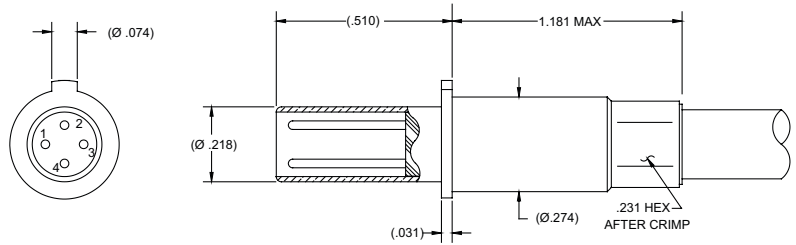
ARINC 600 Shell Size 3 Receptacle



Size 8 Pin Quadrx Contact 100 Ohm

Part Number	Cable Type	Cable
019635-2031	Differential Quad	540-1183-000

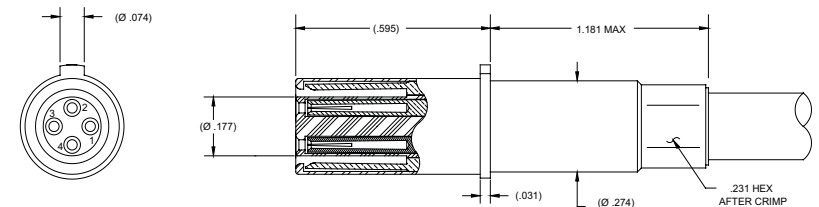
Rear Release/Rear Removable



Size 8 Socket Quadrx Contact 100 Ohm

Part Number	Cable Type	Cable
019535-2031	Differential Quad	540-1183-000

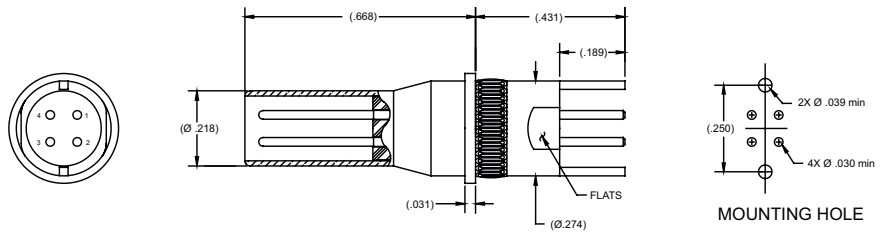
Rear Release/Rear Removable



Size 8 Pin Quadrx Contact PCB Mount 100 Ohm

Part Number
019617-2107

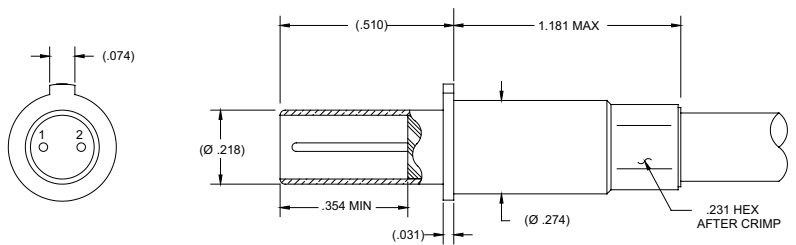
Rear Release/Rear Removable



Size 8 Twinax Pin Contact 100 Ohm

Part Number	Cable Type	Cable
019634-8025	Differential Twinax	540-1167-000
019634-8026	Flexible Twinax	540-1161-000
019634-8027	Differential Twinax	540-1086-000

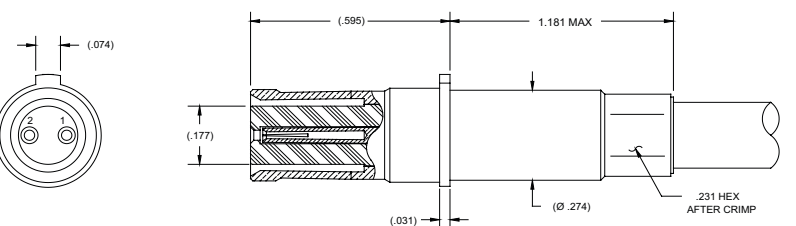
Rear Release/Rear Removable



Size 8 Twinax Socket Contact 100 Ohm

Part Number	Cable Type	Cable
019534-8025	Differential Twinax	540-1167-000
019534-8026	Flexible Twinax	540-1161-000
019534-8027	Differential Twinax	540-1086-000

Rear Release/Rear Removable

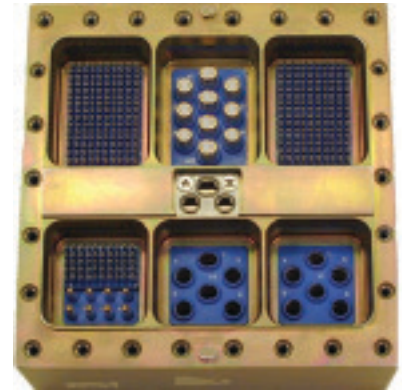


MIL-DTL-83527

Smiths Interconnect's MIL-DTL-83527 Rack and Panel style connectors meet or exceed the applicable requirements of the military specification and come in a wide variety of insert arrangements and shell sizes. Contact patterns include mixed Signal, Power, Coax, Triax, Fiber Optic (ARINC 801 and Expanded Beam Contacts) Twinax and Quadrax contacts for standard or custom insert arrangements. They can also incorporate EMI filtering and transient EMP protection to help maintain signal integrity.

Smiths Interconnect's Twinax and Quadrax contacts offer balanced and matched impedance performance for a wide variety of transmission systems and cable characteristics. Our contacts are designed to ensure optimum signal integrity even at the highest data rates.

Contacts are offered with crimp or solder termination with anti-rotational keyed insert assemblies for High-Speed Fibre Channel or Ethernet type applications. These connectors are designed for extreme environmental concerns including shock, vibration, and humidity.



Features

- Isolated cavities available for tempest applications
- EMI/RFI environmentally sealed backshells
- Single or Multiport exit termination points with standard MIL-DTL-38999 backshells.

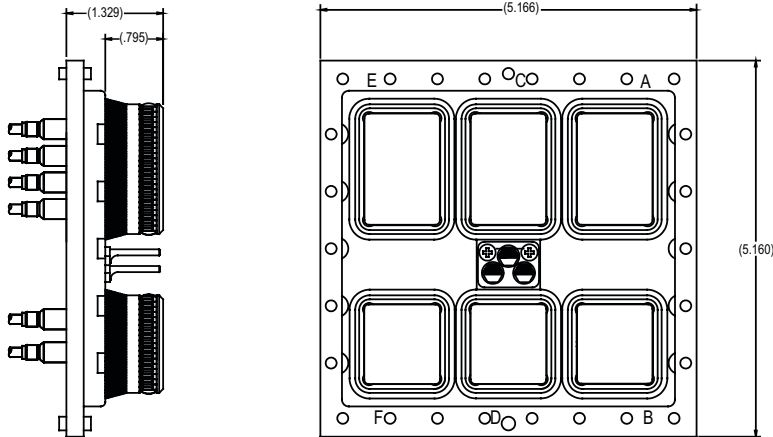
Backshells

Smiths Interconnect's rugged EMI/RFI environmental backshells for MIL-DTL-83527 and ARINC 600 connectors offer many innovative features including accessory threads, optional cable entry locations as well as single- or multi-cavity ports.

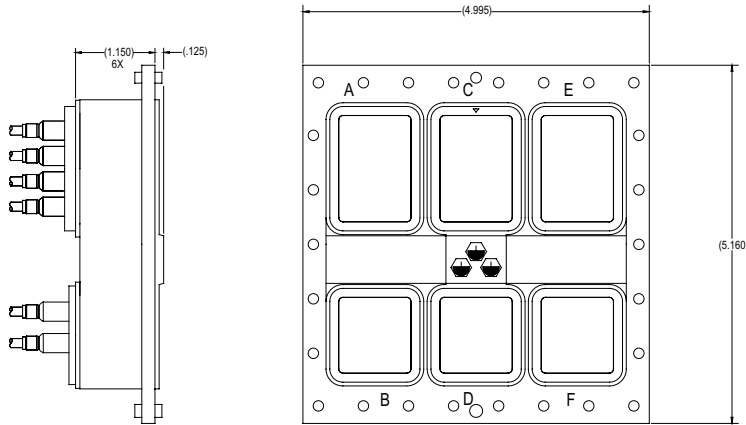
Features

- EMI/RFI Environmentally sealed backshells
- Moisture, splash, and dust proof
- Resilient gasket sealing from the rear of the connector shell to the backshell junction

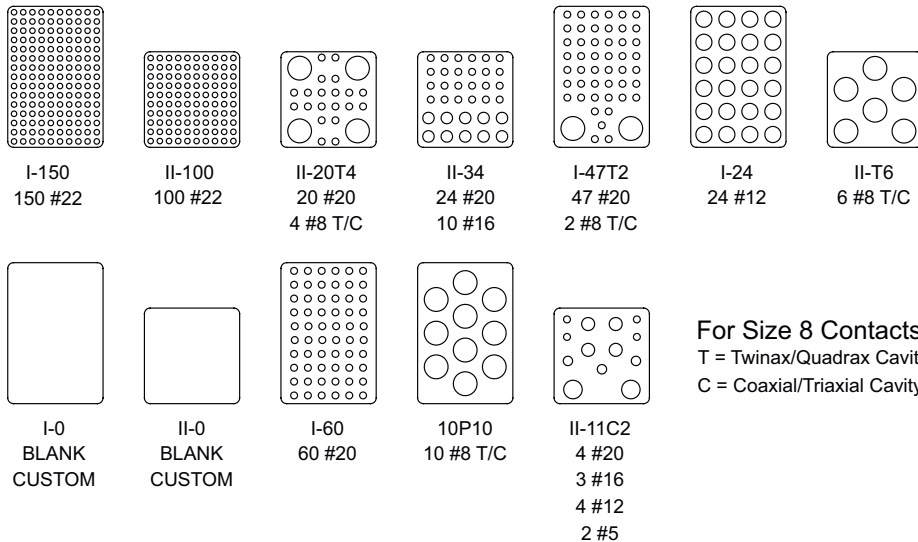
MIL-DTL-83527 Shell Size 4A Plug



MIL-DTL-83527 Shell Size 4A Receptacle



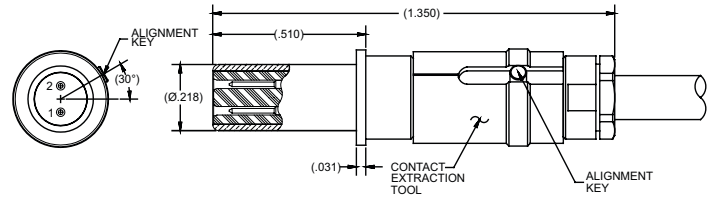
MIL-DTL-83527 Insert Arrangements



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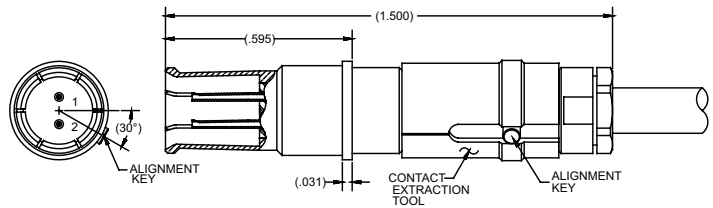
Size 8 Twinax Pin Contact 100 and 150 Ohm

Part Number	Ohms	Cable Type	Cable
019634-0005	150	Differential Twinax	540-1099-000
019634-0006	150	Differential Twinax	540-1114-000
019634-0007	100	Differential Twinax	540-1086-000
019634-0008	100	Differential Twinax	540-1153-000
019634-0009	100	Flexible Twinax	540-1161-000



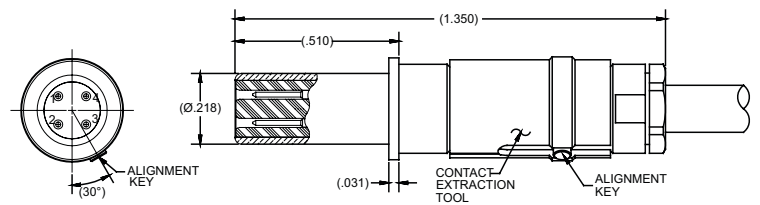
Size 8 Twinax Socket Contact 100 and 150 Ohm

Part Number	Ohms	Cable Type	Cable
019534-0005	150	Differential Twinax	540-1099-000
019534-0006	150	Differential Twinax	540-1114-000
019534-0007	100	Differential Twinax	540-1086-000
019534-0008	100	Differential Twinax	540-1153-000
019534-0009	100	Flexible Twinax	540-1161-000



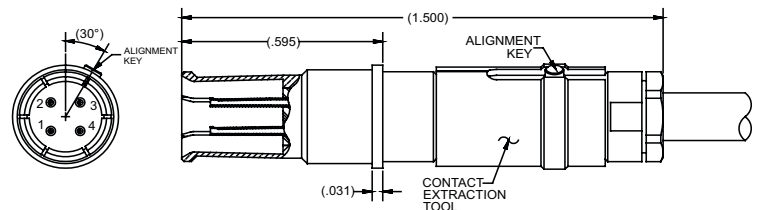
Size 8 Quadrax Pin Contact 100 Ohm

Part Number	Cable Type	Cable
019635-0000	Differential Quad	540-1183-000



Size 8 Quadrax Socket Contact 100 Ohm

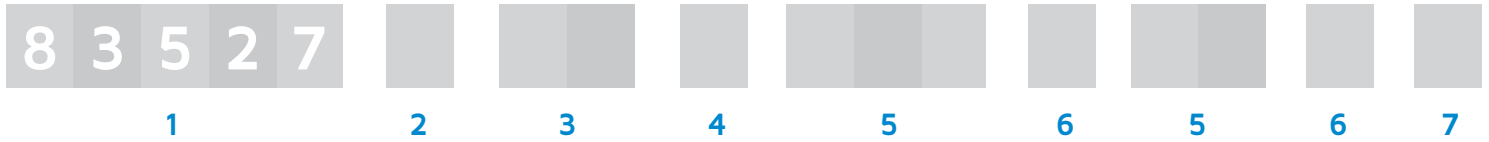
Part Number	Cable Type	Cable
019535-0000	Differential Quad	540-1183-000



MIL-DTL-83527



How to Order



1 Prefix	
2 Shell Style	<input type="checkbox"/> P Plug <input type="checkbox"/> R Receptacle
3 Shell Size	<input type="checkbox"/> 2 A , <input type="checkbox"/> 3 A , <input type="checkbox"/> 4 A
4 Plating	<input type="checkbox"/> C Cadmium (Yellow Chromate) <input type="checkbox"/> N Electroless Nickel
5 Insert Arrangements	Cavity <input type="checkbox"/> A , <input type="checkbox"/> B , <input type="checkbox"/> C , <input type="checkbox"/> D , <input type="checkbox"/> E , <input type="checkbox"/> F
6 Contact Type	<input type="checkbox"/> P Pin <input type="checkbox"/> S Socket
7 Contact Termination	<input type="checkbox"/> S Solder Cup <input type="checkbox"/> P PC Tail <input type="checkbox"/> C Crimp

Cable Assembly

How to Order



1 Connector #1

2 Cable Group #	Flexible Twinax	Differential Twinax	Differential Quadrax
	1 = M17/176-00002 2 = 540-1086-000 3 = 540-1161-000	6 = 540-1099-000 7 = 540-1114-000 8 = 540-1153-000 3 4 = 540-1167-000 3 8 = 540-1210-000 3 9 = 540-1236-000	9 = 540-1138-000 1 0 = 540-1143-000 3 6 = 540-1183-000 3 7 = 540-1235-000 4 2 = 540-1209-000 4 1 = 540-1229-000
3 Connector #2	OL for Open Lead		

4 Cable Length in Inches (XXX)

Flexible Twinax Cables				
Cable Group	Cable Designation	Impedance (Ohms)	Jacket	Conductor (DIA)
1	M17/176-00002	77	0.129"	0.024"
2	540-1086-000	98	0.143"	0.019"
3	540-1161-000	100	0.130"	0.024"
Differential Pair Twinax Cables				
6	540-1099-000	Differential: 150 Sig. to Shield: 75	0.097" x 0.160"	0.014" Stranded
7	540-1114-000	Differential: 150 Sig. to Shield: 75	0.138" x 0.224"	0.020" Solid
8	540-1153-000	Differential: 100 Sig. to Shield: 50	0.085" x 0.130"	0.019" Stranded
34	540-1167-000	Differential: 100 Sig. to Shield: 50	0.117" x 0.160"	0.0233" Stranded
38	540-1210-000	Differential: 100 Sig. to Shield: 50	0.132"	0.019"
39	540-1236-000	Differential: 100 Sig. to Shield: 75	0.191"	0.019"
Differential Quadrax Cables				
9	540-1138-000	Differential: 150 Sig. to Shield: 75	0.290"	0.032"
10	540-1143-000	Differential: 150 Sig. to Shield: 75	0.190"	0.020"
36	540-1183-000	Differential: 100 Sig. to Shield: 50	0.160"	0.024"
37	540-1235-000	Differential: 100 Sig. to Shield: 50	0.108"	0.012"
40	540-1209-000	Differential: 100 Sig. to Shield: 50	0.190"	0.029"
41	540-1229-000	Differential: 100 Sig. to Shield: 50	0.137"	0.019"

Global Support

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