

# HIGH SPEED INTERCONNECTS

## FIBRE CHANNEL/ETHERNET/FIREWIRE



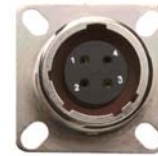
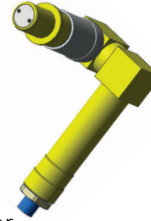




Sabritec offers a complete line of differential Twinax and Quadrax connectors, contacts, and cable assemblies for high speed Ethernet, Firewire, and Fibre Channel applications. Differential pair twinaxial connectors and cable assemblies offer the utmost in high speed matched impedance data-on-demand applications. The differential pair and signal to shield characteristic impedance is maintained throughout the connector pair. A true twinaxial connector interface ensures signal integrity, 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



### Quadsplitter

Sabritec features a newly developed concept called a 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 differential 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.

### Fibre Channel Backplane Connectors

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 module with a single connector P1 type housing. This allows for the use of standard VME bus architecture cages for high speed fibre channel connection.



### Fibre Channel Connector Series

For single stand-alone interconnect applications for a differential pair signal to the PCB, Sabritec offers a complete series of true differential pair connectors for board-board jumper applications. These are available in quick disconnect and threaded versions including straight and right angle cable mount and PCB mount connectors. The cable mount connectors are designed for 100 and 150 Ohm differential pair impedance cable types which maintain the differential pair impedance and signal to shield impedance throughout the mated connector pair.

### Differential Twinax Contacts

Differential twinax contacts are designed for use in MIL-DTL-38999, MIL-DTL-83527, ARINC 404, ARINC 600 and D-Sub connectors series. Twinax contacts consist of two inner contacts to form 100 or 150 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 with NDL, SMA, and Micro D size constraints.

QUADSPLITTER  
CONNECTORS Pg. 60

MIL-DTL-38999  
CONNECTORS Pg. 62

MIL-C-81659  
ARINC 404 Pg. 70

ARINC 600  
Pg. 77

MIL-DTL-83527  
Pg. 83

HIGH SPEED RUGGED D-  
SUB Pg. 86

BACKPLANE/PANEL MOUNT  
CONNECTORS Pg. 91

PCB & CABLE MOUNT  
CONNECTORS Pg. 99

MICRO TWINAX/QUADRAx  
Pg. 102

MODULAR BLOCK  
Pg. 107

CABLE ORDERING  
Pg. 108

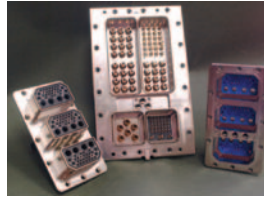


Fibre Channel



### ARINC 404 and Arinc 600 Connectors

The ARINC 600 and 404 series 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.



### MIL-DTL-83527

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

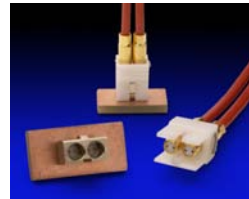
### Quadrax Contacts

Designed to meet ARINC 600 Quad based Ethernet specifications, Sabritec's Quadrax contacts consist of four center contacts (Quad configuration applications exceeding 1 Gbit/sec) forming two 100 or 150 ohm matched impedance differential pairs. These contacts have a low impedance grounding shield and are ideal for Ethernet 100 Base-T (100 Ohm), Fibre Channel (150 ohm) and IEEE 1394b Firewire (110 ohm) applications.



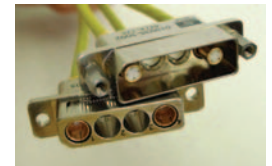
### Modular Block (MBC) Connectors

Sabritec's MBC 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.



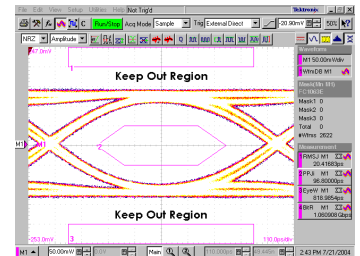
### Ruggedized D-Sub Quad/Twinax Ethernet Connectors

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 fibre channel twinax contacts.



### 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. 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. Using 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 does not offer standard QPL slash sheet part #'s for multipin circular and rack & panel connectors. Our connectors are fully intermateable with all slash sheet part #'s.

### ELECTRICAL 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.

### MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

Dielectric Withstanding Voltage	250 VDC max
Insulation Resistance	5.000 Megaohms min
Contact Current Rating	3.0 Amps D.C. max
Data Rates	1 Gbits/sec min.
Differential Pair Cable Impedance	150-ohm ± 15-ohm 100-ohm ± 10-ohm
Signal to Shield Cable Impedance	75-ohm ± 10-ohm 50-ohm ± 7-ohm

### MATERIALS & FINISHES

Shells	Brass per ASTM-B16 Nickel per SAE-AMS-QQ Gold per ASTM-B488 Aluminum per ASTM-B211 Electroless Nickel per MIL-C-26074 Cadmium per SAE-AMS-QQ-P-416
Insulators	PTFE per ASTM-D1710 Ultem per ASTM-D5205
Contacts	Brass per ASTM-B16 Be Cu per ASTM B196 Gold per ASTM-B488



# QUADSPITTER TECHNOLOGY

## HIGH SPEED QUAD TO TWINAX CONVERSION

Fibre Channel

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.

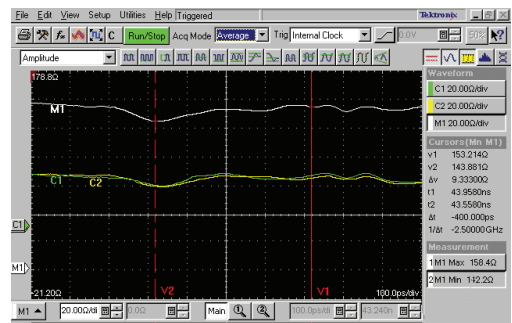
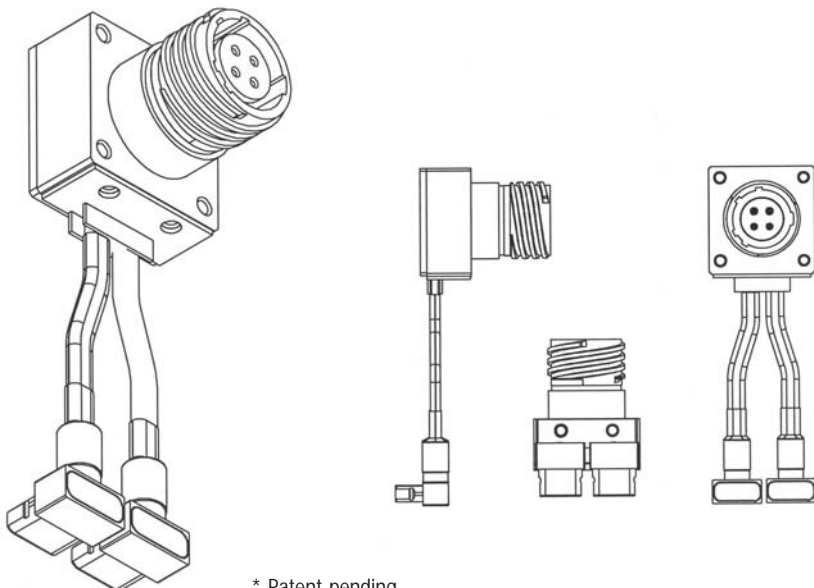
A more efficient development for fibre channel transmission is the "Quadrax", a single enclosure with four wires where a diagonal pair of conductors forms a twinax differential pair.

A problem arises when the Quadrax to Twinax conversion takes place and the channels must be physically separated. The diagonal pairs will cross over

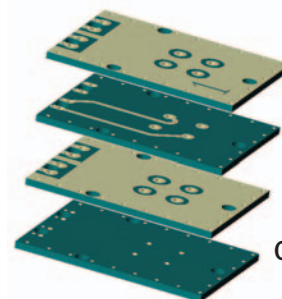
resulting in impedance disturbance and reflections with some cross talk. At low frequencies or data rates, this is somewhat manageable, however when data rates approach microwave frequencies the resulting system degradation becomes unacceptable. This problem is effectively overcome by employment of stripline 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 2 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.



TDR Traces



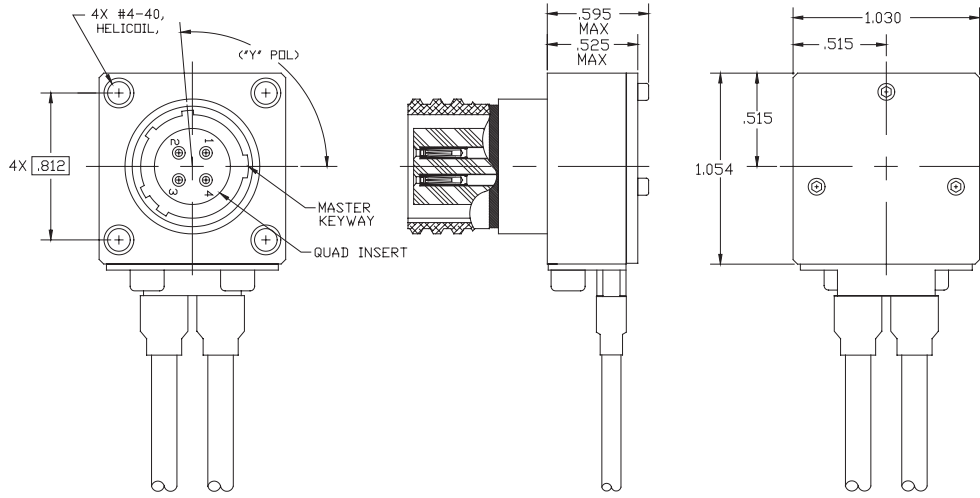
Circuit Boards



# QUADSPLITER CONNECTORS

MIL-DTL-38999 SERIES III QUAD INSERT TO TWINAX CONVERSION 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

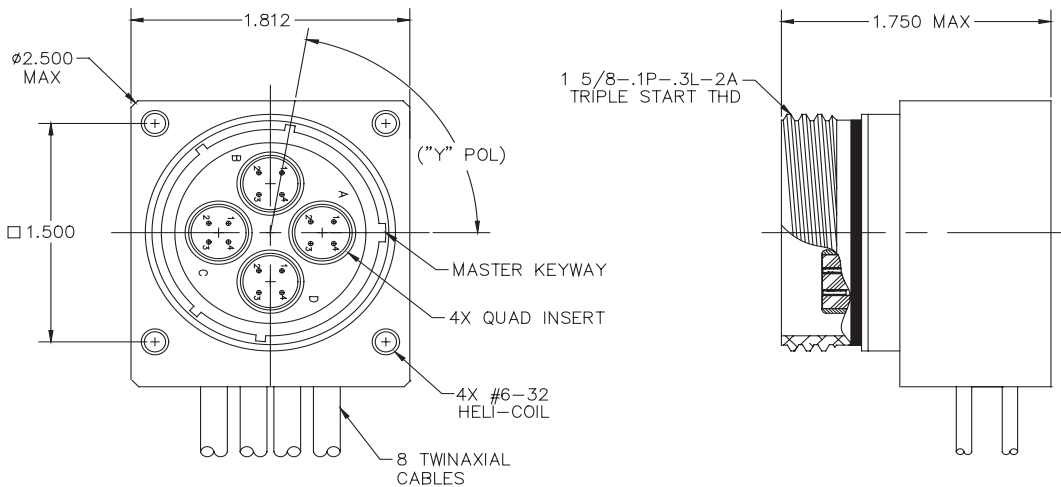
Y = Connector Polarization

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

Please specify cable length when ordering or use the RFO worksheet in the back of this catalog.

Fibre Channel

## 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

Y = Connector Polarization

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

Please specify cable length when ordering or use the RFO worksheet in the back of this catalog.

See Page 108 for Cable Assembly Ordering Information



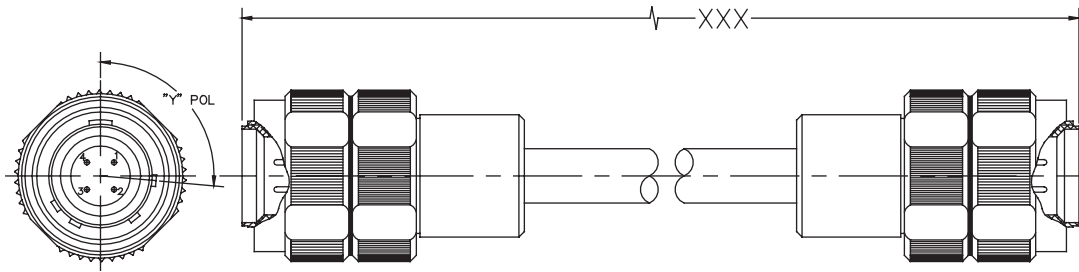




# QUAD INSERTS 11-4 SINGLE QUAD

MIL-DTL-38999 SERIES III QUAD INSERT PLUG CONNECTORS & ASSEMBLIES

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



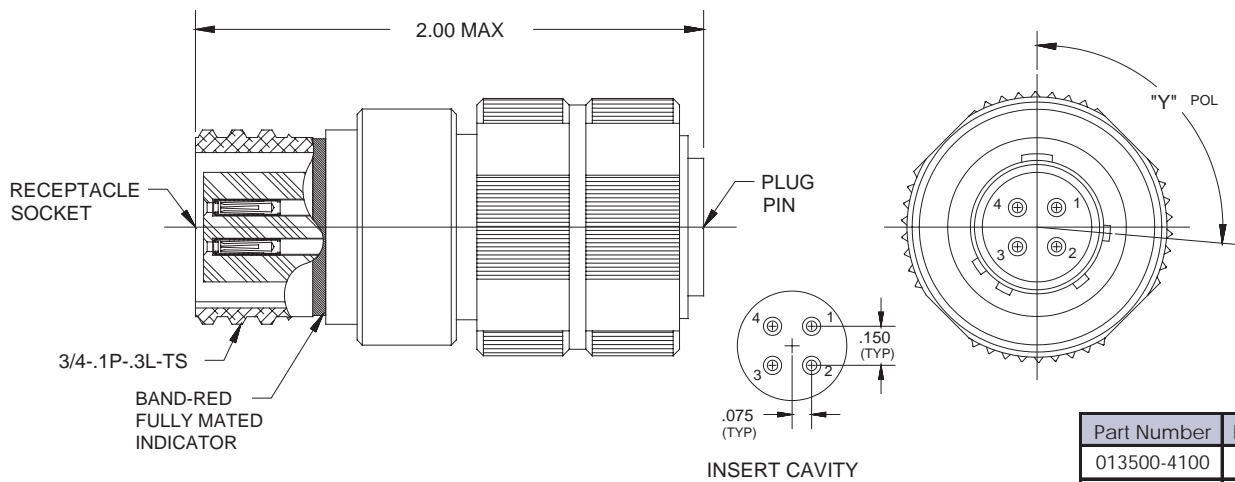
XXX = Cable Length in Inches

Y = Connector Polarization

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

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

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



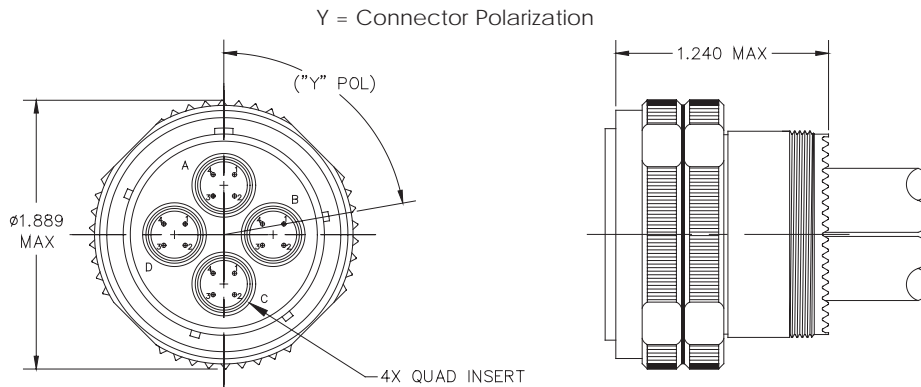
Part Number	Polarization
013500-4100	N
013500-4101	A
013500-4102	B
013500-4103	C
013500-4104	D
013500-4105	E

See Page 108 for Cable Assembly Ordering Information





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

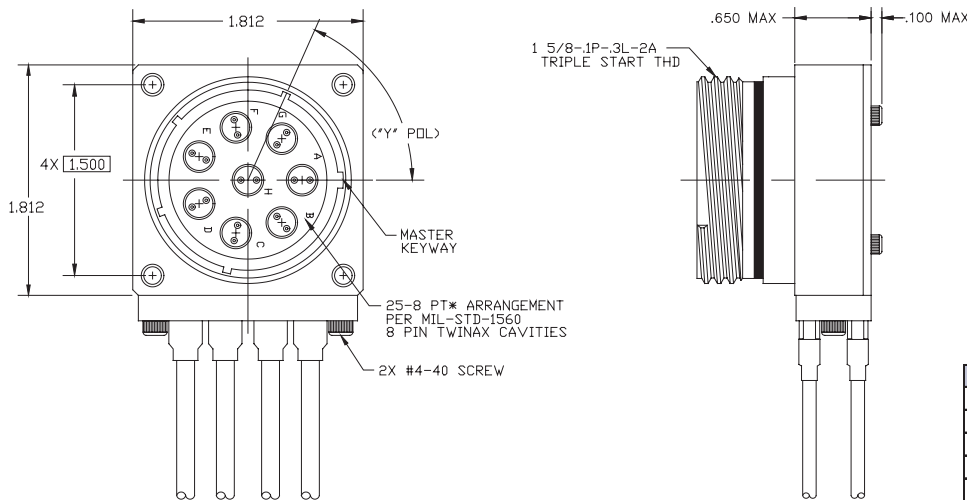


Part Number	Cable Type	Cable
01340Y-2000	Differential Quad	540-1138-000
01340Y-2001	Differential Quad	540-1143-000

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

Please specify cable length when ordering or use the RFQ worksheet in the back of this catalog.

### 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

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

Part Number	Cable Type	Cable
02370Y-100X	Differential Twinax	540-1099-000

Please specify cable length when ordering or use the RFQ worksheet in the back of this catalog.

See Page 108 for Cable Assembly Ordering Information

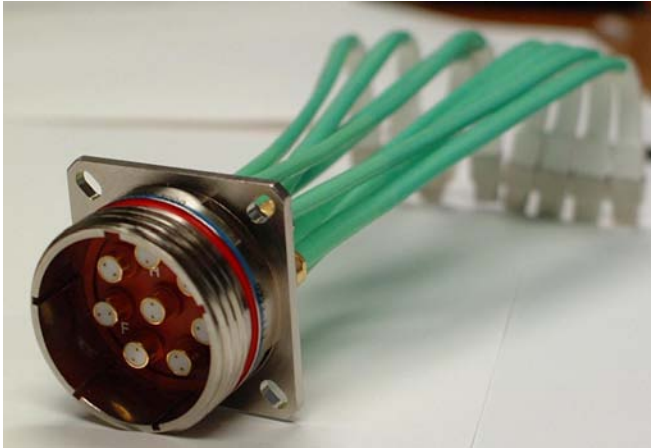




# MIL-DTL-38999 HIGH SPEED SERIES

MIL-DTL-38999 ORDERING INFORMATION

Fibre Channel



Differential twinax contacts are designed for use in MIL-DTL-38999, MIL-DTL-83527, ARINC 404, ARINC 600 and D-Sub connectors series. Twinax contacts consist of two inner contacts to form 100 or 150 ohm differential impedance. Designed to meet ARINC 600 Quad Ethernet specifications, Sabritec's Quadrax contacts consist of four center contacts (Quad configuration applications exceeding 1 Gbit/sec) forming two 100 or 150 ohm matched impedance differential pairs. These contacts have a low impedance grounding shield and are ideal for Ethernet 100 Base-T (100 Ohm), Fibre Channel (150 ohm) and IEEE 1394B Firewire (110 ohm) applications.

## PART NUMBER ASSIGNMENT

38999 - III - B - R - C - 21 - 75 - P - C - N

Prefix

Series  
I, III, IV

Shell Style  
J - Jam Nut  
B - Box Mount  
W - Wall Mount

Mounting  
F - Front  
R - Rear

Material/Plating  
C- Aluminum Alloy/Cadmium Over Nickel  
N- Aluminum Alloy/Electroless Nickel  
S- Stainless Steel/Electroless Nickel  
CC-Composite/Cadmium Over Nickel  
CN-Composite/Electroless Nickel  
*\*Consult factory for alternate plating options*

Polarization  
N, A, B, C, D, E

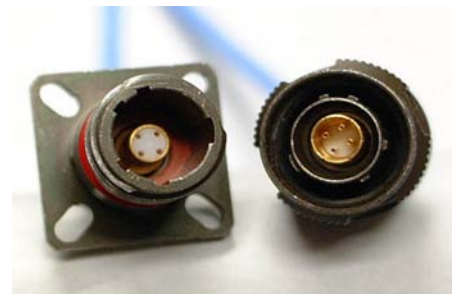
Contact Termination  
S- Solder Cup  
P- PC Tail  
C- Crimp

Contact Type  
P - Pin  
S- Socket

Insert Arrangement

Shell Size

Note: Twinax/Quadax Contacts are sold separately



MIL-DTL-38999 with Single Way Quad

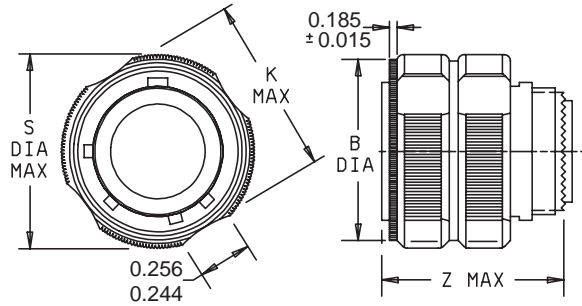




# MIL-DTL-38999 TWINAX/QUADRAX

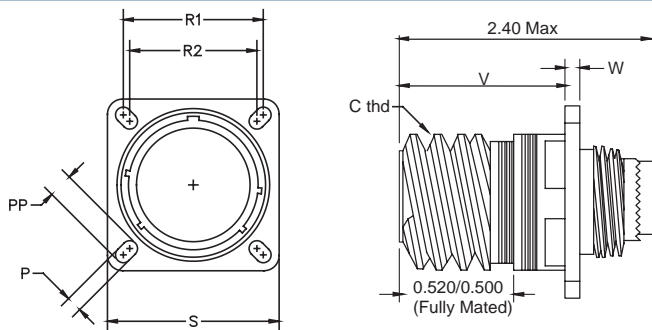
MIL-DTL-38999 SERIES III CONNECTOR SHELLS/SIZE 8 TWINAX CONTACTS

## MIL-DTL-38999 Twinax/Quadax Plug



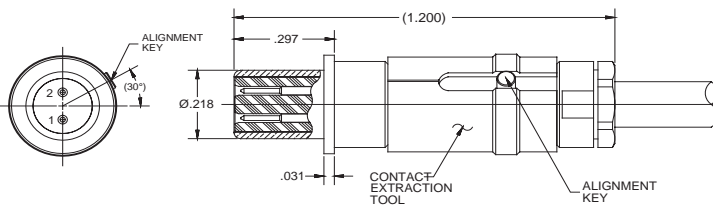
Shell Size	B Dia +.008 -0	K Max	S Dia Max	Z Max
9	0.724	0.748	0.858	1.220
11	0.831	0.862	0.984	
13	1.000	1.028	1.157	
15	1.130	1.154	1.280	
17	1.268	1.291	1.406	
19	1.374	1.398	1.516	
21	1.500	1.524	1.642	
23	1.618	1.642	1.768	
25	1.744	1.768	1.890	

## MIL-DTL-38999 Twinax/Quadax Receptacle



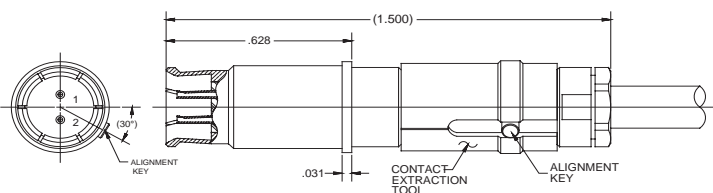
Shell Size	C Thread .1 Pitch 3 Lead	P ±.008	R1 BSC	R2 BSC	V Max +0.00 -0.005	W Max	X Max	PP Max ±.008	S ±.012
9	0.625	0.128	0.719	0.594	0.820	.098/.083	0.500	0.216	0.937
11	0.750		0.812	0.719			0.620	1.031	
13	0.875		0.906	0.812			0.740	1.026	
15	1.000		0.969	0.906			0.890	1.220	
17	1.188		1.062	0.969			1.000	1.311	
19	1.25		1.156	1.062			1.120	1.437	
21	1.375		1.250	1.156			1.250	1.563	
23	1.500		1.375	1.250			1.390	1.689	
25	1.625		1.500	1.375			1.500	1.811	
			0.154					0.790	.126/.083

## Size 8 Twinax Pin Contact 100 and 150 Ohm



Part Number	Impedance	Cable Type	Cable
019634-8001	150 Ohm	Differential Twinax	540-1099-000
019634-8002	150 Ohm	Differential Twinax	540-1114-000
019634-8003	100 Ohm	Differential Twinax	540-1153-000
019634-8004	100 Ohm	Flexible Twinax	540-1161-000
019634-8005	100 Ohm	Flexible Twinax	540-1086-000

## Size 8 Twinax Socket Contact 100 and 150 Ohm



Part Number	Impedance	Cable Type	Cable
019534-8001	150 Ohm	Differential Twinax	540-1099-000
019534-8002	150 Ohm	Differential Twinax	540-1114-000
019534-8003	100 Ohm	Differential Twinax	540-1153-000
019534-8004	100 Ohm	Flexible Twinax	540-1161-000
019534-8005	100 Ohm	Flexible Twinax	540-1086-000

See Page 108 for Cable Assembly Ordering Information

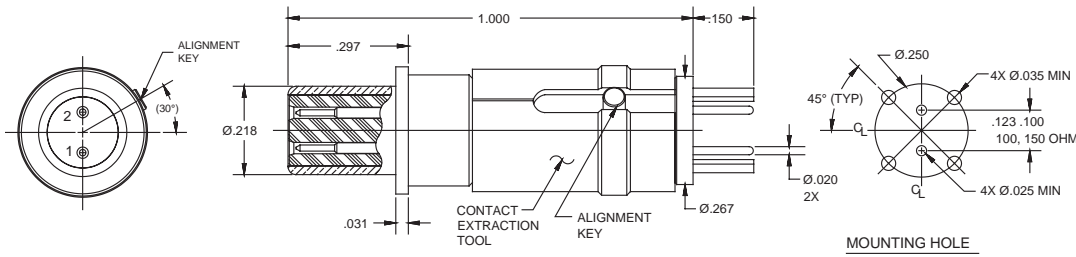




# SIZE 8 TWINAX/QUADRAX CONTACTS

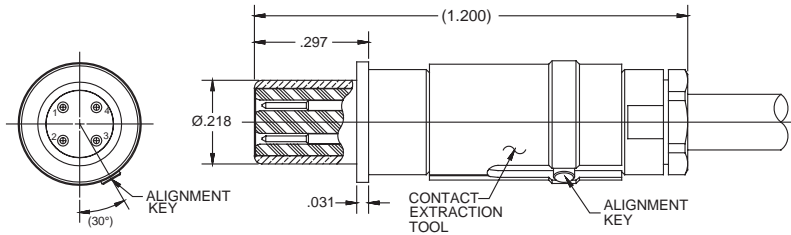
FOR MIL-DTL-38999 SERIES III CONNECTORS

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



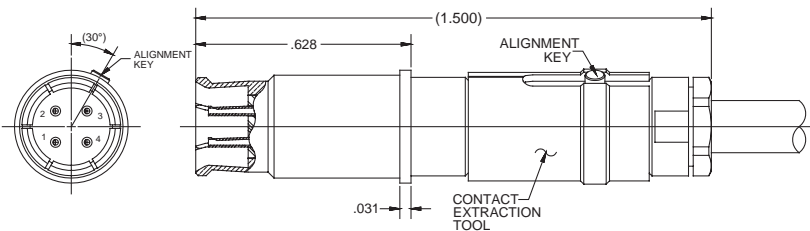
Part Number	Impedance
019617-0002	100 Ohm
019617-0003	150 Ohm

## Size 8 Quadrax Pin 100 Ohm



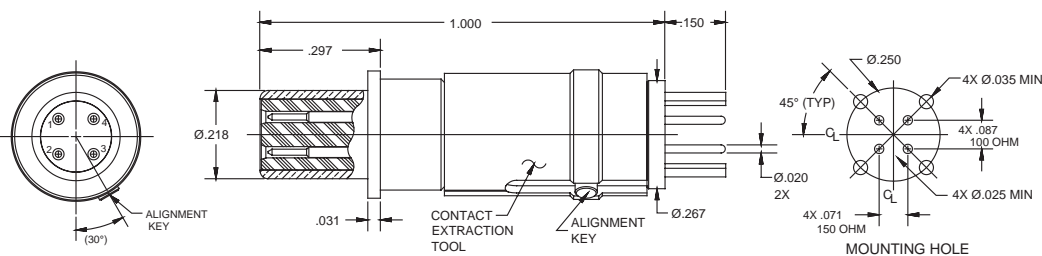
Part Number	Cable Type	Cable
019635-8000	Differential Quad	540-1165-000

## Size 8 Quadrax Socket 100 Ohm



Part Number	Cable Type	Cable
019535-8000	Differential Quad	540-1165-000

## Size 8 Quadrax Pin 100 and 150 Ohm PCB Mount



Part Number	Impedance
019617-0004	100 Ohm
019617-0005	150 Ohm

See Page 108 for Cable Assembly Ordering Information

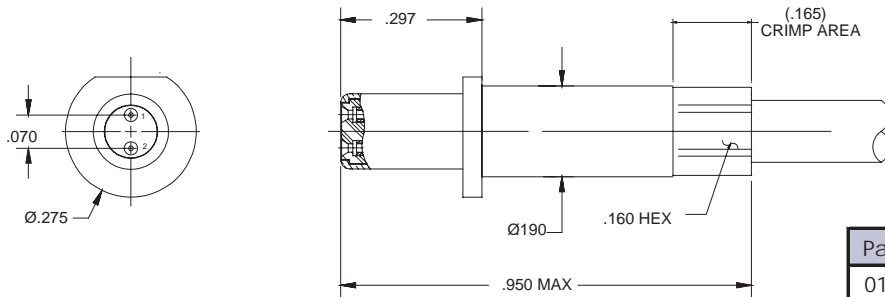




# HIGH SPEED SIZE 10 CONTACTS FOR MIL-DTL-38999

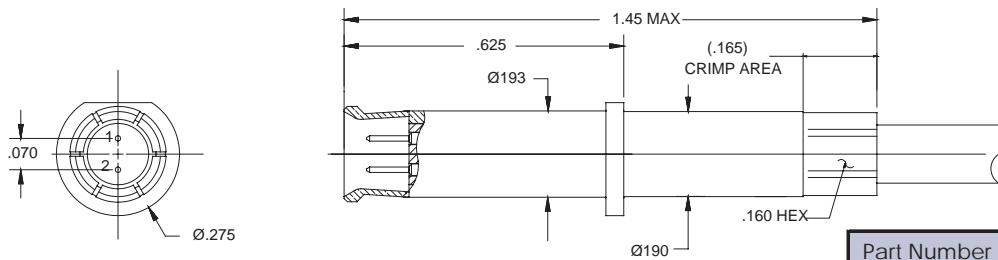
SIZE 10 TWINAX SPECIAL CRIMP AND SOLDER CONTACTS

## Size 10 Twinax Pin Crimp Contact 100 Ohm



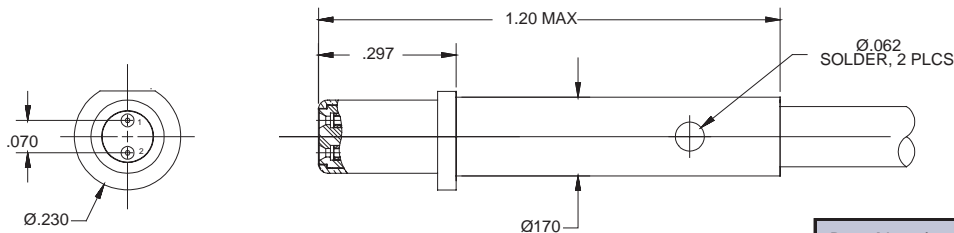
Part Number	Cable Type	Cable
018834-8000	Differential Twinax	540-1153-000

## Size 10 Twinax Socket Crimp Contact 100 Ohm



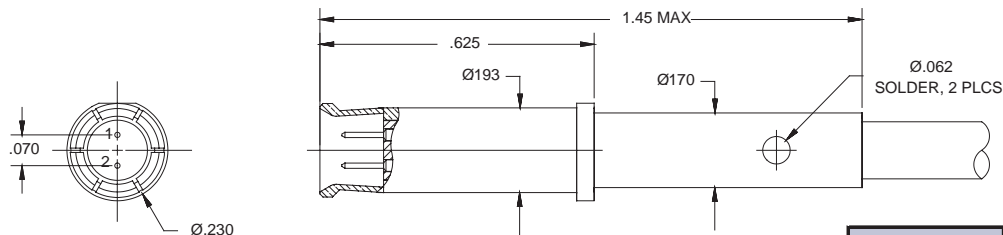
Part Number	Cable Type	Cable
018934-8000	Differential Twinax	540-1153-000

## Size 10 Twinax Pin Solder Contact 100 Ohm



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

## Size 10 Twinax Socket Solder Contact 100 Ohm

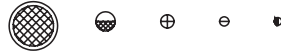


Part Number	Cable Type	Cable
018934-8001	Differential Twinax	540-1153-000

See Page 108 for Cable Assembly Ordering Information



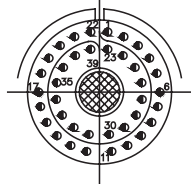




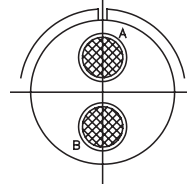
CONTACT LEGEND 8 12 16 20 22D  
 Size #8 Twinax /Quadrax (T/Q) Cavities are Anti-Rotational



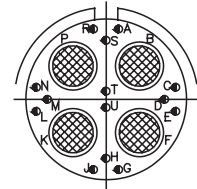
9-5 INSERT  
1 #8 T/Q



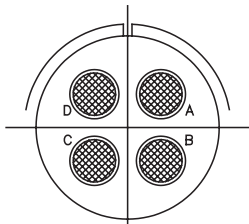
17-2 INSERT  
1 #8 T/Q  
38 #22D



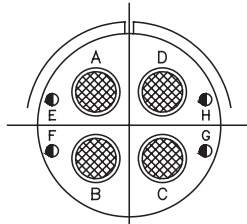
17-82 INSERT  
2 #8 T/Q



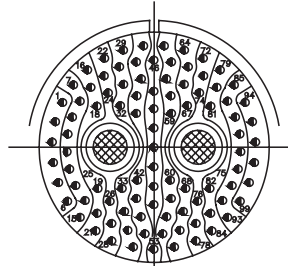
19-18 INSERT  
4 #8 T/Q  
14 #22D



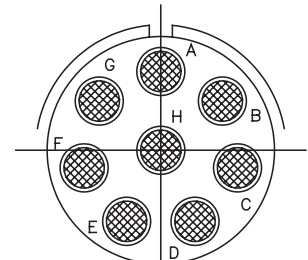
21-75 INSERT  
4 #8 T/Q



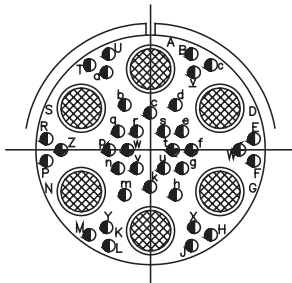
21-4T4 INSERT  
4 #8 T/Q  
4 #22D



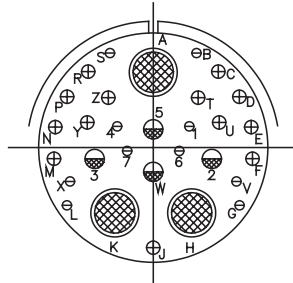
25-7 INSERT  
2 #8 T/Q  
97 #22D



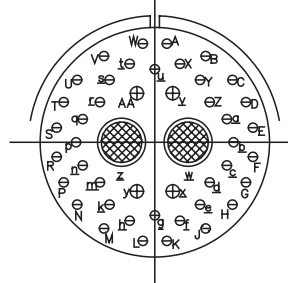
25-8 INSERT  
8 #8 T/Q



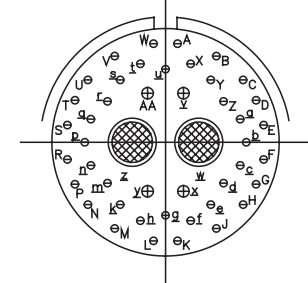
25-17 INSERT  
6 #8 T/Q  
36 #22D



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



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



25-90 INSERT  
2 #8 T/Q  
4 #16  
40 #20

**Note:**

Size #8 Twinax/Quadrax contact cavities are common ground to the connector shell with a ground resistance of 10 milli-ohms maximum or insulated from common ground. Consult factory for details.

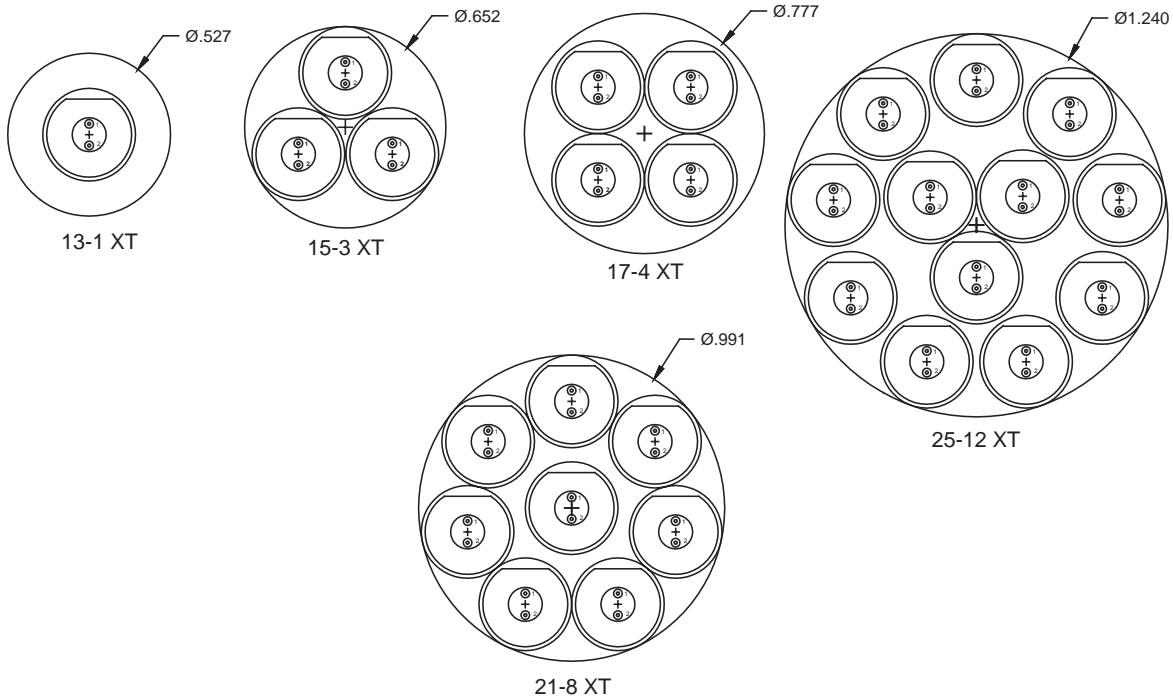


# TWINAX SIZE 10 INSERT ARRANGEMENTS

SPECIAL SIZE 10XT CONTACT LAYOUTS

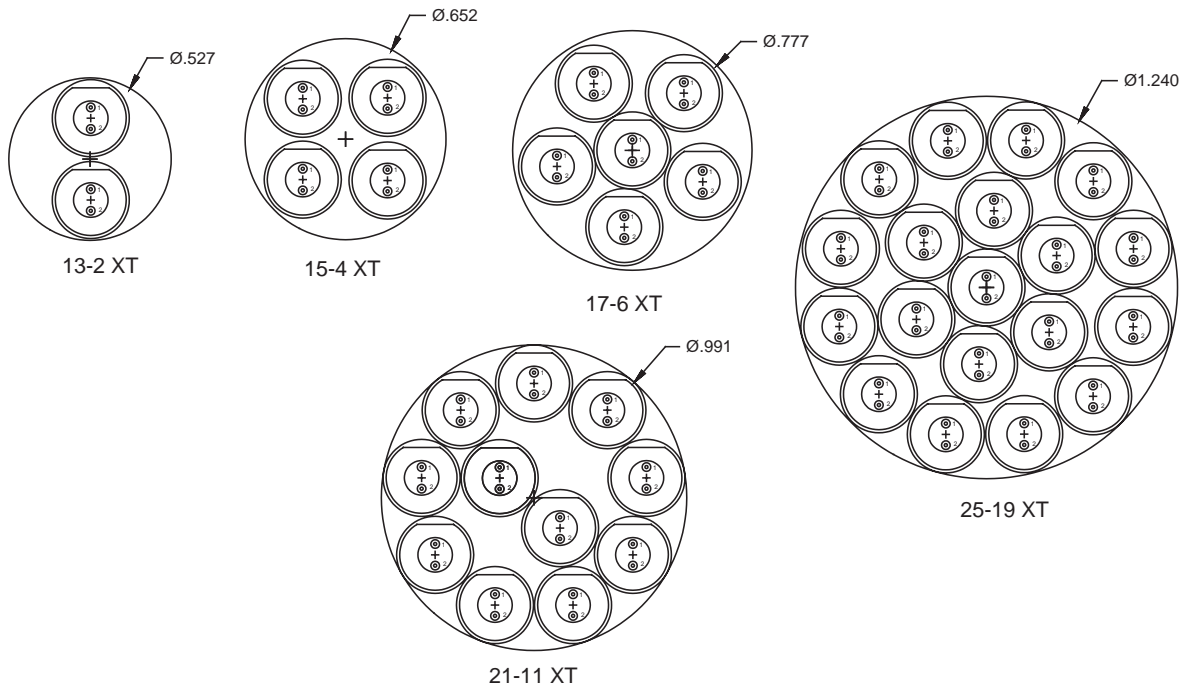
## Sabritec Size 10XT Twinax Contact Layouts Crimp Version

Contact cavities are anti-rotational to fit Size 10 Twinax 100 Ohm differential pair impedance Contacts



Suitable for Sabritec P/N: 018834-8000 and 018934-8000

## Sabritec Size 10XT Twinax Contact Layouts Solder Version



Suitable for Sabritec P/N: 018834-8001 and 018934-8001



# ARINC 404 SERIES CONNECTORS

MIL-C-81659 ANTI-ROTATIONAL TWINAX INSERT ARRANGEMENTS



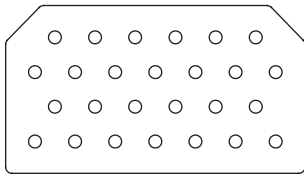
Sabritec's ARINC 404 connector series comes available with high speed Fibre Channel and/or Ethernet Twinax and Quadrax contacts. These connectors come standard with anti-rotational keyed insert assemblies and high speed differential pair signaling.

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 available.

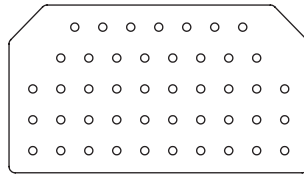
Fibre Channel

## ARINC 404 INSERT ARRANGEMENTS

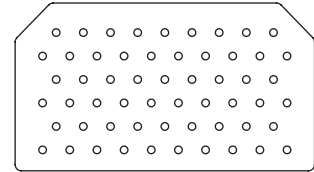
**NOTE: SIZE 5 TWINAX AND QUADRAX CONTACT CAVITIES ARE ANTI-ROTATIONAL**



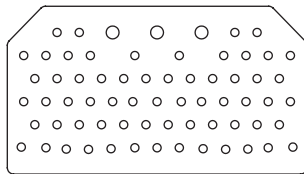
26 #16 CONTACTS  
Insert Arrangement: 26



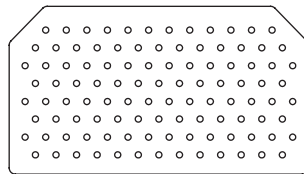
45 #20 CONTACTS  
Insert Arrangement: 45



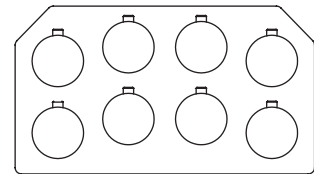
57 #20 CONTACTS  
Insert Arrangement: 57



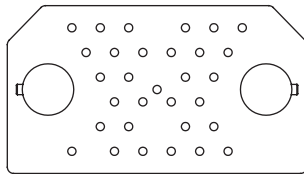
64 #20, 3 #16 CONTACTS  
Insert Arrangement: 67



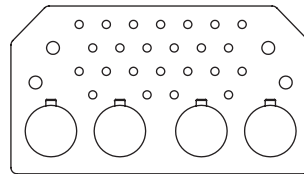
106 #22 CONTACTS  
Insert Arrangement: 106



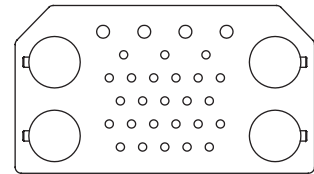
8 #5 TWINAX/QUADRAX  
Insert Arrangement: 8T8



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

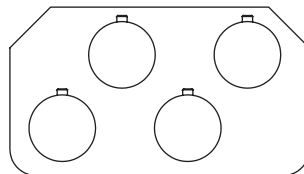


24 #20, 4 #16,  
4 #5 TWINAX/QUADRAX  
Insert Arrangement: 32T4



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

For ARINC Size 1 Quad Contact Only



4 #1 QUAD CONTACT  
Insert Arrangement: 4Q1



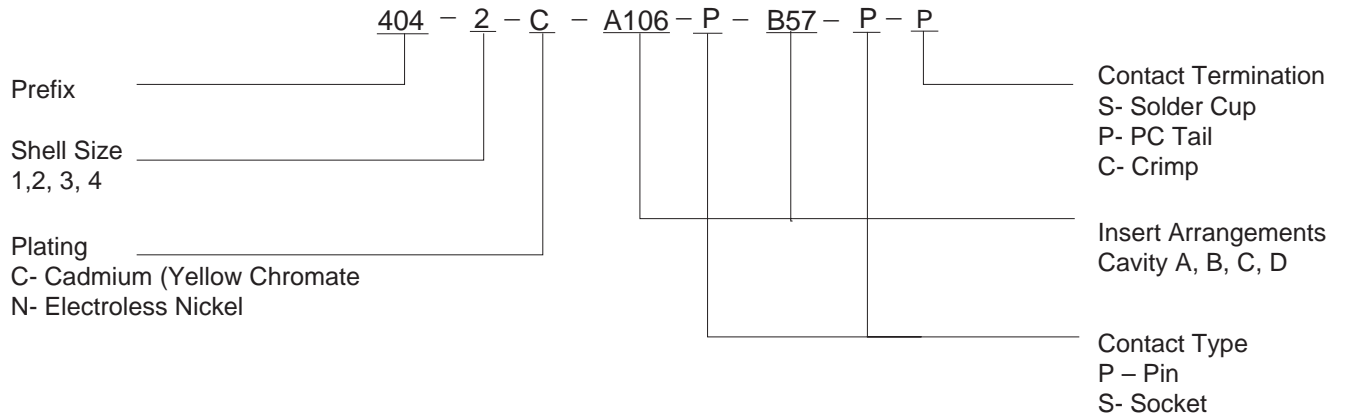




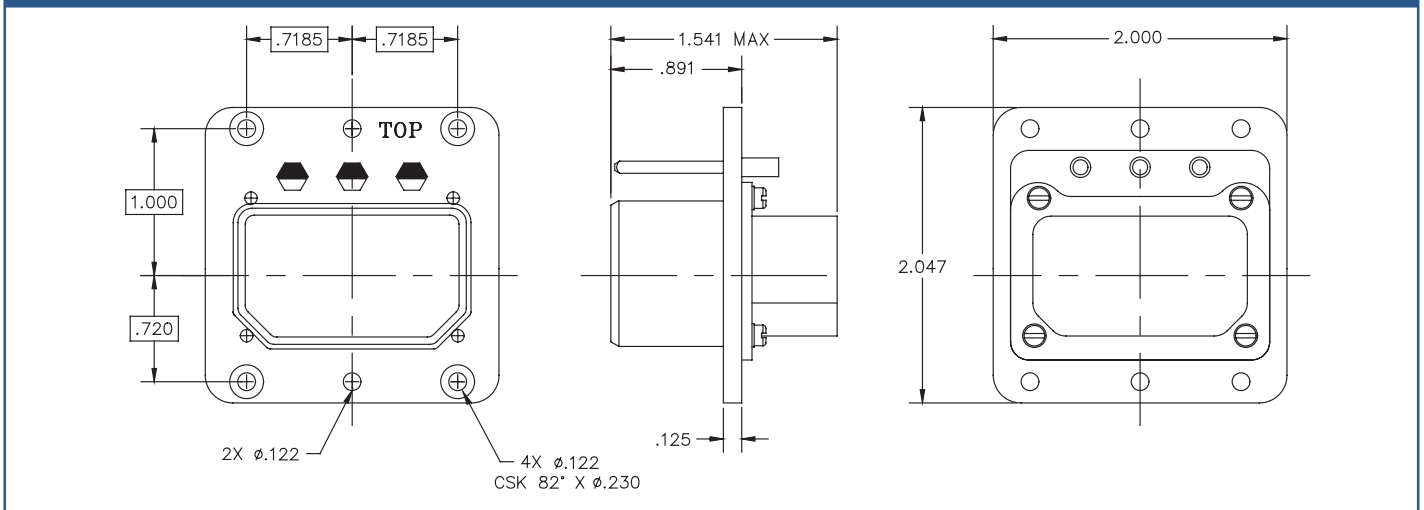
# ARINC 404 SERIES CONNECTORS

MIL-C-81659 SHELL SIZE 1

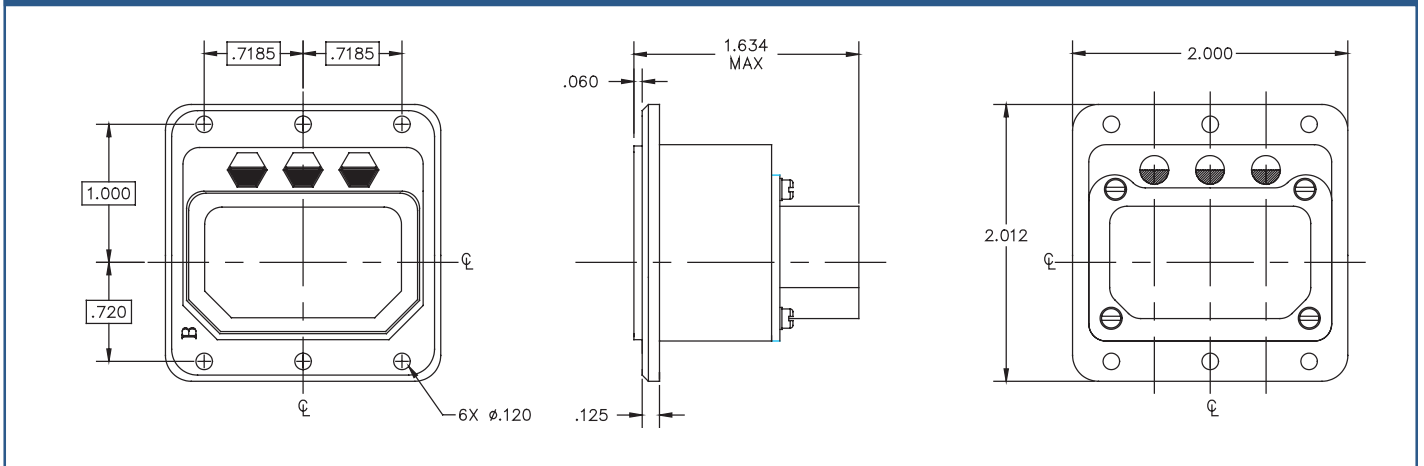
## Part Number Assignment



## ARINC 404 Shell Size 1 Plug



## Arinc 404 Shell Size 1 Receptacle

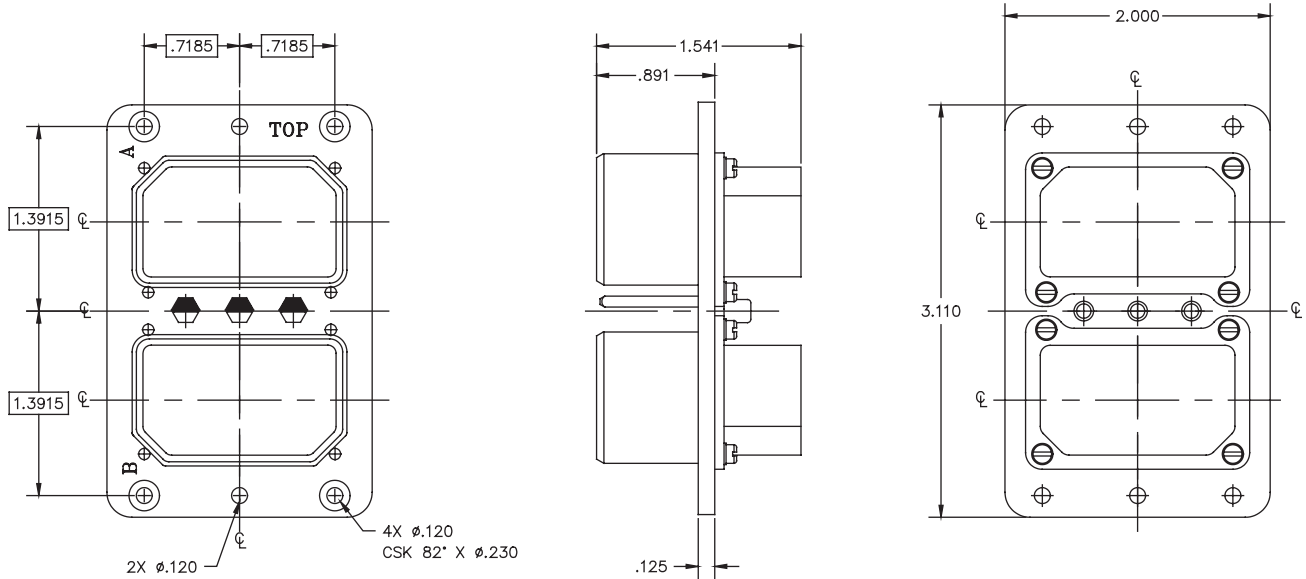




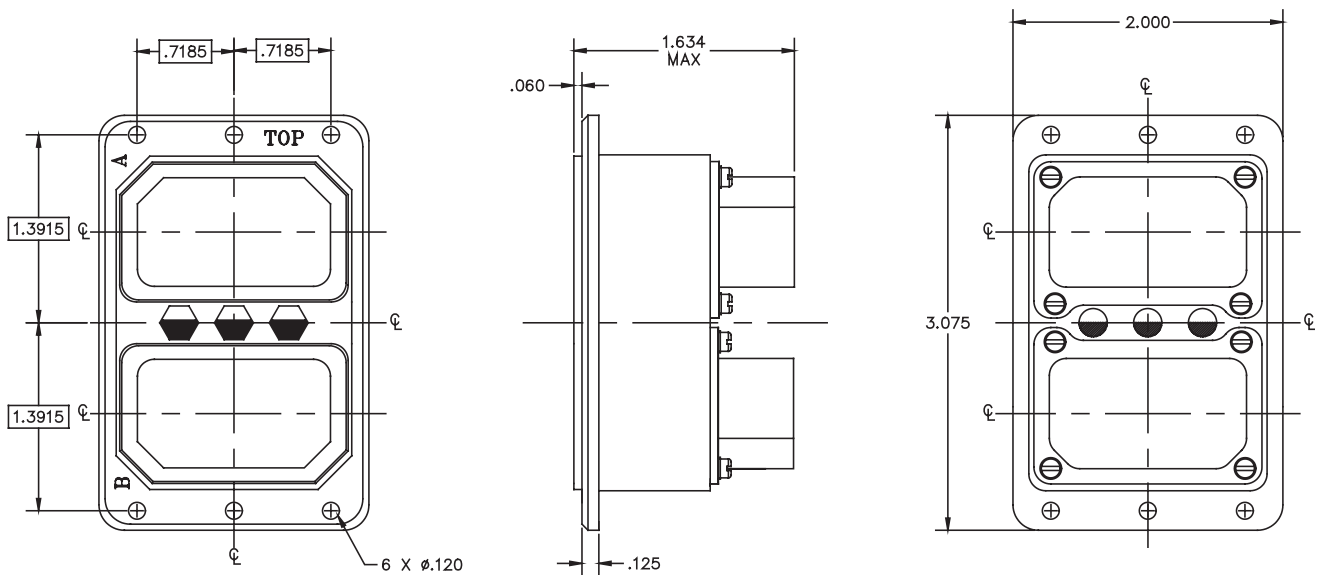
# ARINC 404 SERIES CONNECTORS

MIL-C-81659 SHELL SIZE 2

## ARINC 404 Shell Size 2 Plug



## ARINC 404 Shell Size 2 Receptacle

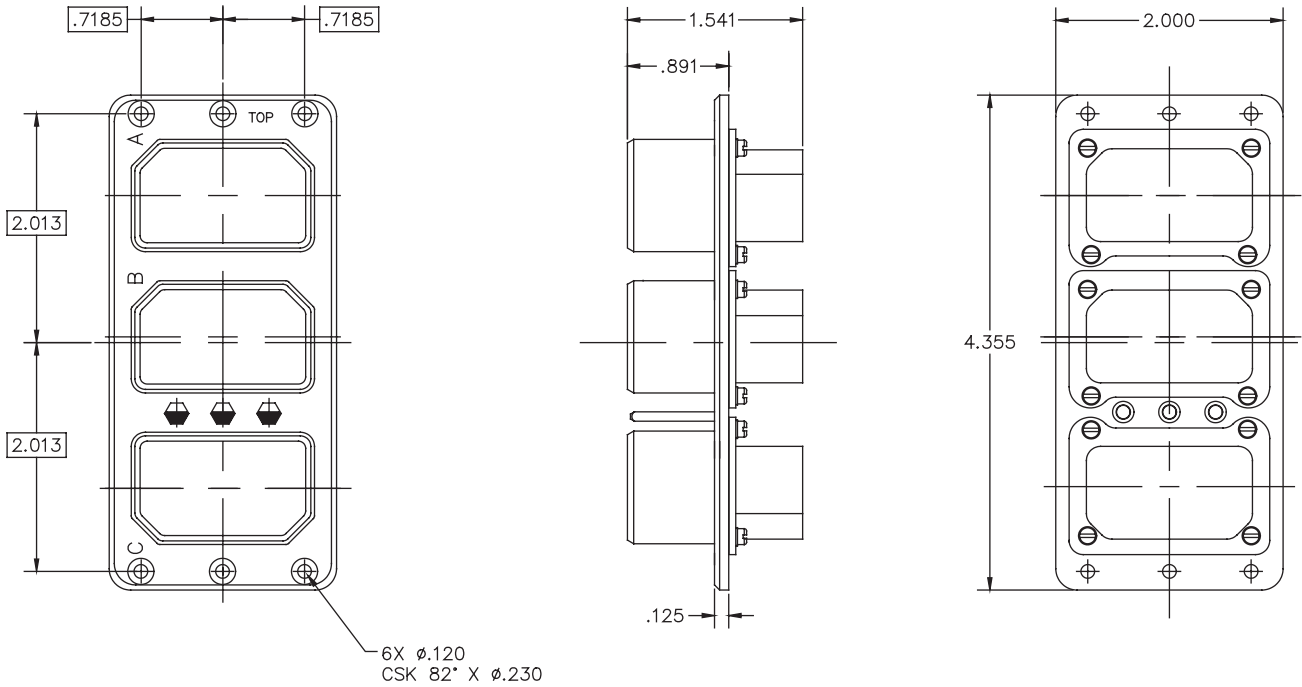




# ARINC 404 SERIES CONNECTORS

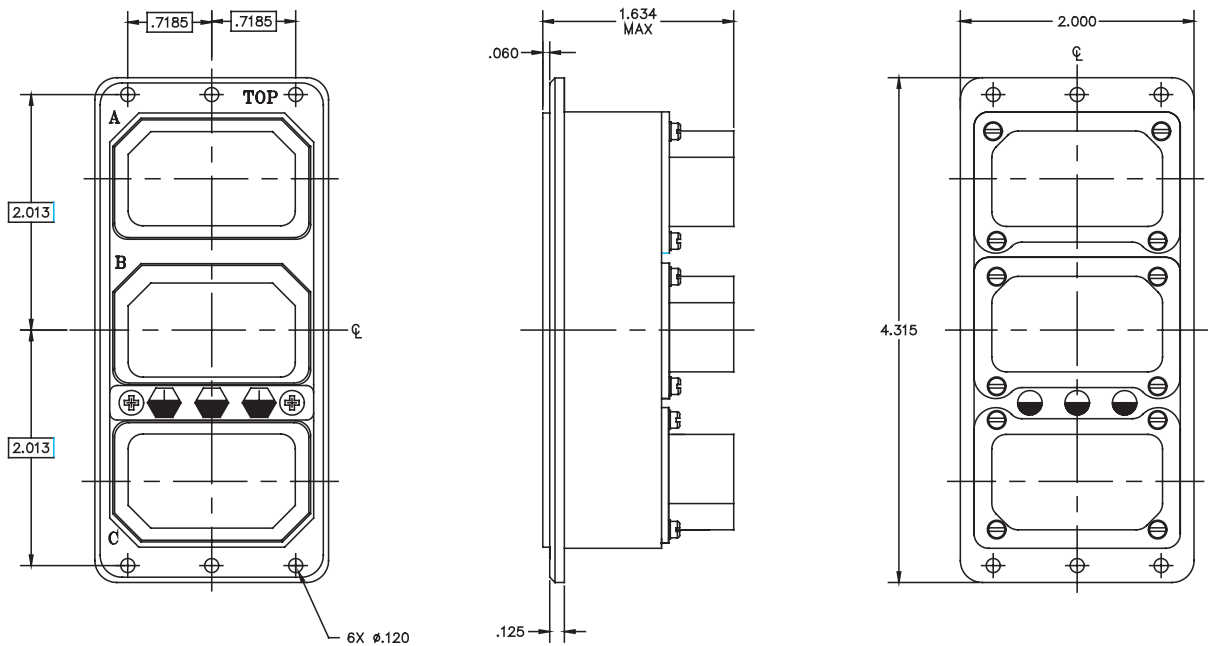
MIL-C-81659 SHELL SIZE 3

## ARINC 404 Shell Size 3 Plug



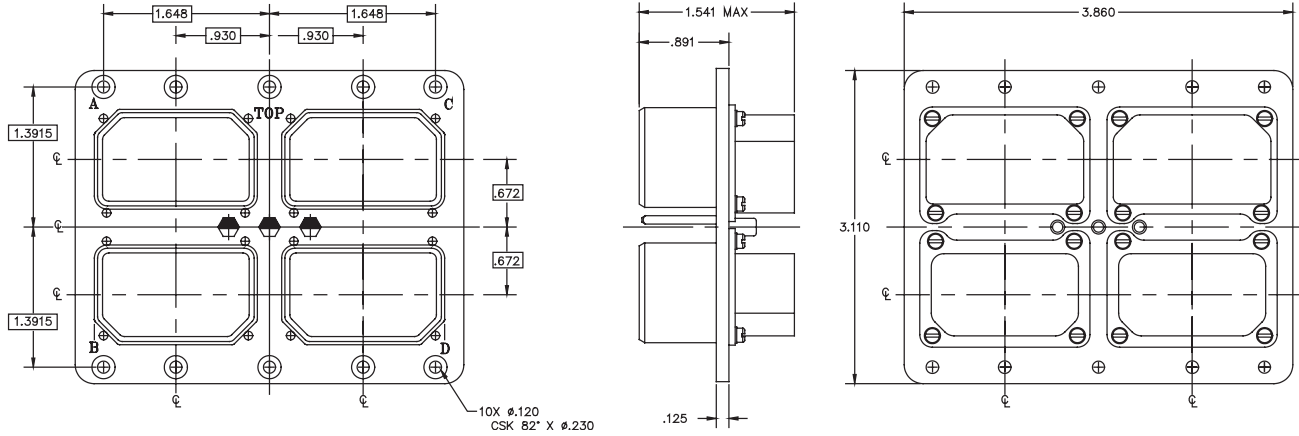
Fibre Channel

## ARINC 404 Shell Size 3 Receptacle

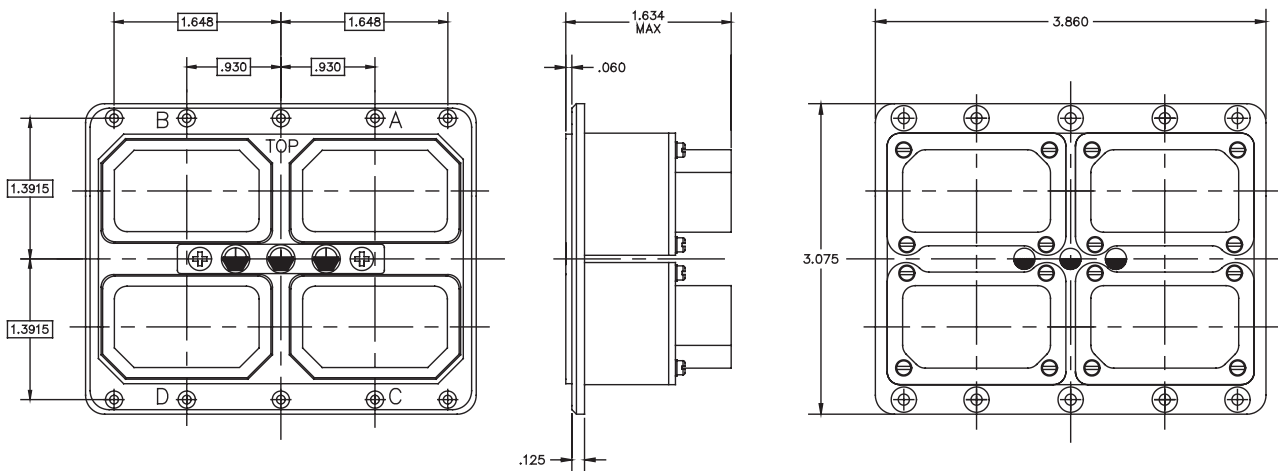




## ARINC 404 Shell Size 4 Plug



## ARINC 404 Shell Size 4 Receptacle

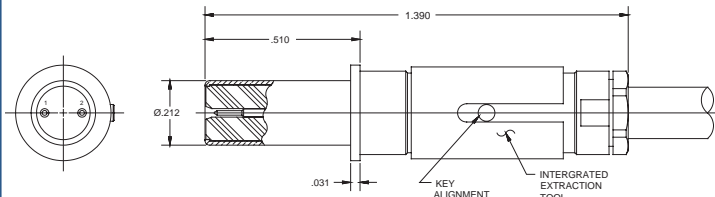




# ARINC 404 CONTACTS

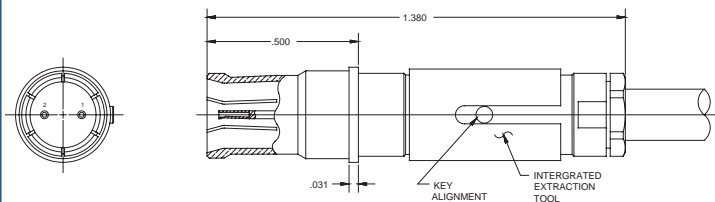
SIZE 5 TWINAX AND QUADRAX CONTACTS

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



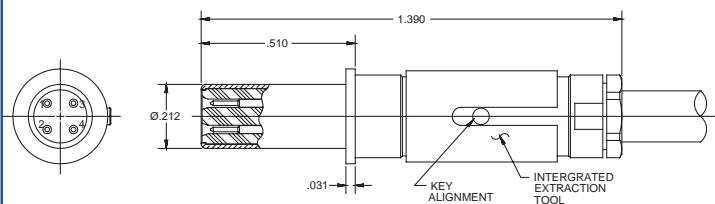
Part Number	Impedance	Cable Type	Cable
019434-8000	150 Ohm	Differential Twinax	540-1099-000
019434-8001	150 Ohm	Differential Twinax	540-1114-000
019434-8003	100 Ohm	Flexible Twinax	540-1086-000
019434-8004	100 Ohm	Differential Twinax	540-1153-000
019434-8005	100 Ohm	Flexible Twinax	540-1161-000

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



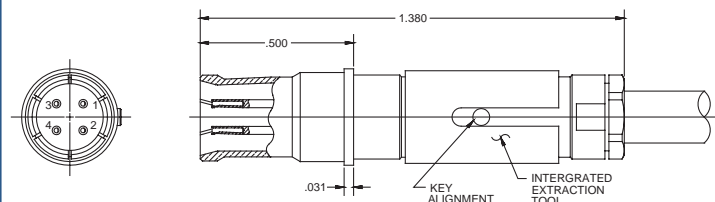
Part Number	Impedance	Cable Type	Cable
019334-8000	150 Ohm	Differential Twinax	540-1099-000
019334-8001	150 Ohm	Differential Twinax	540-1114-000
019334-8003	100 Ohm	Flexible Twinax	540-1086-000
019334-8004	100 Ohm	Differential Twinax	540-1153-000
019334-8005	100 Ohm	Flexible Twinax	540-1161-000

## ARINC 404 Size 5 Quadrax Pin Contact 100 Ohm



Part Number	Cable Type	Cable
019435-8000	Differential Quad	540-1165-000

## ARINC 404 Size 5 Quadrax Socket Contact 100 Ohm



Part Number	Cable Type	Cable
019335-8000	Differential Quad	540-1165-000

See Page 108 for Cable Assembly Ordering Information

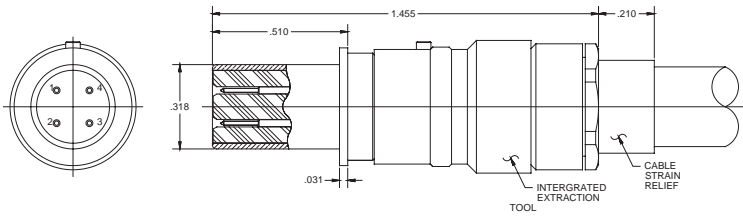




# ARINC 404 CONTACTS

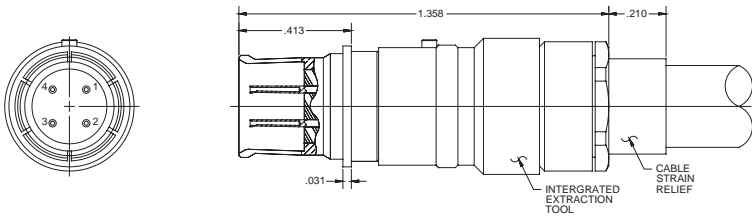
SIZE 1 QUADRAX CONTACTS 100 AND 150 OHM

## ARINC 404 Size 1 Quadrax Pin Contact 100 and 150 Ohm



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

## ARINC 404 Size 1 Quadrax Socket Contact 100 and 150 Ohm



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

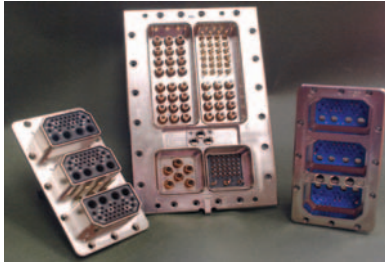
See Page 108 for Cable Assembly Ordering Information





# ARINC 600 ETHERNET INSERTS

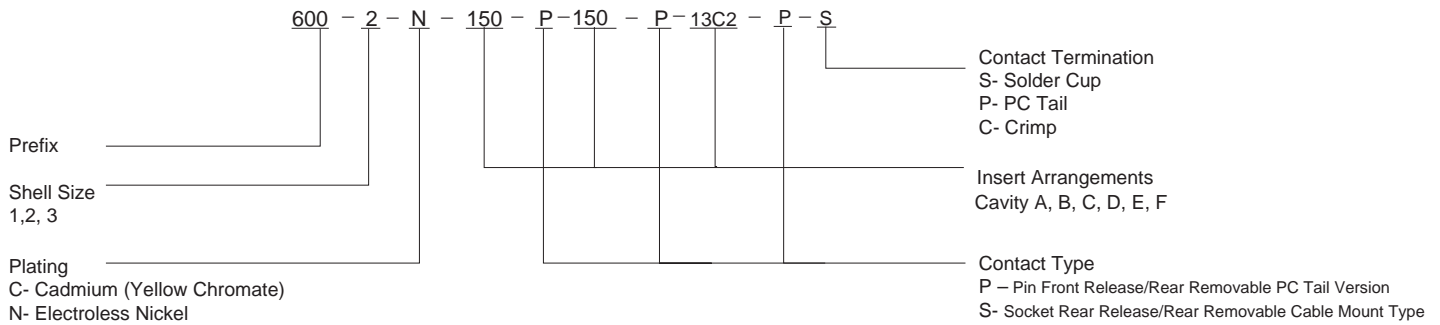
ETHERNET 100 OHM INSERT ARRANGEMENTS



Sabritec's ARINC 600 connector series is available with High Speed Ethernet insert assemblies. 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.

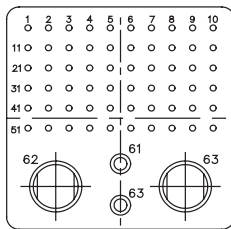
The ARINC 600 Series can also be routed with ruggedized expanded beam fiber optic contacts or concentric triaxial contacts designed for numerous low-loss twinaxial and concentric triax cables in a variety of impedance values.

## Part Number Assignment

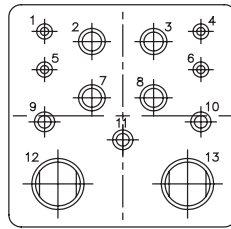


## Insert Arrangements

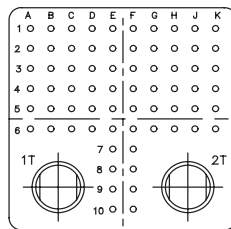
### ARINC 600 Front Release/Front Removable Insert Layouts



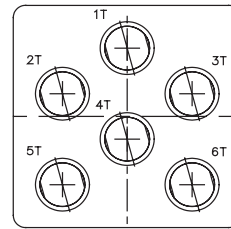
II -62Q2  
6U SIZE 22  
2 SIZE 16  
2 SIZE 8



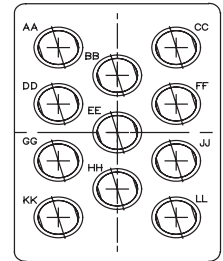
II -11Q2  
7 SIZE 20  
3 SIZE 16  
4 SIZE 12  
2 SIZE 8



II -68Q2  
6U SIZE 22  
2 SIZE 8

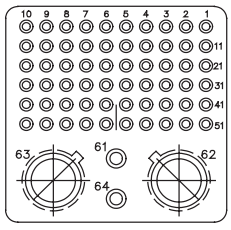


II -Q6  
SIZE 8  
METALLIC INSERT

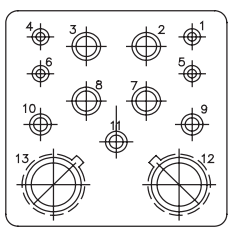


I -Q11  
11 SIZE 8  
METALLIC INSERT

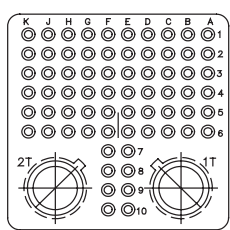
### ARINC 600 Rear Release/Rear Removable Insert Layouts



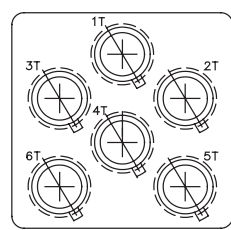
II -62Q2  
6U SIZE 22  
2 SIZE 16  
2 SIZE 8



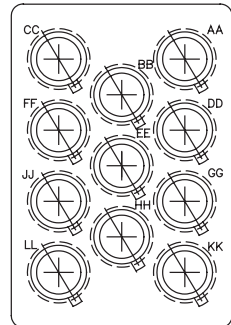
II -11Q2  
7 SIZE 20  
3 SIZE 16  
4 SIZE 12  
2 SIZE 8



II -68Q2  
6U SIZE 22  
2 SIZE 8



II -Q6  
SIZE 8  
METALLIC INSERT

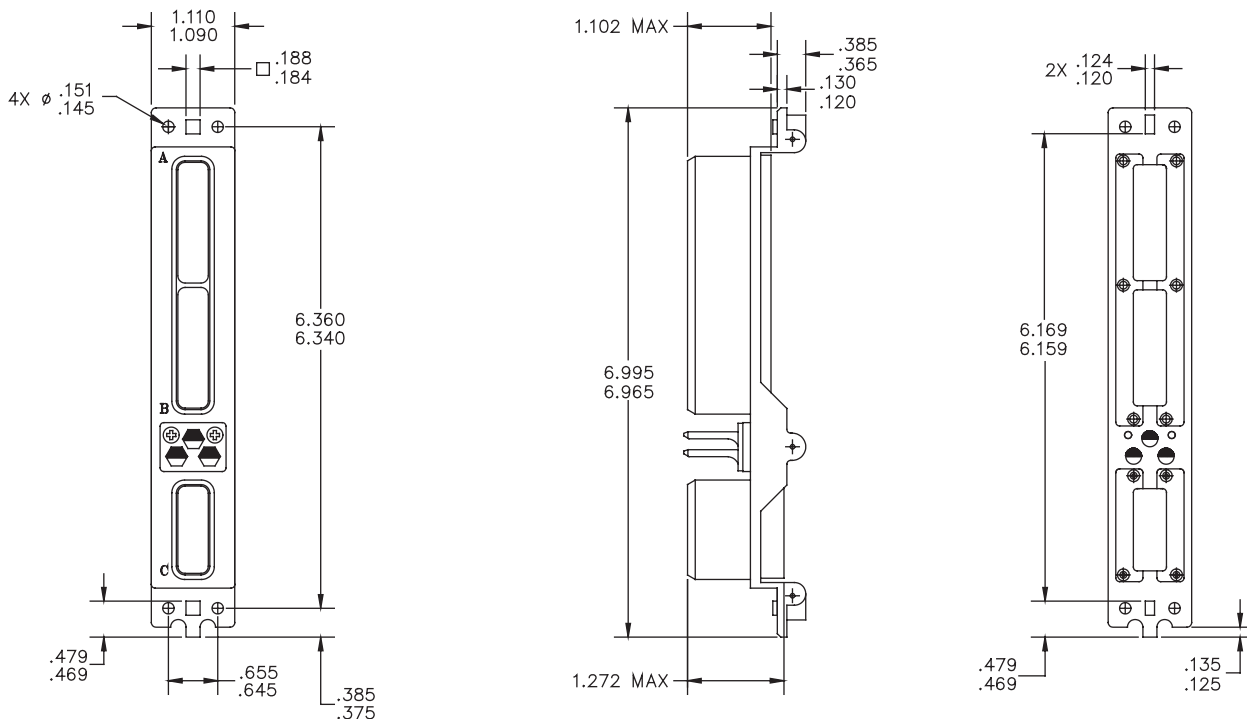


I -Q11  
11 SIZE 8  
METALLIC INSERT

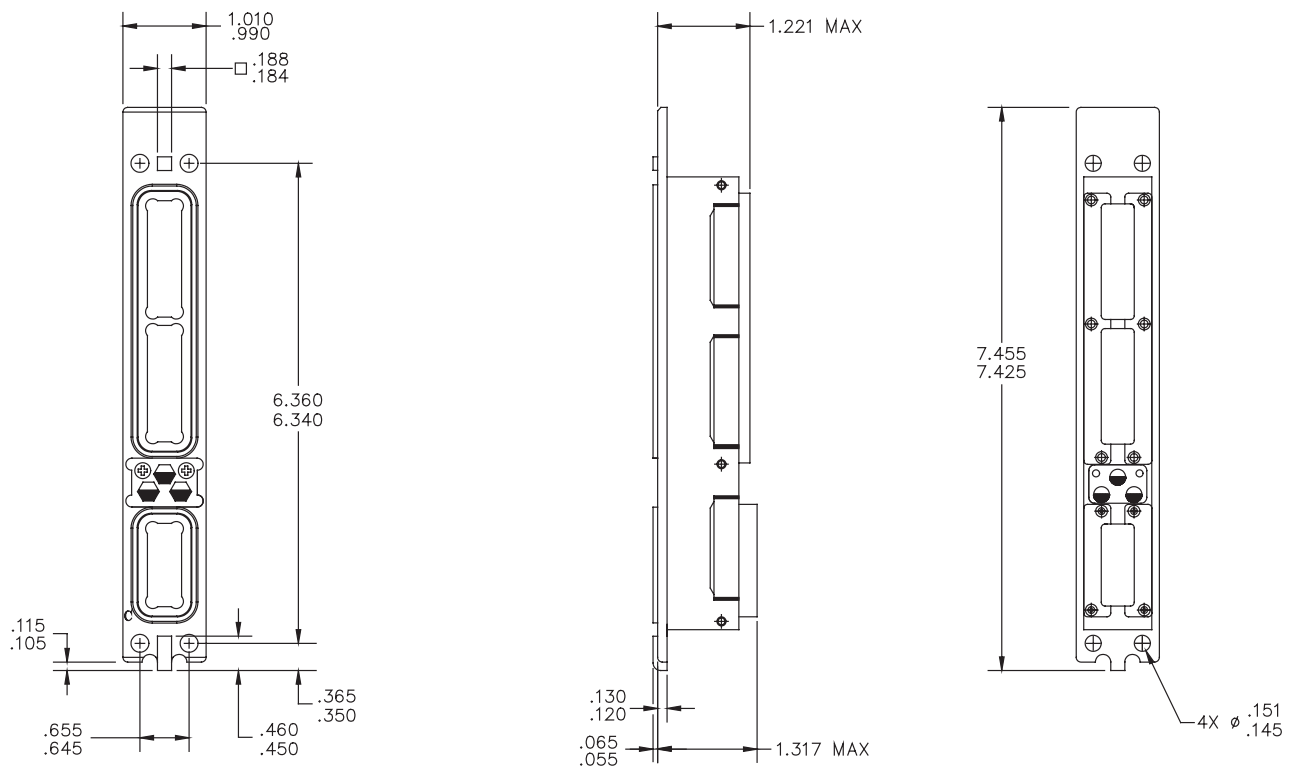




## ARINC 600 Shell Size 1 Plug



## ARINC 600 Shell Size 1 Receptacle

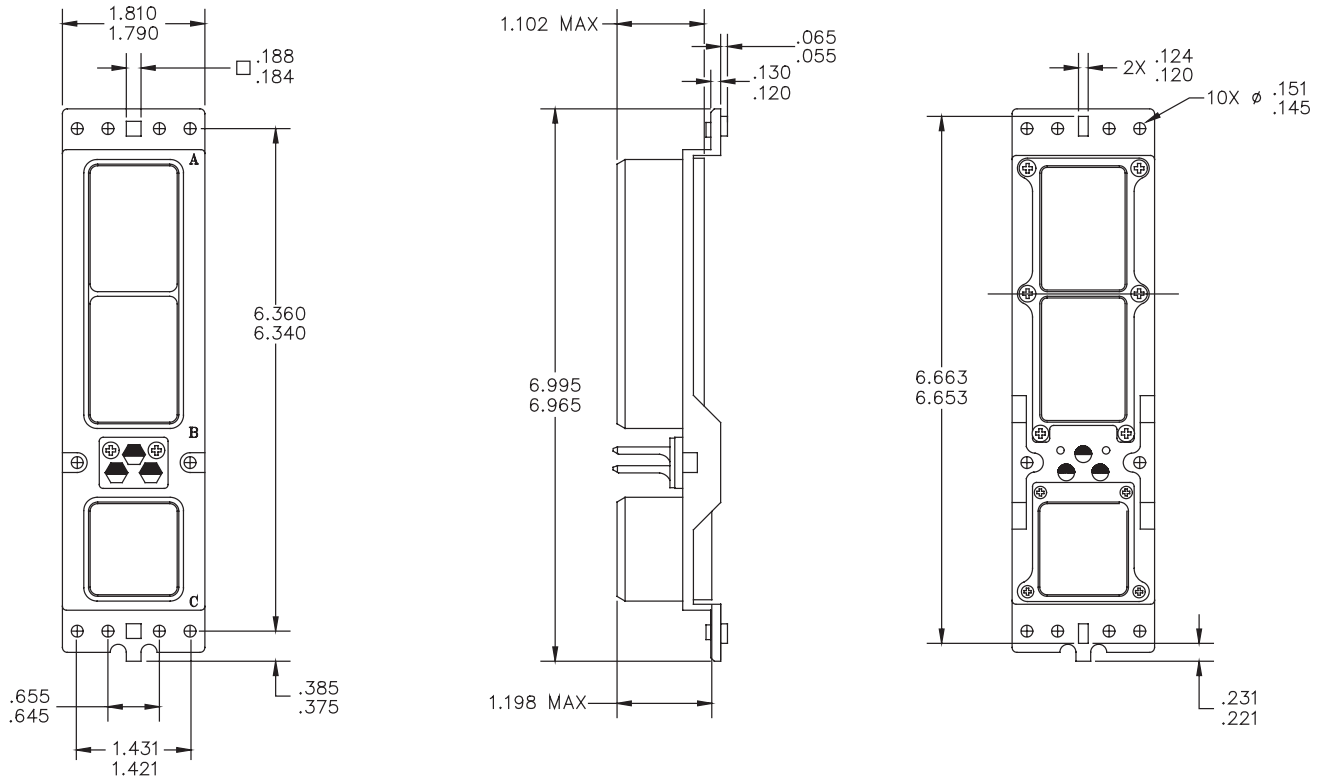




# ARINC 600 SHELL HOUSING

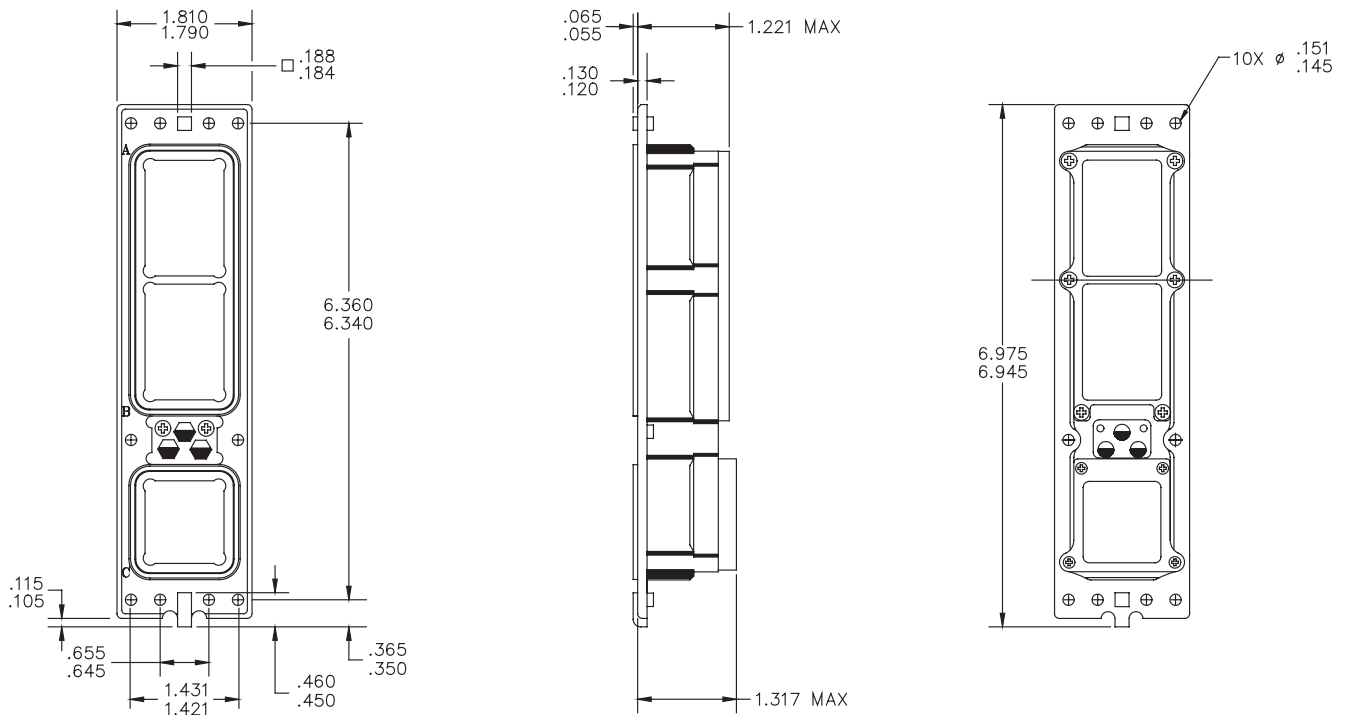
SHELL SIZE 2 RACK AND PANEL SERIES

## ARINC 600 Shell Size 2 Plug



Fibre Channel

## ARINC 600 Shell Size 2 Receptacle

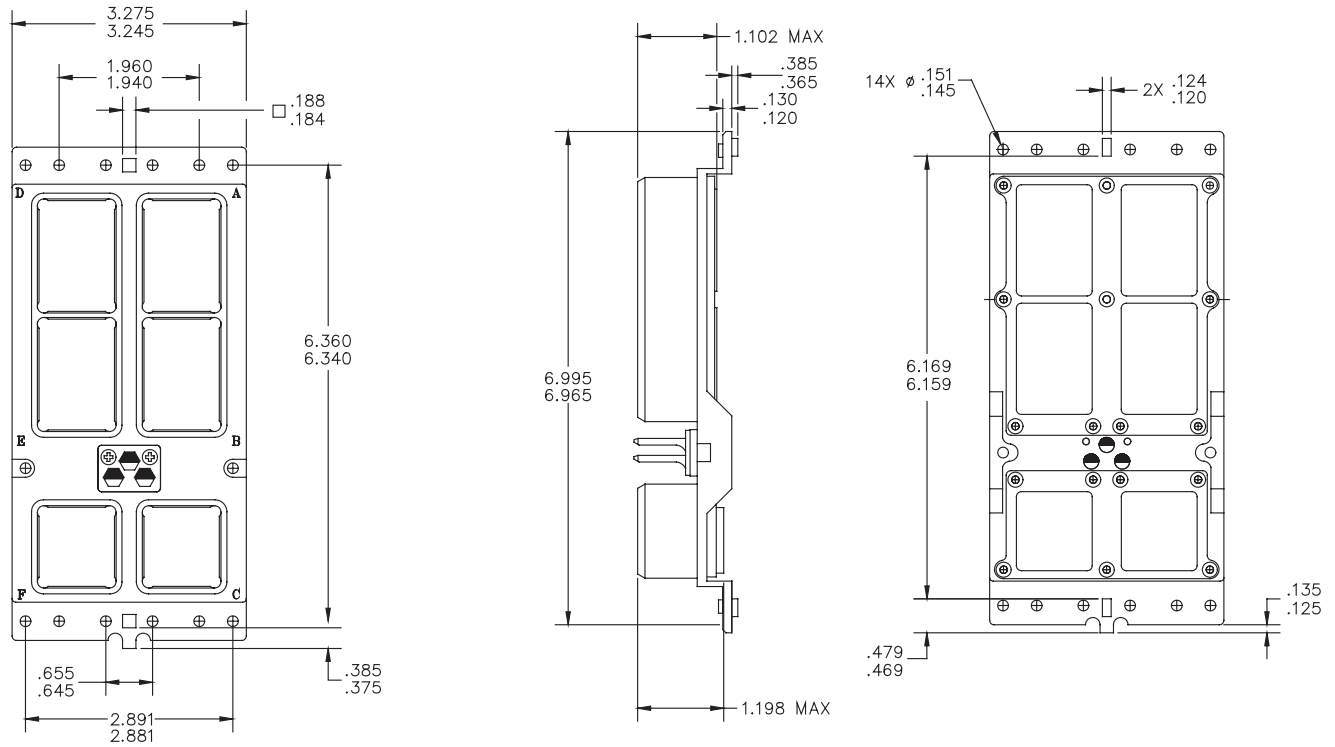




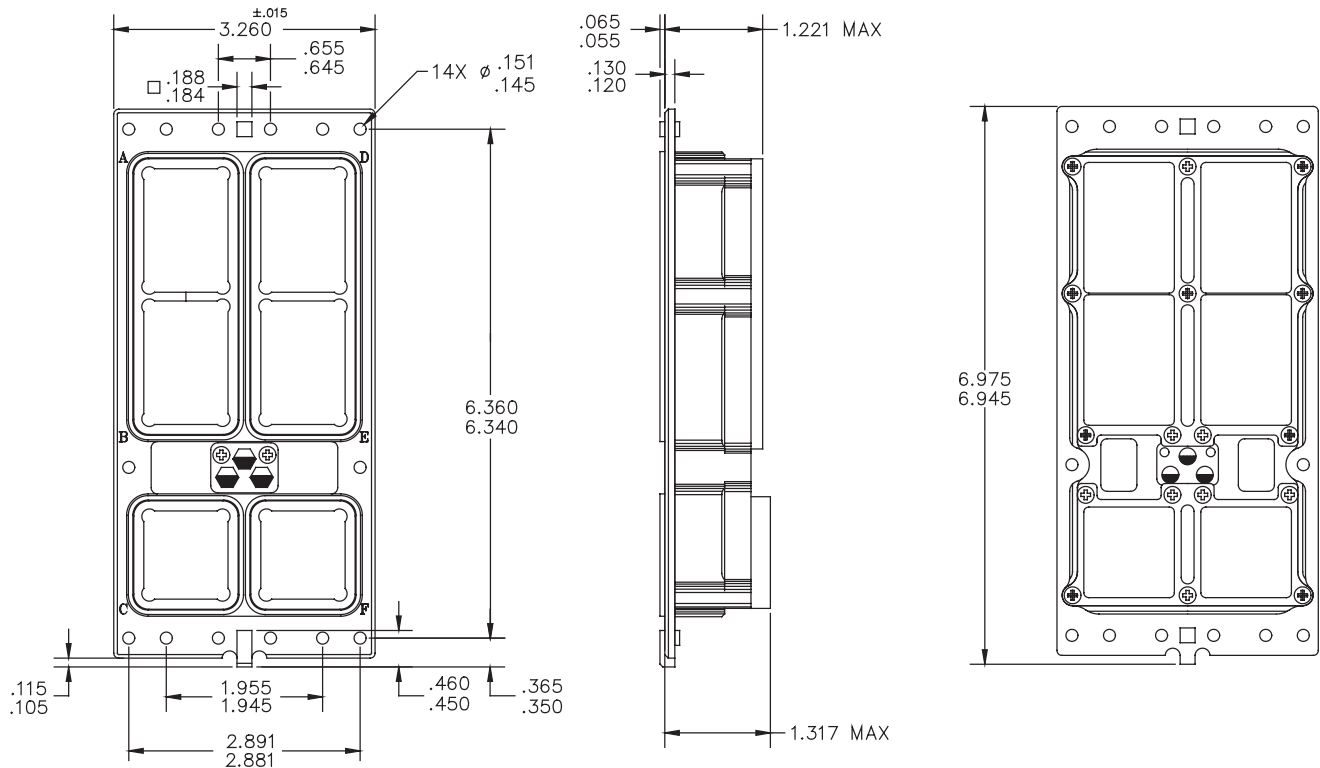
# ARINC 600 SHELL HOUSING

SHELL SIZE 3 RACK AND PANEL SERIES

## ARINC 600 Shell Size 3 Plug



## ARINC 600 Shell Size 3 Receptacle



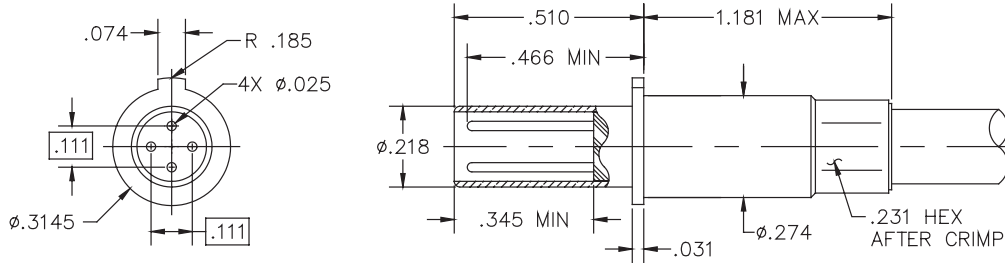
Fibre Channel



# SIZE 8 QUADRAX CONTACTS

ARINC 600 SIZE 8 MATCHED IMPEDANCE 100 OHM QUADRAX CONTACTS

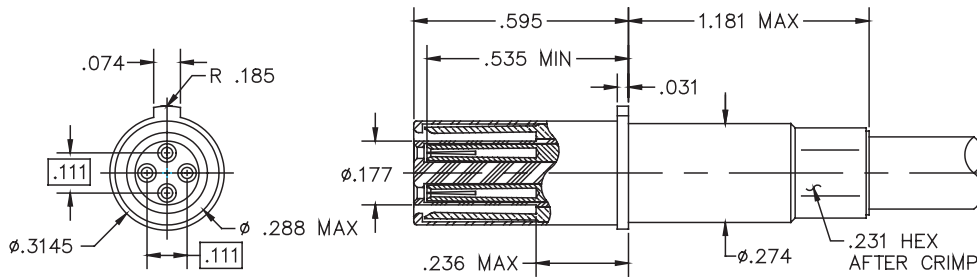
## ARINC 600 Removable Size 8 Pin Quadrax Contact 100 Ohm



Rear Release/Rear Removable

Part Number	Cable Type	Cable
019635-2001	Differential Quad	540-1165-000

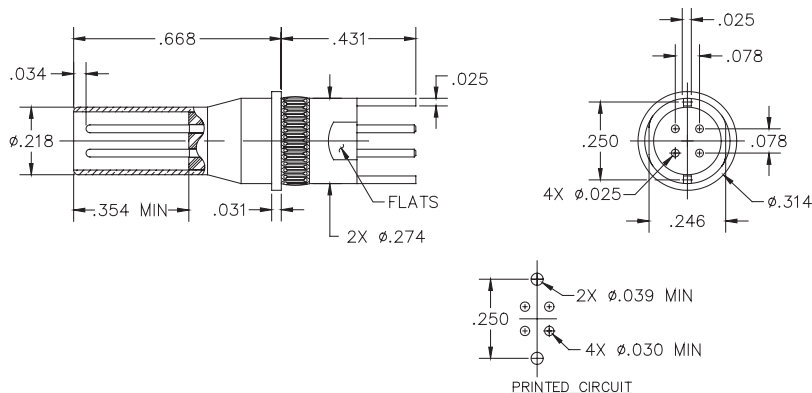
## ARINC 600 Removable Size 8 Socket Quadrax Contact 100 Ohm



Rear Release/Rear Removable

Part Number	Cable Type	Cable
019535-2003	Differential Quad	540-1165-000

## ARINC 600 Removable Size 8 Pin Quadrax Contact PCB Mount 100 Ohm



Front Release/Rear Removable

P/N 019617-2107

See Page 108 for Cable Assembly Ordering Information



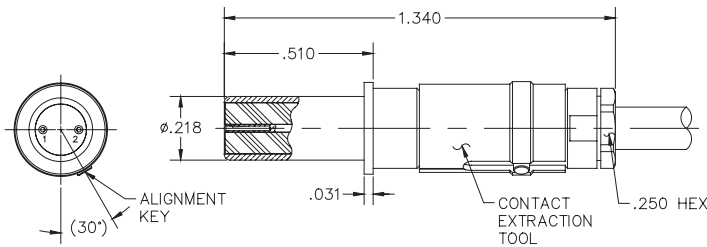




# SIZE 8 TWINAX CONTACTS

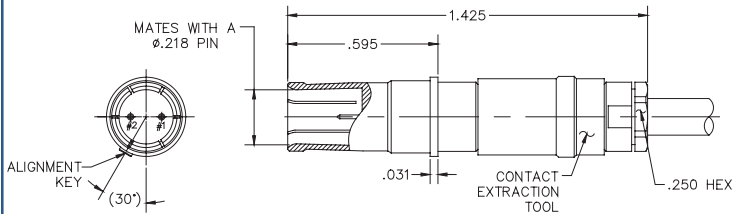
ARINC 600 SIZE 8 TWINAX CONTACTS

## ARINC 600 Size 8 Twinax Pin Contact 100 and 150 Ohm Matched Impedance

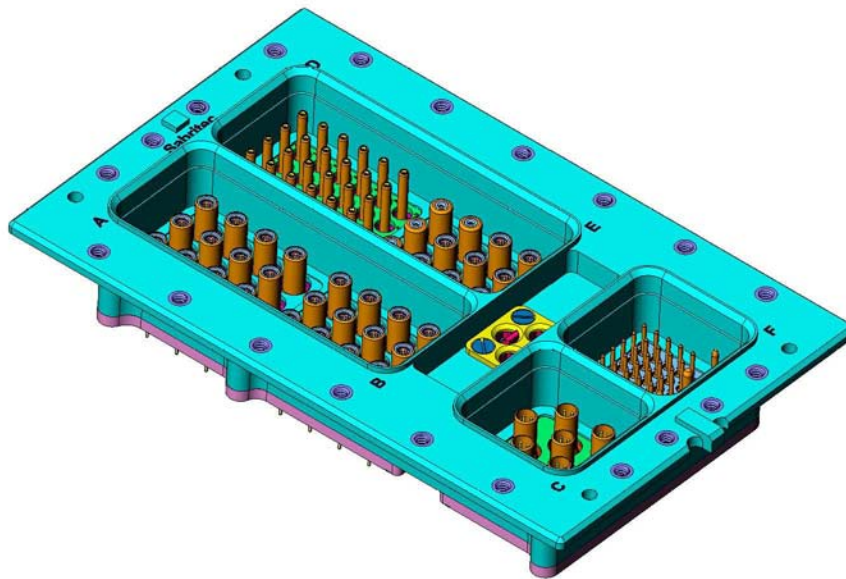


Part Number	Impedance	Cable Type	Cable
019411-2110	150 Ohm	Differential Twinax	540-1099-000
019411-2111	150 Ohm	Differential Twinax	540-1114-000
019411-2115	100 Ohm	Differential Twinax	540-1153-000
019411-2116	100 Ohm	Flexible Twinax	540-1161-000
019411-2117	100 Ohm	Flexible Twinax	540-1086-000

## ARINC 600 Size 8 Twinax Socket Contact 100 and 150 Ohm Matched Impedance



Part Number	Impedance	Cable Type	Cable
019311-2110	150 Ohm	Differential Twinax	540-1099-000
019311-2111	150 Ohm	Differential Twinax	540-1114-000
019311-2115	100 Ohm	Differential Twinax	540-1153-000
019311-2116	100 Ohm	Flexible Twinax	540-1161-000
019311-2117	100 Ohm	Flexible Twinax	540-1086-000



See Page 108 for Cable Assembly Ordering Information



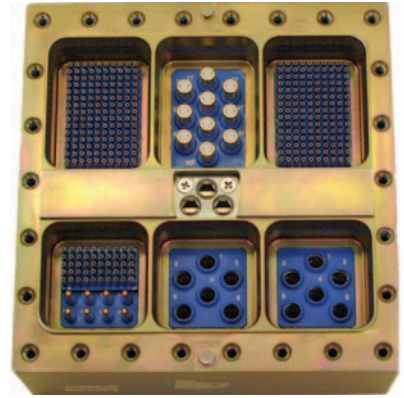
Fibre Channel



# MIL-DTL-83527 SERIES CONNECTORS

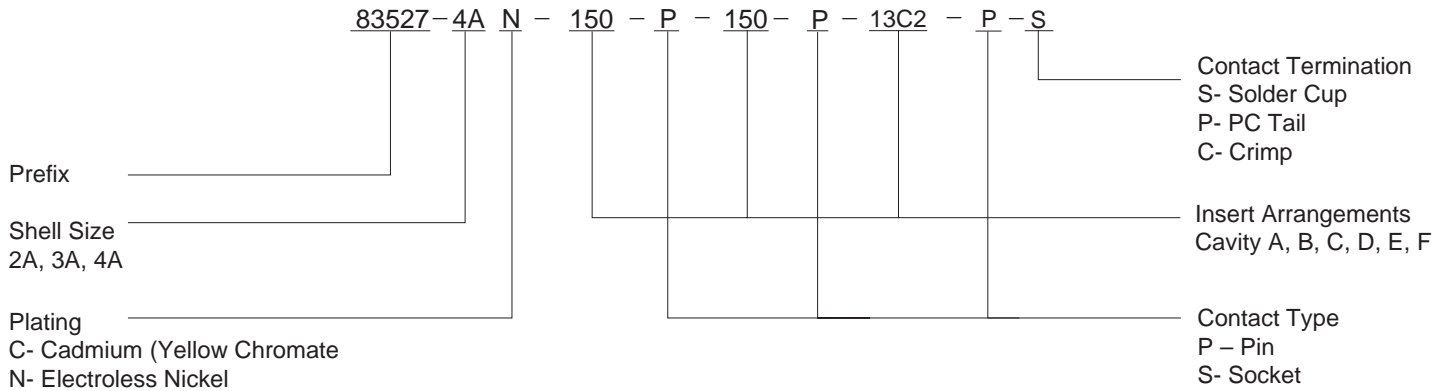
## PART NUMBER ASSIGNMENT AND INSERT ARRANGEMENTS

MIL-DTL-83527 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 including shock, vibration and humidity. Filtered EMI/EMP connectors are also available. Offered in a number of different contact arrangements and shell sizes, these connectors meet all applicable requirements of MIL-DTL-83527.

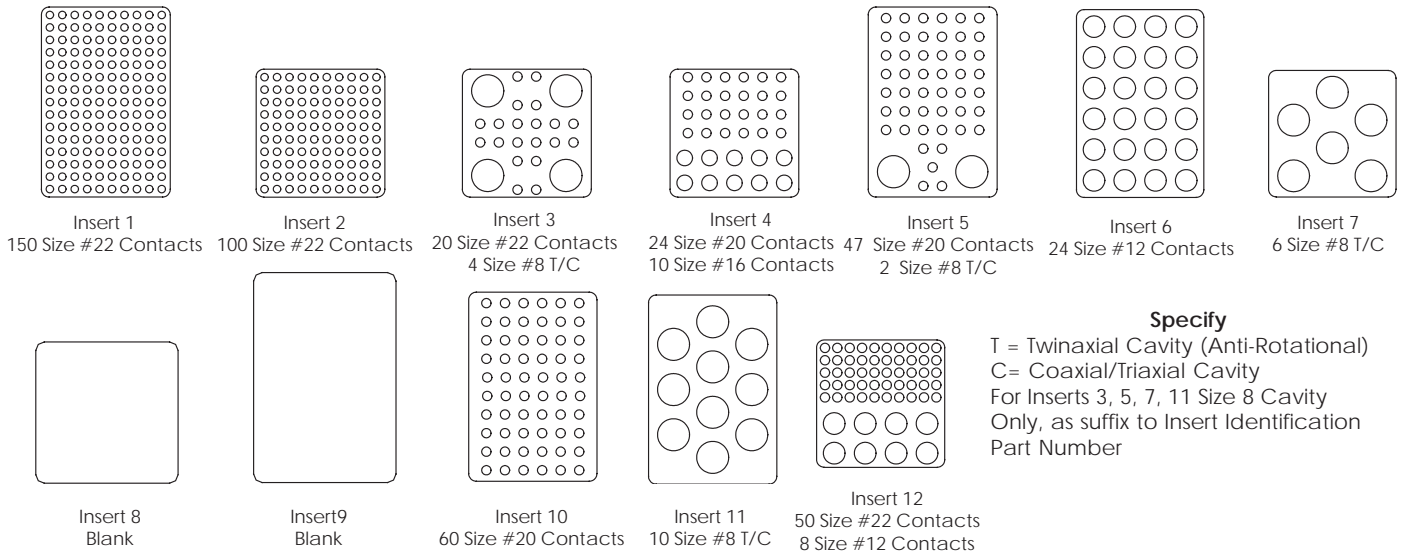


Fibre Channel

## MIL-DTL-83527 PART NUMBER ASSIGNMENT



## MIL-DTL-83527 INSERT ARRANGEMENTS

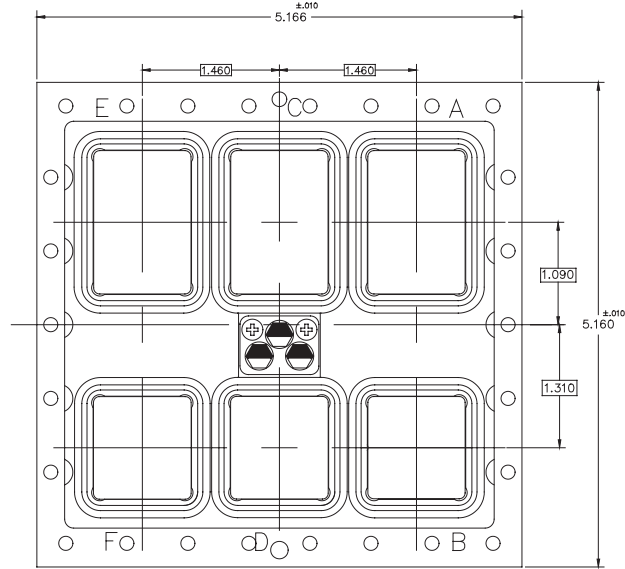
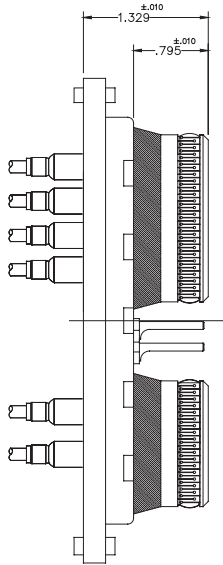




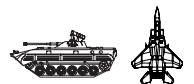
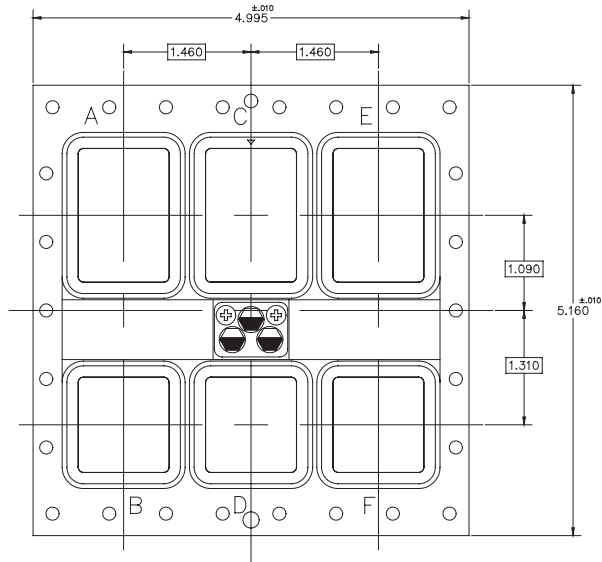
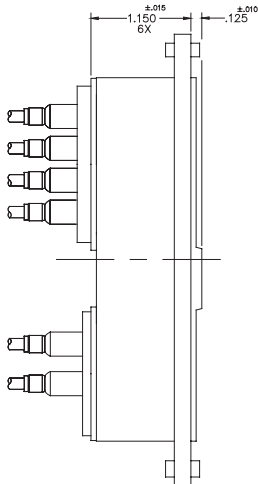
# MIL-DTL-83527 CONNECTORS

SHELL SIZE 4 PLUG AND RECEPTACLE

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



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

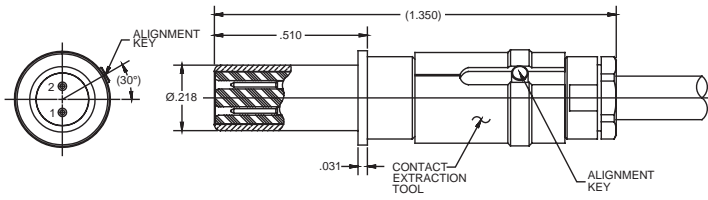




# MIL-DTL-83527 CONTACTS

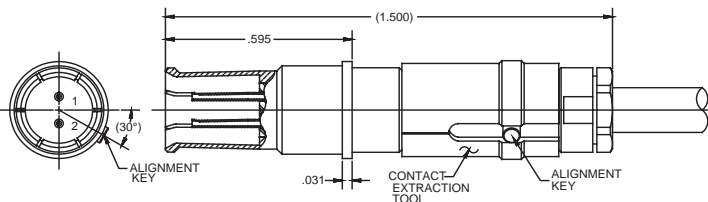
SIZE 8 TWINAX/QUADRAX CONTACTS

## MIL-DTL-83527 Size 8 Twinax Pin Contact 100 and 150 Ohm



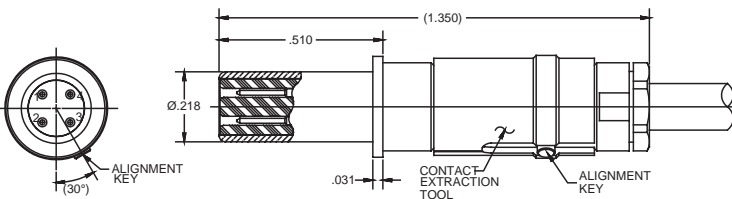
Part Number	Impedance	Cable Type	Cable
019634-0005	150 Ohm	Differential Twinax	540-1099-000
019634-0006	150 Ohm	Differential Twinax	540-1114-000
019634-0007	100 Ohm	Flexible Twinax	540-1086-000
019634-0008	100 Ohm	Differential Twinax	540-1153-000
019634-0009	100 Ohm	Flexible Twinax	540-1161-000

## MIL-DTL-83527 Size 8 Twinax Socket Contact 100 and 150 Ohm



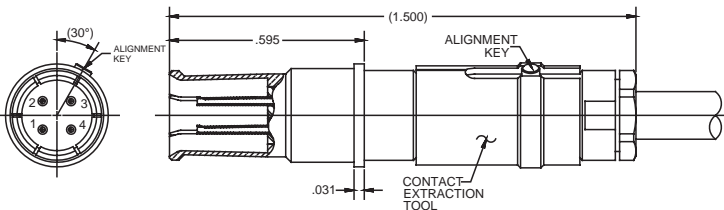
Part Number	Impedance	Cable Type	Cable
019534-0005	150 Ohm	Differential Twinax	540-1099-000
019534-0006	150 Ohm	Differential Twinax	540-1114-000
019534-0007	100 Ohm	Flexible Twinax	540-1086-000
019534-0008	100 Ohm	Differential Twinax	540-1153-000
019534-0009	100 Ohm	Flexible Twinax	540-1161-000

## MIL-DTL-83527 Size 8 Quadrax Pin Contact 100 Ohm



Part Number	Cable Type	Cable
019635-0000	Differential Quad	540-1165-000

## MIL-DTL-83527 Size 8 Quadrax Socket Contact 100 Ohm



Part Number	Cable Type	Cable
019535-0000	Differential Quad	540-1165-000

See Page 108 for Cable Assembly Ordering Information

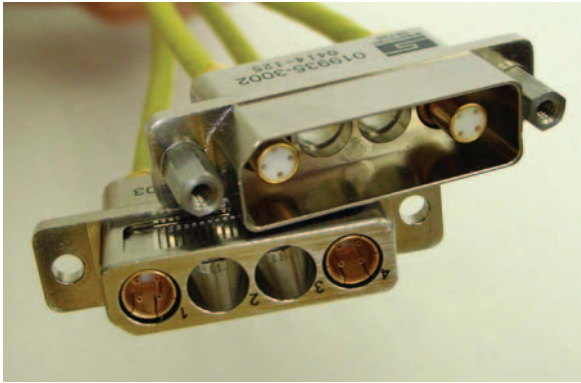






# HIGH SPEED RUGGED D-SUBMINIATURE CONNECTORS

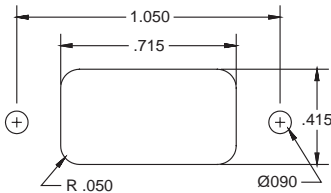
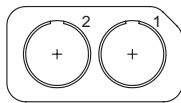
QUAD/TWINAX PANEL MOUNT D-SUBMINIATURE CONNECTORS



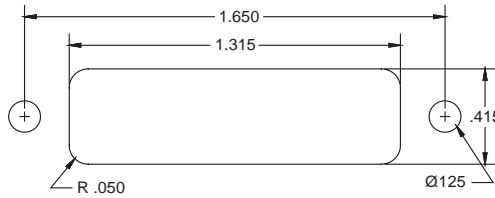
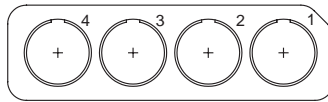
High impedance D-Sub connectors are designed to ground the outer shield of a twinax or quadax contact directly to the shell of the connector. A multi-finger ground spring, fixed around the shell provides a multi-point contact engagement for superior EMI shielding. The result is an extremely low contact 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. Meets or exceeds all requirements of MIL-STD-202 of shock and vibration. Offered with 100 ohm quadax and/or 100/150 ohm differential pair twinax contacts. Quadax contacts consist of four center contacts with a low impedance grounding shield. Twinax contacts offer true differential pair signaling with 100/150 Ohm impedance between conductors. Rugged D-Sub Quad / Twinax connectors are ideal for Rib Ethernet, Firewire and all fibre channel system requirements.

Fibre Channel

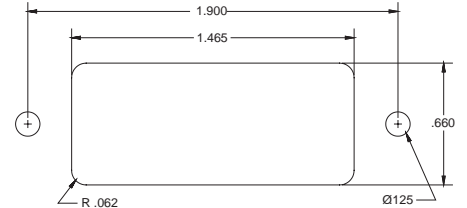
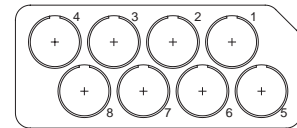
**Shell Size 1**  
**Arrangement 1-2**  
**2 # 9 Quad/Twinax Contacts**



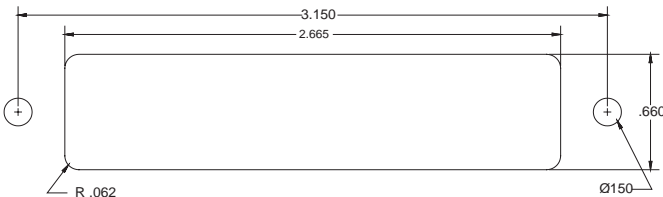
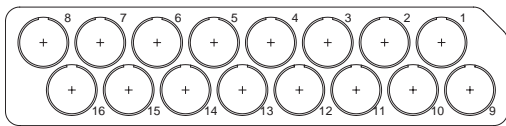
**Shell Size 2**  
**Arrangement 2-4**  
**4 # 9 Quad/Twinax Contacts**



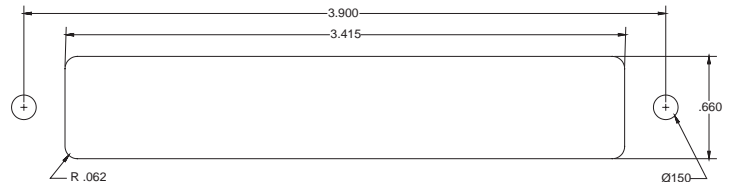
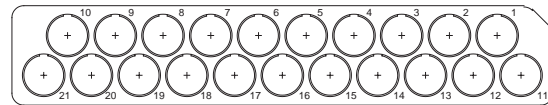
**Shell Size 3**  
**Arrangement 3-8**  
**8 # 9 Quad/Twinax Contacts**



**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.

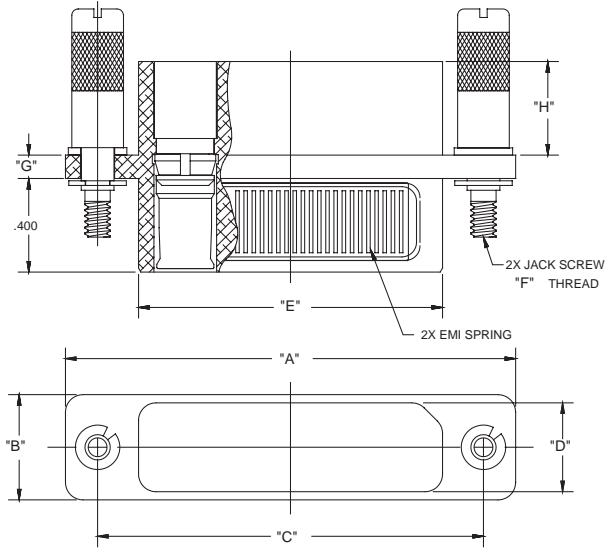




# HIGH SPEED RUGGED D-SUBMINIATURE CONNECTORS

QUAD/TWINAX PANEL MOUNT D-SUBMINIATURE CONNECTORS

## Quad/Twinax D-Sub Plug

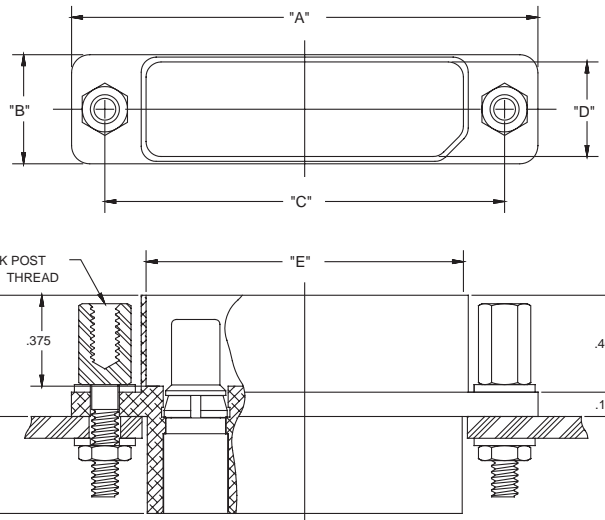


Contacts are sold separately

Part Number	Contacts	A	B	C	D	E	F	G	D
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

Fibre Channel

## Quad/Twinax D-Sub Receptacle



Contacts are sold separately

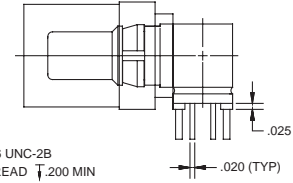
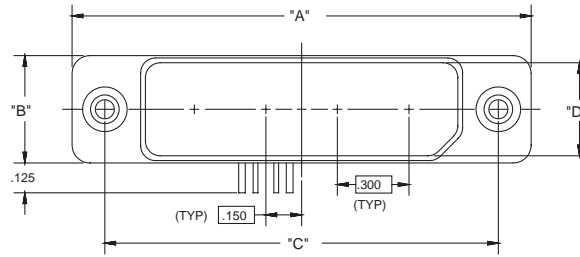
Part Number	Contacts	A	B	C	D	E	F
012800-3002	2	1.325	.450	1.050	.390	.710	#2-56
012800-3003	4	1.925	.450	1.650	.390	1.310	#4-40
012800-3004	8	2.300	.750	1.900	.635	1.460	#4-40
012800-3005	16	3.600	.750	3.150	.635	2.660	#6-32
012800-3006	21	4.350	.750	3.900	.635	3.410	#6-32



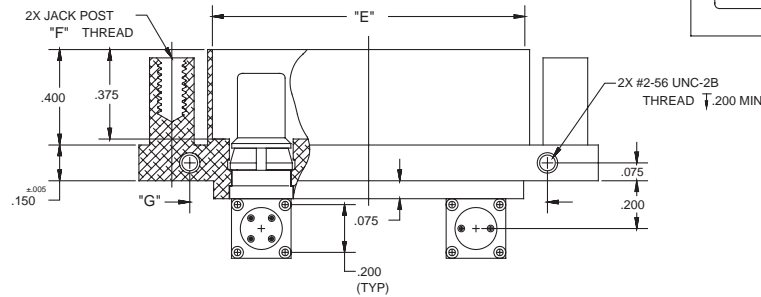
# HIGH SPEED RUGGED D-SUBMINIATURE CONNECTORS

QUAD/TWINAX PANEL MOUNT D-SUBMINIATURE CONNECTORS

## Quad/Twinax D-Sub PC Tail



Contacts are sold separately



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

Fibre Channel

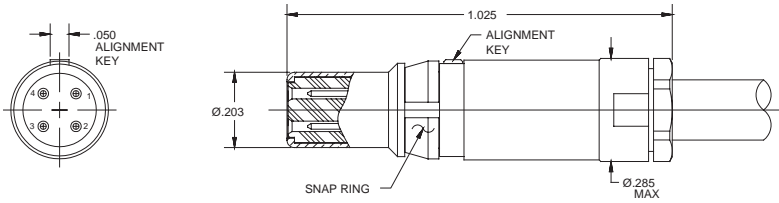




# SIZE 9 QUADRAX CONTACTS

HIGH SPEED RUGGED D-SUBMINIATURE CONTACTS 100 OHM

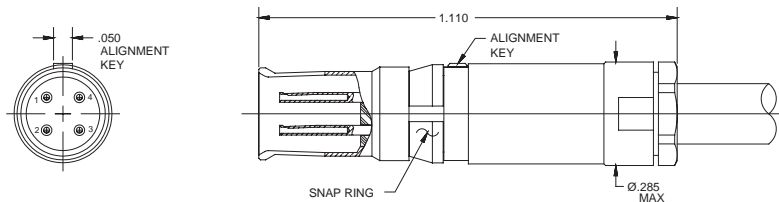
## Size 9 Quadrax Pin Contact 100 Ohm



Part Number	Cable Type	Cable
019235-8000	Differential Quad	540-1165-000

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

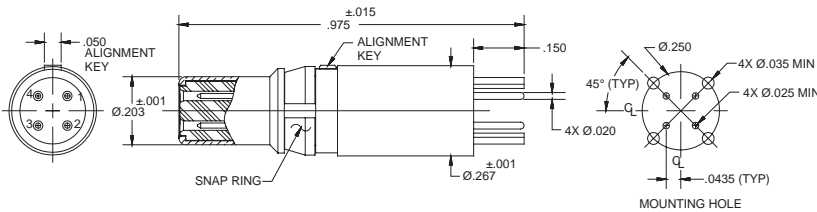
## Size 9 Quadrax Socket Contact 100 Ohm



Part Number	Cable Type	Cable
019135-8000	Differential Quad	540-1165-000

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

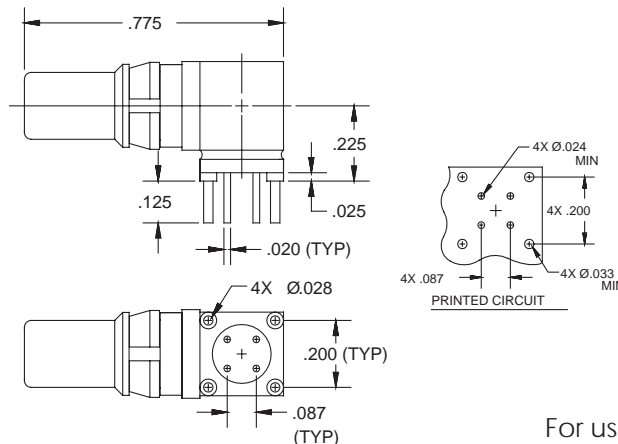
## Size 9 Quadrax Pin Contact PCB Mount 100 Ohm



**P/N: 019217-2000**

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

## Size 9 PC Tail Quadrax Contact 100 Ohm



**P/N: 019217-1001**

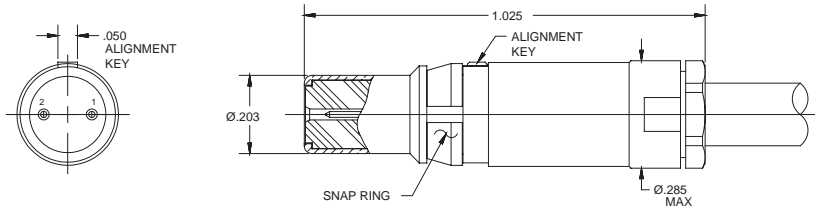
For use in P/N: 012800-1000 thru 1001

See Page 108 for Cable Assembly Ordering Information





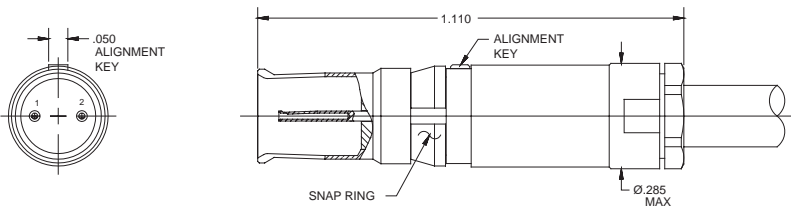
### Size 9 Twinax Pin Contact 100 Ohm



Part Number	Cable Type	Cable
019235-0000	Differential Twinax	540-1153-000
019235-0001	Flexible Twinax	540-1086-000
019235-0002	Flexible Twinax	540-1161-000

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

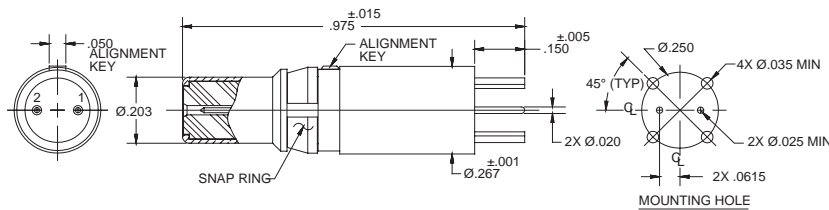
### Size 9 Twinax Socket Contact 100 Ohm



Part Number	Cable Type	Cable
019135-0000	Differential Twinax	540-1153-000
019135-0001	Flexible Twinax	540-1086-000
019135-0002	Flexible Twinax	540-1161-000

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

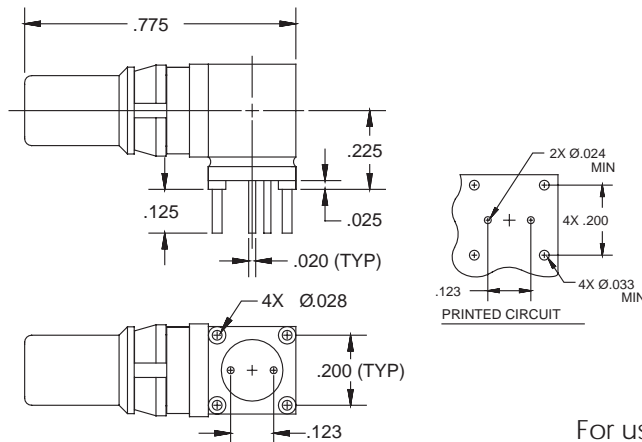
### Size 9 Twinax Pin Contact PCB Mount 100 Ohm



**P/N 019217-0000**

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

### Size 9 PC Tail Twinax Contact 100 Ohm



**P/N 019217-1000**

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

See Page 108 for Cable Assembly Ordering Information



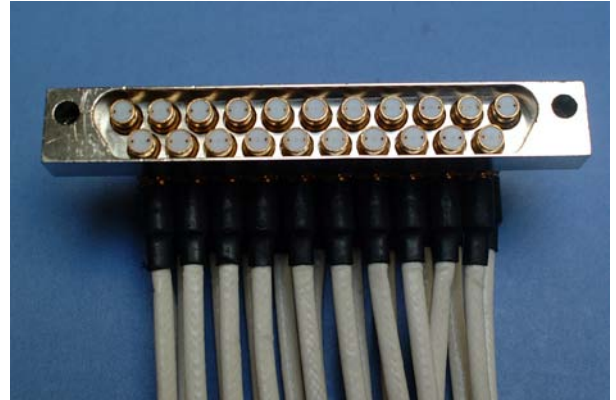


# HIGH SPEED BACK PLANE CONNECTORS

TWINAX 21 POSITION CONNECTORS 150 OHM FIBRE CHANNEL AND 100 OHM ETHERNET

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.

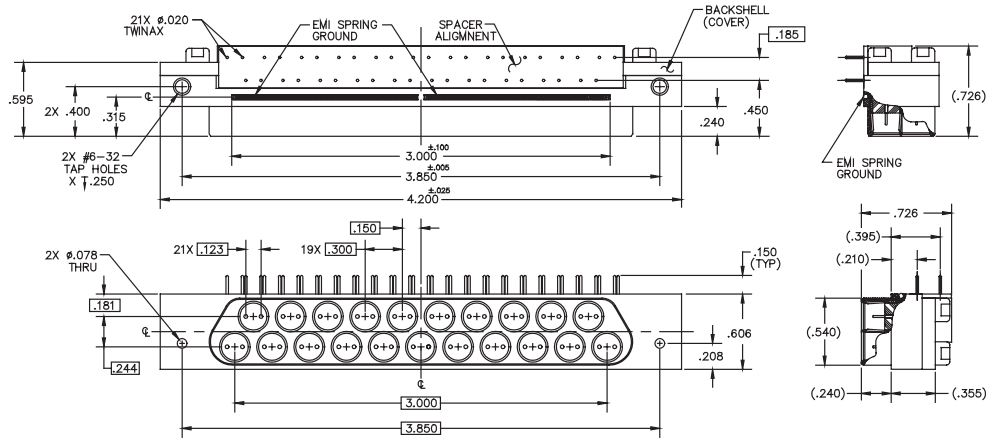
Sabritec has taken the standard housing configuration of the P1 & P3 mounting dimensions while incorporating true differential pair contacts within the P1 & P3 dimensional constraints. Data sampling rates exceeding 2 Gbits/second can be driven via matched impedance differential pair interconnections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



Fibre Channel

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

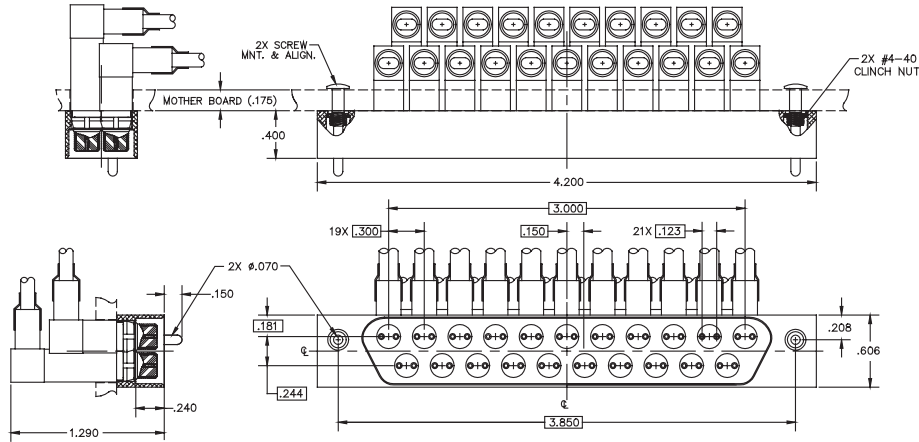




# HIGH SPEED BACK PLANE CONNECTORS

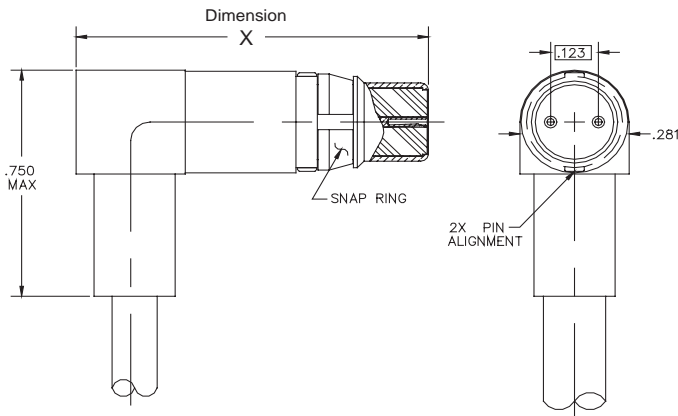
TWINAX 21 POSITION CONNECTORS/FIBRE CHANNEL 150 OHM CONTACTS

## 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

See Page 108 for Cable Assembly Ordering Information

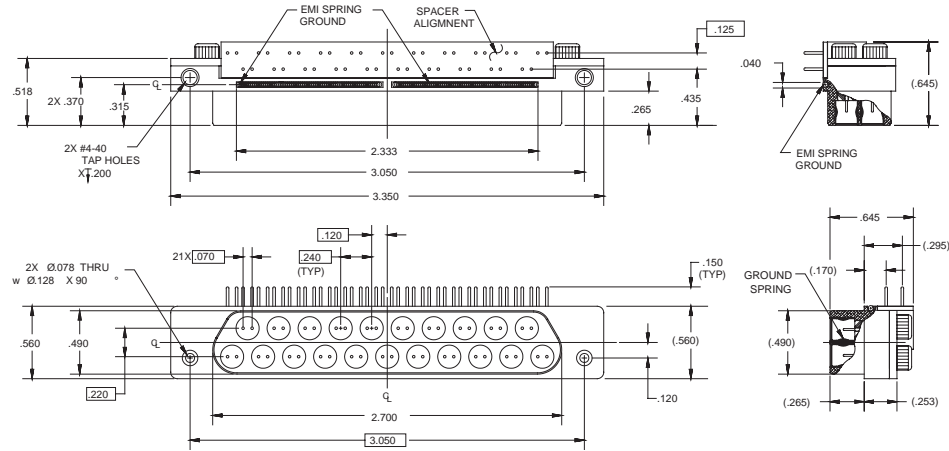




# HIGH SPEED BACK PLANE CONNECTORS

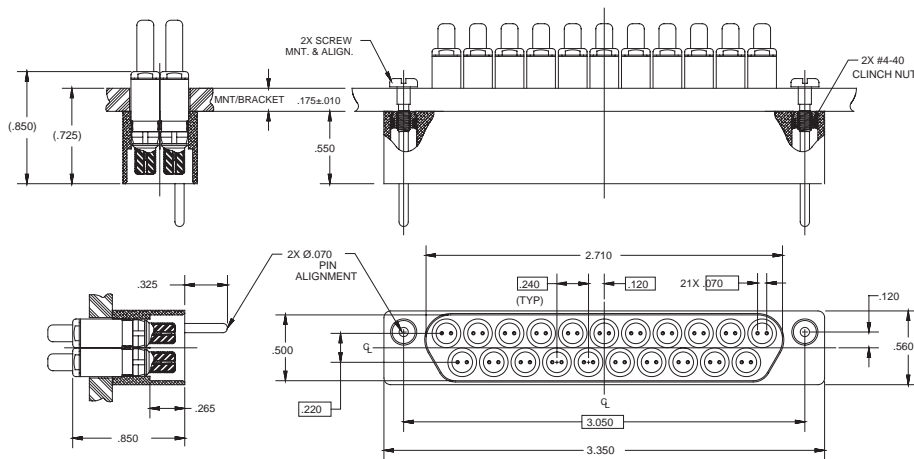
TWINAX 21 POSITION CONNECTORS 100 OHM ETHERNET

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



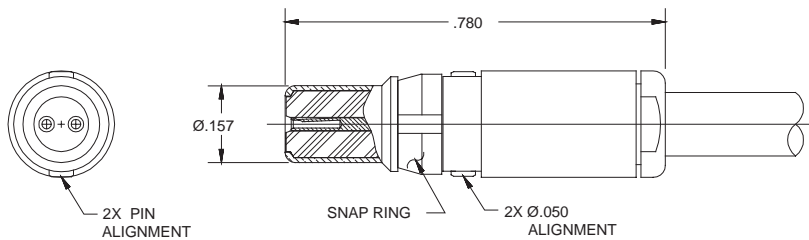
P/N 010034-0000

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



P/N 010017-1000

## Size 10 Twinax Pin Contact 100 Ohm



For use in 010034-0000

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

Fibre Channel

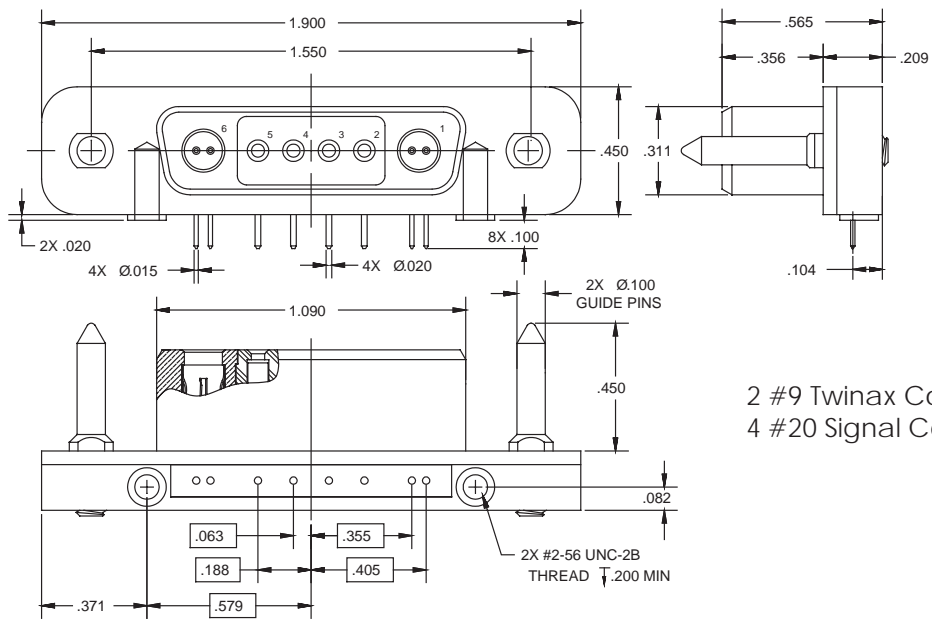




# HIGH SPEED BLIND-MATE BACK PLANE CONNECTORS

FIRWIRE 1394b PLUG AND RECEPTACLE

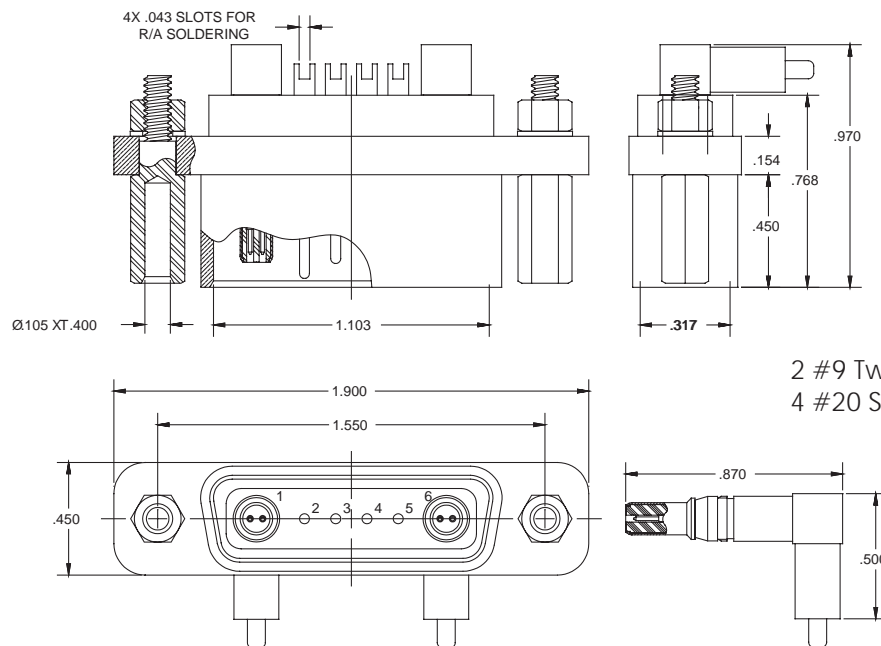
## Firewire 1394b Right Angle Twinax Plug Blindmate Version



2 #9 Twinax Contacts  
4 #20 Signal Contacts

P/N 012800-1003

## Firewire 1394b Twinax Receptacle Blindmate Version



2 #9 Twinax Contacts  
4 #20 Signal Contacts

P/N 012700-2008



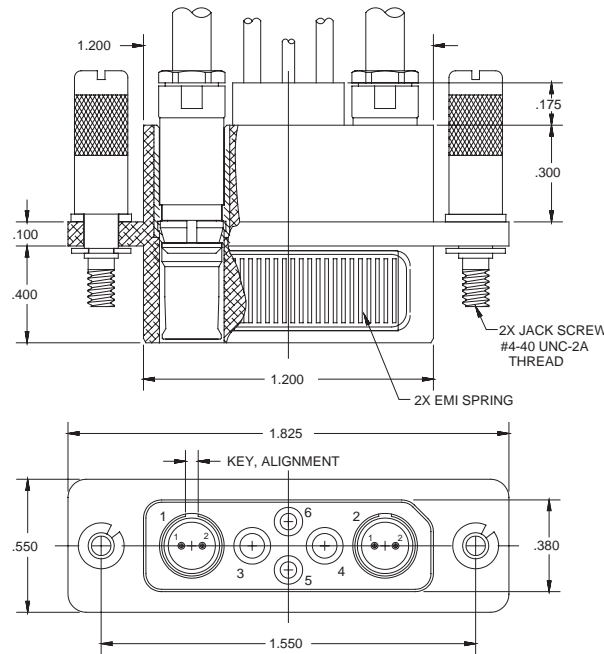
Fibre Channel



# HIGH SPEED BACK PLANE CONNECTORS

FIREWIRE 1394b PLUG AND RECEPTACLE

## Firewire 1394b Straight Twinax Plug With Jackposts

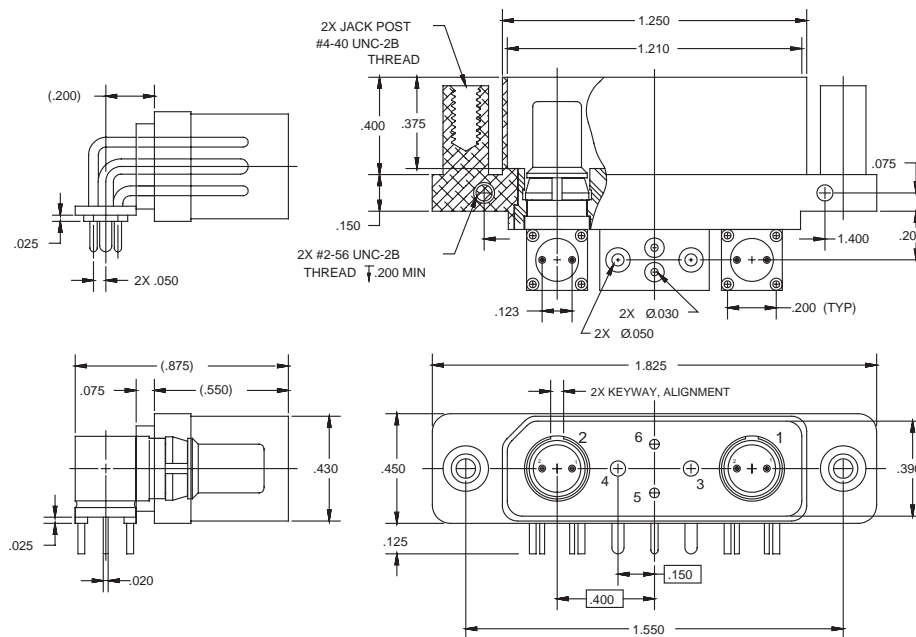


- 2 #9 Twinax Contacts
- 2 #16 Power Contacts
- 2 #20 Signal Contacts

P/N 012700-2007

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

## Firewire 1394b Right Angle Twinax Receptacle With Jackposts



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

P/N 012800-1002



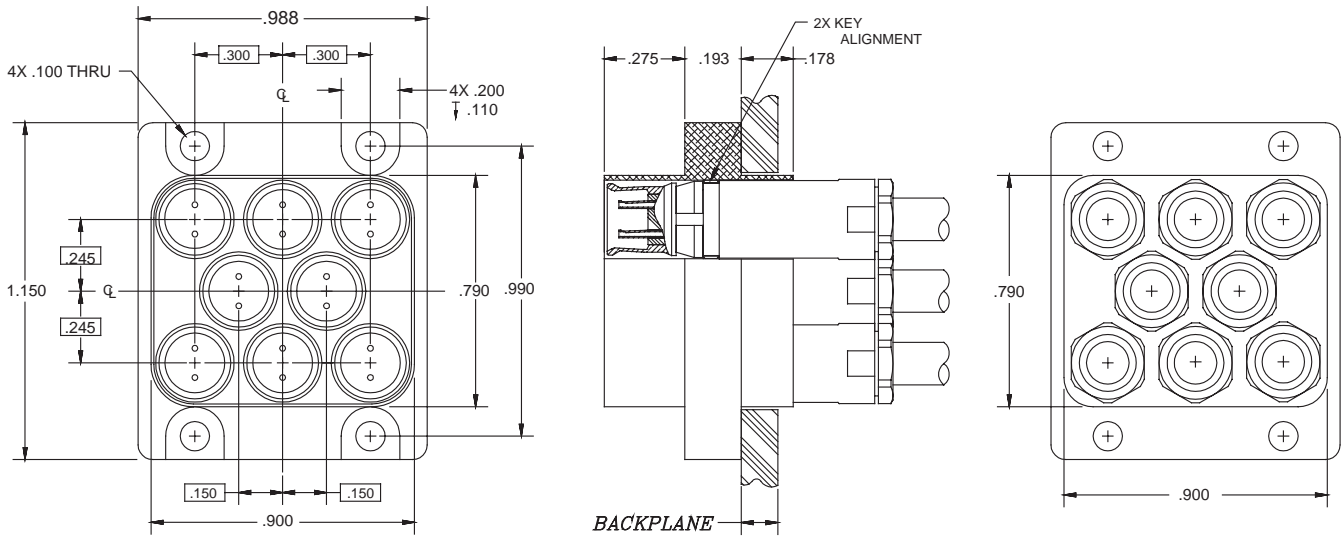




# HIGH SPEED PANEL MOUNT CONNECTORS

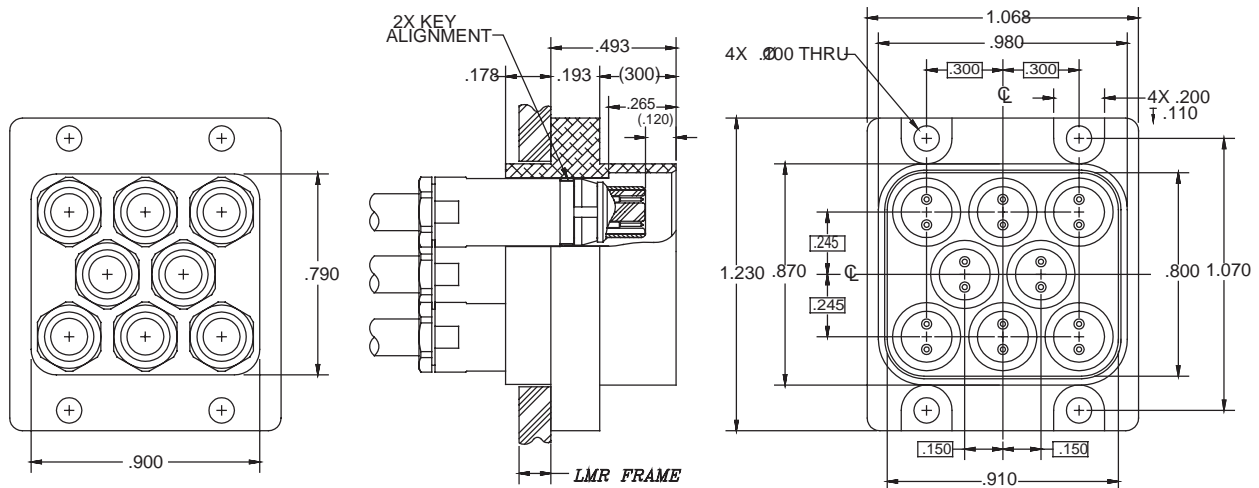
RECTANGULAR 8 WAY PLUG AND RECEPTACLE

## Straight 8 Way Twinax Plug with Removable Twinax Contacts



P/N 010034-2000

## Straight 8 Way Twinax Receptacle with Removable Twinax Contacts



P/N 010034-3000

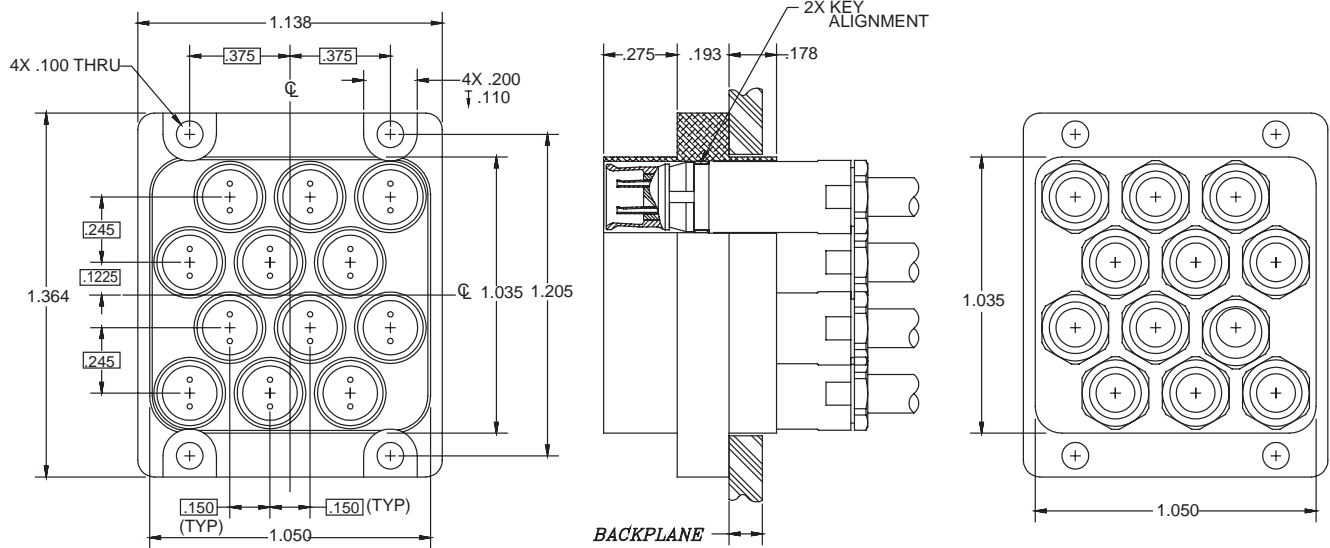




# HIGH SPEED PANEL MOUNT CONNECTORS

RECTANGULAR 12 WAY PLUG AND RECEPTACLE

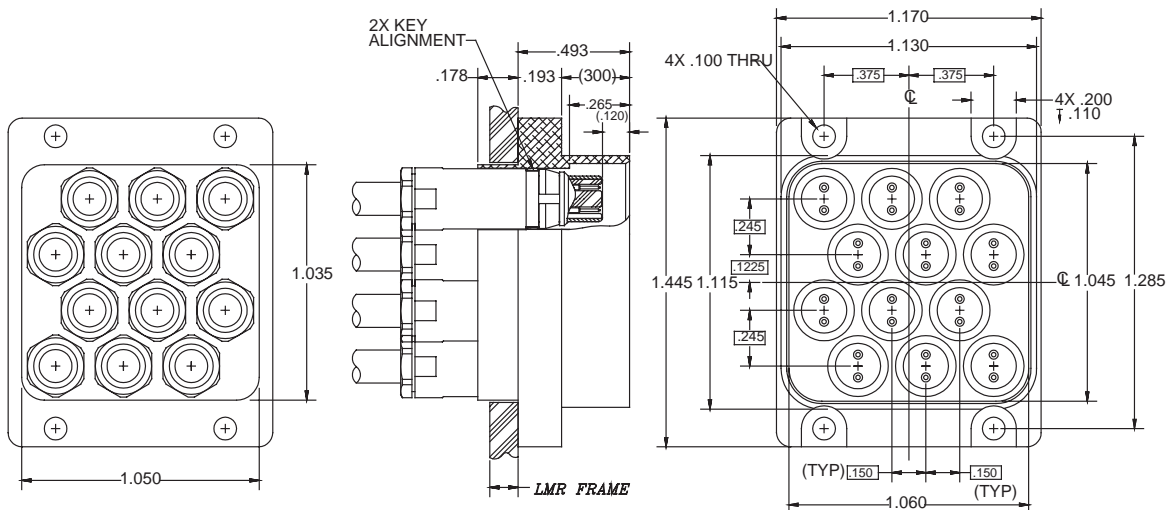
## Straight 12 Way Twinax Plug with Removable Twinax Contacts



P/N 010034-2001

Fibre Channel

## Straight 12 Way Twinax Receptacle with Removable Twinax Contacts



P/N 010034-3001

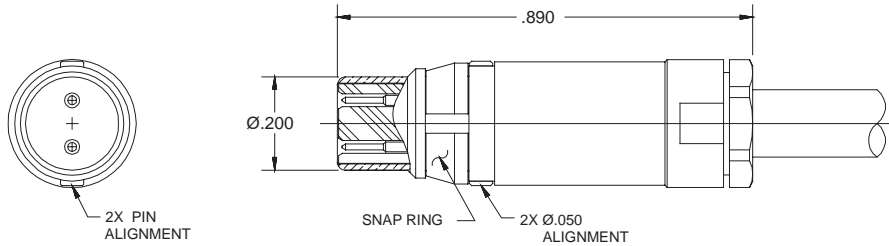




# SIZE 8 TWINAX CONTACTS FOR PANEL MOUNT CONNECTORS

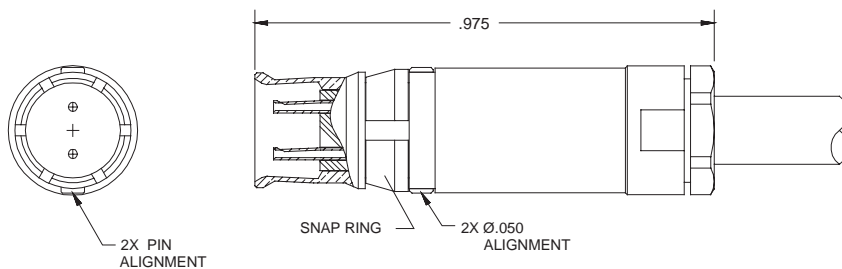
SIZE 8 TWINAX CONTACTS 100 AND 150 OHM

## Size 8 Twinax Pin Contact 100 and 150 Ohm



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

## Size 8 Twinax Socket Contact 100 and 150 Ohm



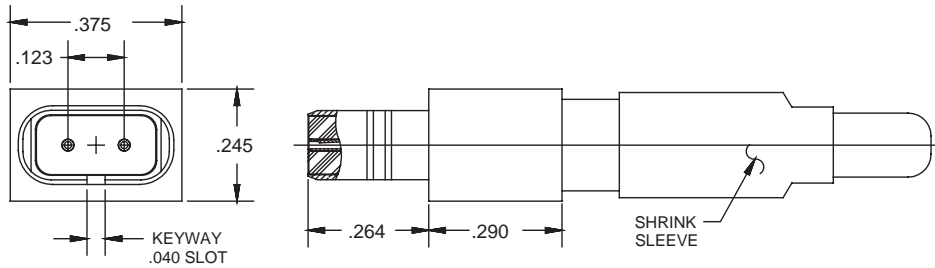
Part Number	Impedance	Cable Type	Cable
019534-0001	100 Ohm	Differential Twinax	540-1153-000
019534-0002	100 Ohm	Flexible Twinax	540-1161-000
019534-0003	100 Ohm	Flexible Twinax	540-1086-000
019534-0004	150 Ohm	Differential Twinax	540-1099-000

See Page 108 for Cable Assembly Ordering Information



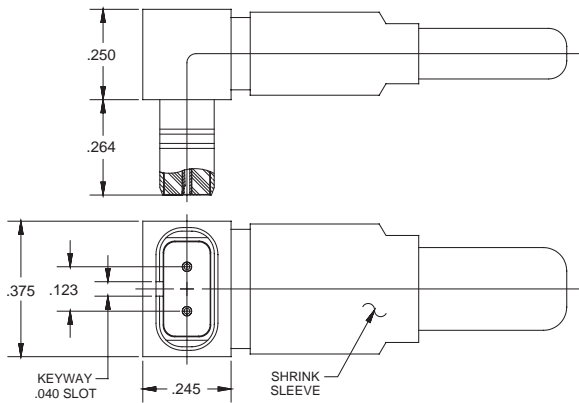


## Straight Fibre Channel Twinax Cable Connector 150 Ohm



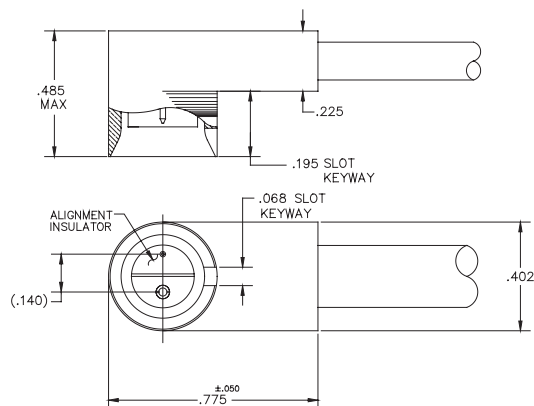
Part Number	Cable Type	Cable
014034-8000	Differential Twinax	540-1099-000
014034-8001	Differential Twinax	540-1114-000

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



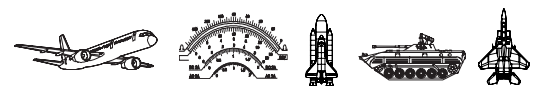
Part Number	Cable Type	Cable
014034-1009	Differential Twinax	540-1099-000
014034-1010	Differential Twinax	540-1114-000

## 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

See Page 108 for Cable Assembly Ordering Information

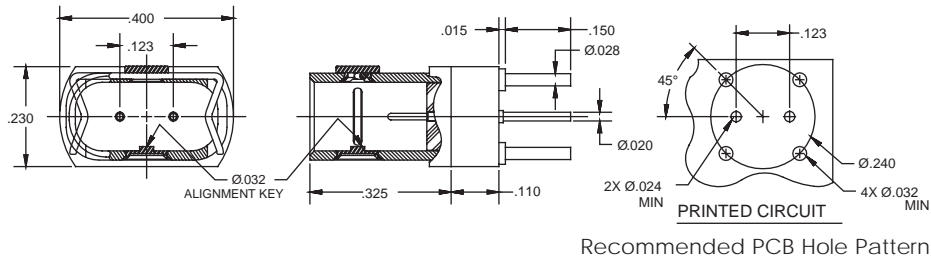




# FIBRE CHANNEL/ETHERNET CONNECTORS

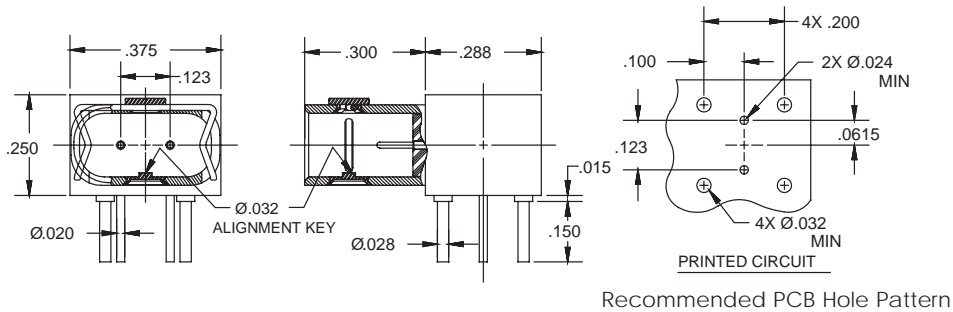
PCB AND CABLE MOUNT TWINAX CONNECTORS 150 OHM

## Straight Fibre Channel Twinax PCB Mount Connector 150 Ohm



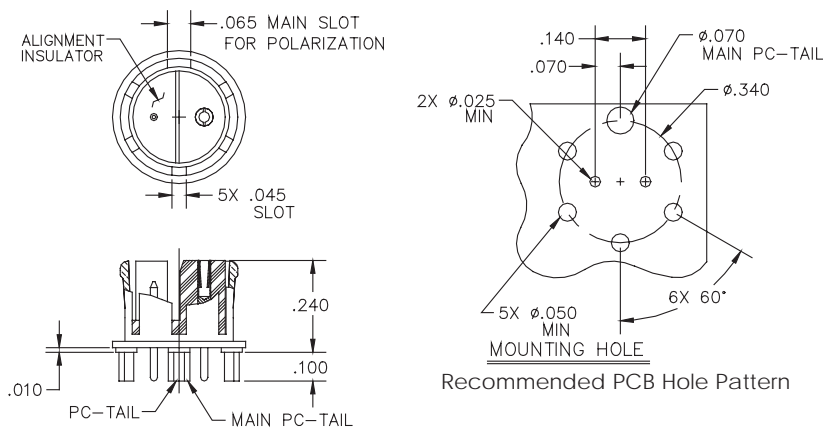
P/N 014117-2008

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



P/N 014117-1012

## Quick Disconnect Twinax PCB Mount Connector 150 Ohm



P/N 019917-2040



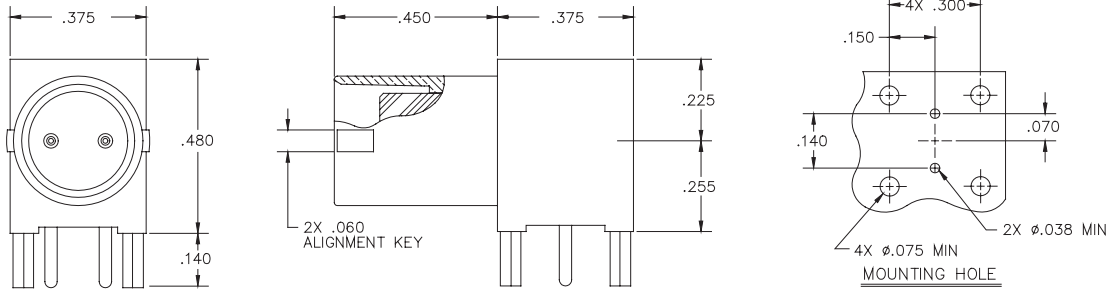
Fibre Channel



# BLIND MATE TWINAX CONNECTORS

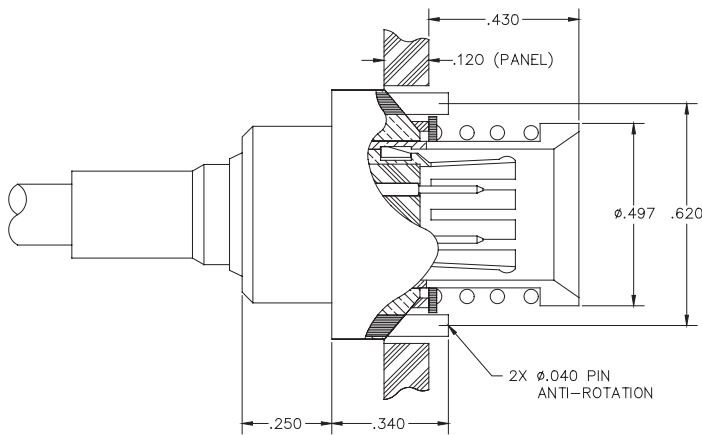
HIGH SPEED FIBRE CHANNEL SERIES 150 OHM MATCHED IMPEDANCE

## Blind Mate Fibre Channel Right Angle PCB Mount Receptacle 150 Ohm



P/N 019917-1100

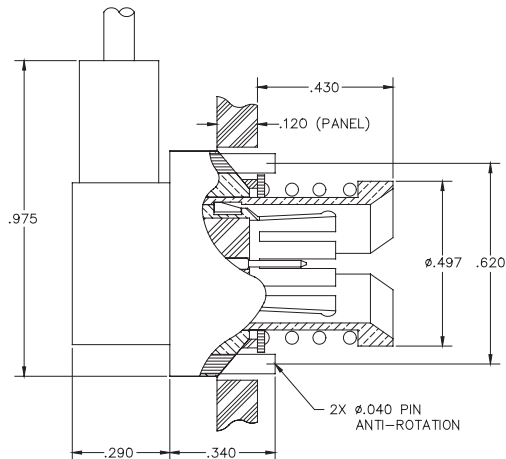
## Blind Mate Fibre Channel Twinaxial Plug 150 Ohm



Mates with 019917-1100 Receptacle Only

Part Number	Cable Type	Cable
019911-2100	Differential Twinax	540-1099-000
019911-2101	Differential Twinax	540-1114-000

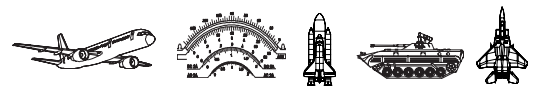
## Blind Mate Fibre Channel Right Angle Twinaxial Plug 150 Ohm



Mates with 019917-1100 Receptacle Only

Part Number	Cable Type	Cable
019911-1100	Differential Twinax	540-1099-000
019911-1101	Differential Twinax	540-1114-000

See Page 108 for Cable Assembly Ordering Information







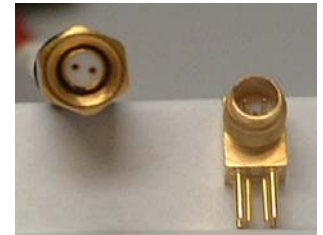
# MICRO TWINAX CONNECTORS

NDL/SMA /MICRO-D SIZE PACKAGES

Micro Twinax connectors feature matched impedance miniaturized connectors that provide the user with controlled impedance and tightly spaced PCB footprint spacing. These connectors are available in straight or right angle versions.

## Micro Twinax NDL Size:

- Replaces standard NDL Triax connector series for higher speed balanced twinax applications
- Identical NDL footprint PCB pattern for outer conductor spacing (.100" spacing)
- Applicable for High-Speed Ethernet (100 Base-T) and Fibre Channel (2 GBit/sec min.) applications
- $Z_0 = 100$  Ohm or 150 Ohm Differential Pair Impedance



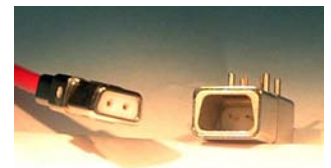
NDL Size

## Micro Twinax SMA Size Package:

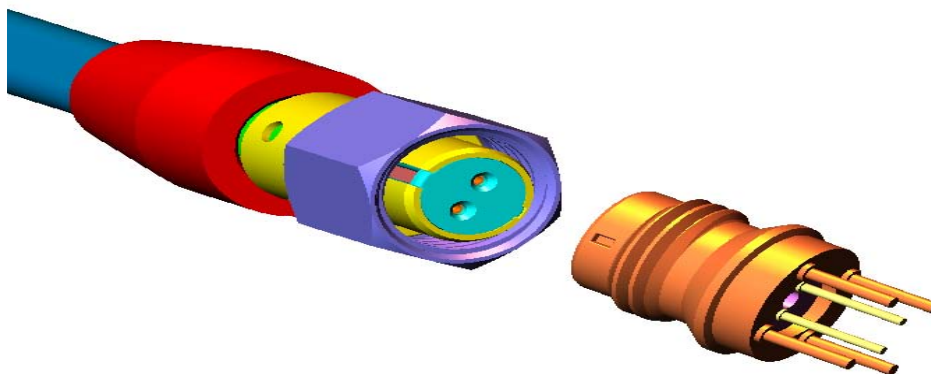
- Package size of a standard SMA series connector housing
- Differential pair matched impedance of  $Z_0 = 100$  or 150 ohm balanced impedance between conductors
- Applicable for High-Speed Ethernet (100 Base-T) and Fibre Channel (2 GBit/sec min.) applications
- $Z_0 = 100$  Ohm or 150 Ohm Differential Pair Impedance

## Micro Twinax Micro-D Size Package:

- Package size mimics Micro-D packaging constraints throughout connector pair
- Matched impedance 100 or 150 ohm balanced impedance throughout connector pair
- Applicable for High-Speed Ethernet (100 Base-T) and Fibre Channel (1 GBit/sec min.) applications
- $Z_0 = 100$  Ohm or 150 Ohm Differential Pair Impedance



Micro-D Size



Micro Twinax NDL Plug

Micro Twinax NDL Straight Jack PCB Mount

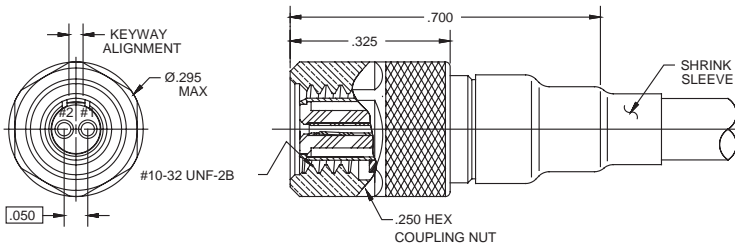




# MICRO TWINAX CONNECTORS

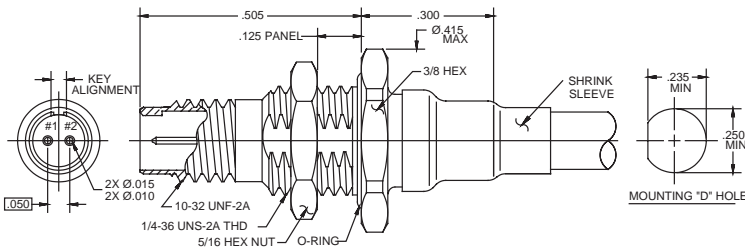
NDL SIZE PACKAGE MATCHED IMPEDANCE 100 AND 150 OHM MICRO TWINAX SERIES

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



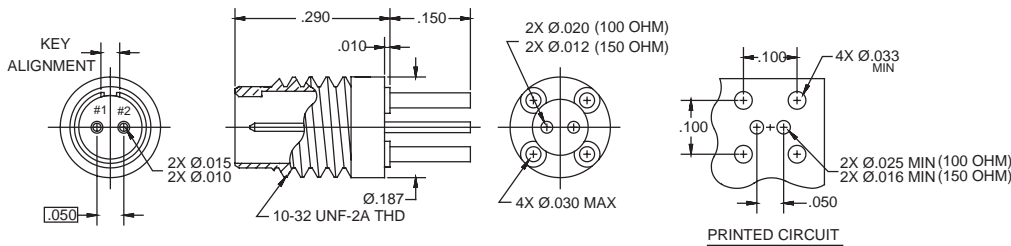
Part Number	Impedance	Cable Type	Cable
014034-2002	100 Ohm	Differential Twinax	540-1153-000
014034-2008	100 Ohm	Flexible Twinax	540-1161-000
014034-2016	100 Ohm	Flexible Twinax	540-1086-000
014034-2013	150 Ohm	Differential Twinax	540-1099-000

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



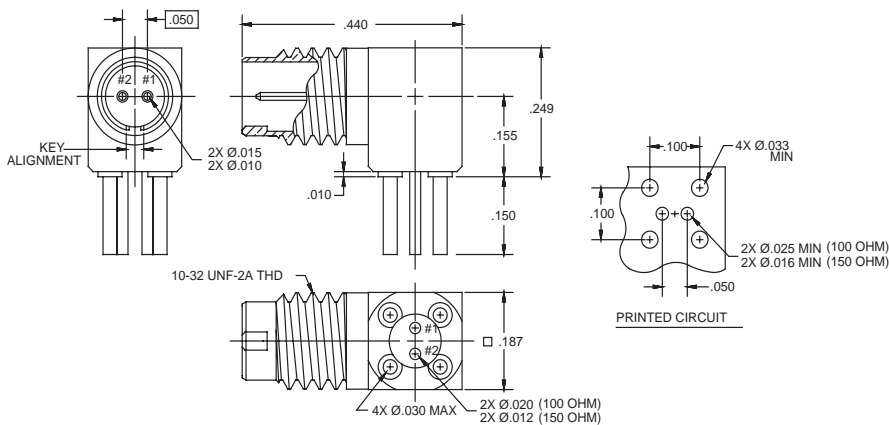
Part Number	Impedance	Cable Type	Cable
014134-5002	100 Ohm	Differential Twinax	540-1153-000
014134-5003	100 Ohm	Flexible Twinax	540-1161-000
014134-5004	100 Ohm	Flexible Twinax	540-1086-000
014134-5005	150 Ohm	Differential Twinax	540-1099-000

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



Part Number	Impedance
014117-2001	100 Ohm
014117-2006	150 Ohm

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



Part Number	Impedance
014117-1001	100 Ohm
014117-1006	150 Ohm

See Page 108 for Cable Assembly Ordering Information

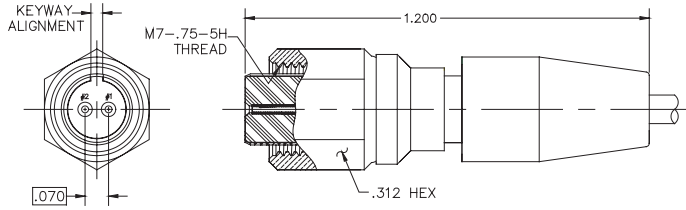




# MICRO TWINAX CONNECTORS

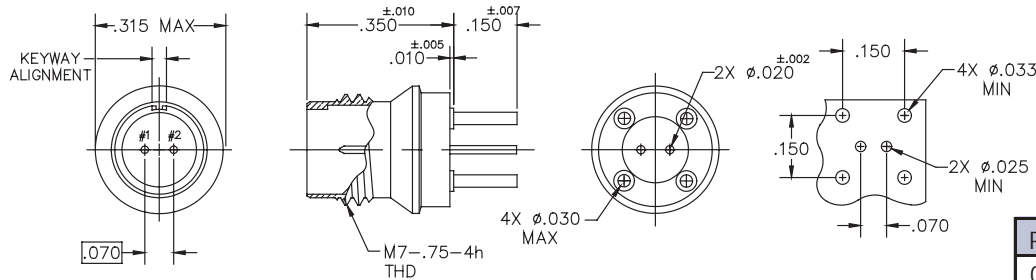
SMA SIZE TWINAX CONNECTORS 100 AND 150 OHM MATCHED IMPEDANCE

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



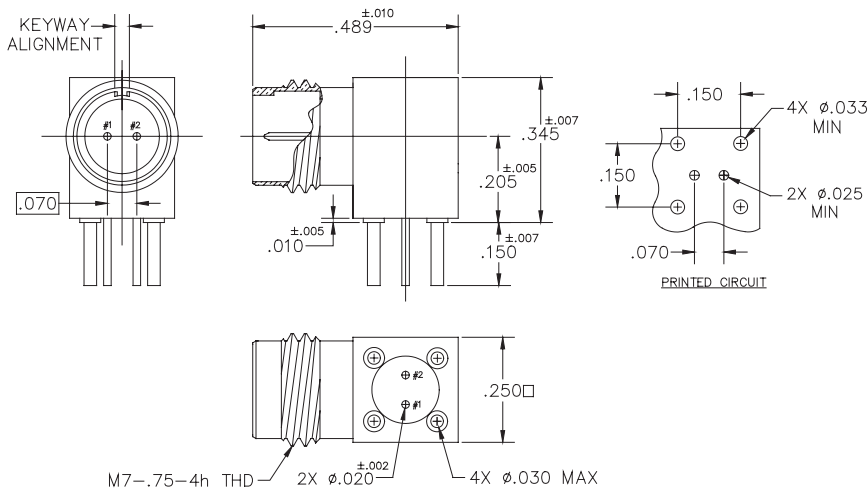
Part Number	Differential Impedance	Cable Type	Cable
014034-2004	100 Ohm	Differential Twinax	540-1153-000
014034-2010	100 Ohm	Flexible Twinax	540-1161-000
014034-2015	100 Ohm	Flexible Twinax	540-1086-000
014034-2003	150 Ohm	Differential Twinax	540-1099-000
014034-2009	150 Ohm	Differential Twinax	540-1114-000

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



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

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



Part Number	Impedance
014117-1001	100 Ohm
014117-1006	150 Ohm

See Page 108 for Cable Assembly Ordering Information

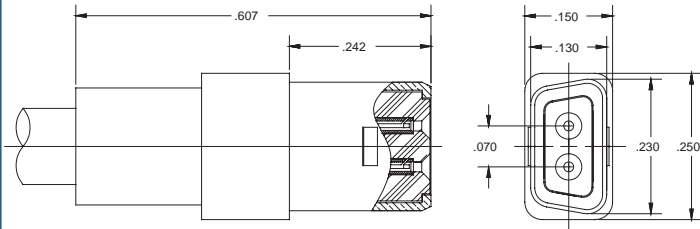




# MICRO TWINAX CONNECTORS

MICRO-D SIZE TWINAX CONNECTORS 100 AND 150 OHM MATCHED IMPEDANCE

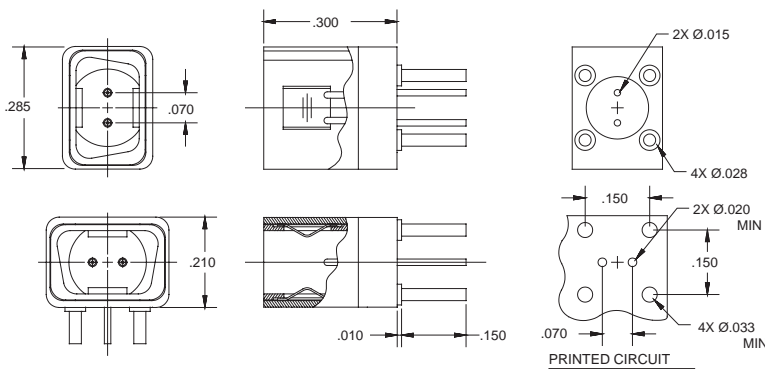
## Micro-D Twinax Straight Plug 100 or 150 Ohm Matched Impedance



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

Mates with 014117-2005 and 2004 ONLY

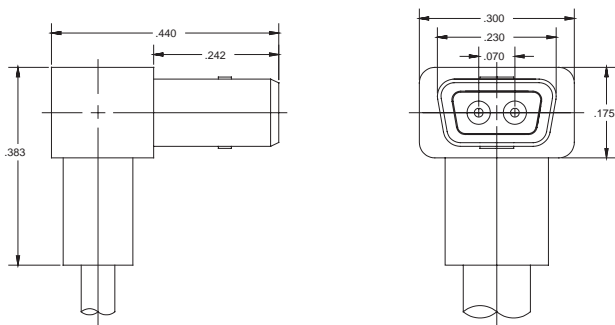
## Micro-D Twinax Straight Jack PCB 100 or 150 Ohm Matched Impedance



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

Mates with P/N: 014034-2005 and 2006 ONLY

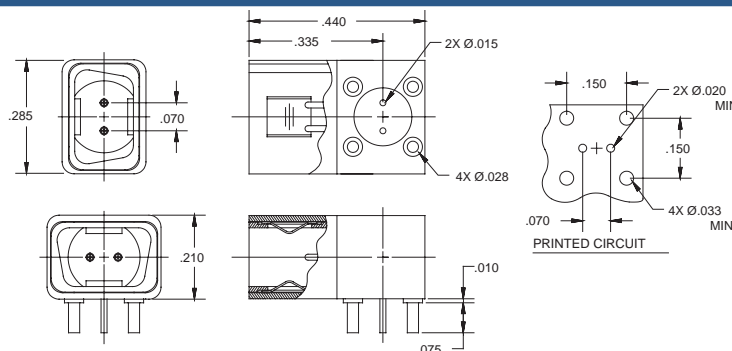
## Micro-D Twinax Right Angle Plug 100 or 150 Ohm Matched Impedance



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

Mates with P/N: 014117-1002 and 1003 ONLY

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



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

See Page 108 for Cable Assembly Ordering Information

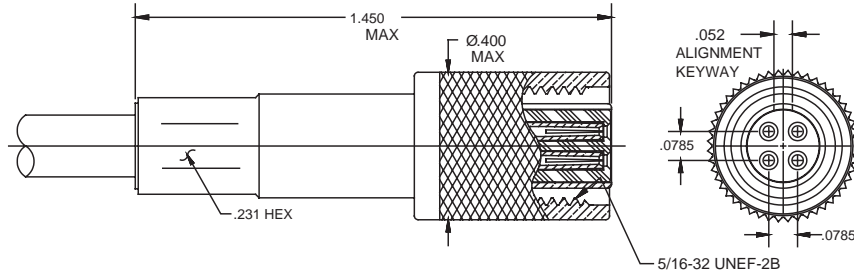




# MICRO QUADRAX CONNECTORS

QUADRAX PLUG AND RIGHT ANGLE PC CABLE MOUNT

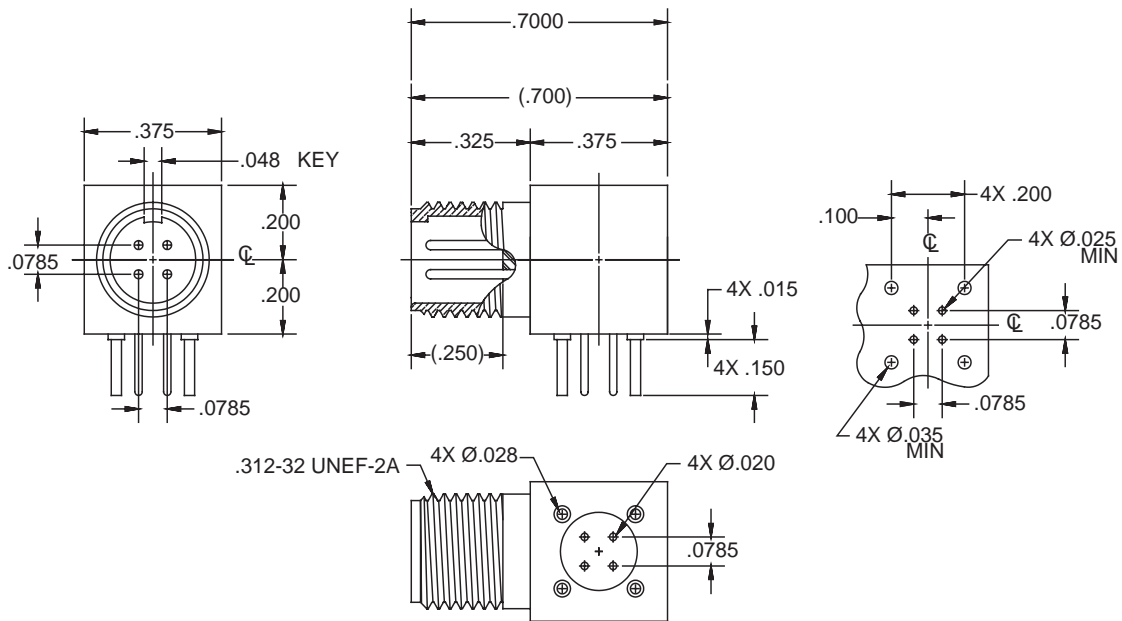
## Micro Quadrx Plug 100 Ohm



Part Number	Cable Type	Cable
012735-2000	Differential Quad	540-1165-000

Fibre Channel

## Micro Quadrx Right Angle PCB Mount Receptacle 100 Ohm



P/N 012817-1000

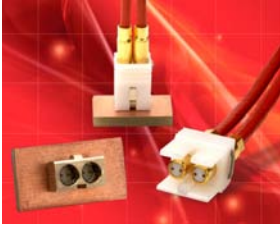
See Page 108 for Cable Assembly Ordering Information





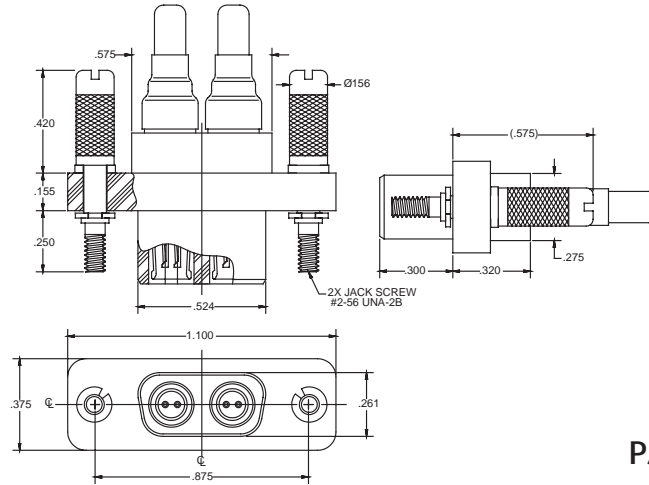
# MODULAR BLOCK CONNECTOR (MBC) SERIES

MODULAR BLOCK CONNECTORS 100 OHM TWINAX PLUG AND RECEPTACLE



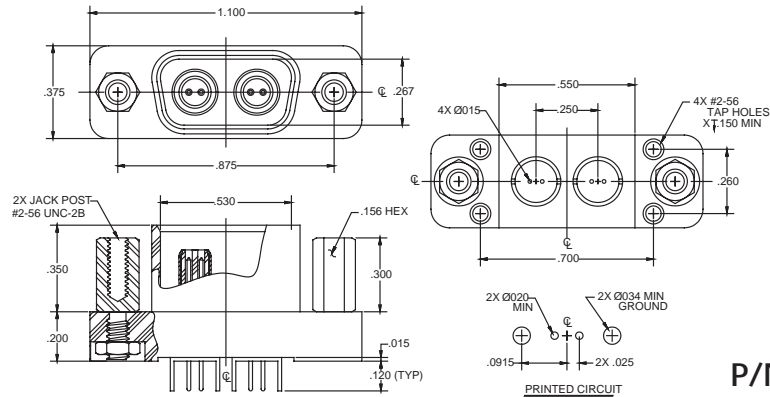
Sabritec's Modular Block connectors feature dual twinax blindmate assemblies that permit the transmit and receive of high speed Ethernet data rate signals in one connector. This series allows for modularity in PCB routing of high speed signaling. Modular Block Connectors are true 100 ohm differential pair matched impedance and are optimized for maximum space utilization, modularity and true signal integrity.

## Modular Block Straight Twinax Plug



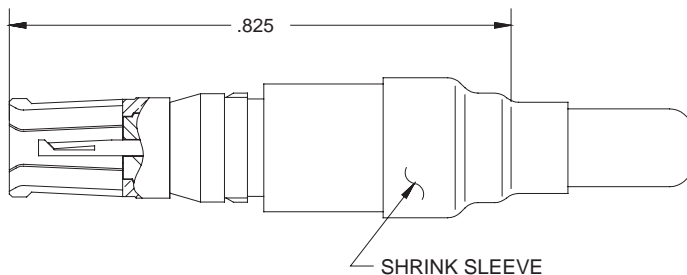
P/N 014034-0001

## Modular Block Straight Twinax Receptacle PCB Mount



P/N 014117-0001

## Size 10 Twinax Socket Contact Crimp Termination



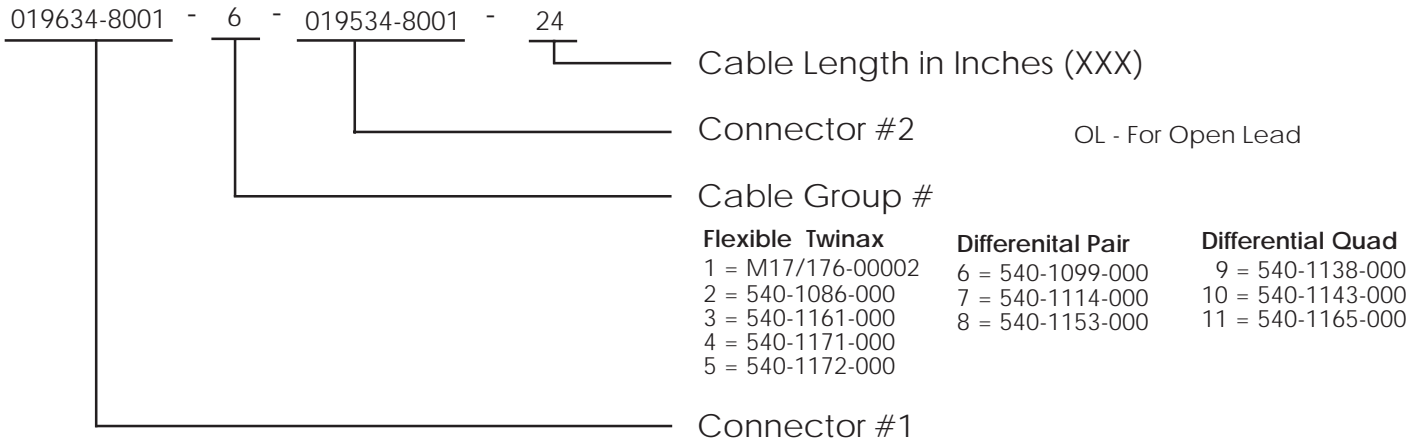
Part Number	Cable Type	Cable
018934-0001	Differential Twinax	540-1153-000

See Page 108 for Cable Assembly Ordering Information

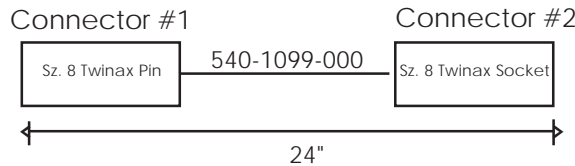




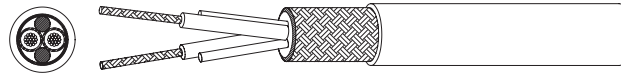
## PART NUMBER TABLE



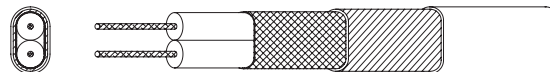
### SAMPLE P/N: 019912-1306/3/019917-2040/18



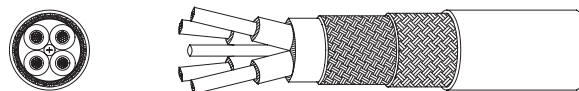
Please use the request for quote worksheet on page 225 to specify your custom application needs.



Flexible Twinax Cables					
Cable Group No	Cable Designation	Manufacturer	Impedance (OHMS)	Jacket	Conductor (DIA)
1	M17/176-00002	Mil-Spec	77	0.129"	0.024"
2	540-1086-000	Sabritec	98	0.143"	0.019"
3	540-1161-000	Sabritec	100	0.130"	0.024"
4	540-1171-000	W.L. Gore	100	0.087"	0.010"
5	540-1172-000	W.L. Gore	100	0.122"	0.016"



Differential Pair Fibre Channel Twinax Cables				
Cable Group No.	Cable Designation	Impedance (OHMS)	Jacket	Conductor (DIA)
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



Differential Quad Fibre Channel Cables				
Cable Group No.	Cable Designation	Impedance (OHMS)	Jacket	Conductor (DIA)
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"
11	540-1165-000	Differential: 100 Sig. To Shield: 50	0.175"	0.025"