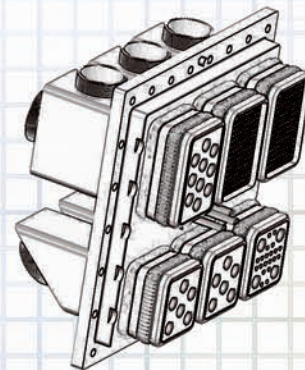
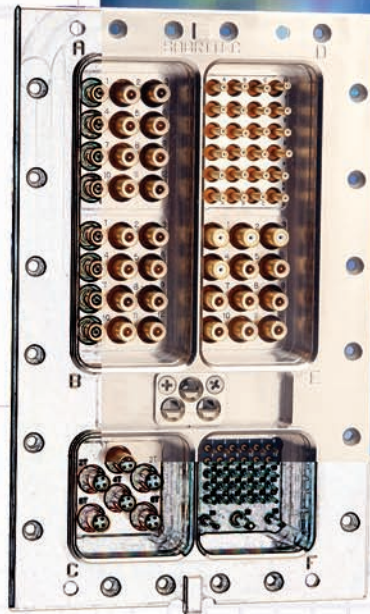
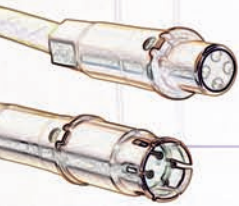
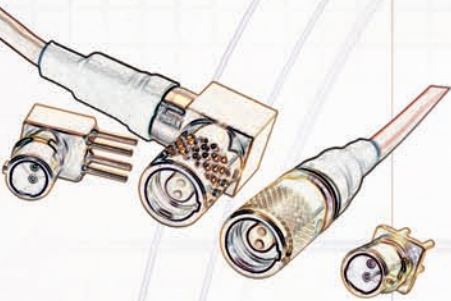
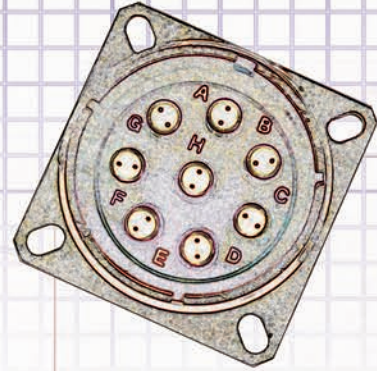
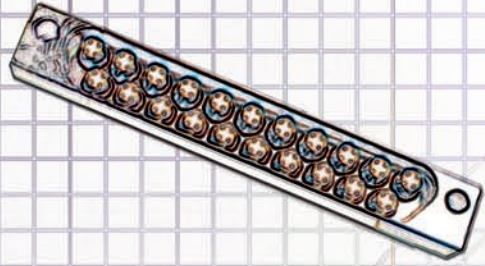


# HIGH SPEED CONNECTORS QUADRAX AND TWINAX





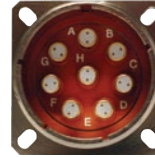
# High Speed Interconnect Solutions

## Overview

Sabritec offers a complete line of differential Twinax and Quadrax connectors, contacts and cable assemblies for high speed Ethernet, Firewire, and Fibre Channel applications. Differential pair quadrax 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.

Sabritec manufactures connectors for the following protocols:

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



### Quadrax Contacts

Sabritec has reverse gender inner contacts where the larger heat treated rigid socket contacts protrude in reverse gender configuration. These contacts are designed to provide a more reliable & rugged interconnect and better blind mate capability with less chance of bent inner pins.



### Micro Quadrax

Micro quadrax connectors are designed for differential pair matched impedance applications utilizing quadrax cable consisting of four wires where the diagonal pair of conductors forms a differential twinax pair. These connectors have a low impedance ground shield and are ideal for Ethernet (100 and 1000 Base-T), IEEE 1394 Firewire, USB, DVI and Infiniband applications with 100 Ohm differential impedance.

### Micro Twinax

The Micro Twinax line features matched impedance miniaturized connectors that provide the user with controlled impedance and tightly spaced PCB footprint spacing. These connectors are available in true differential twinax packages in NDL, SMA and Micro D size constraints.



### Ruggedized D-Sub Quad/Twinax Connectors

Sabritec's rugged D-Sub connectors are designed to ground the outer shield of a twinax or quadrax contact directly to the shell of the connector. A multi-finger ground spring, fixed around the shell provides a multi-point contact engagement for superior EMI shielding. The result is an extremely low contact resistance when measured from the contact outer body to the connector flange. These connectors provide low RF noise and high durability of up to 1,000 mating cycles. Offered with 100 ohm quadrax and/or 100 and 150 ohm twinax contacts.



### Micro-D Twinax Connectors (MDTX)

MDTX connectors consist of dual twinax blindmate assemblies permitting the transmit and receive signaling of high speed Ethernet data rates in one connector. This series allows for modularity in PCB routing of high speed signaling. Capable of 100 Ohm differential pair matched impedance, these connectors allow for maximum space utilization modularity and true signal integrity.

### Backplane Connectors

Sabritec has taken the standard housing configuration of the P1 & P3 mounting dimensions while incorporating true differential pair contacts within the P1 & P3 dimensional constraints. Data sampling rates exceeding 2 Gbits/second can be driven via matched impedance differential pair interconnections for board-to-board high speed data transfer as well as blind mate I/O plug in modular applications. Sabritec's P1 connector housing contains 21 position true differential pair blind mate contacts allowing board designers to carry high density differential pair signals from the LRU via motherboard to daughter-card plug in module with a single connector P1 type housing.



MIL-DTL-38999  
CONNECTORS Pg. 50

QUADSPLITTER  
CONNECTORS Pg. 55

MIL-C-81659  
ARINC 404 Pg. 58

ARINC 600  
Pg. 61

MIL-DTL-83527  
Pg. 64

RUGGED D-SUB  
Pg. 67

BACKPLANE/PANEL MOUNT  
CONNECTORS Pg. 71

MICRO QUADRAx/TWINAx  
Pg. 75

MICRO-D TWINAx  
(MDTX) Pg. 81

DURA SPEED DSQ/DST  
Pg. 83

PCB & CABLE MOUNT  
CONNECTORS Pg. 86

CABLE ORDERING  
Pg. 87



# High Speed Interconnects

## Technical Specifications

### Dura Speed Quadrax and Twinax (DSQ & DST)

These rugged low insertion force/high mating cycle precision contacts are capable of withstanding a minimum of 6,000 mating cycles. All Dura Speed Quadrax (DSQ) and Twinax (DST) contacts are designed to fit Sabritec's standard cavities for all existing connector formats for our high speed product lines which include MIL-DTL-38999, ARINC 600 and Rugged D-Subminiature.

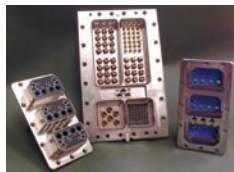
### Quadsplitter

Sabritec's has developed a patented technology called the Quadsplitter. Quadrax is a system where four conductors are located within a single conducting enclosure. The connection to two separate twinax cables is accomplished without disturbing the signal to signal or signal-to-shield impedances values. A complete series of connectors are available utilizing the Quadsplitter technology with MIL-DTL-38999 Series III connector types available in shell size 11 and shell size 25 housings.



### ARINC 404 and ARINC 600 Connectors

These connectors can be routed with either high speed differential pair matched impedance contacts (150 Ohm and 100 Ohm) or with Ethernet based quad contacts 100 Ohm impedance assemblies. The ARINC 600 series can also include ruggedized expanded beam or butt-joint fiber optic contacts.

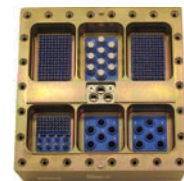


Mechanical & Environmental Specifications	
Temperature Rating	-65°C to + 125°C
Corrosion	MIL-STD-202 Method 101 Test Condition B
Shock	MIL-STD-202 Method 213 Test Condition B
Vibration	MIL-STD-202 Method 204 Test Condition B
Thermal Shock	MIL-STD-202 Method 107 Test Condition B
Durability	500 Mate/Unmate cycles min.
Electrical Specifications	
Dielectric Withstanding Voltage	500 VDC max
Insulation Resistance	5.000 Mega Ohms min. @ 200 VDC
Contact Current Rating	3.0 Amps max.
Bandwidth	Up to 3 Gigahertz.
Data Rates	Exceeding 2 Gbits/sec
Differential Pair Cable Impedance	150 Ohm ± 15 Ohm 100 Ohm ± 10 Ohms
Signal to Shield Cable Impedance	75 Ohm ± 10 Ohm 50 Ohm ± 7 Ohms
Material & Finishes	
Shells & Inner Contacts	Brass per ASTM-B16, Alloy UNS C36000 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 ULTERM 1000
Connector Plug/ Receptacle Shell	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

*All specifications subject to change without notice.*

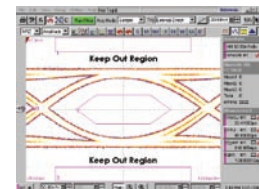
### MIL-DTL-83527

These connectors come standard with anti-rotational keyed insert assemblies for High Speed Fibre Channel or Ethernet Twinax and Quadrax Contacts. MIL-DTL-83527 connectors are designed for extreme environmental concerns with very high levels of shock, vibration, and humidity.



### Testing Capabilities

Sabritec can test eye-pattern, jitter, skew and insertion loss on differential pair 100 ohm and 150 ohm fibre channel and high speed Gigabit Ethernet applications with a wide variety of testing protocols. Our testing capabilities support wide bandwidth (DC to 50 GHz with up to 12.5 GHz Trigger). We utilize the Tektronix CSA8000 to measure the differential pair TDR impedance between twinax connectors, cable assemblies, and quad cable fibre channel interconnect systems. The CSA8000 ensures the most accurate acquired signal for high speed communications testing. CSA8000 testing features 20 GHz Bandwidth with 80E04 sampling module, 35 ps TDR Reflected Rise Time, Differential TDR and Crosstalk.



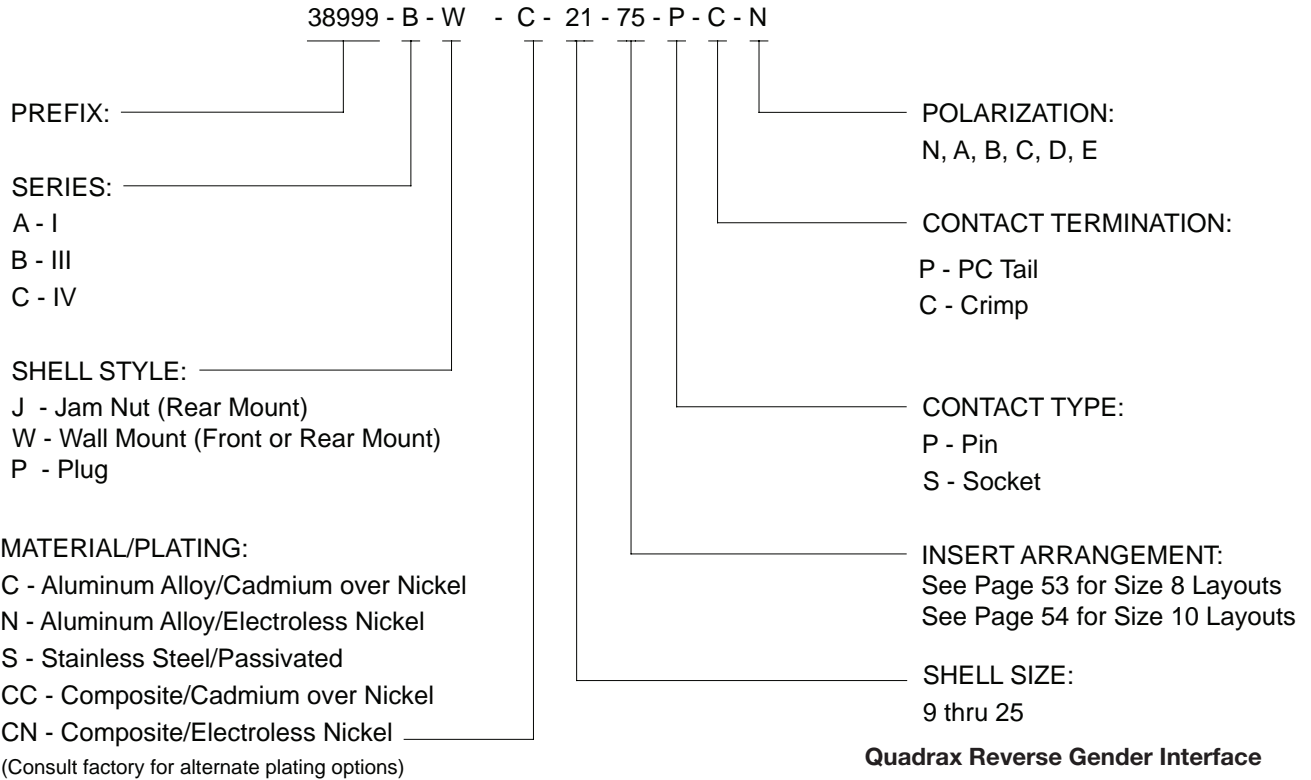
Sabritec provides specialty, enhanced performance connectors and cable assemblies and as such does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Sabritec's connectors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



# MIL-DTL-38999 High Speed Connectors

## MIL-DTL-38999 Ordering Information

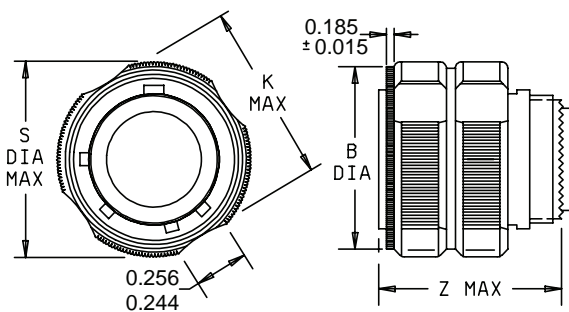
### MIL-DTL-38999 Part Number Description Code



**Note: Twinax/Quadrx Contacts are sold separately**

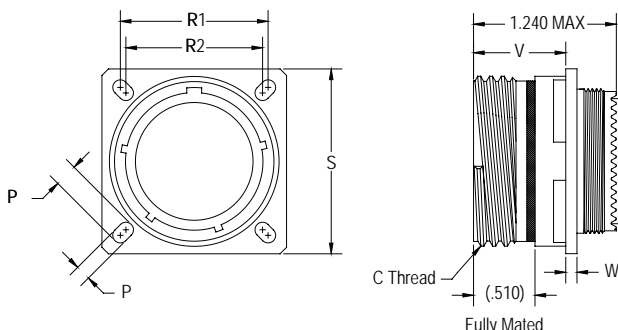
Sabritec's connectors are fully intermateable with all slash sheet part #'s. Sabritec does not; however, offer standard QPL slash sheet part #'s for mil-dtl circular and rack & panel connectors because of the application specific nature of Sabritec's product offerings.

### MIL-DTL-38999 Twinax/Quadrx Plug



Shell Size	B Dia. +.008 -.0	K Max	S Dia. Max	Z Max
9	0.724	0.748	0.858	1.22
11	0.831	0.862	0.984	
13	1.000	1.028	1.157	
15	1.13	1.154	1.28	
17	1.268	1.291	1.406	
19	1.374	1.398	1.516	
21	1.5	1.524	1.642	
25	1.744	1.768	1.89	

### MIL-DTL-38999 Twinax/Quadrx Receptacle



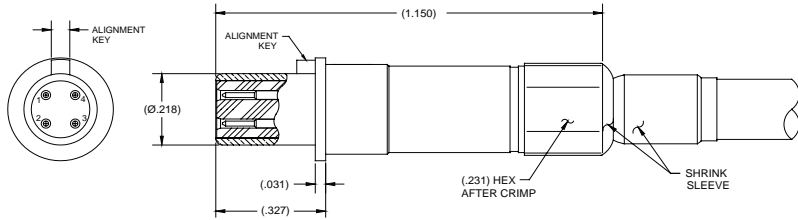
Shell Size	C Thread .1 Pitch .3 Lead	P ±.008	R1 BSC	R2 BSC	V Max +0.00 - .005	W Max	PP Max ±.008	S ±.012
9	0.625	0.128	0.719	0.594	0.820	0.098	0.216	0.937
11	0.75		0.812	0.719			0.194	1.031
13	0.875		0.906	0.812			0.173	1.126
15	1.000		0.969	0.906			0.173	1.220
17	1.188		1.062	0.969			0.194	1.311
19	1.25	0.154	1.156	1.062	0.790	0.126	0.194	1.437
21	1.375		1.250	1.156			1.563	
23	1.500		1.375	1.250			2.42	1.689
25	1.625		1.500	1.375			1.811	



# MIL-DTL-38999 Quadrax Contacts

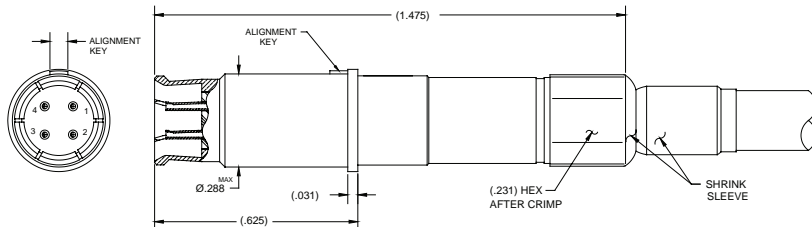
## Size 8 Quadrax Contacts For MIL-DTL-38999 Series III

### Size 8 Quadrax Pin Contact 100 Ohm



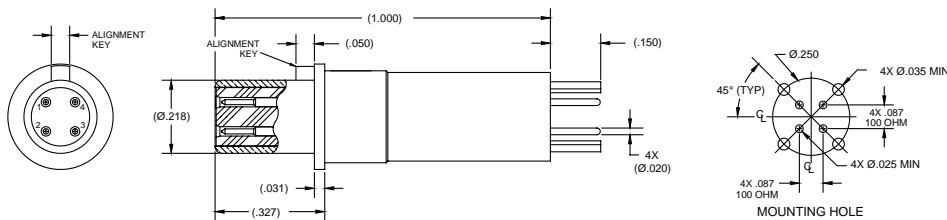
Part Number	Cable Type	Cable
019635-0001	Differential Quad	540-1183-000

### Size 8 Quadrax Socket Contact 100 Ohm



Part Number	Cable Type	Cable
019535-0001	Differential Quad	540-1183-000

### Size 8 Quadrax Pin Contact 100 Ohm PCB Mount



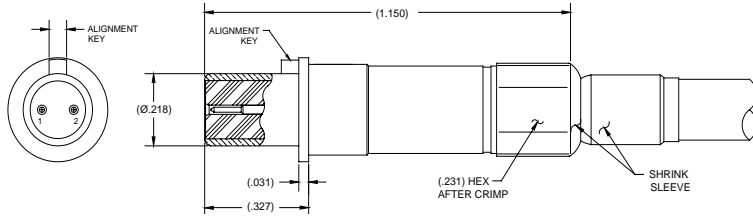
Part Number	Ohms
019617-0013	100



# MIL-DTL-38999 Twinax Contacts

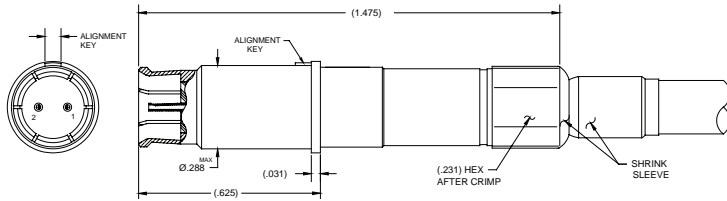
## Size 8 Twinax Contacts for MIL-DTL-38999 Series III

### Size 8 Twinax Pin Contact 100 and 150 Ohm



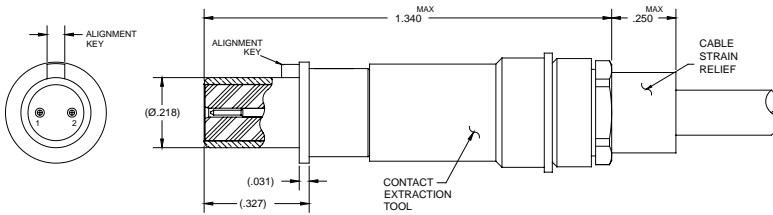
Part Number	Ohms	Cable Type	Cable
019634-0011	100	Differential Twinax	540-1167-000
019634-0012	100	Flexible Twinax	540-1161-000
019634-0013	100	Differential Twinax	540-1153-000
019634-0014	150	Differential Twinax	540-1099-000

### Size 8 Twinax Socket Contact 100 and 150 Ohm



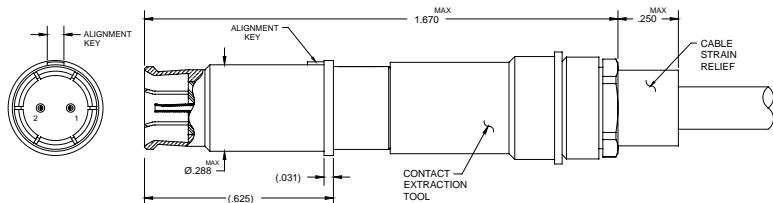
Part Number	Ohms	Cable Type	Cable
019534-0011	100	Differential Twinax	540-1167-000
019534-0012	100	Flexible Twinax	540-1161-000
019534-0013	100	Differential Twinax	540-1153-000
019534-0014	150	Differential Twinax	540-1099-000

### Size 8 Twinax Pin Contact 150 Ohm



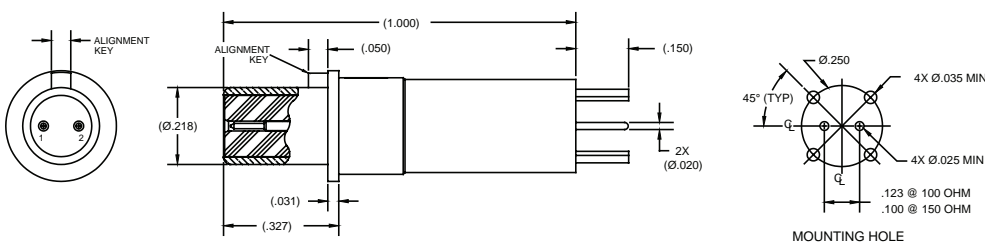
Part Number	Cable Type	Cable
019634-0015	Differential Twinax	540-1114-000

### Size 8 Twinax Socket Contact 150 Ohm



Part Number	Cable Type	Cable
019534-0015	Differential Twinax	540-1114-000

### Size 8 Twinax Pin Contact 100 and 150 Ohm PCB Mount

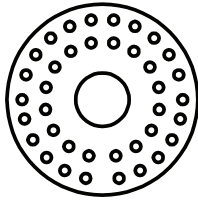


Part Number	Ohms
019617-0011	100
019617-0012	150

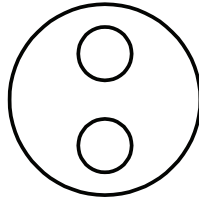


# MIL-DTL-38999 Insert Arrangements

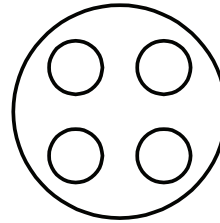
## Quadrax and Twinax Contact Layouts



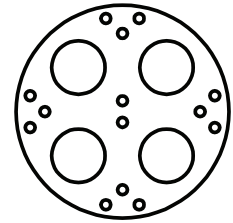
17-2 T/Q  
1 #8  
38 #22D



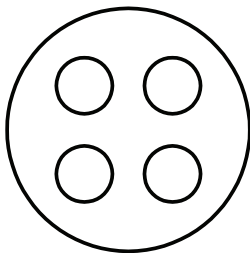
17-82 T/Q  
2 #8



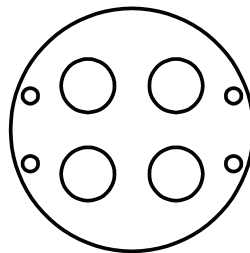
19-4 T/Q  
4 #8



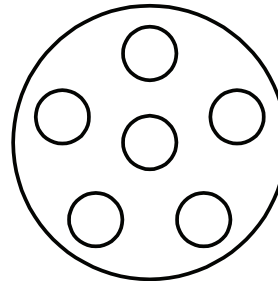
19-18 T/Q  
4 #8  
14 #22D



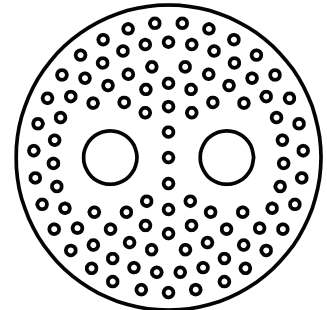
21-75 T/Q  
4 #8



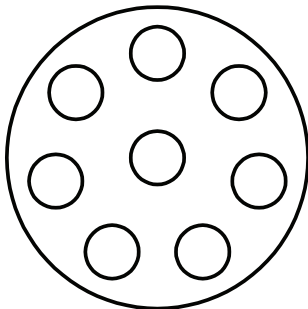
21-4T4 T/Q  
4 #8  
4 #22D



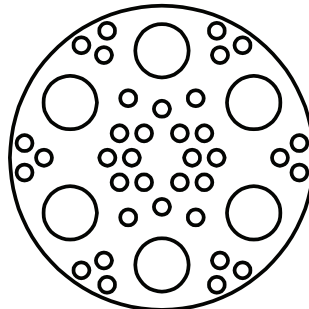
23-6 T/Q  
6 #8



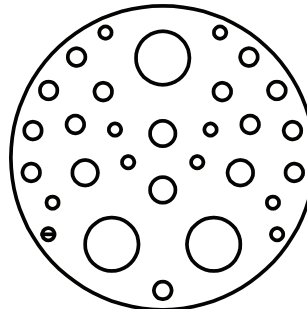
25-7 T/Q  
2 #8  
97 #22D



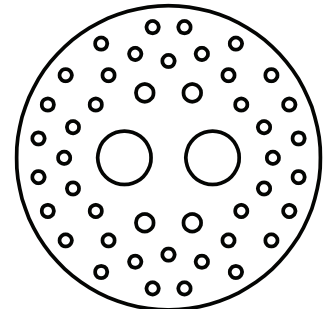
25-8 T/Q  
8 #8



25-17 T/Q  
6 #8  
36 #22D



25-20 T/Q  
3 #8 / 13 #16  
4 #12 / 10 #20



25-46 T/Q  
2 #8  
4 #16  
40 #20

**Note 1:** Size #8 Twinax/Quadrax (T/Q) Cavities are Anti-Rotational

**Note 2:** Size #8 Twinax/Quadrax contact cavities are common ground to the connector shell with a ground resistance of 10 milliohms maximum or insulated from common ground. Consult factory for details, please specify preference (common ground or insulated).

**Note 3:** Mixed signal and quad/twinax contacts are insulated from common ground. Consult factory for unique grounding and/or filtering requirements.

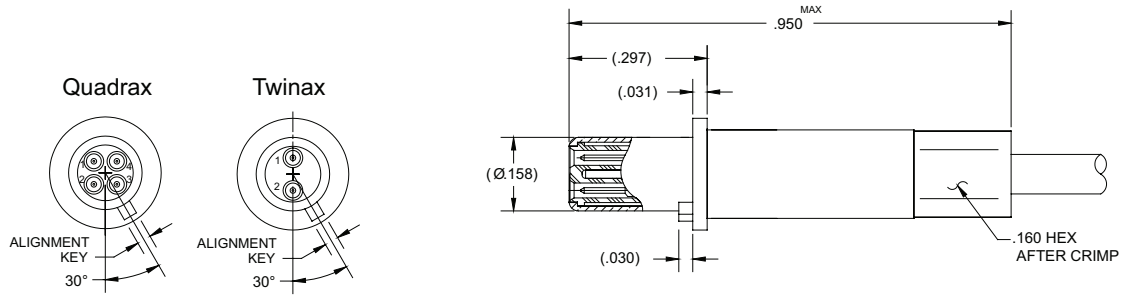
**Note 4:** Removable Size 8 Contacts use removal tool M81969/14-12



# High Speed Size 10 Contacts

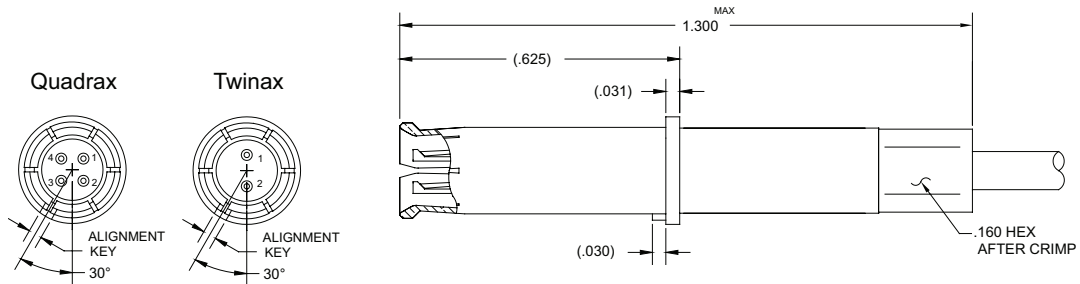
## Size 10 Twinax/Quadrax Contacts and Layout Arrangements

### Size 10 Twinax/Quadrax Pin Crimp Contact 100 Ohm



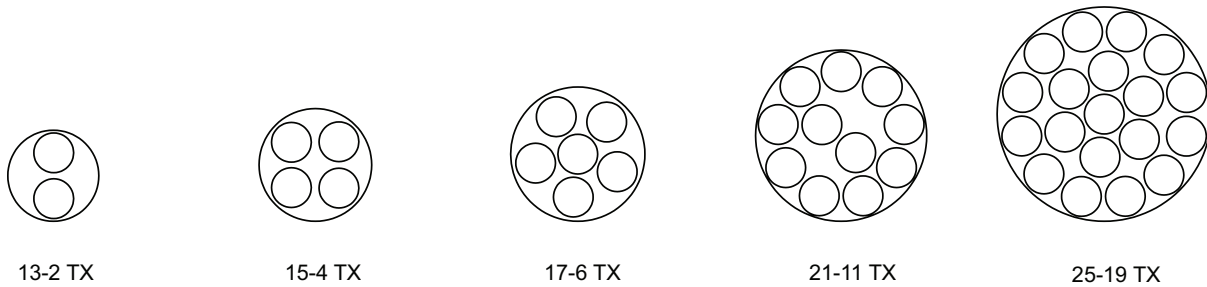
Part Number	Cable Type	Cable
018834-8001	Differential Twinax	540-1153-000
018835-8001	Differential Quadrax	540-1235-000

### Size 10 Twinax/Quadrax Socket Crimp Contact 100 Ohm



Part Number	Cable Type	Cable
018934-8001	Differential Twinax	540-1153-000
018935-8001	Differential Quadrax	540-1235-000

### Special Size 10T/QX Twinax/Quadrax Contact Layouts For Standard MIL-DTL-38999 Shells



**Notes:**

- Arrangements are unique Sabritc layouts designed for MIL-DTL-38999 connector formats
- Twinax/Quadrax contact cavities are common ground to the connector shell
- Size 10 Twinax/Quadrax (T/QX) cavities are anti-rotational
- Removable Size 10 Twinax/Quadrax Contacts use removable tool M81969/14-05





# Quadsplitter Technology (Patent # 6,794,578)

## High Speed Quad to Twinax Conversion

Currently high-speed data transference requires transmission systems that minimize reflections. This is achieved through controlled characteristic impedance from source to load. In microwave systems, this is accomplished with waveguide or coaxial transmission lines. In both cases, the line geometry is the determining factor along with dielectric and conductor materials. Steps, bends, protrusions etc. will invariably cause reflections with consequent loss of transmission efficiency. In 2-wire differential-mode transmissions this is acceptable at lower data rates, however, when data rates become higher, such as fibre channel (into microwave frequencies), the line characteristic impedances become much more critical.

In fibre channel systems the source and load differential impedances are usually high (100 -150 ohm). Achieving these high impedances in coaxial transmission lines and connectors is size prohibitive. As a result, a line configuration such as twinax where the signals carried between a pair of conductors (usually round) critically spaced from each other and surrounded by a conductive enclosure is used. In this "differential line" high impedances are easily obtained since the mutual capacitance between the conductors is minimized.

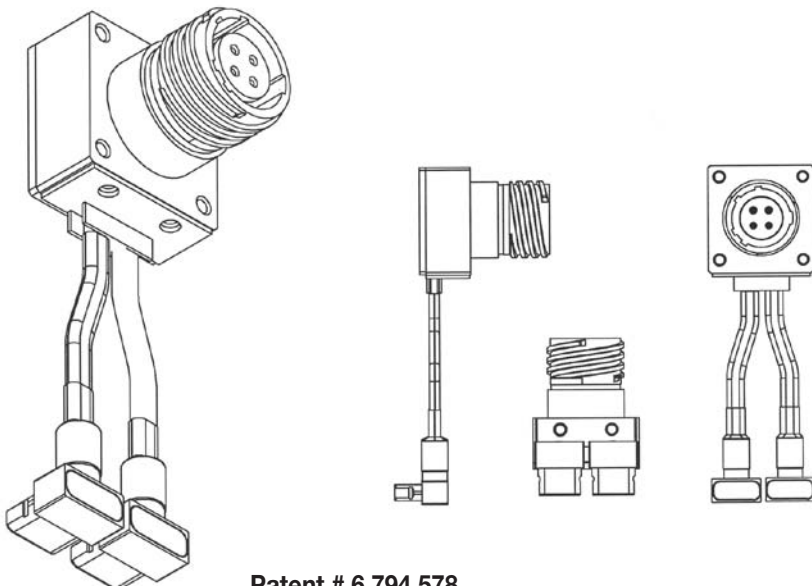
A more efficient development for fibre channel transmission is the "Quadrax", a single enclosure with four wires where a diagonal pair of conductors forms a twinax differential pair.

A problem arises when the Quadrax to Twinax conversion takes place and the channels must be physically separated. The diagonal pairs will cross over resulting in impedance disturbance and reflection with some crosstalk. At low frequencies or data rates, this is some-

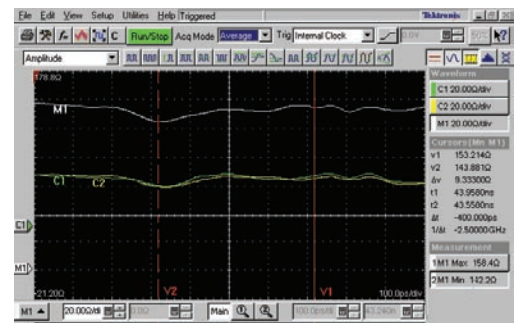
what manageable, however when data rates approach microwave frequencies the resulting system degradation becomes unacceptable. This problem is effectively overcome by employment of stripline or microstrip transmissions.

The unique feature of this method is the placement of the traces and ground planes within a stack of circuit boards where the lines from the quadrax input contact pins couple straight onto the stripline traces without crossing over or disturbing the relative positions of the selected diagonal pairs. This means the impedance is relatively consistent and therefore not frequency sensitive.

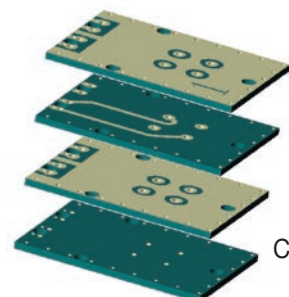
Referring to the assembly and circuit boards below, it can be seen that by locating a common ground plane between two trace layers, the signal pairs will be isolated and in the controlled impedance of effectively two separate transmission systems. In the above case, the separated pairs run to surface pads that, thru selected plated-thru holes, connect to the assigned embedded traces. Note the diagonal pairs from the Quadrax interface are attached to the pads on their assigned traces, while merely passing through the board with traces and pads belonging to the other diagonal pair. The paired traces are routed to the board edge case, and will be soldered to the separated twinax cables. The chart below is a differential TDR showing the impedance in the transition region.



Patent # 6,794,578



TDR Traces



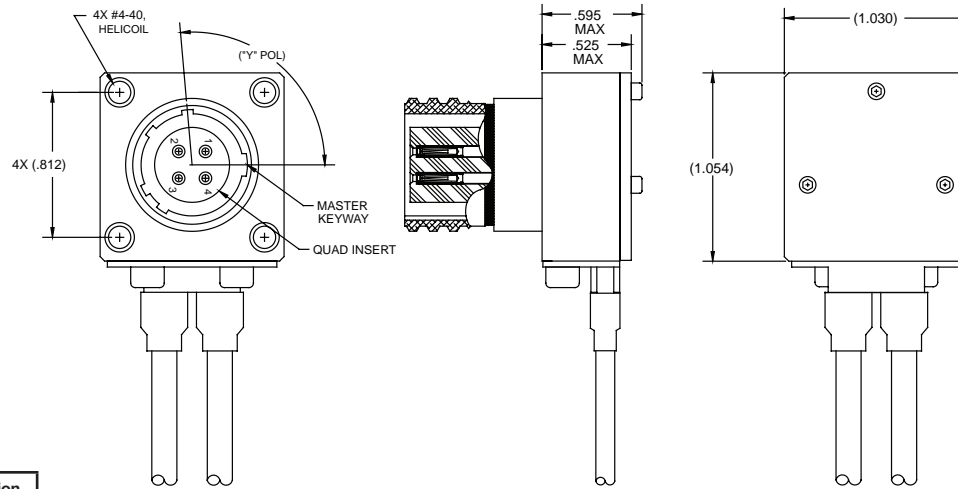
Circuit Boards



# Quadsplitter Connectors

## MIL-DTL-38999 Series III 150 Ohm Quad Twinax Assemblies

### Size 11 Quad Receptacle to 2 Socket Insert Right Angle Twinax Cables to Open Lead



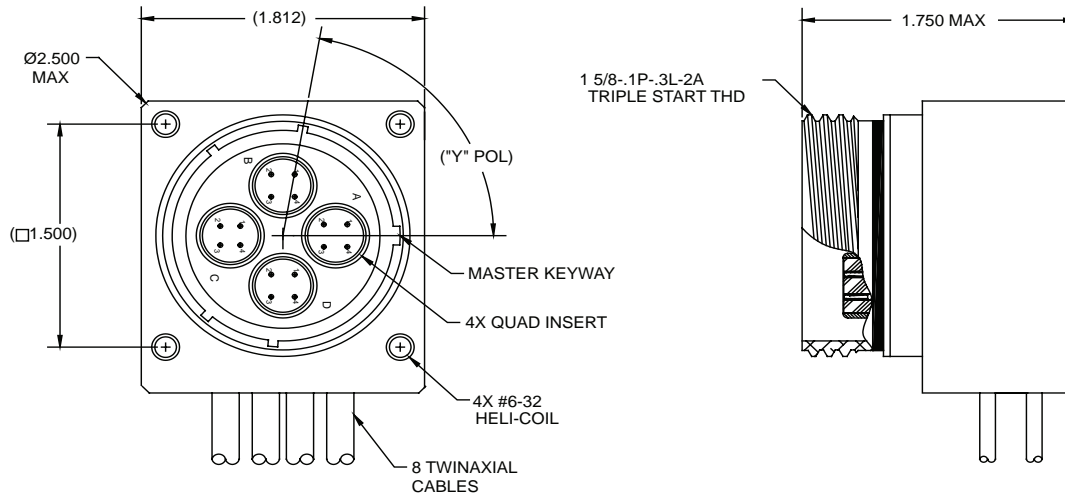
Y	Polarization
1	N
2	A
3	B
4	C
5	D
6	E

Part Number	Cable Type	Cable
02990Y-0100	Differential Twinax	540-1099-000

Y = Connector Polarization

Please specify cable length when ordering

### Size 25 Four Way Quad Pin Insert Receptacle to 8 Right Angle Twinax Cables to Open Lead



Y	Polarization
1	N
2	A
3	B
4	C
5	D
6	E

Part Number	Cable Type	Cable
01370Y-3000	Differential Twinax	540-1099-000

Y = Connector Polarization

Please specify cable length when ordering

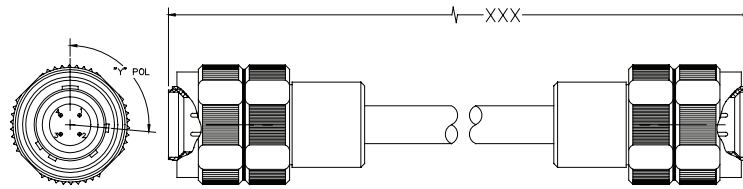


# MIL-DTL-38999 Quadrax Connectors

## MIL-DTL-38999/III Quad Insert Plug 150 Ohm

### MIL-DTL-38999 Size 11 Pin Insert Quad Plug to Plug Cable Assembly

Y	Polarization
1	N
2	A
3	B
4	C
5	D
6	E

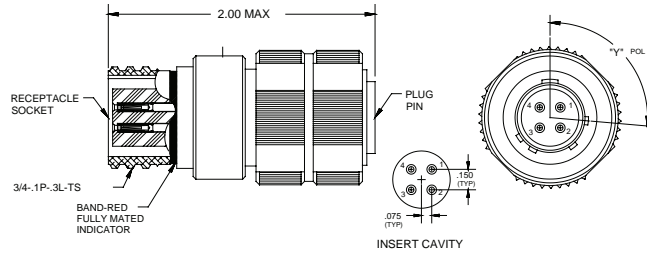


Y = Connector Polarization  
XXX = Cable Length in Inches

Part Number	Cable Type	Cable
02990Y-2XXX	Differential Quad	540-1138-000
02990Y-3XXX	Differential Quad	540-1143-000

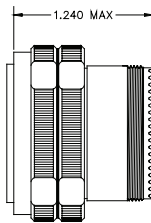
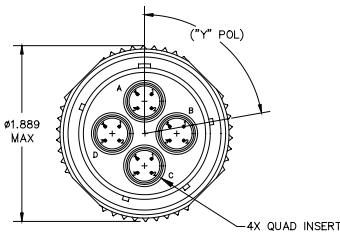
### MIL-DTL-38999 Size 11-4 Connector Saver Quad Configuration

Part Number	Polarization
013500-4100	N
013500-4101	A
013500-4102	B
013500-4103	C
013500-4104	D
013500-4105	E



### MIL-DTL-38999 Size 25 Four Way Socket Insert Quad Plug

Y	Polarization
1	N
2	A
3	B
4	C
5	D
6	E



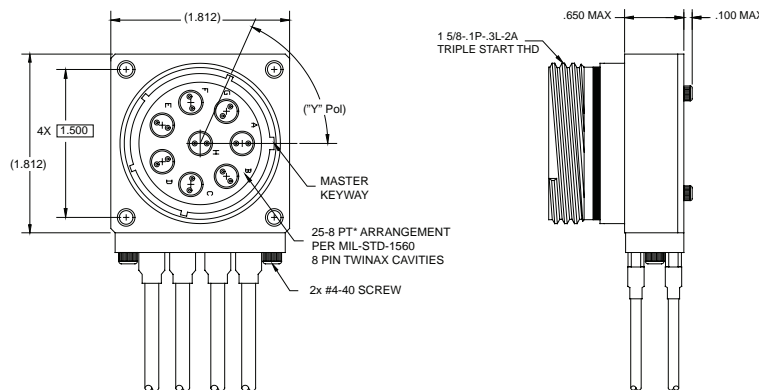
Part Number	Cable Type	Cable
01340Y-2000	Differential Quad	540-1138-000
01340Y-2001	Differential Quad	540-1143-000

Y = Connector Polarization

Please specify cable length when ordering

### Box Mount Receptacle Pin Insert 25-8 PT\* to 8 R/A Twinax Cables to Open Lead

Y	Polarization
1	N
2	A
3	B
4	C
5	D
6	E



Part Number	Cable Type	Cable
02370Y-1XXX	Differential Twinax	540-1099-000

Y = Connector Polarization  
XXX = Cable Length in Inches

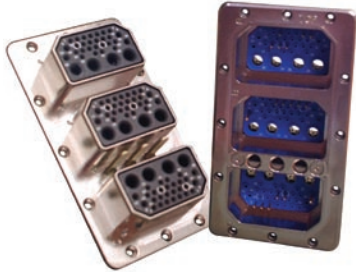
\* Connector Receptacle is supplied fully loaded with twinax pin contacts terminated to differential pair twinax cable to open lead (all cavities included).

Please specify cable length when ordering



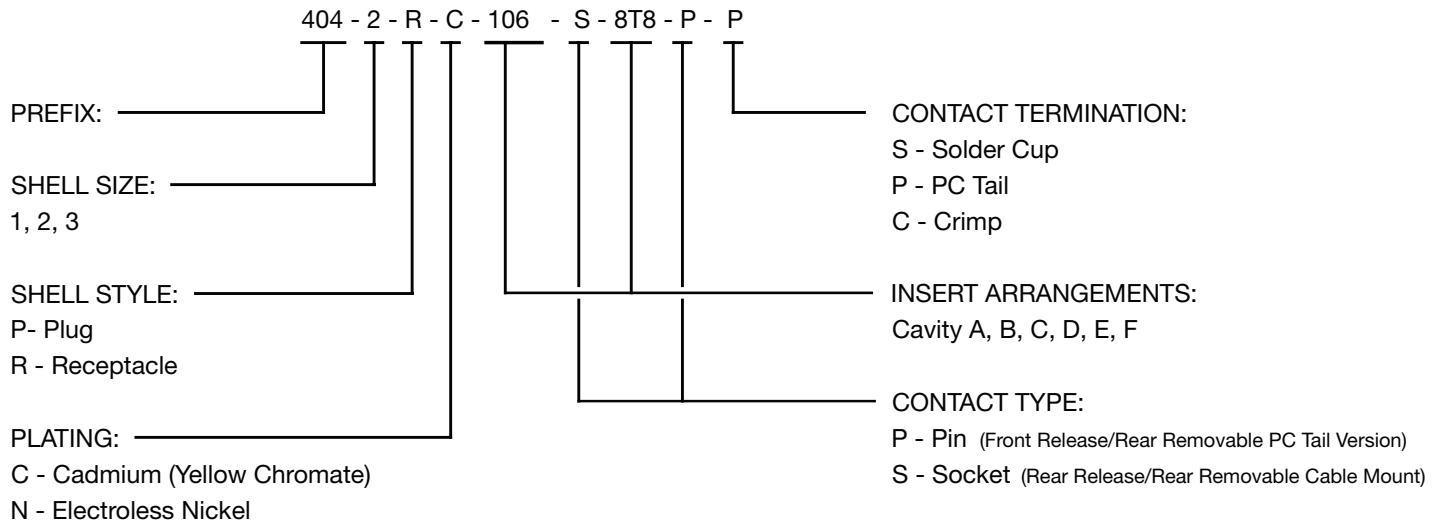
# ARINC 404 Series Connectors

## MIL-C-81659 Anti-Rotational Twinax Insert Arrangements

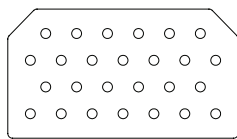


Sabritec's ARINC 404 connector series is available with high speed Fibre Channel and/or Ethernet Twinax and Quadrax contacts. These connectors come standard with anti-rotational keyed insert assemblies and high speed differential pair signaling. Designed for 1394 Firewire, Gigabit Ethernet, 100 Base-T Ethernet, high speed video Hot-Link, and Fibre Channel data links. Quadrax high speed Ethernet and matched impedance 150 Ohm differential pair insert assemblies are also available.

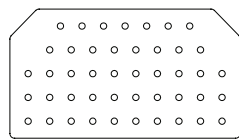
### ARINC 404 Part Number Description Code



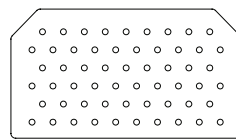
### ARINC 404 Insert Arrangements



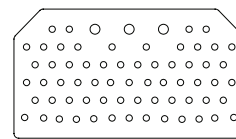
26 #16 CONTACTS  
Insert Arrangement: 26



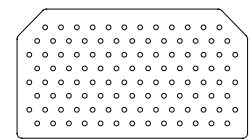
45 #20 CONTACTS  
Insert Arrangement: 45



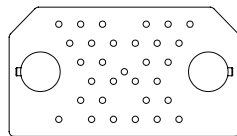
57 #20 CONTACTS  
Insert Arrangement: 57



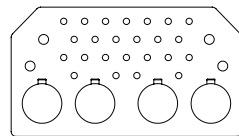
64 #20, 3 #16 CONTACTS  
Insert Arrangement: 67



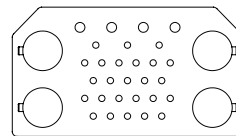
106 #22 CONTACTS  
Insert Arrangement: 106



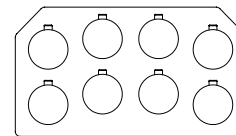
30 #20  
2 #5 TWINAX/QUADRAX  
Insert Arrangement: 32T2



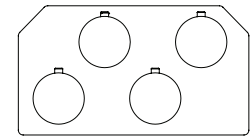
24 #20, 4 #16,  
4 #5 TWINAX/QUADRAX  
Insert Arrangement: 32T4



25 #20, 4 #16,  
4 #5 TWINAX/QUADRAX  
Insert Arrangement: 33T4



8 #5 TWINAX/QUADRAX  
Insert Arrangement: 8T8



4 #1 QUAD CONTACT  
Insert Arrangement: 4Q1  
(For ARINC Size 1 Quadrax contact only)

#### Notes:

Size 5 Twinax and Quadrax Contact Cavities are anti-rotational  
Size 1 Quadrax Contact Cavities are anti-rotational

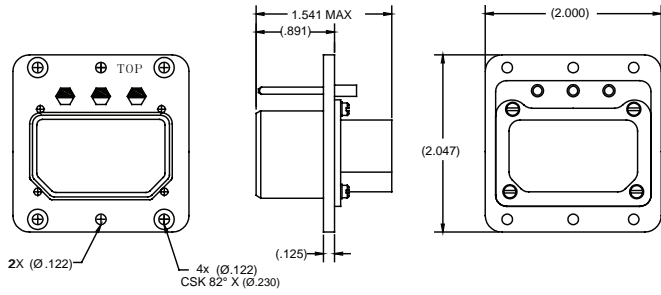
Sabritec provides specialty, enhanced performance connectors and cable assemblies and as such does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Sabritec's connectors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



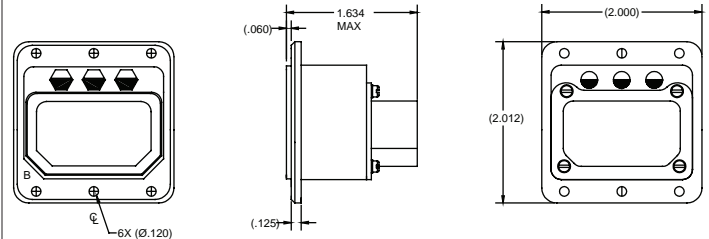
# ARINC 404 Series Connectors

## MIL-C-81659 Shell Size 1-4

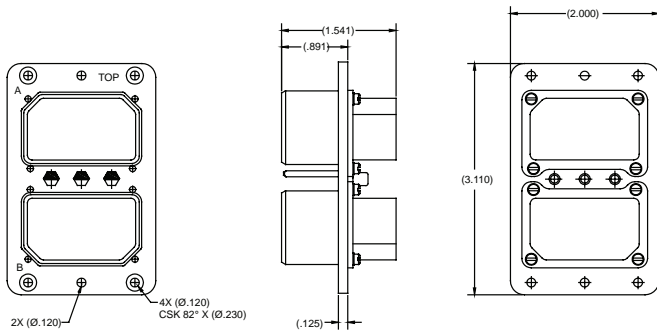
### Shell Size 1 Plug



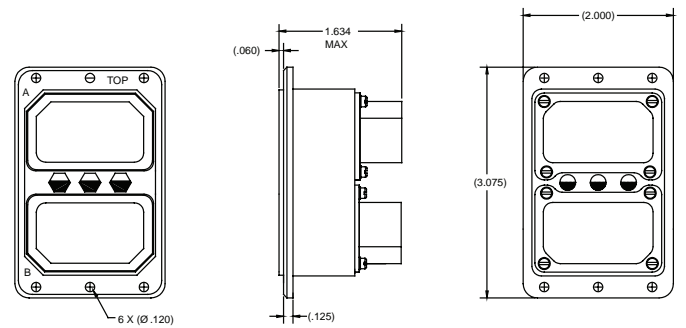
### Shell Size 1 Receptacle



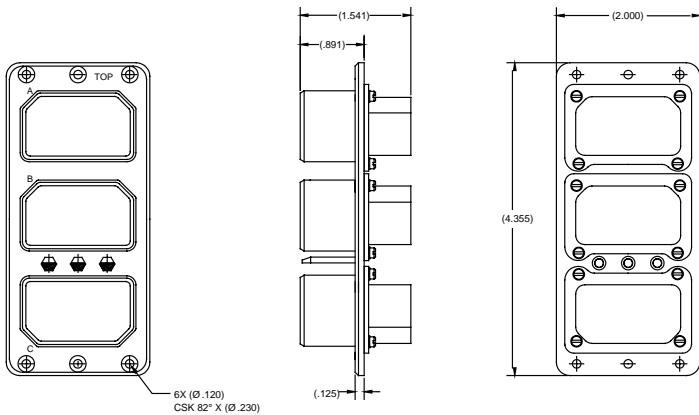
### Shell Size 2 Plug



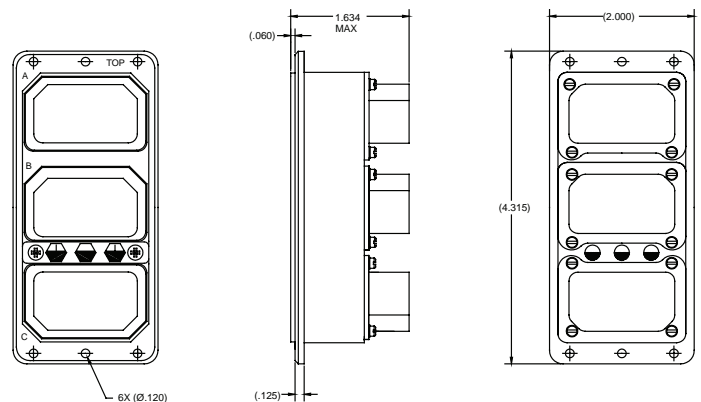
### Shell Size 2 Receptacle



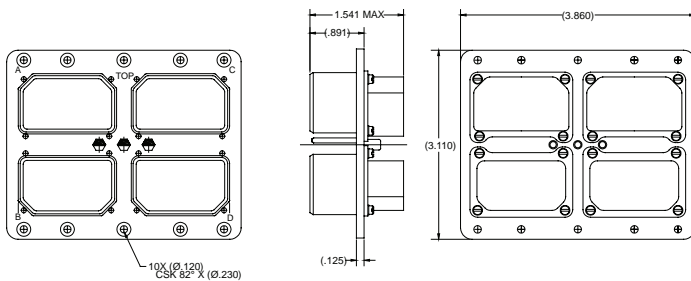
### Shell Size 3 Plug



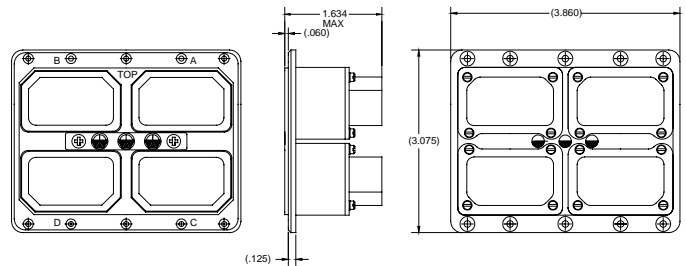
### Shell Size 3 Receptacle



### Shell Size 4 Plug



### Shell Size 4 Receptacle

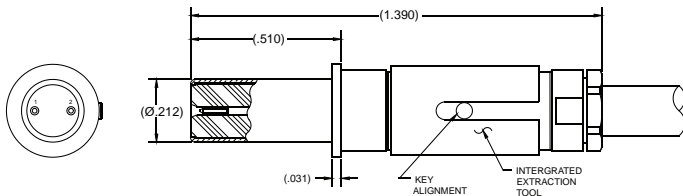




# ARINC 404 Series Contacts

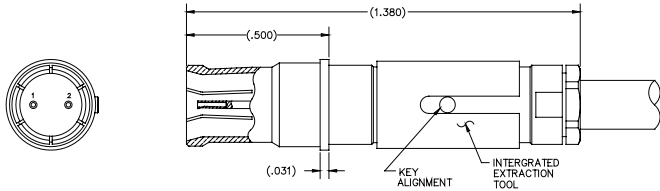
## Twinax and Quadrax Contacts

### ARINC 404 Size 5 Twinax Pin Contact 100 and 150 Ohm



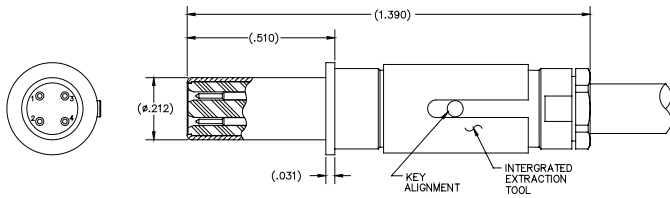
Part Number	Ohms	Cable Type	Cable
019434-8000	150	Differential Twinax	540-1099-000
019434-8001	150	Differential Twinax	540-1114-000
019434-8003	100	Flexible Twinax	540-1086-000
019434-8004	100	Differential Twinax	540-1153-000
019434-8005	100	Flexible Twinax	540-1161-000

### ARINC 404 Size 5 Twinax Socket Contact 100 and 150 Ohm



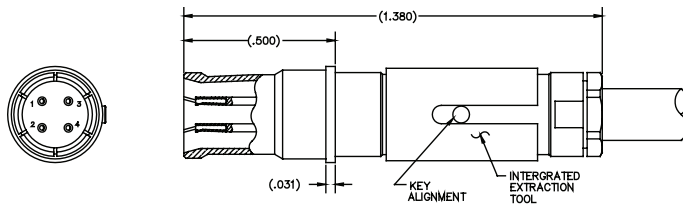
Part Number	Ohms	Cable Type	Cable
019334-8000	150	Differential Twinax	540-1099-000
019334-8001	150	Differential Twinax	540-1114-000
019334-8003	100	Flexible Twinax	540-1086-000
019334-8004	100	Differential Twinax	540-1153-000
019334-8005	100	Flexible Twinax	540-1161-000

### ARINC 404 Size 5 Quadrax Pin Contact 100 Ohm



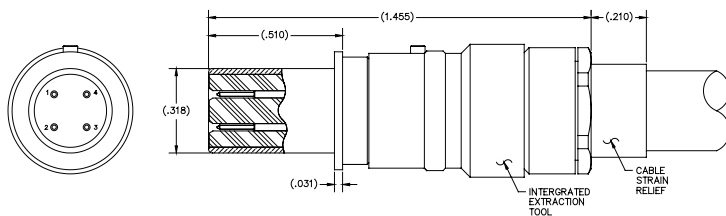
Part Number	Cable Type	Cable
019435-8002	Differential Quad	540-1183-000

### ARINC 404 Size 5 Quadrax Socket Contact 100 Ohm



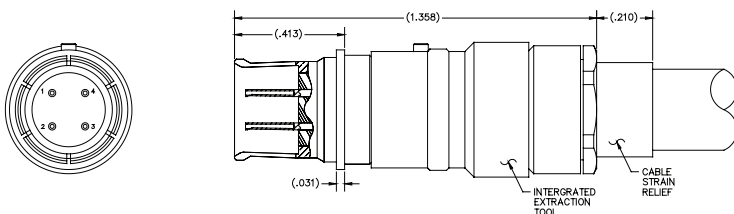
Part Number	Cable Type	Cable
019335-8001	Differential Quad	540-1183-000

### ARINC 404 Size 1 Quadrax Pin Contact 150 Ohm



Part Number	Cable Type	Cable
012735-0000	Differential Quad	540-1138-000

### ARINC 404 Size 1 Quadrax Socket Contact 150 Ohm



Part Number	Cable Type	Cable
012835-0000	Differential Quad	540-1138-000



# ARINC 600 Connectors

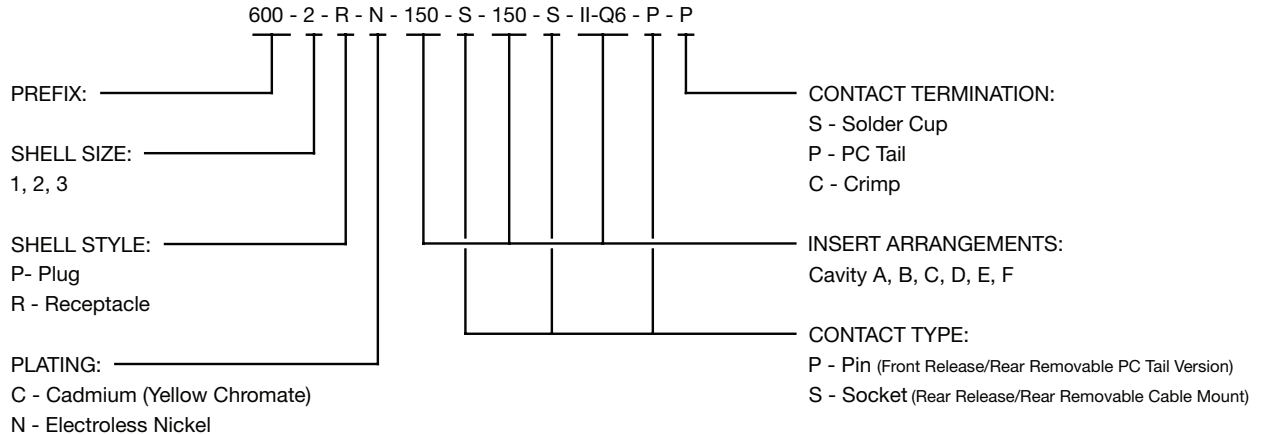
## Part Number Description Code and Insert Arrangements



Sabritec's ARINC 600 connector series are 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.

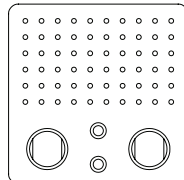
The ARINC 600 Series can also be routed with ruggedized expanded beam fiber optic contacts or concentric triaxial contacts designed for numerous low-loss twinaxial and concentric triax cables in a variety of impedance values.

### ARINC 600 Part Number Description Code

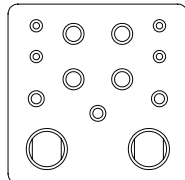


### ARINC 600 Insert Arrangements

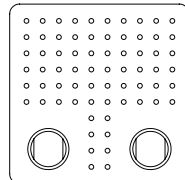
#### ARINC 600 Front Release/Front Removable Insert Layouts



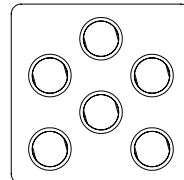
II - 62Q2  
60 SIZE 22  
2 SIZE 16  
2 SIZE 8



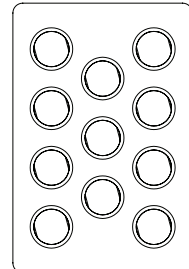
II - 11Q2  
4 SIZE 20  
3 SIZE 16  
4 SIZE 12  
2 SIZE 8



II - 68Q2  
68 SIZE 22  
2 SIZE 8

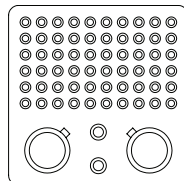


II - Q6  
6 SIZE 8  
METALLIC INSERT

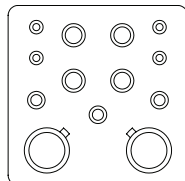


I - Q11  
11 SIZE 8  
METALLIC INSERT

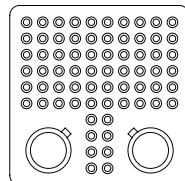
#### ARINC 600 Rear Release/Rear Removable Insert Layouts



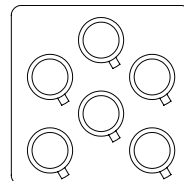
II - 62Q2  
60 SIZE 22  
2 SIZE 16  
2 SIZE 8



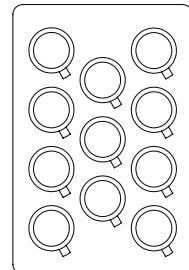
II - 11Q2  
4 SIZE 20  
3 SIZE 16  
4 SIZE 12  
2 SIZE 8



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 Quadrax Contacts use removal tool M81969/14-06

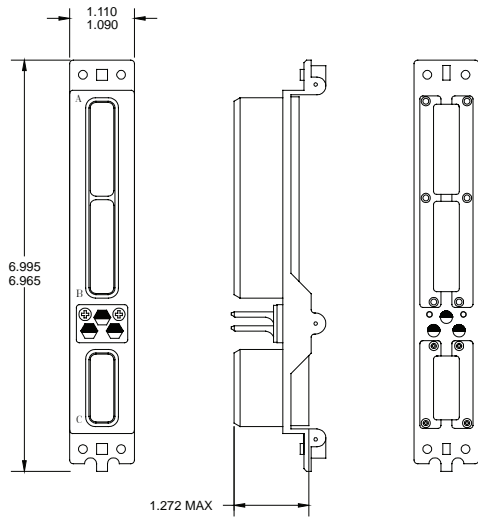
Sabritec provides specialty, enhanced performance connectors and cable assemblies and as such does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Sabritec's connectors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



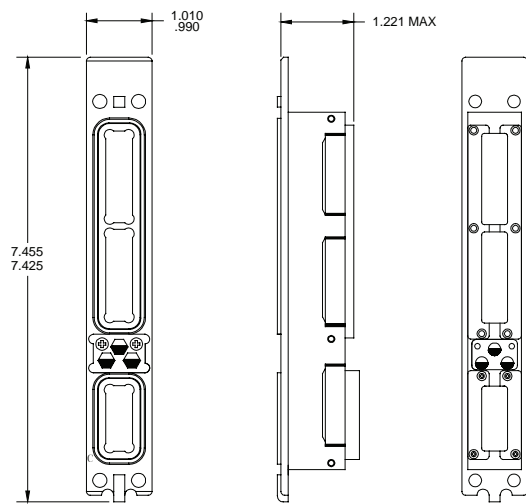
# ARINC 600 Shell Housing

## Shell Sizes 1 - 3

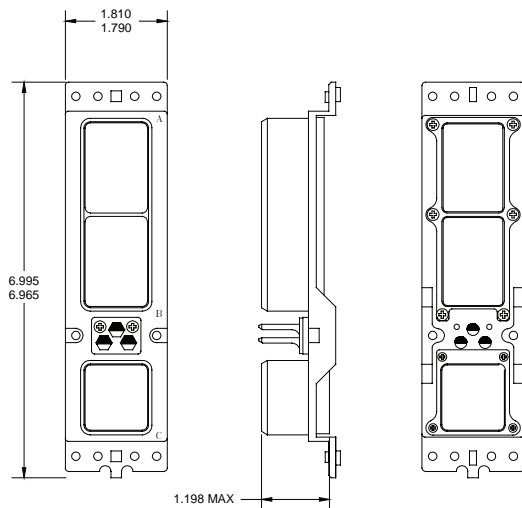
### ARINC 600 Shell Size 1 Plug



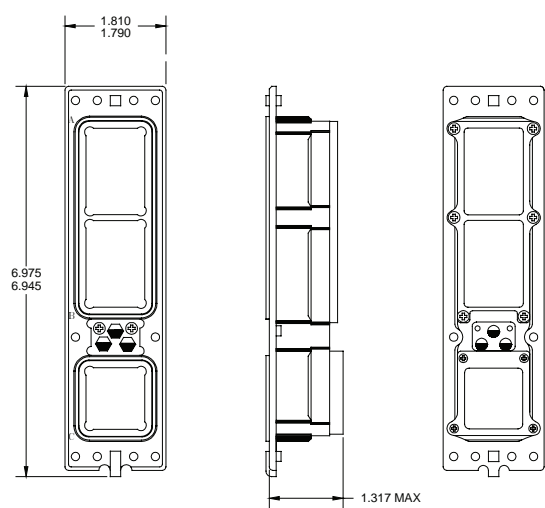
### ARINC 600 Shell Size 1 Receptacle



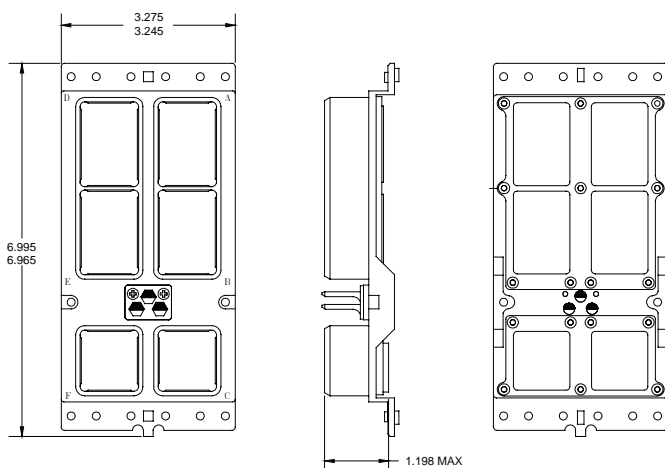
### ARINC 600 Shell Size 2 Plug



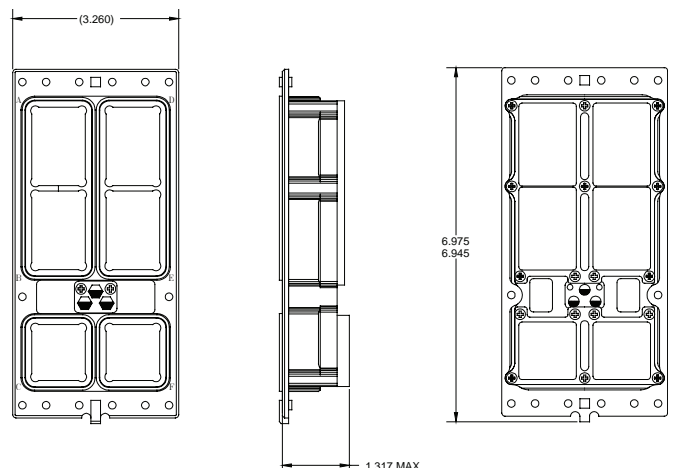
### ARINC 600 Shell Size 2 Receptacle



### ARINC 600 Shell Size 3 Plug



### ARINC 600 Shell Size 3 Receptacle



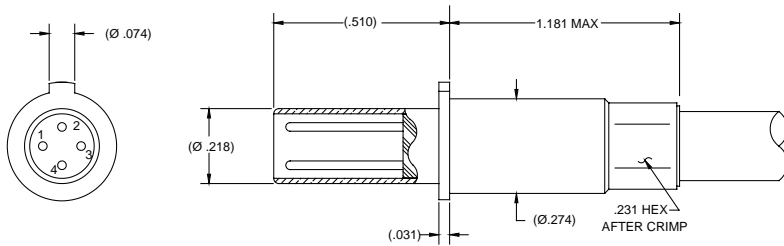




# ARINC 600 Quadrax and Twinax Contacts

## Size 8 Quadrax and Twinax 100 Ohm Contacts for ARINC 600

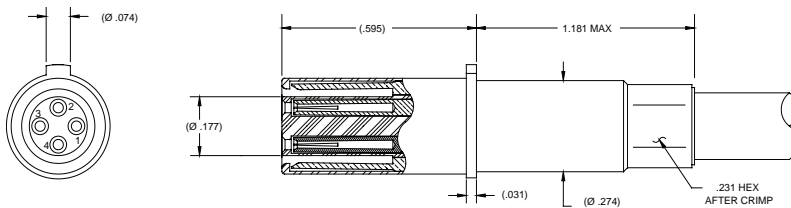
### Size 8 Pin Quadrax Contact 100 Ohm



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

Rear Release/Rear Removable

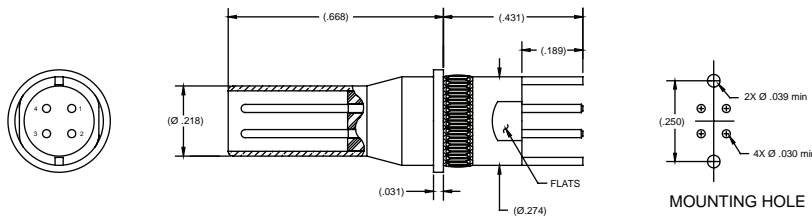
### Size 8 Socket Quadrax Contact 100 Ohm



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

Rear Release/Rear Removable

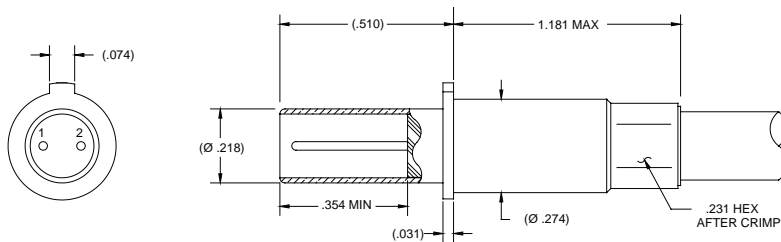
### Size 8 Pin Quadrax Contact PCB Mount 100 Ohm



**P/N 019617-2107**

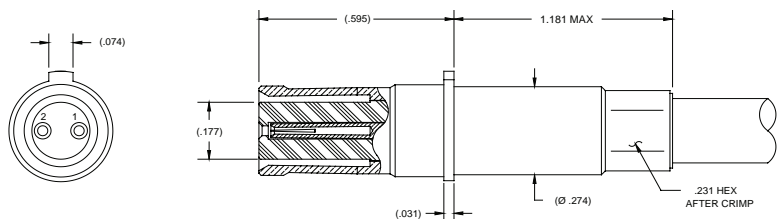
Front Release/Rear Removable

### 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

### Size 8 Twinax Socket Contact 100 Ohm

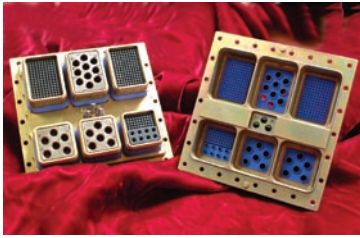


Part Number	Cable Type	Cable
019534-8025	Differential Twinax	540-1167-000
019534-8026	Flexible Twinax	540-1161-000
019534-8027	Differential Twinax	540-1086-000



# MIL-DTL-83527 Series Connectors

## Part Number Assignment and Backshells



Sabritec'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.

Sabritec'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:

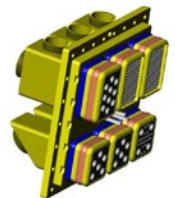
- Isolated cavities available for tempest applications
- EMI/RFI environmentally sealed backshells
- Single or Multiport exit termination points with standard MIL-DTL-38999 backshells.

### Backshells

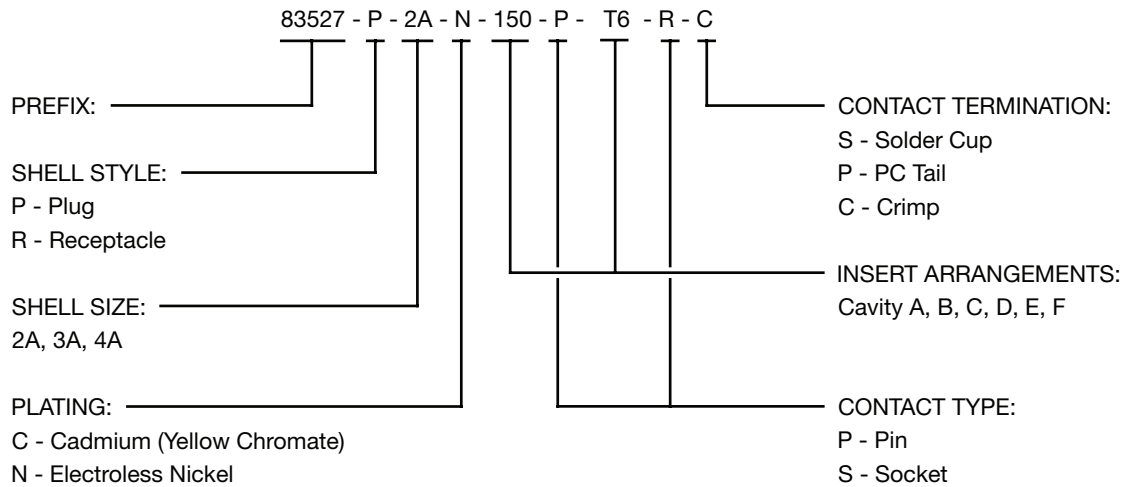
Sabritec's rugged EMI/RFI environmental backshells for MIL-DTL-83527 and ARINC 600 connectors offer many innovative features including accessory threads, optional cable entry locations as well as single or multi-cavity ports.

### Features:

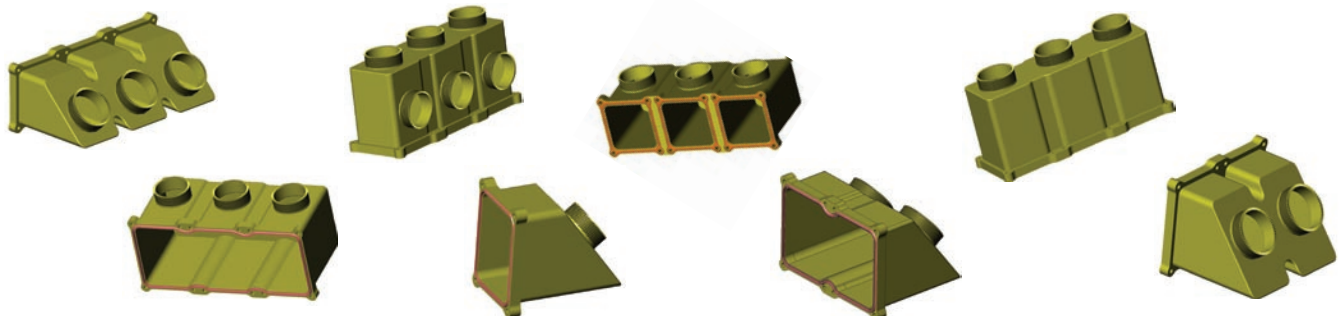
- EMI/RFI Environmentally sealed backshells
- Moisture, splash and dust proof
- Resilient gasket sealing from the rear of the connector shell to the backshell junction



## MIL-DTL-83527 Part Number Description Code



## Sample Backshells

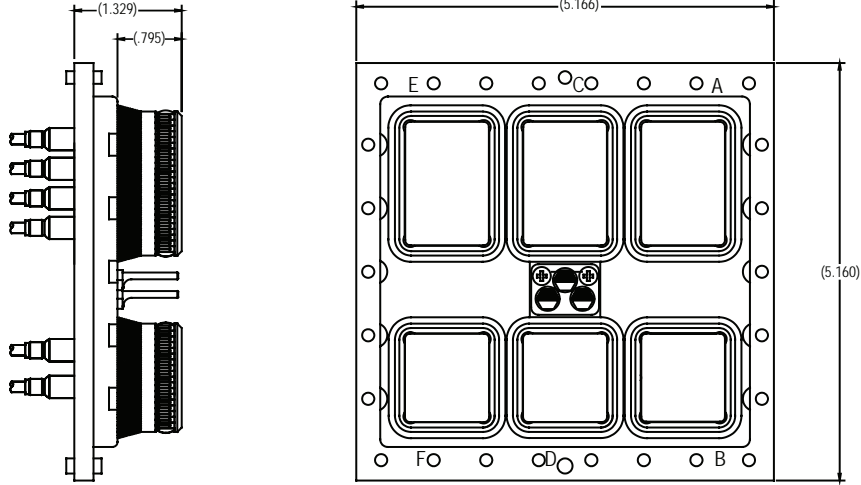




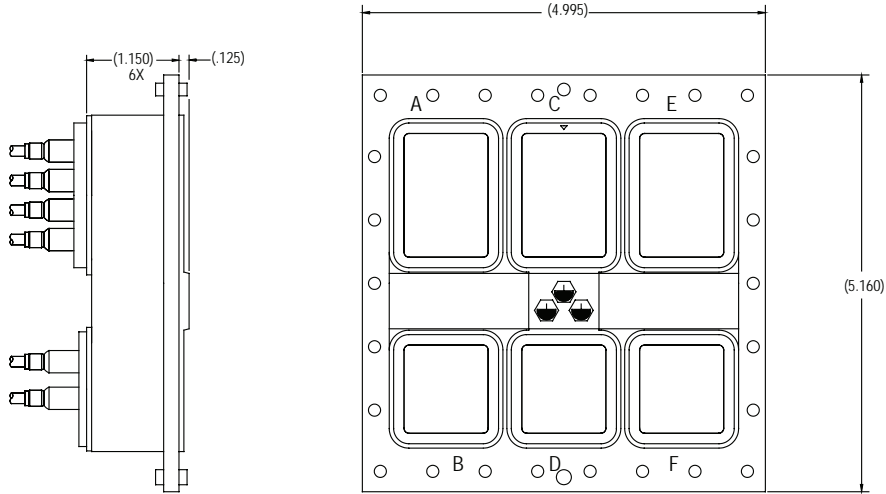
# MIL-DTL-83527 Connectors

## Shell Size 4A Plug and Receptacle and Insert Arrangements

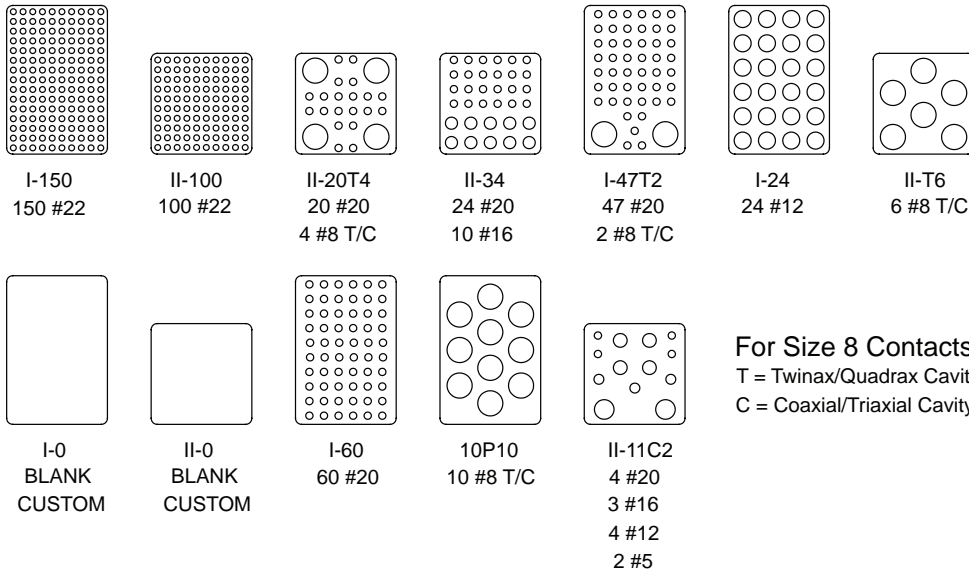
### MIL-DTL-83527 Shell Size 4A Plug



### MIL-DTL-83527 Shell Size 4A Receptacle



### MIL-DTL-83527 Insert Arrangements



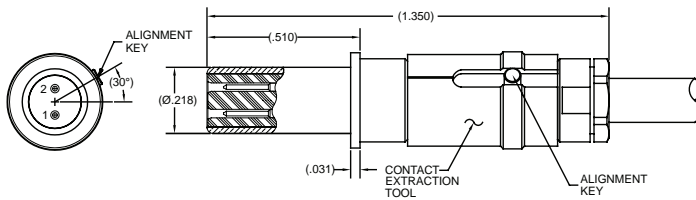
Sabritec provides specialty, enhanced performance connectors and cable assemblies and as such does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Sabritec's connectors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



# MIL-DTL-83527 Quadrax/Twinax Contacts

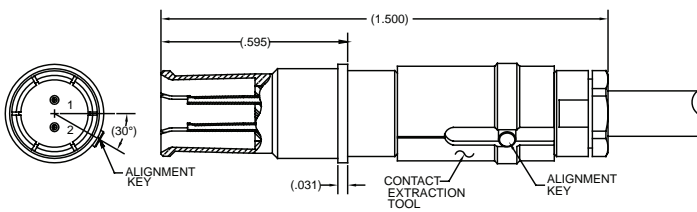
## Size 8 Quadrax & Twinax 100 & 150 Ohm Contacts

### Size 8 Twinax Pin Contact 100 and 150 Ohm



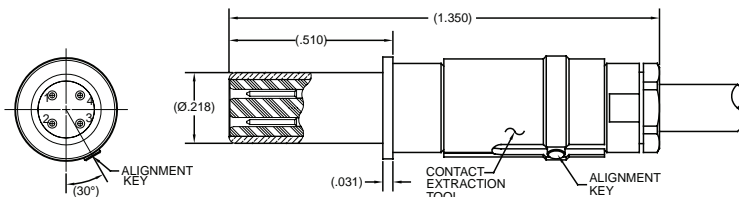
Part Number	Ohms	Cable Type	Cable
019634-0005	150	Differential Twinax	540-1099-000
019634-0006	150	Differential Twinax	540-1114-000
019634-0007	100	Differential Twinax	540-1086-000
019634-0008	100	Differential Twinax	540-1153-000
019634-0009	100	Flexible Twinax	540-1161-000

### Size 8 Twinax Socket Contact 100 and 150 Ohm



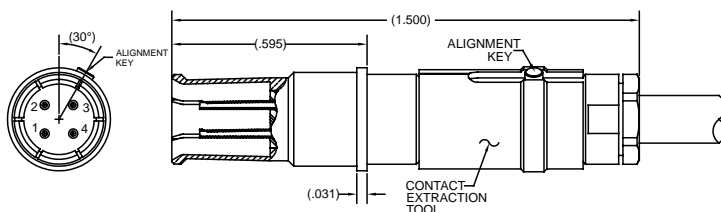
Part Number	Ohms	Cable Type	Cable
019534-0005	150	Differential Twinax	540-1099-000
019534-0006	150	Differential Twinax	540-1114-000
019534-0007	100	Differential Twinax	540-1086-000
019534-0008	100	Differential Twinax	540-1153-000
019534-0009	100	Flexible Twinax	540-1161-000

### 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

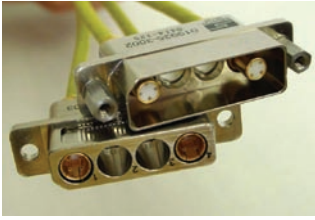


Part Number	Cable Type	Cable
019535-0000	Differential Quad	540-1183-000



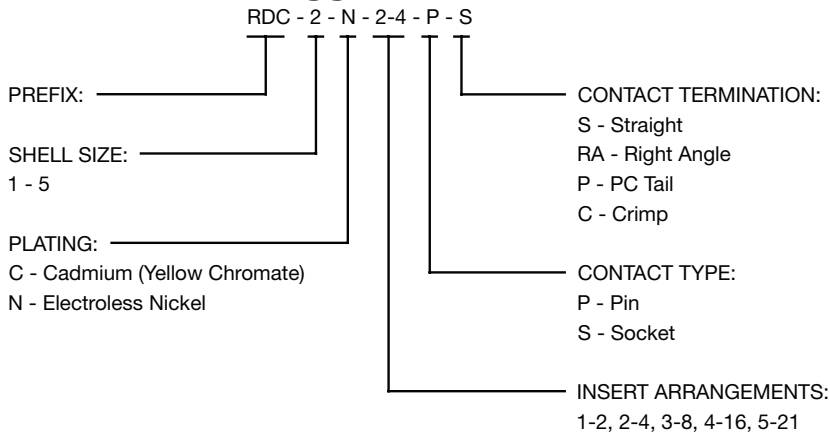
# Rugged D-Subminiature Connectors

## Rugged D-Sub Part Description and Insert Arrangements

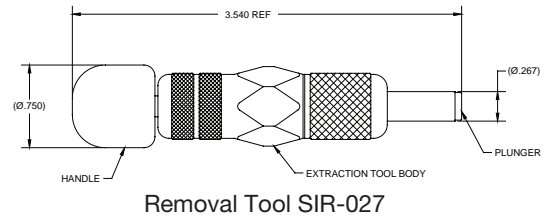


High impedance D-Sub connectors are designed to ground the outer shield of a twinax or quadrx contact directly to the shell of the connector. A multi-finger ground spring, fixed around the shell provides a multi-point contact engagement for superior EMI shielding. The result is an extremely low contact resistance when measured from the contact outer body to the connector flange. These connectors provide low RF noise and high durability of up to 1,000 mating cycles. Sabritec connectors meet or exceed all requirements of MIL-STD-202 for shock and vibration. Offered with 100 ohm quadrx and/or 100/150 ohm differential pair twinax contacts.

### Rugged D-Sub Part Number Description Code

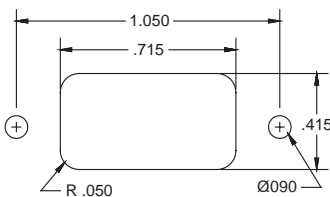
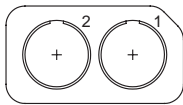


\* Removable Quad/Twinax Contacts Require Removal Tool SIR-027 (ordered separately)

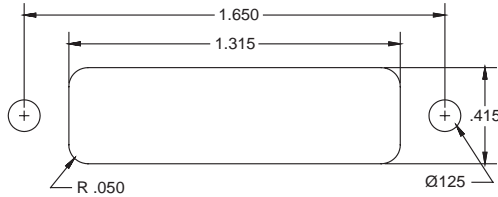
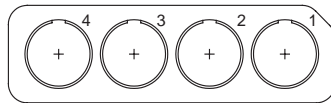


### Rugged D-Sub Connector Shells & Insert Arrangements

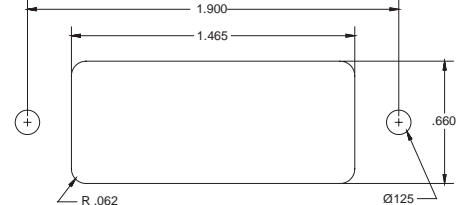
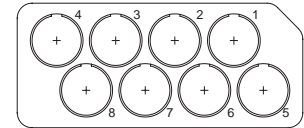
Shell Size 1  
Arrangement 1-2  
2 # 9 Quad/Twinax Contacts



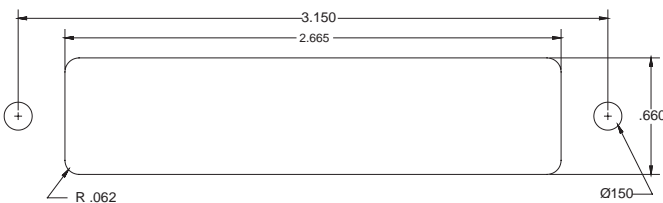
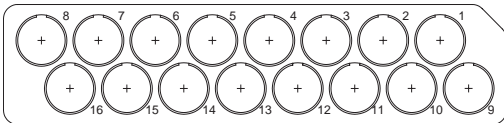
Shell Size 2  
Arrangement 2-4  
4 # 9 Quad/Twinax Contacts



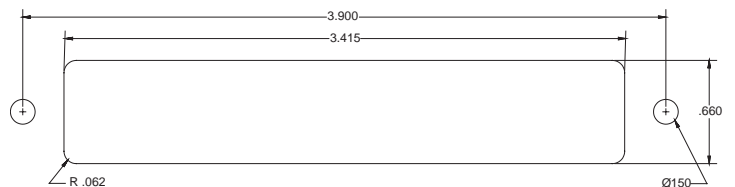
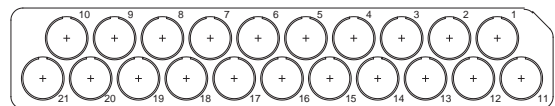
Shell Size 3  
Arrangement 3-8  
8 # 9 Quad/Twinax Contacts



Shell Size 4  
Arrangement 4-16  
16 # 9 Quad/Twinax Contacts



Shell Size 5  
Arrangement 5-21  
21 # 9 Quad/Twinax Contacts



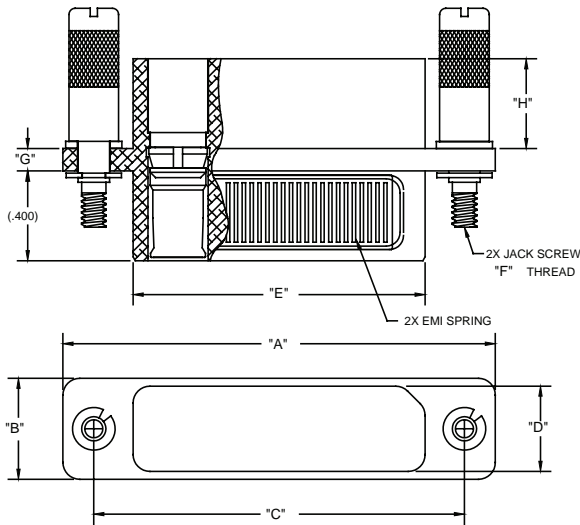
Please consult factory for environmentally sealed and backshell connectors.



# Rugged D-Subminiature Connectors

## Quadrax and Twinax Panel Mount D-Subminiature Connectors

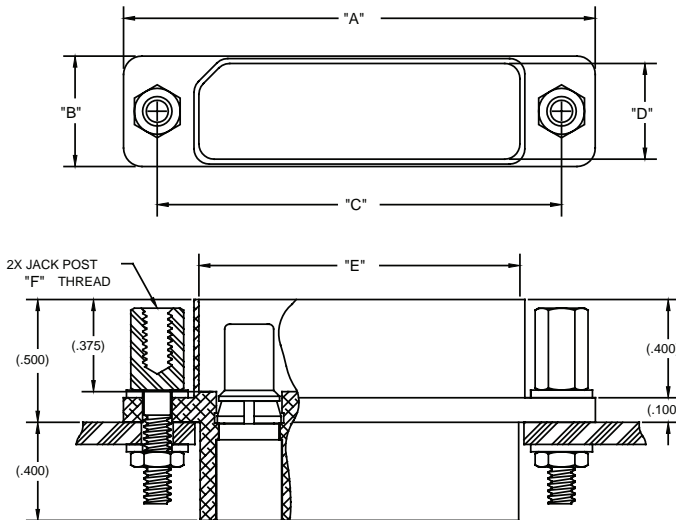
### Quad/Twinax D-Sub Plug



Part Number	Contacts	A	B	C	D	E	F	G	H
012700-2002	2	1.325	.450	1.050	.380	.700	#2-56	.100	.400
012700-2003	4	1.925	.450	1.650	.380	1.300	#4-40	.100	.400
012700-2004	8	2.300	.750	1.900	.625	1.450	#4-40	.100	.400
012700-2005	16	3.600	.750	3.150	.625	2.650	#6-32	.150	.350
012700-2006	21	4.350	.750	3.900	.625	3.400	#6-32	.150	.350

Contacts are sold separately

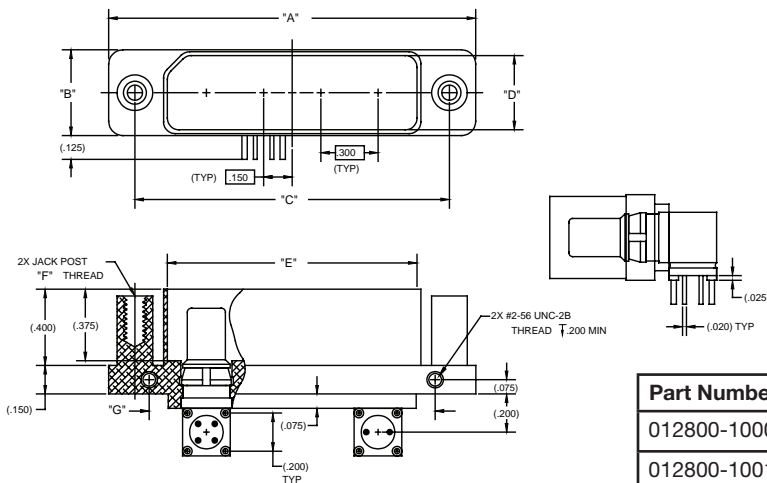
### Quad/Twinax D-Sub Receptacle Cable Mount



Part Number	Contacts	A	B	C	D	E	F
012800-3002	2	1.325	.450	1.050	.390	.710	#2-56
012800-3003	4	1.925	.450	1.650	.390	1.310	#4-40
012800-3004	8	2.300	.750	1.900	.635	1.460	#4-40
012800-3005	16	3.600	.750	3.150	.635	2.660	#6-32
012800-3006	21	4.350	.750	3.900	.635	3.410	#6-32

Contacts are sold separately

### Quad/Twinax D-Sub PC Tail Mount



Part Number	Contacts	A	B	C	D	E	F	G
012800-1000	2	1.325	.450	1.050	.390	.710	#2-56	.900
012800-1001	4	1.925	.450	1.650	.390	1.310	#4-40	1.500

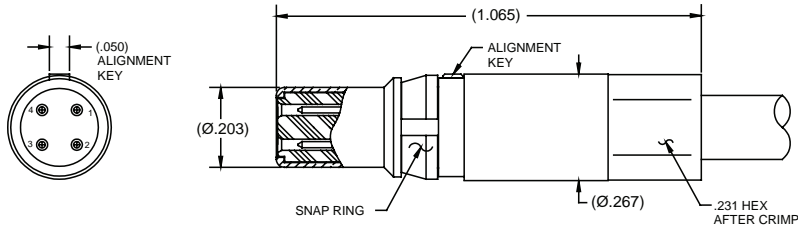
Contacts are sold separately



# Rugged D-Sub Quadrax Contacts

## Size 9 Quadrax Contacts 100 Ohm

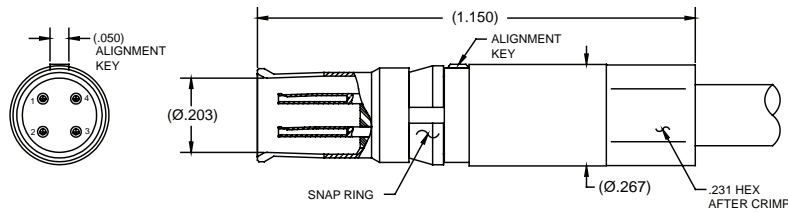
### Size 9 Quadrax Pin Contact 100 Ohm



Part Number	Cable Type	Cable
019235-8000	Differential Quad	540-1183-000

For use in P/N: 012800-3002 thru 3006

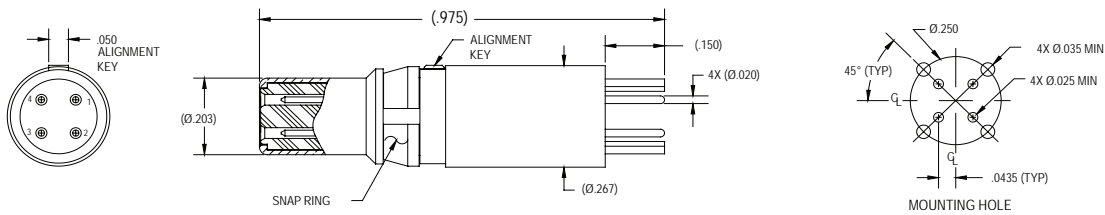
### Size 9 Quadrax Socket Contact 100 Ohm



Part Number	Cable Type	Cable
019135-8000	Differential Quad	540-1183-000

For use in P/N: 012700-2002 thru 2006

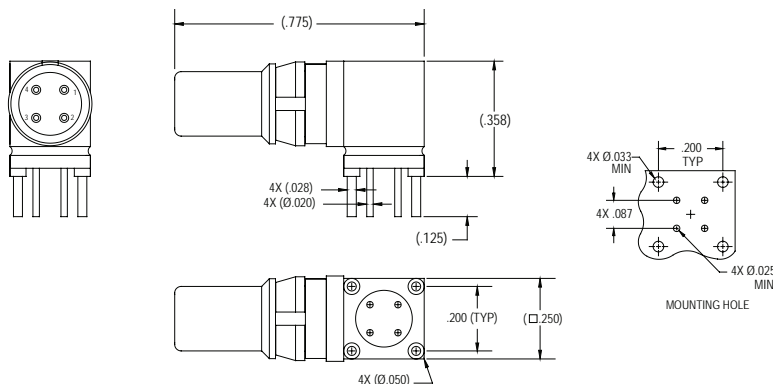
### Size 9 Quadrax Pin Contact PCB Mount 100 Ohm



**P/N: 019217-2006**

For use in P/N: 012800-3002 thru 3006

### Size 9 Right Angle PC Tail Quadrax Contact 100 Ohm



**P/N: 019217-1001**

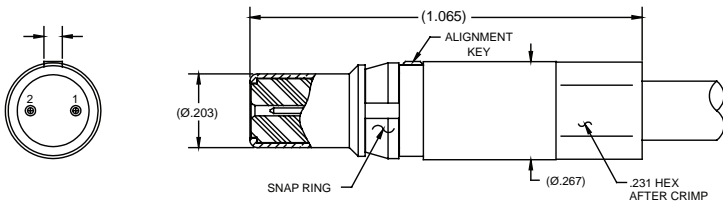
For use in P/N: 012800-1000 thru 1001



# Rugged D-Sub Twinax Contacts

## Size 9 Twinax Contacts 100 Ohm

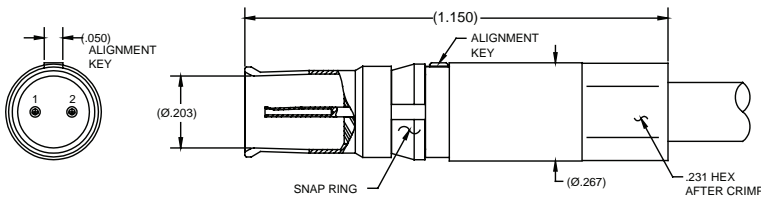
### Size 9 Twinax Pin Contact 100 Ohm



Part Number	Cable Type	Cable
019234-2002	Differential Twinax	540-1167-000
019234-2017	Flexible Twinax	540-1161-000
019234-2018	Flexible Twinax	540-1086-000

For use in P/N: 012800-3002 thru 3006

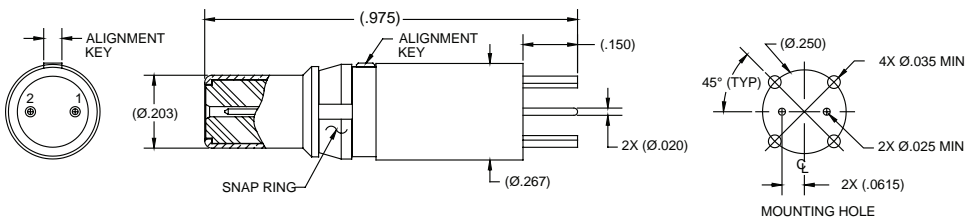
### Size 9 Twinax Socket Contact 100 Ohm



Part Number	Cable Type	Cable
019134-2002	Differential Twinax	540-1167-000
019134-2017	Flexible Twinax	540-1161-000
019134-2018	Flexible Twinax	540-1086-000

For use in P/N: 012700-2002 thru 2006

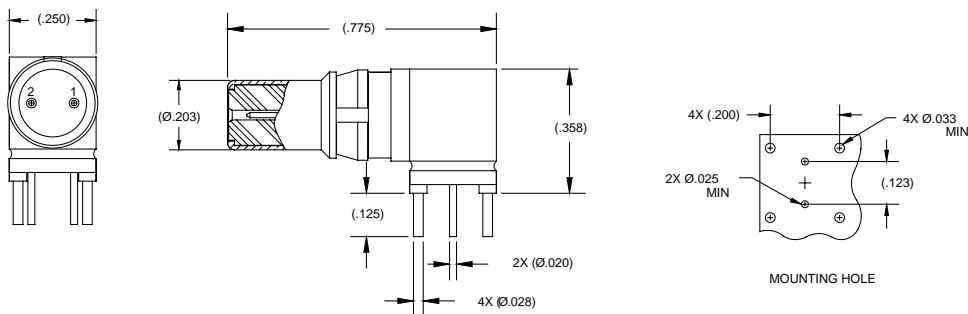
### Size 9 Twinax Pin Contact PCB Mount 100 Ohm



**P/N 019217-0000**

For use in P/N: 012800-3002 thru 3006

### Size 9 Right Angle PC Tail Twinax Contact 100 Ohm



**P/N 019217-1000**

For use in P/N: 012800-1000 thru 1001





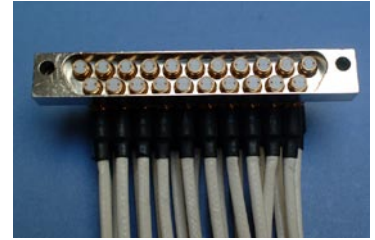
# High Speed Back Plane Connectors

## Twinax 21 Position Connectors 150 Ohm and 100 Ohm

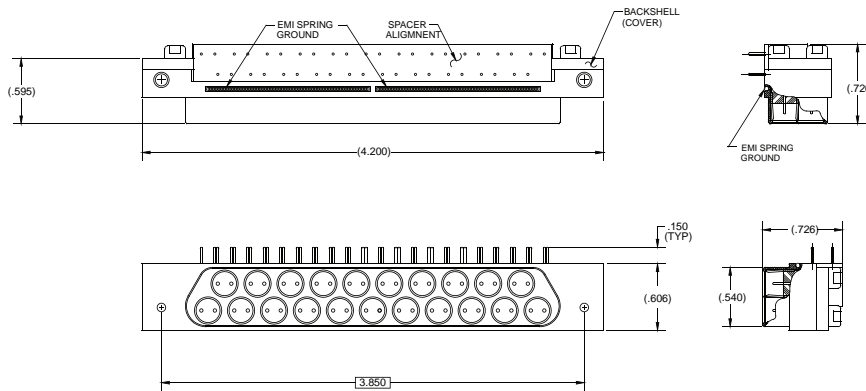
In standard VME cards for low data rate signaling, connectors are widely available to carry non-shielded signaling for the VME bus from the interface via motherboard to daughter card assembly designated as I/O plug-in modules. The industry standard defines these connectors typically as P1 and P3 connectors.

Sabritec has taken the standard housing configuration of the P1 & P3 mounting dimensions while incorporating true differential pair contacts within the P1 & P3 dimensional constraints. Data sampling rates exceeding 2 Gbits/second can be driven via matched impedance differential pair interconnections for board-to-board high speed data transfer as well as blind mate I/O plug in modular applications.

Sabritec's P1 connector housing contains 21 position true differential pair blind mate contacts allowing board designers to carry high density differential pair signals from the LRU via motherboard to daughter-card plug in modules with a single connector P1 type housing. This allows for the use of standard VME bus architecture cages for high speed fibre channel connection.



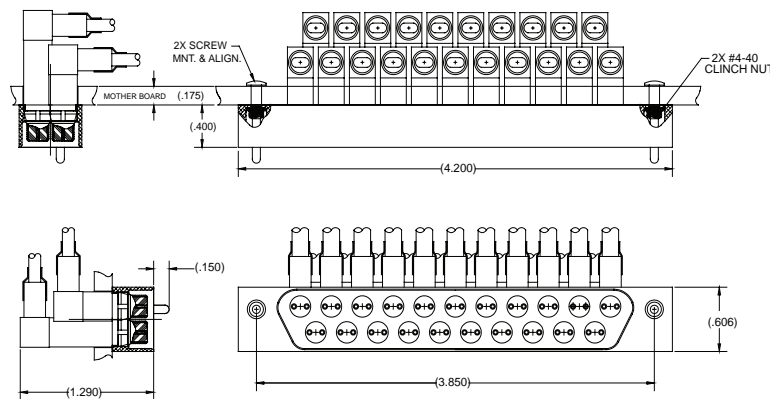
### Right Angle Twinax Receptacle 21 Position (Blind Mate PCB Interconnects) 150 Ohm



**P/N 029917-1015**

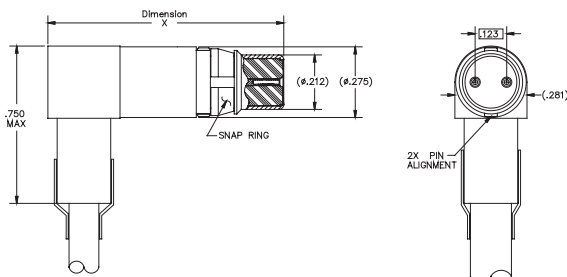
Mates with P/N: 029912-1015

### Right Angle Twinax Plug Housing 21 Position (Blind Mate PCB Interconnects) 150 Ohm



**P/N 029912-1015**

### Size 5 Right Angle Twinax Cable Pin Contact 150 Ohm



Part Number	Cable Type	Cable	Contacts	Dim X
019912-1103	Differential Twinax	540-1099-000	Near Row	0.905
019912-1305	Differential Twinax	540-1114-000	Near Row	0.905
019912-1102	Differential Twinax	540-1099-000	Far Row	1.230
019912-1304	Differential Twinax	540-1114-000	Far Row	1.230

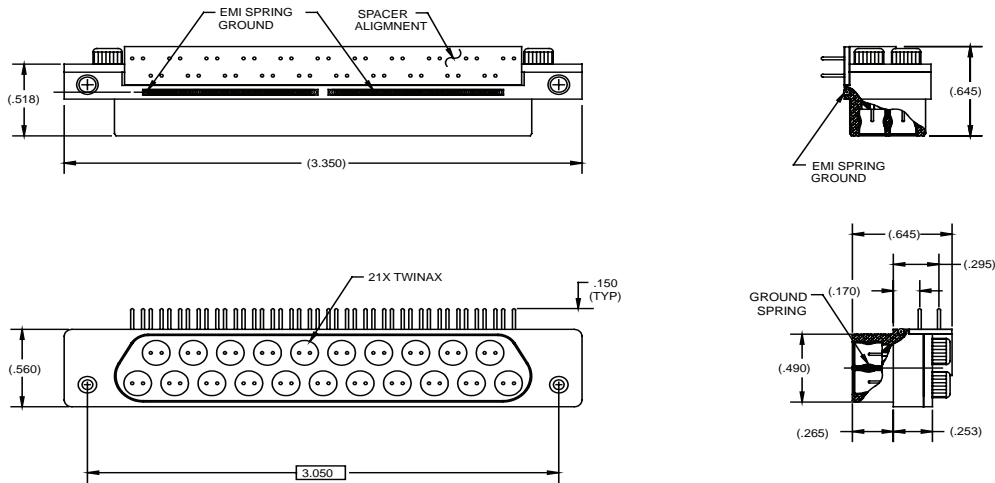
For use in 029912-1015



# High Speed Back Plane Connectors

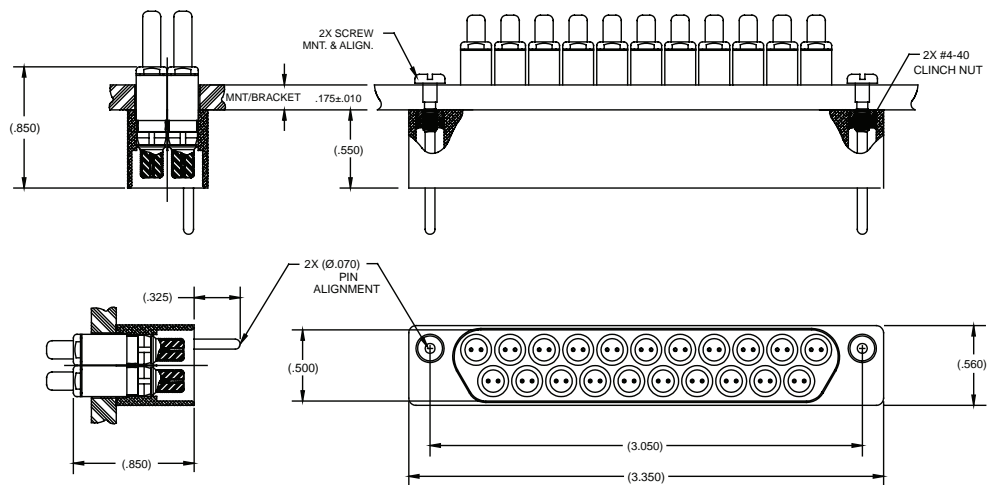
## Twinax 21 Position Connectors 100 Ohm Ethernet

### Right Angle Twinax Receptacle 21 Position (Blind Mate PCB Interconnects) 100 Ohm



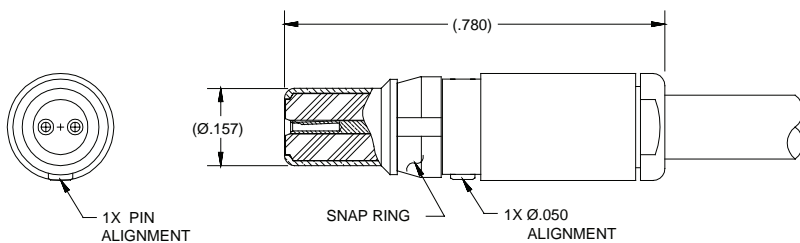
**P/N 010017-1000**

### Straight Twinax Plug Housing 21 Position (Blind Mate PCB Interconnects) 100 Ohm



**P/N 010034-0000**

### Size 10 Twinax Pin Contact 100 Ohm



Part Number	Cable Type	Cable
018834-0000	Differential Twinax	540-1153-000
018834-0001	Flexible Twinax	540-1161-000

For use in 010034-0000

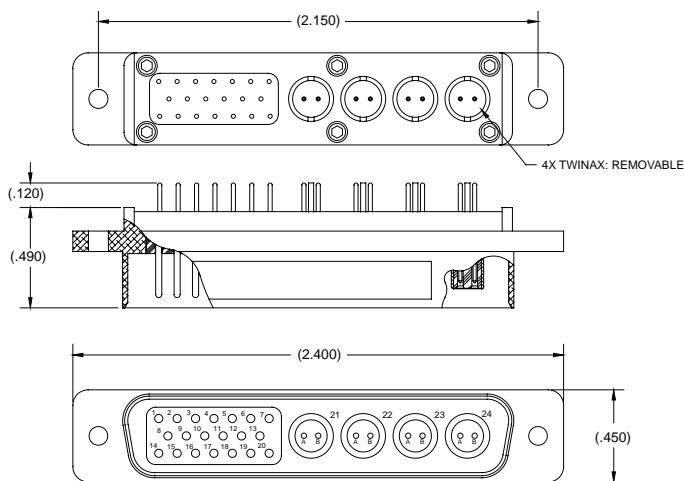
\* Removable Size 10 Twinax Contact uses removal tool SIR-017



# Rugged D-Sub and Firewire Connectors

## Rugged D-Sub/Firewire 1394b Plug and Receptacle

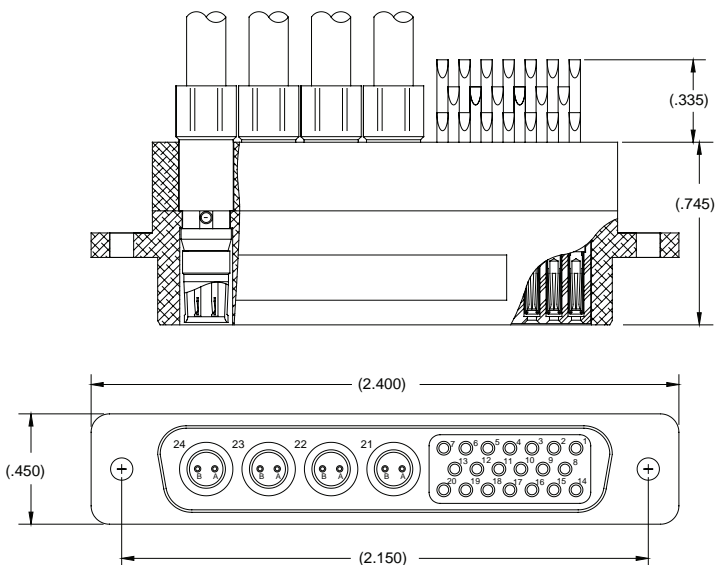
### Rugged D-Sub Twinax/Signal PC Tail Receptacle



**P/N 013317-3030**

4 #10 Twinax Contacts  
20 #22 Signal Contacts

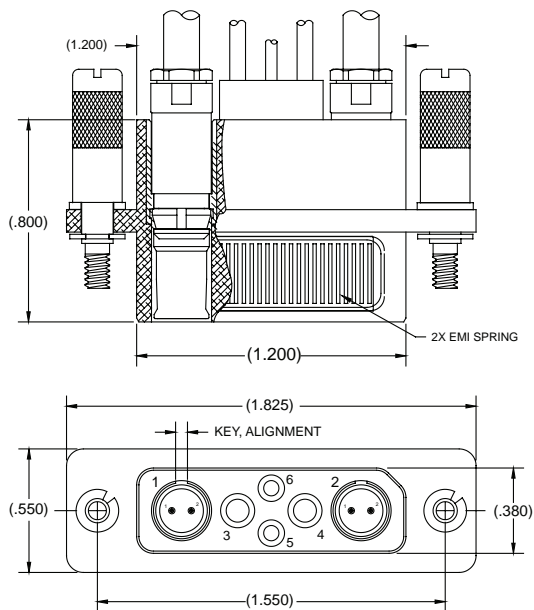
### Rugged D-Sub Twinax/Signal Plug



**P/N 013332-2012**

4 #10 Twinax Contacts  
20 #20 Signal Contacts

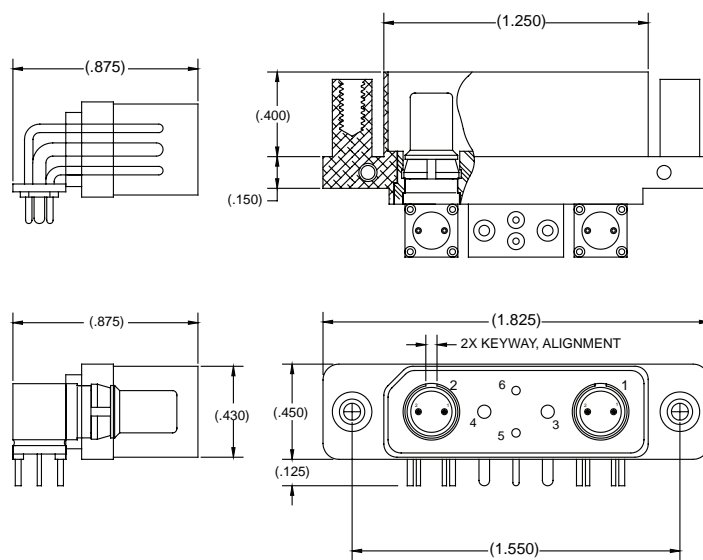
### Firewire 1394b Straight Twinax Plug With Jackposts



**P/N 012700-2007**

2 #9 Twinax Contacts  
2 #16 Power Contacts  
2 #20 Signal Contacts

### Firewire 1394b Right Angle Twinax Receptacle With Jackposts



**P/N 012800-1002**

2 #9 Twinax Contacts  
2 #16 Power Contacts  
2 #20 Signal Contacts

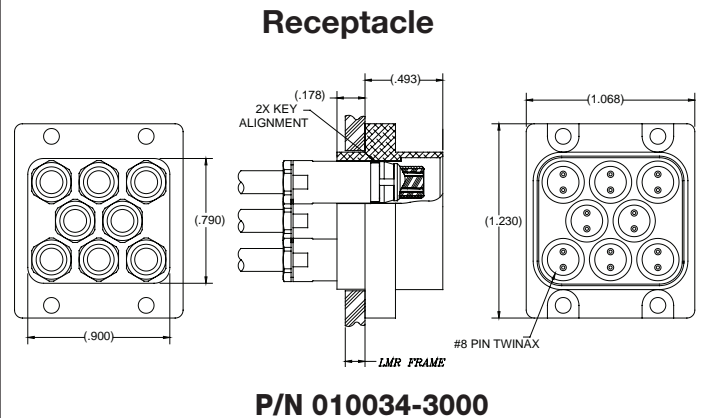
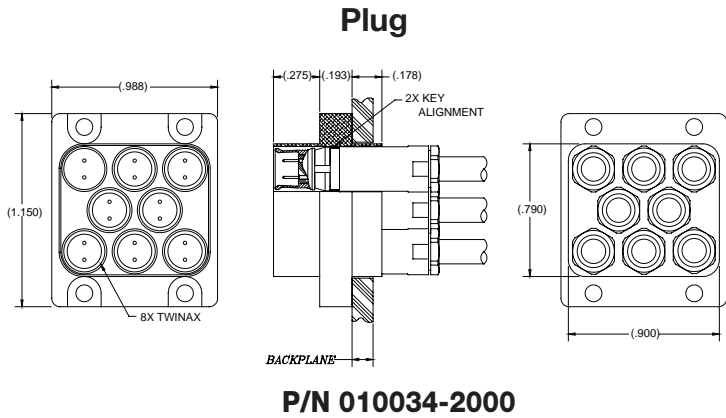
Please consult factory for environmentally sealed connectors and associated backshell accessories.



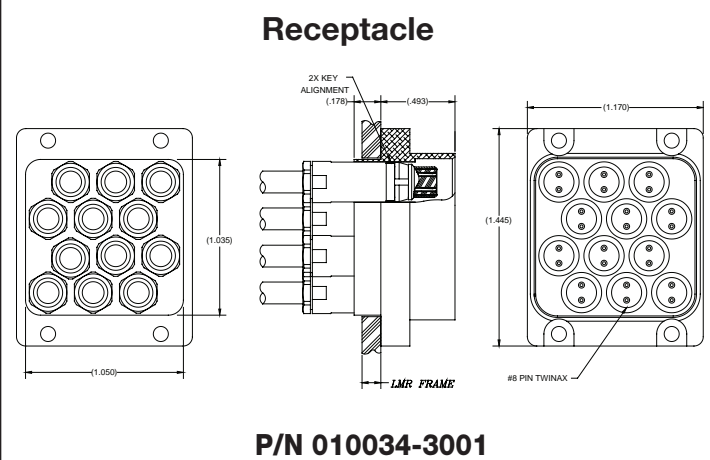
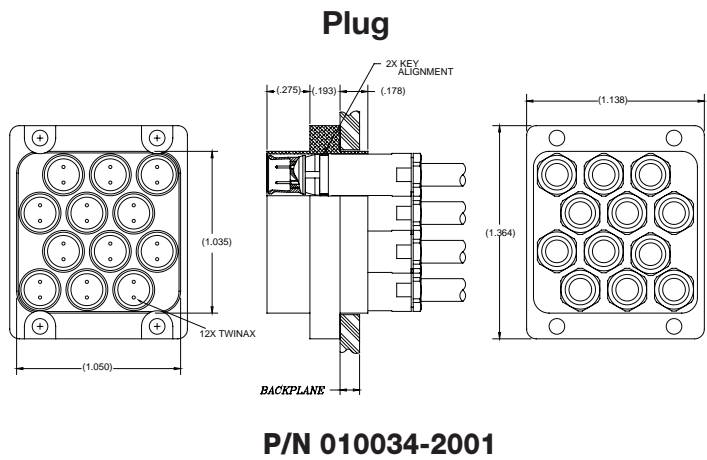
# High Speed Panel Mount Connectors

## Rectangular 8 Way Plug and Receptacle

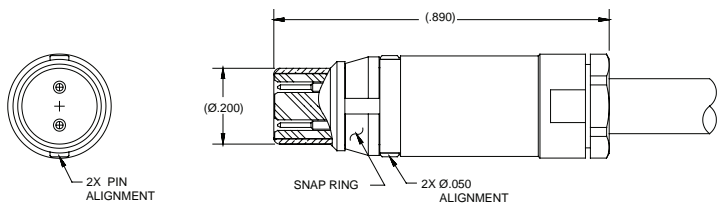
### Straight 8 Way Twinax with Removable Twinax Contacts



### Straight 12 Way Twinax with Removable Twinax Contacts

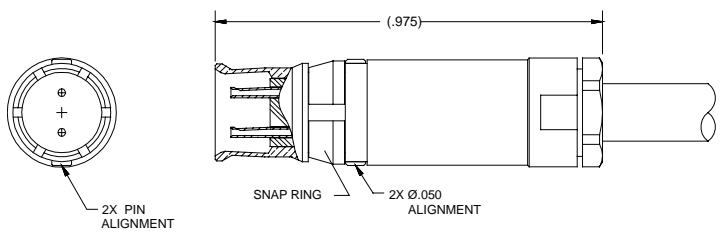


### Size 8 Twinax Pin Contact 100 and 150 Ohm



Part Number	Ohms	Cable Type	Cable
019634-0001	100	Differential Twinax	540-1153-000
019634-0002	100	Flexible Twinax	540-1161-000
019634-0003	100	Flexible Twinax	540-1086-000
019634-0004	150	Differential Twinax	540-1099-000

### Size 8 Twinax Socket Contact 100 and 150 Ohm



Part Number	Ohms	Cable Type	Cable
019534-0001	100	Differential Twinax	540-1153-000
019534-0002	100	Flexible Twinax	540-1161-000
019534-0003	100	Flexible Twinax	540-1086-000
019534-0004	150	Differential Twinax	540-1099-000



# Micro Quadrax and Twinax Connectors

## Micro Quadrax Connectors

Micro quadrax connectors are designed for differential pair matched impedance applications utilizing quadrax cable consisting of four wires where the diagonal pair of conductors forms a differential twinax pair. These connectors have a low impedance ground shield and are ideal for Ethernet (100 and 1000 Base-T), IEEE 1394 Firewire, USB, DVI and Infiniband applications with 100 Ohm differential impedance.

The micro quadrax connectors maintain the signal to shield impedance throughout the mated connector pair (quad configuration applications exceeding 1 Gbit/sec) and are available in threaded versions including straight and right angle cable mount and PCB mount configurations.

## Micro Twinax Connectors

The Micro Twinax line features matched impedance miniaturized connectors that provide the user with controlled impedance and tightly spaced PCB footprint spacing. These connectors are available in true differential twinax packages with NDL, SMA, and Micro D size constraints.

The NDL Micro Twinax Series is offered in threaded and quick disconnect styles and are 25% smaller in diameter than SMA coaxial connectors. The quick disconnect version has a diameter of .250" max and the threaded version has .250" Hex coupling nut. These connectors replace the standard NDL Triax series for higher speed balanced Twinax applications.

These connectors are applicable for High-Speed Ethernet (100 and 1000 Base-T), Fibre Channel (>1 GBit/sec), IEEE 1394 Firewire, USB, DVI and Infiniband applications with 100 or 150 Ohm differential pair impedance.

Mechanical & Environmental 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.
Coupling Nut Torque (threaded) Recommended	2.3 in-lbs min.
Mating Torque (threaded)	2.5 in-lbs
Engagement/Disengagement Force (Quick Disconnect)	3 lbs max/3 to 5 lbs
Electrical Specifications	
Dielectric Withstanding Voltage	250 VDC max
Insulation Resistance	5,000 Mega-Ohms min. @ 100 VDC
Contact Current Rating	3.0 Amps max.
Data Rates	>1 Gbits/sec
Differential Pair Cable Impedance	150 Ohm ± 15 Ohm 100 Ohm ± 10 Ohms
Signal to Shield Cable Impedance	75 Ohm ± 10 Ohm 50 Ohm ± 7 Ohms
Material & Finishes	
Shell & Inner Contacts	Brass per ASTM-B16, alloy UNS C36000 or BeCu per ASTM-B196, alloy UNS C17200, C17300 303 CRES per ASTM-A582 Gold plate per MIL-DTL-45204, Type II, Class 1
Insulators	PTFE per ASTM-D1710 or ULTERM 1000
Gasket/Seal	Silicone Rubber per A-A-59588

*All specifications subject to change without notice.*



Micro Quadrax



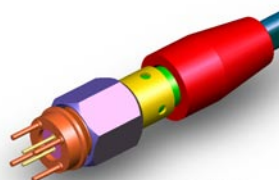
Twinax Micro-D Size



Twinax NDL Threaded and Quick Disconnect

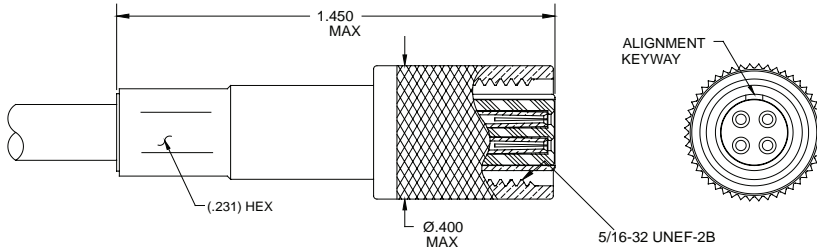


Micro Twinax NDL Quick Disconnect



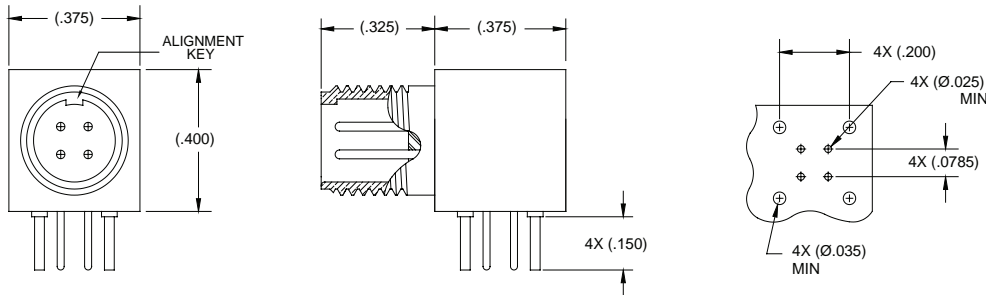
Micro Twinax NDL Threaded

## Micro Quadrx Plug 100 Ohm



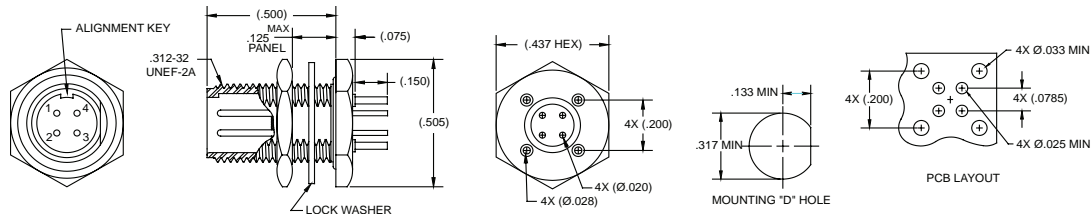
Part Number	Cable Type	Cable
012735-2013	Differential Quad	540-1183-000

## Micro Quadrx Right Angle PCB Mount Receptacle 100 Ohm



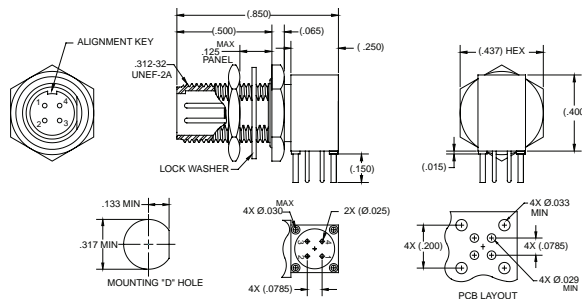
**P/N 012817-1000**

## Micro Quadrx Straight Bulkhead Mount PCB Jack



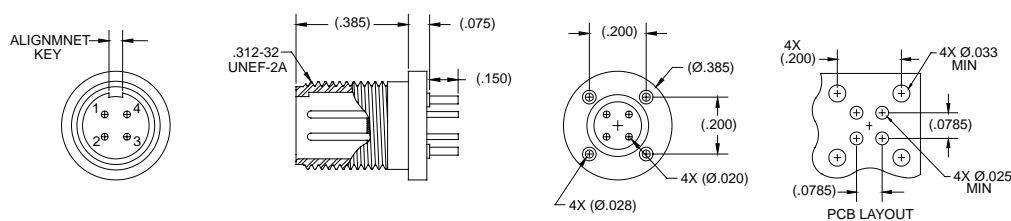
**P/N 012817-5001**

## Micro Quadrx Right Angle Bulkhead Mount PCB Jack



**P/N 012817-5003**

## Micro Quadrx Straight PCB Jack



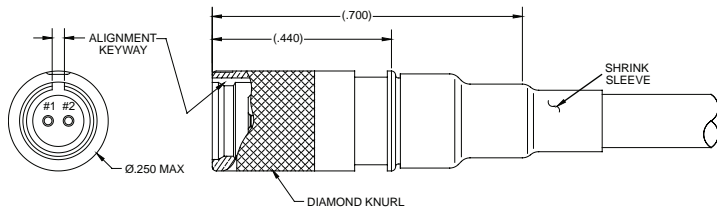
**P/N 012817-2000**



# Micro Twinax Connectors

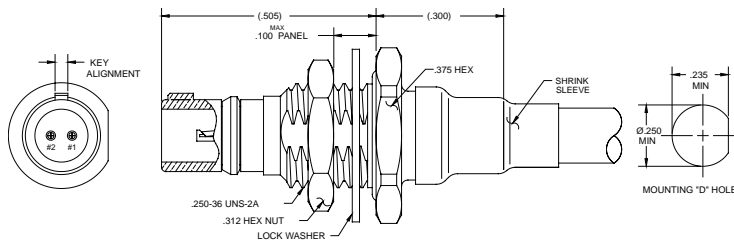
## Quick Disconnect NDL Size Package

### Quick Disconnect Micro Twinax NDL Plug 100 and 150 Ohm



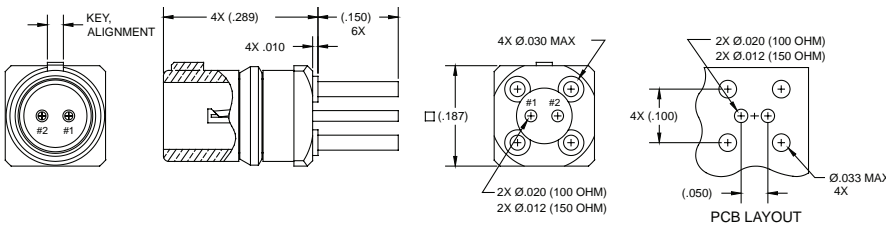
Part Number	Ohms	Cable Type	Cable
014034-2049	100	Differential Twinax	540-1153-000
014034-2050	100	Flexible Twinax	540-1161-000
014034-2051	100	Differential Twinax	540-1167-000
014034-2052	150	Differential Twinax	540-1099-000

### Quick Disconnect Micro Twinax NDL Bulkhead Mount Jack 100 and 150 Ohm



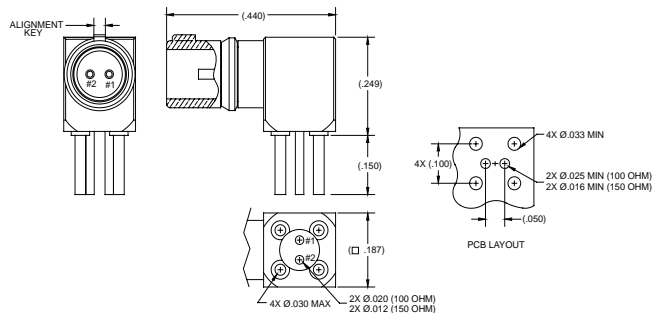
Part Number	Ohms	Cable Type	Cable
014134-5023	100	Differential Twinax	540-1153-000
014134-5024	100	Flexible Twinax	540-1161-000
014134-5025	100	Differential Twinax	540-1167-000
014134-5026	150	Differential Twinax	540-1099-000

### Quick Disconnect Micro Twinax NDL Jack Straight PCB Mount 100 and 150 Ohm



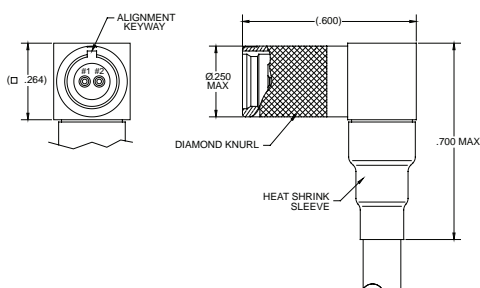
Part Number	Impedance
014117-2023	100 Ohms
014117-2024	150 Ohms

### Quick Disconnect Micro Twinax NDL Right Angle PCB Mount 100 and 150 Ohm



Part Number	Impedance
014117-1037	100 Ohms
014117-1038	150 Ohms

### Quick Disconnect Micro Twinax NDL Right Angle Plug 100 and 150 Ohm



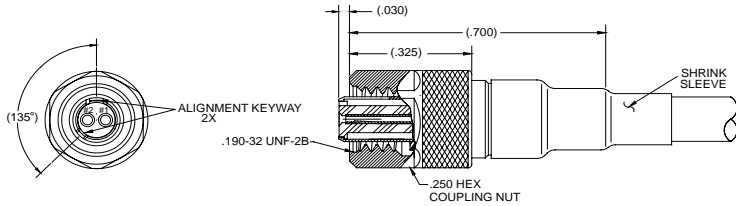
Part Number	Ohms	Cable Type	Cable
014034-1027	100	Differential Twinax	540-1153-000
014034-1028	100	Flexible Twinax	540-1161-000
014034-1029	100	Differential Twinax	540-1167-000
014034-1030	159	Differential Twinax	540-1099-000



# Micro Twinax Connectors

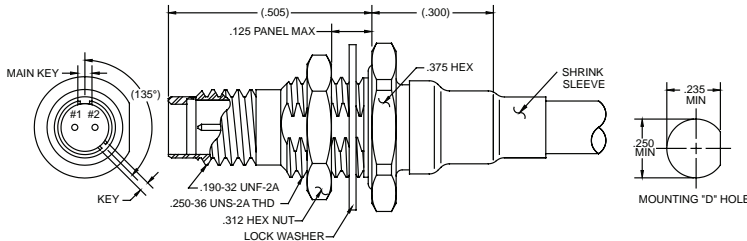
## Threaded NDL Size Package

### Threaded Micro Twinax NDL Straight Cable Plug 100 and 150 Ohm



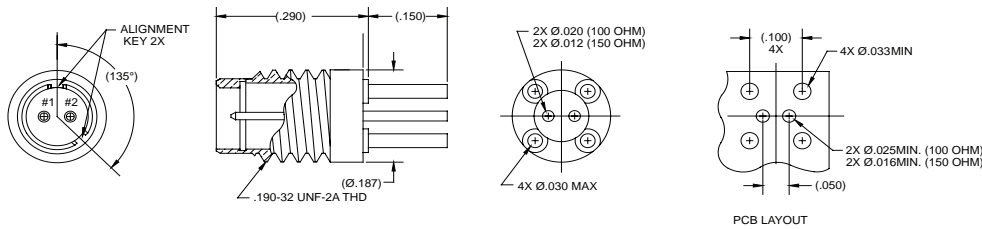
Part Number	Ohms	Cable Type	Cable
014034-2045	100	Differential Twinax	540-1153-000
014034-2046	100	Flexible Twinax	540-1161-000
014304-2047	100	Differential Twinax	540-1167-000
014034-2048	150	Differential Twinax	540-1099-000

### Threaded Micro Twinax NDL Bulkhead Mount Jack 100 and 150 Ohm



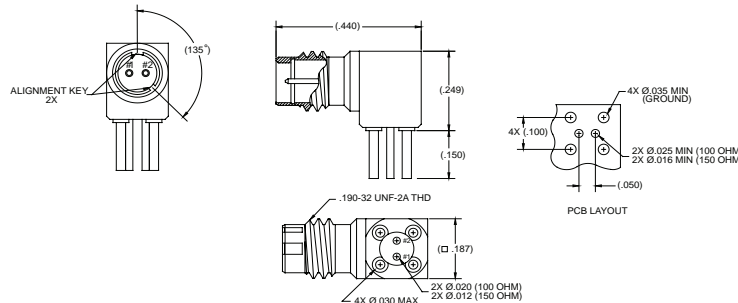
Part Number	Ohms	Cable Type	Cable
014134-5018	100	Differential Twinax	540-1153-000
014134-5019	100	Flexible Twinax	540-1161-000
014134-5020	100	Differential Twinax	540-1167-000
014134-5021	150	Differential Twinax	540-1099-000

### Threaded Micro Twinax NDL Straight Jack 100 and 150 Ohm PCB Mount



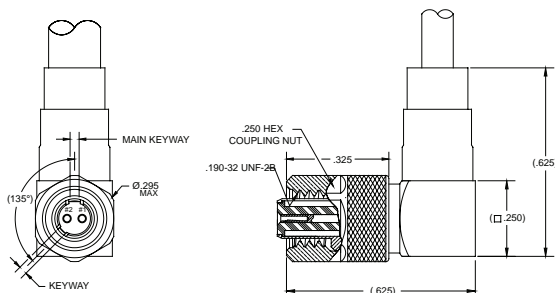
Part Number	Impedance
014117-2020	100 Ohms
014117-2021	150 Ohms

### Threaded Micro Twinax NDL Right Angle Jack 100 and 150 Ohm PCB Mount



Part Number	Impedance
014117-1030	100 Ohms
014117-1031	150 Ohms

### Threaded Micro Twinax NDL Right Angle Plug 100 and 150 Ohm



Part Number	Ohms	Cable Type	Cable
014034-1020	100	Differential Twinax	540-1153-000
014034-1021	100	Flexible Twinax	540-1161-000
014034-1022	100	Differential Twinax	540-1167-000
014034-1023	150	Differential Twinax	540-1099-000

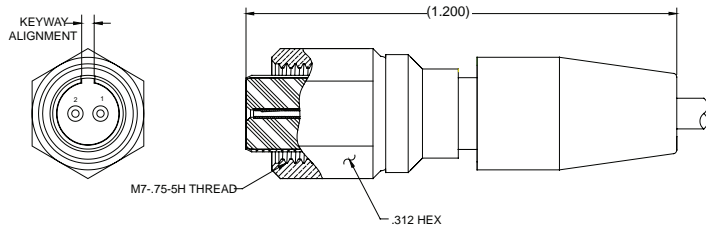




# Micro Twinax Connectors

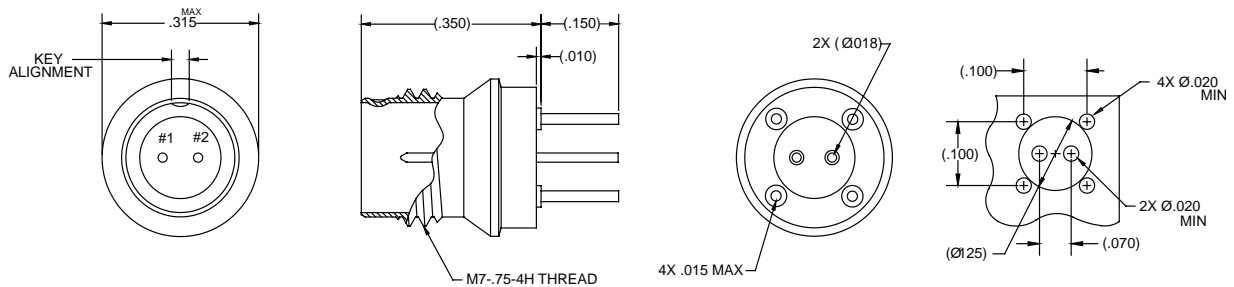
## SMA Size Twinax Connectors 100 and 150 Ohm

### Micro Twinax SMA Size Plug 100 or 150 Ohm Matched Impedance



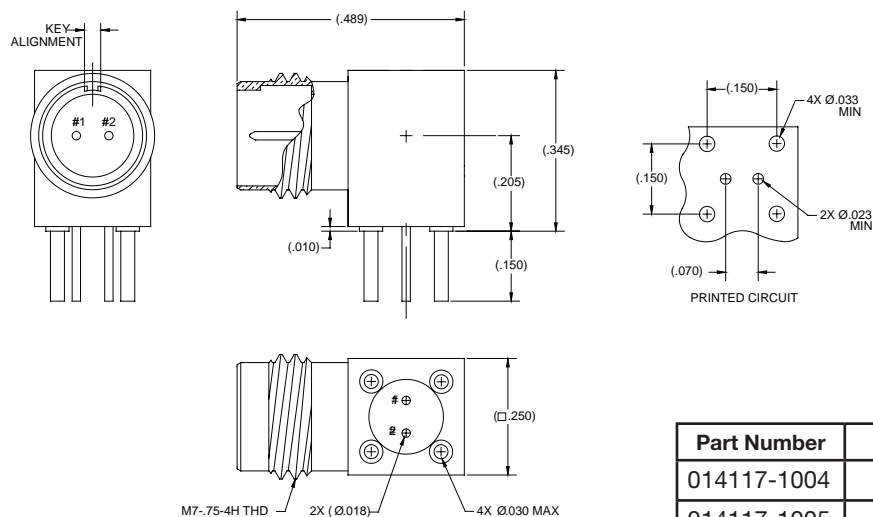
Part Number	Ohms	Cable Type	Cable
014034-2004	100	Differential Twinax	540-1153-000
014034-2010	100	Flexible Twinax	540-1161-000
014034-2015	100	Flexible Twinax	540-1086-000
014034-2003	150	Differential Twinax	540-1099-000
014034-2009	150	Differential Twinax	540-1114-000

### Micro Twinax SMA Size Straight Jack 100 or 150 Ohm Matched Impedance



Part Number	Impedance
014117-2003	100 Ohms
014117-2002	150 Ohms

### Micro Twinax SMA Right Angle Jack Straight PCB Mount 100 or 150 Ohm Matched Impedance



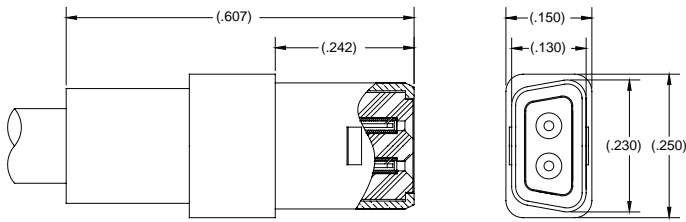
Part Number	Impedance
014117-1004	100 Ohms
014117-1005	150 Ohms



# Micro Twinax Connectors

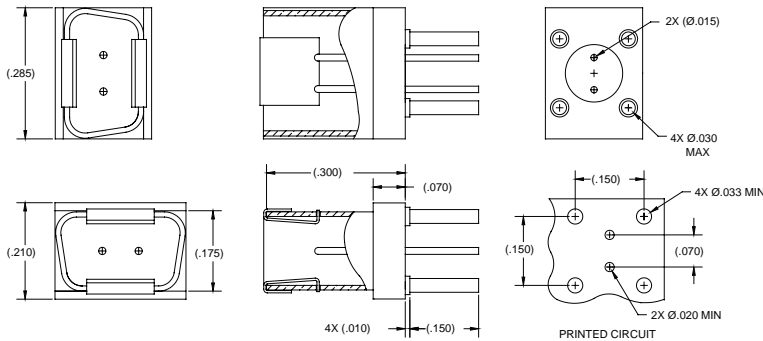
## Micro-D Size Twinax Connectors 100 and 150 Ohm

### Micro-D Twinax Straight Plug 100 or 150 Ohm Matched Impedance



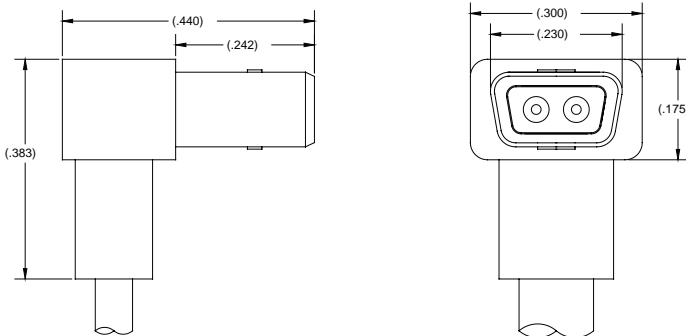
Part Number	Ohms	Cable Type	Cable
014034-2006	100	Differential Twinax	540-1153-000
014034-2005	150	Differential Twinax	540-1099-000

### Micro-D Twinax Straight Jack PCB 100 or 150 Ohm Matched Impedance



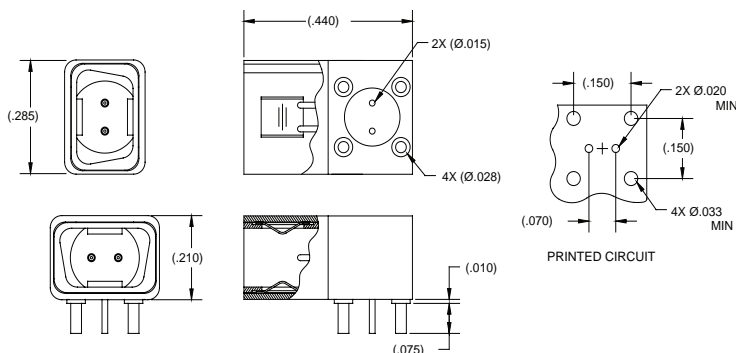
Part Number	Impedance
014117-2005	100 Ohms
014117-2004	150 Ohms

### Micro-D Twinax Right Angle Plug 100 or 150 Ohm Matched Impedance



Part Number	Ohms	Cable Type	Cable
014034-1002	100	Differential Twinax	540-1153-000
014034-1001	150	Differential Twinax	540-1099-000

### Micro-D Twinax Right Angle Jack PCB Mount 100 or 150 Ohm Matched Impedance



Part Number	Impedance
014117-1003	100 Ohms
014117-1002	150 Ohms

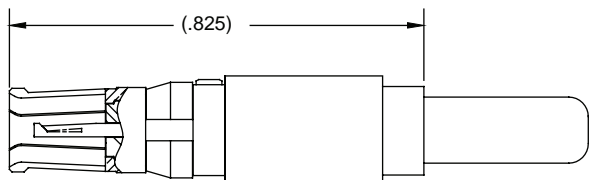


# Micro-D Twinax Connectors (MDTX)

## Size 10 Twinax Contacts 100 Ohm /Ordering Information

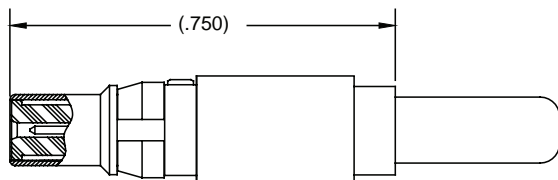
Sabritec's Micro-D Twinax Connectors (MDTX) offer twinax blindmate assemblies fitted into a low-profile metalized Micro-D style shell. This series allows for modularity of PCB routing of high speed signaling capable of 100 Ohm differential pair matched impedance for IEEE 1394b firewire and gigabit Ethernet applications in a size 10 twinax contact. These connectors allow for maximum space utilization, ultra miniature size, high vibration capability and are extremely light weight and modular with true signal integrity. Insert arrangements are available in 2, 4, 6 and 8 way twinax assemblies with mixed signal and power contacts available in hybrid layouts. These connectors are available with locking post mechanisms or blind mate features. Please consult Sabritec's applications engineering department for unique hybrid layouts and custom shell configurations.

### Size 10 Twinax Socket Contact 100 Ohm for MDTX Cable Mount Plug



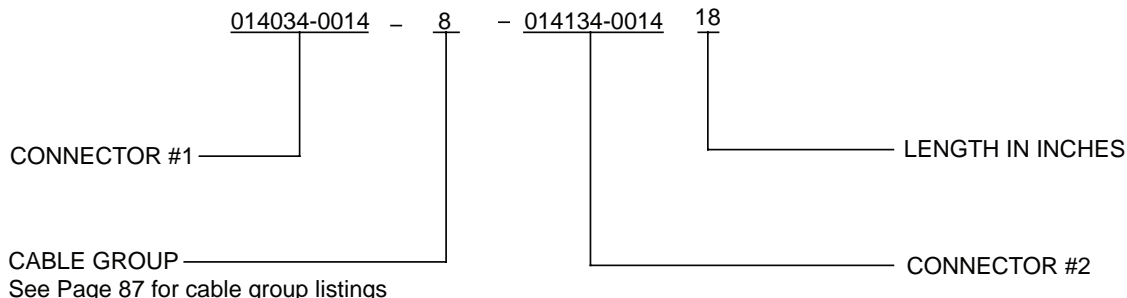
Part Number	Cable Type	Cable
018934-0002	Differential Twinax	540-1153-000
018934-0003	Flexible Twinax	540-1161-000
018934-0004	Differential Twinax	540-1167-000

### Size 10 Twinax Pin Contact 100 Ohm for MDTX Cable Mount Receptacle



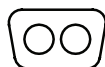
Part Number	Cable Type	Cable
018834-0002	Differential Twinax	540-1153-000
018834-0003	Flexible Twinax	540-1161-000
018834-0004	Differential Twinax	540-1167-000

### Cable Assembly Ordering Information

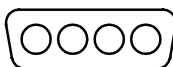


### Insert Arrangements

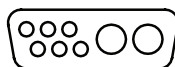
SHELL SIZE 1



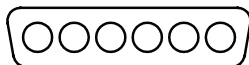
SHELL SIZE 2



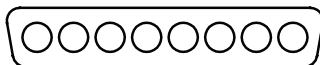
CUSTOM



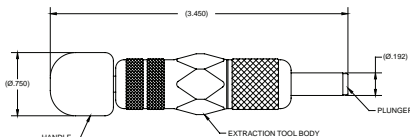
SHELL SIZE 3



SHELL SIZE 4



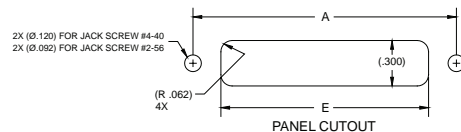
\* Removable Twinax Contacts  
Require Removal Tool SIR-035  
(ordered separately)



Removal Tool SIR-035

### Shell Dimensions

Shell Size	Contacts	A	B	C	D	E
1	2	.845	1.070	.600	#2-56	.955
2	4	1.285	1.510	1.040	#2-56	1.395
3	6	1.765	2.040	1.480	#4-40	1.420
4	8	2.205	2.480	1.920	#4-40	1.860

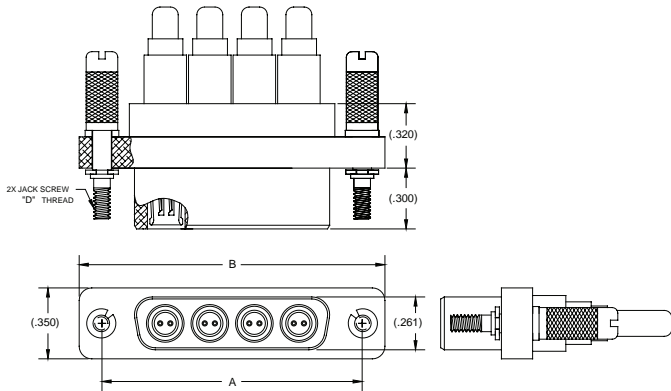




# Micro-D Twinax Connectors (MDTX)

## 100 Ohm Twinax Plug & Receptacle

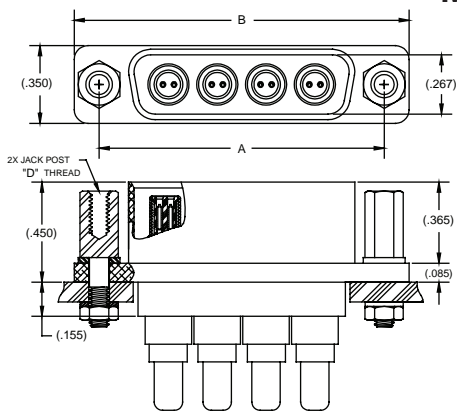
### MDTX Cable Mount Plug



Part Number	Contacts
014034-0012	2
014034-0014	4
014034-0016	6
014034-0018	8

\*Cable Mount Twinax Contacts Sold Separately

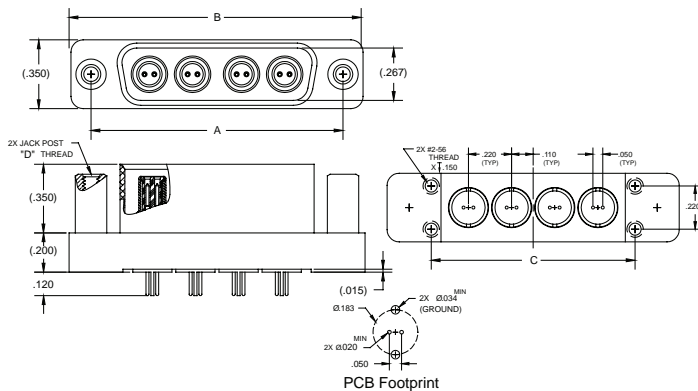
### MDTX Cable Mount Receptacle



Part Number	Contacts
014134-0012	2
014134-0014	4
014134-0016	6
014134-0018	8

\*Cable Mount Twinax Contacts Sold Separately

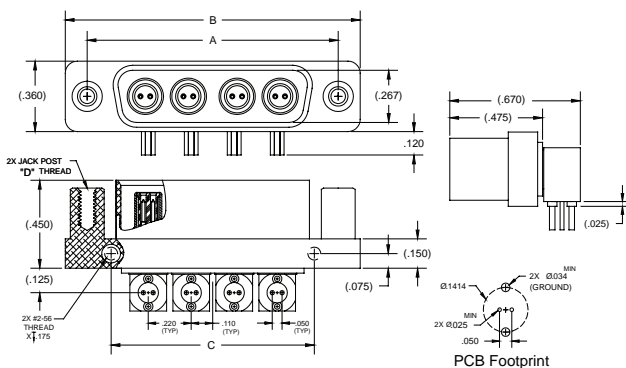
### MDTX Receptacle With Straight PC Tail Twinax Pin Contact



Part Number	Contacts
014117-0012	2
014117-0014	4
014117-0016	6
014117-0018	8

\*PC Tail Twinax Contacts included

### MDTX Receptacle With R/A PC Tail Twinax Pin Contact



Part Number	Contacts
014117-1112	2
014117-1114	4
014117-1116	6
014117-1118	8

\*R/A PC Tail Twinax Contacts included



# Dura Speed Quadrax and Twinax (DSQ/DST)

## Size 8 DSQ and DST Contacts for MIL-DTL-38999

Sabritec's Dura Speed line offers true differential pair matched impedance Twinax and Quadrax contacts where the differential pair and signal to shield impedance is maintained throughout the connector pair. These rugged low insertion force/high mating cycle precision contacts are capable of withstanding a minimum of 6,000 mating cycles. All Dura Speed Quadrax (DSQ) and Twinax (DST) contacts are designed to fit Sabritec's standard cavities of existing connector formats for our high speed product lines which include MIL-DTL-38999, ARINC 600 and Rugged D-Subminiature.



The innovative new line of ruggedized Twinax and Quadrax contacts are ideal for blind mate I/O plug in modular applications, board to board high speed data transfer applications exceeding 2 Gbits/second, as well as circular and rack and panel connector applications. For applications requiring a minimum of 10,000 mating cycles, Hypertac's Hyperboloid® contacts are used for the center signal and outer body contacts for all Quadrax and Twinax contacts. Please consult Sabritec's applications engineering department for details.

### MIL-DTL-38999 DSQ Size 8 Quadrax Pin Contact

Part Number	Cable Type	Cable
019635-8023	Differential Quadrax	540-1183-000

### MIL-DTL-38999 DSQ Size 8 Quadrax Socket Contact

Part Number	Cable Type	Cable
019535-8023	Differential Quadrax	540-1183-000

### MIL-DTL-38999 DST Size 8 Twinax Pin Contact

Part Number	Cable Type	Cable
019634-8023	Differential Twinax	540-1167-000
019634-8045	Flexible Twinax	540-1161-000

### MIL-DTL-38999 DST Size 8 Twinax Socket Contact

Part Number	Cable Type	Cable
019534-8023	Differential Twinax	540-1167-000
019534-8045	Flexible Twinax	540-1161-000

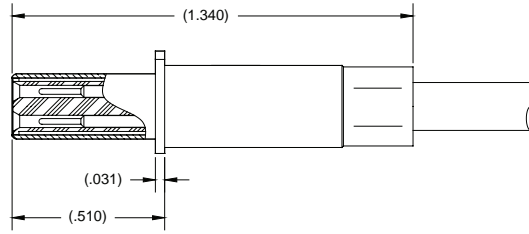
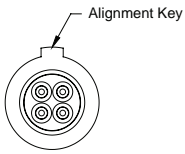
Sabritec provides specialty, enhanced performance connectors and cable assemblies and as such does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Sabritec's connectors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



# ARINC 600 Dura Speed Contacts

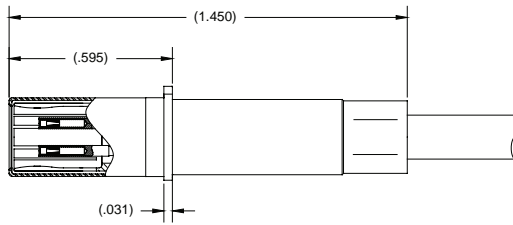
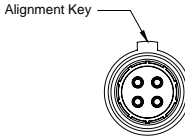
## Size 8 DSQ and DST Contacts for ARINC 600

### ARINC 600 DSQ Size 8 Quadrax Pin Contact



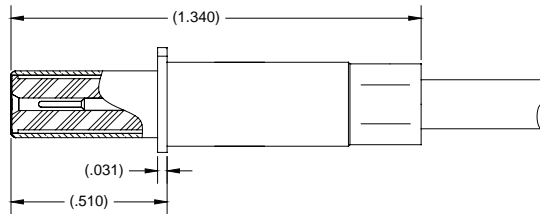
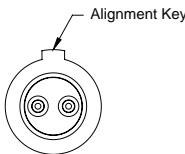
Part Number	Cable Type	Cable
019635-8041	Differential Quadrax	540-1183-000

### ARINC 600 DSQ Size 8 Quadrax Socket Contact



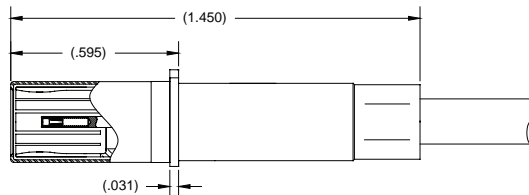
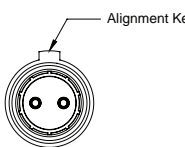
Part Number	Cable Type	Cable
019535-8041	Differential Quadrax	540-1183-000

### ARINC 600 DST Size 8 Twinax Pin Contact



Part Number	Cable Type	Cable
019634-8041	Differential Twinax	540-1167-000
019634-8044	Flexible Twinax	540-1161-000

### ARINC 600 DST Size 8 Twinax Socket Contact



Part Number	Cable Type	Cable
019534-8041	Differential Twinax	540-1167-000
019534-8044	Flexible Twinax	540-1161-000

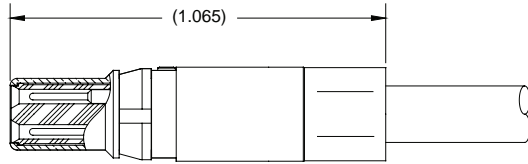
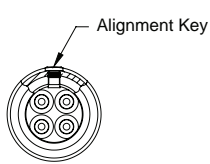
Sabritec provides specialty, enhanced performance connectors and cable assemblies and as such does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Sabritec's connectors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



# Rugged D-Sub Dura Speed Contacts

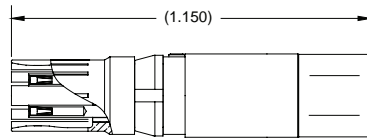
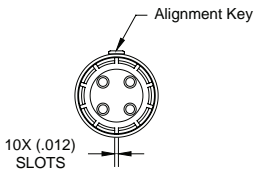
## Size 9 DSQ and DST Contacts for Rugged D-Sub Connectors

### Rugged D-Sub DSQ Size 9 Quadrax Pin Contact



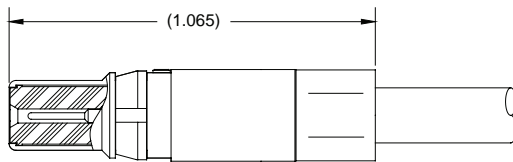
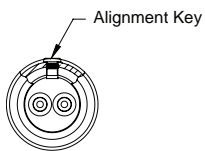
Part Number	Cable Type	Cable
019235-8043	Differential Quadrax	540-1183-000

### Rugged D-Sub DSQ Size 9 Quadrax Socket Contact



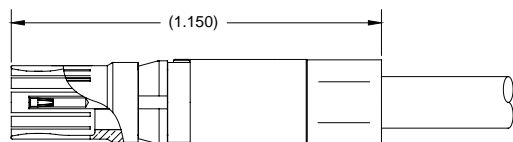
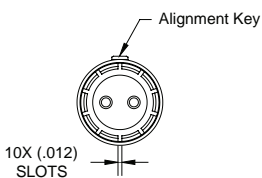
Part Number	Cable Type	Cable
019135-8043	Differential Quadrax	540-1183-000

### Rugged D-Sub DST Size 9 Twinax Pin Contact



Part Number	Cable Type	Cable
019234-8043	Differential Twinax	540-1167-000
019234-8044	Flexible Twinax	540-1161-000

### Rugged D-Sub DST Size 9 Twinax Socket Contact



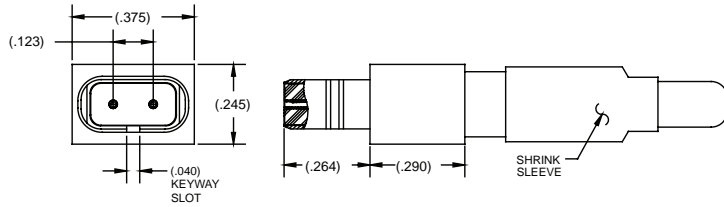
Part Number	Cable Type	Cable
019134-8043	Differential Twinax	540-1167-000
019134-8044	Flexible Twinax	540-1161-000



# Fibre Channel/Ethernet Connectors

## PCB and Cable Mount Twinax Connectors 150 Ohm

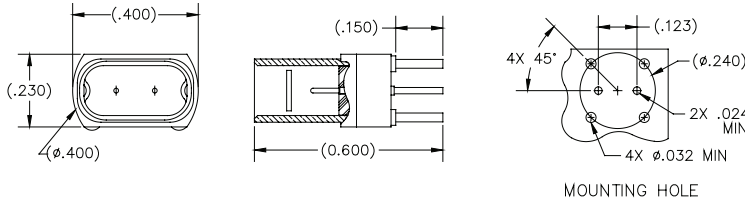
### Straight Fibre Channel Twinax Cable Connector 150 Ohm



Part Number	Cable Type	Cable
014034-8000	Differential Twinax	540-1099-000
014034-8001	Differential Twinax	540-1114-000

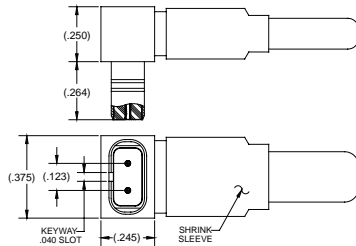
Mates with 014117- 2008 and 014117-1012

### Straight Fibre Channel Twinax PCB Mount Connector 150 Ohm



**P/N 014117-2008**

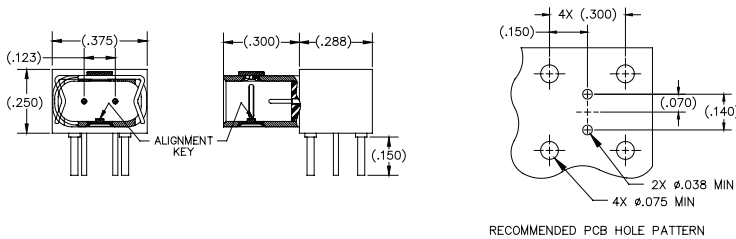
### Right Angle Micro-Miniature D-Sub Twinax Cable Connector 150 Ohm



Part Number	Cable Type	Cable
014034-1009	Differential Twinax	540-1099-000
014034-1010	Differential Twinax	540-1114-000

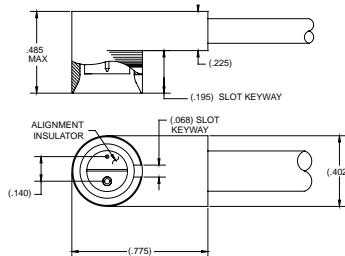
Mates with 014117- 2008 and 014117-1012

### Right Angle Micro-Miniature D-Sub Twinax PCB Mount Connector 150 Ohm



**P/N 014117-1012**

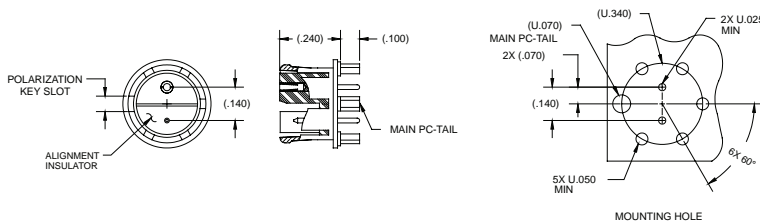
### Quick Disconnect Twinax Receptacle Right Angle Cable Mount Connector 150 Ohm



Part Number	Cable Type	Cable
019912-1306	Differential Twinax	540-1099-000
019912-1017	Differential Twinax	540-1114-000

Mates with 019917-2040

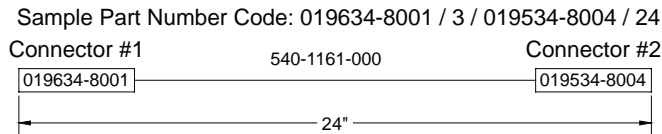
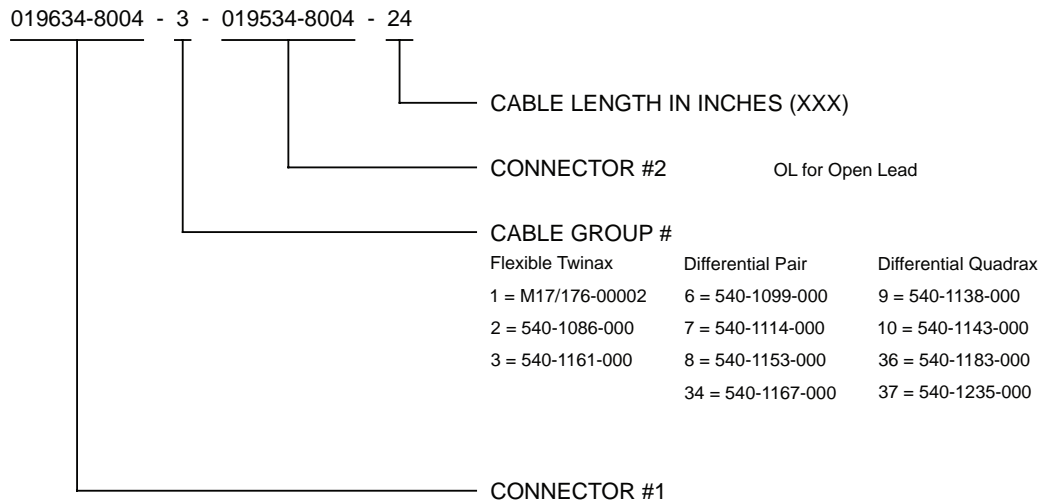
### Quick Disconnect Twinax PCB Mount Connector 150 Ohm


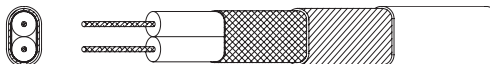



**P/N 019917-2040**



## Part Number Description Code



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
Differential Quad 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"