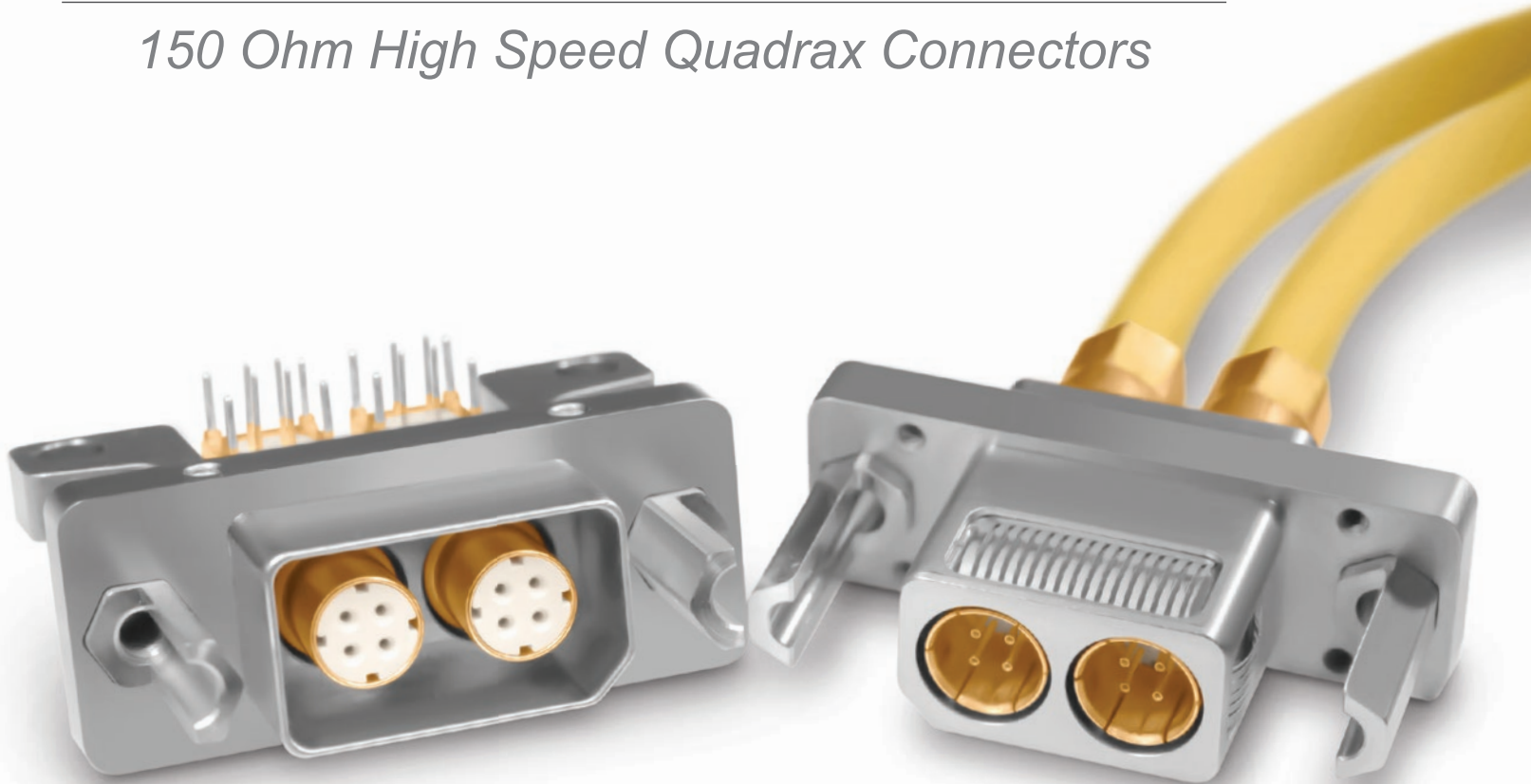


# FIBRE CHANNEL D-SUB CONNECTOR SERIES

*150 Ohm High Speed Quadrax Connectors*



## FEATURES

- ▶ **Standard keyed and non-keyed insert arrangements: 2, 4, 6, 8 way; hybrid options available**
- ▶ **Offered with 150  $\Omega$  impedance**
- ▶ **Data rates up to 6.25 Gbps**
- ▶ **Six-position keyed and non-keyed jack post versions**
- ▶ **Common back shells with a wide assortment of accessories, guide hardware and sealing grommets**
- ▶ **Integrated EMI spring fingers offer superior EMI performance with low contact resistance**

## BENEFITS

- ▶ Product versatility/modularity
- ▶ Unparalleled immunity to shock and vibration
- ▶ Outstanding space savings on narrowly mounted panels
- ▶ Superior mating
- ▶ Specifically designed for extreme durability and performance
- ▶ Increased contact density and signal speed in a rugged connector shell

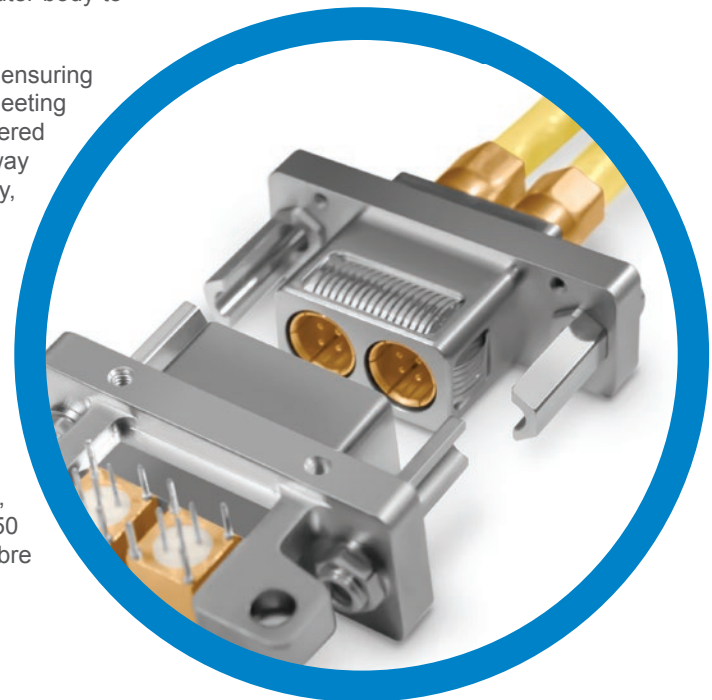
# D-SUB CONNECTORS

The main function associated with high impedance D-Sub connectors is to ground the outer shield of a quadrx contact directly to the shell of the connector. With Smiths Connectors' Fibre Channel D-sub connector series, a multi-finger ground spring fixed around the shell provides a multi-point contact engagement that affords superior EMI shielding. The end result is extremely low contact resistance when measured from the contact outer body to the connector flange.

The Fibre Channel D-Sub series also delivers superior performance ensuring minimal RF noise and high durability up to 1,000 mating cycles, while meeting and surpassing all requirements of MIL-STD-202 for shock and vibration. Offered with 150 Ohm quadrx contacts, the connectors are available with 2, 4, 6 or 8 way insert arrangements. Additionally, D-Sub connectors feature ease of assembly, and a robust and comprehensive training package.

To ensure that the correct high speed connectors are mated to address specific wiring requirements and keying functions, a keyed jack post option has been incorporated into the design. The six-positioned post allows for 36 possible keying combinations assuring that the correct Fibre Channel D-Sub plug is mated to the correct high speed receptacle. Non-keyed jack post versions are available as well.

Fibre Channel D-Sub connectors feature size 3 quadrx contacts which are 30% larger than the size 9 configuration utilized in the 100 Ohm quadrx, ensuring a matched impedance signal throughout the contact mated pair at 150 Ohm differential impedance. These features ensure that Smiths Connectors' Fibre Channel D-Sub connectors deliver the critical edge customers require.



# TECHNICAL CHARACTERISTICS

MECHANICAL & ENVIRONMENTAL		STANDARDS
Temperature Rating	-65°C to 165°C	—
Durability	500 Mate/unmate cycles min.	—
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
MATERIALS & FINISHES		
Contact Body & Inner Contacts	BeCu, UNS C17200, C17300, TD04 Gold plating	ASTM-B196 — ASTM-B488
Other Metal Contact Parts	Brass, UNS C36000, H02 Gold plating	ASTM-B16 — ASTM-B488
Insulators	PTFE, Utem 1000 or LCP	— —
Plug/Receptacle Shell	Aluminum 6061-T6 Electroless nickel plating	ASTM-B211 SAE AMS-C-26074
Jack Post, Nut, Washer & Screw	Stainless Steel	—
ELECTRICAL		
Contact Current Rating	3.0 A max.	—
DWV	500 VDC max.	—
Insulation Resistance	5,000 MΩ min. @ 200 VDC	—
Bandwidth	Up to 3 GHz	—
Data Rates	Exceeding 2 Gbps	—
Differential Pair Cable Impedance	150 Ω + 15 Ω	—
Signal to Shield Cable Impedance	75 Ω + 10 Ω	—

# DIMENSIONS

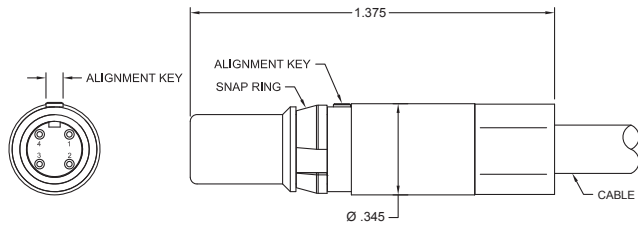
## Contacts, Keyed & Non-Keyed Shells

### ► SIZE 3 QUADRAX CONTACTS

150 Ohm

#### QUADRAX PIN CONTACT

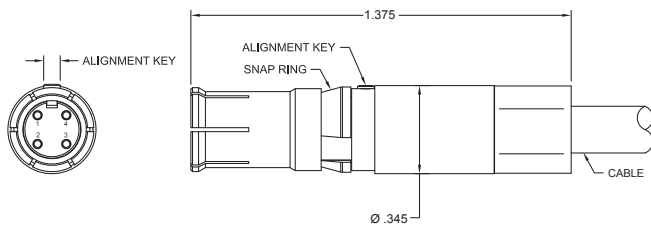
For use in Size 3 Quadrax D-Sub Receptacle  
P/N: 012800-31XX and 052700-30XX



PART NUMBER	CABLE TYPE	CABLE
<b>019635-8035</b>	Differential Quadrax	540-1211-000

#### QUADRAX SOCKET CONTACT

For use in Size 3 Quadrax D-Sub Plug  
P/N: 012700-21XX and 052800-20XX

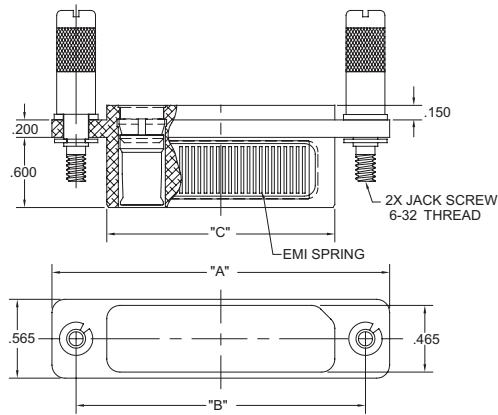


PART NUMBER	CABLE TYPE	CABLE
<b>019535-8035</b>	Differential Quadrax	540-1211-000

## ► SIZE 3 QUADRAX NON-KEYED D-SUB SHELLS

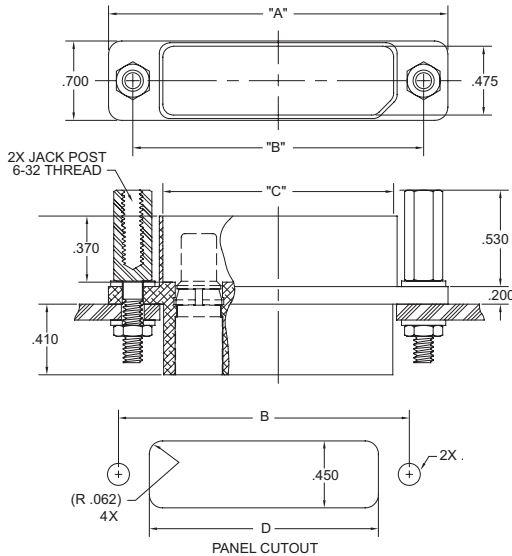
Contacts Not Included

### PLUG



PART NUMBER	CONTACTS	A	B	C
<a href="#">012700-2180</a>	2	1.710	1.370	0.840
<a href="#">012700-2181</a>	4	2.480	2.140	1.610
<a href="#">012700-2182</a>	6	3.250	2.910	2.380
<a href="#">012700-2183</a>	8	4.020	3.680	3.150

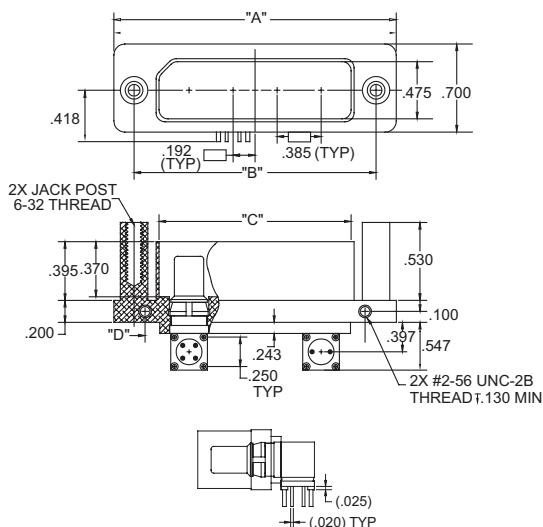
### CABLE MOUNT RECEPTACLE



PART NUMBER	CONTACTS	A	B	C	D
<a href="#">012800-3180</a>	2	1.710	1.370	0.855	0.810
<a href="#">012800-3181</a>	4	2.480	2.140	1.625	1.580
<a href="#">012800-3182</a>	6	3.250	2.910	2.395	2.350
<a href="#">012800-3183</a>	8	4.020	3.680	3.165	3.120

### RIGHT ANGLE PC TAIL MOUNT

Contacts are included



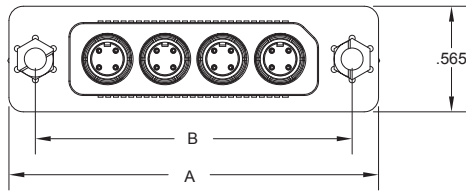
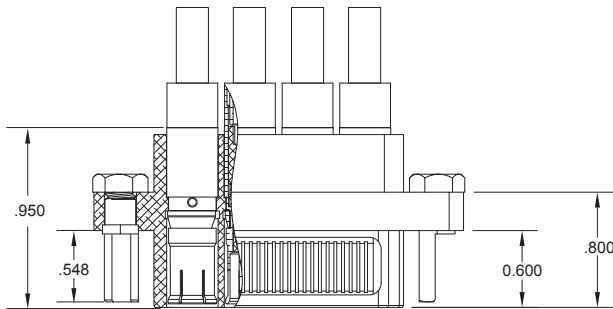
PART NUMBER	CONTACTS	A	B	C	D
<a href="#">012817-1180</a>	2	1.710	1.370	0.855	0.930
<a href="#">012817-1181</a>	4	2.480	2.140	1.625	1.700
<a href="#">012817-1182</a>	6	3.250	2.910	2.395	2.470
<a href="#">012817-1183</a>	8	4.020	3.680	3.165	3.240

► **SIZE 3 QUADRAX KEYED D-SUB SHELLS**

Contacts Not Included

**PLUG**

*Requires use of keyed backshell*

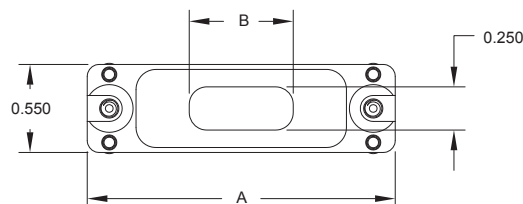
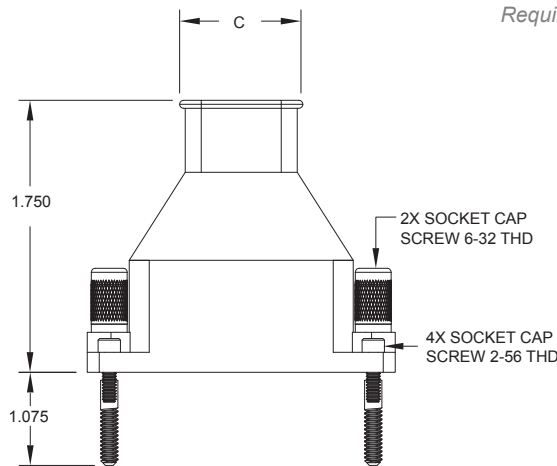


PART NUMBER CONTACTS A B

PART NUMBER	CONTACTS	A	B
<b>052800-2080</b>	2	1.710	1.370
<b>052800-2081</b>	4	2.480	2.140
<b>052800-2082</b>	6	3.250	2.910
<b>052800-2083</b>	8	4.020	3.680

**BACKSHELL**

*Requires use of keyed plug*



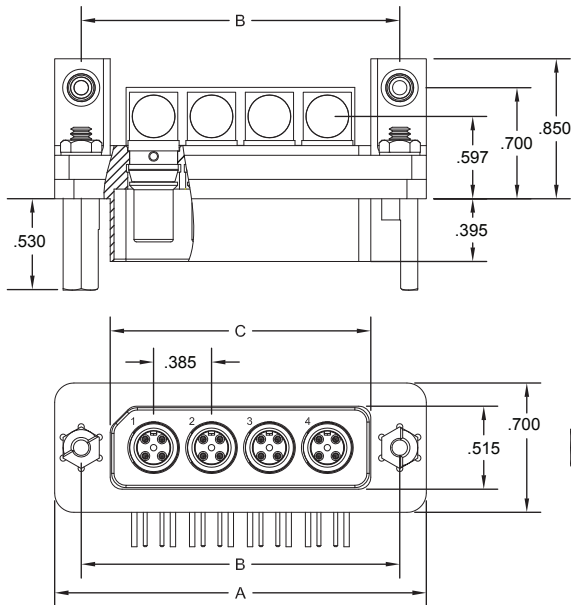
PART NUMBER CONTACTS A B C

PART NUMBER	CONTACTS	A	B	C
<b>057330-2080</b>	2	1.710	0.460	0.600
<b>057330-2081</b>	4	2.480	1.230	1.370
<b>057330-2082</b>	6	3.250	2.000	2.140
<b>057330-2083</b>	8	4.020	2.770	2.910

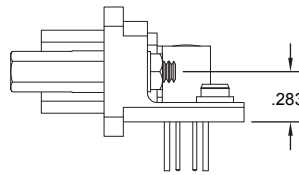
## ► SIZE 3 QUADRAx KEyED PCB MOUNT D-SUB SHELLS

Includes Contacts

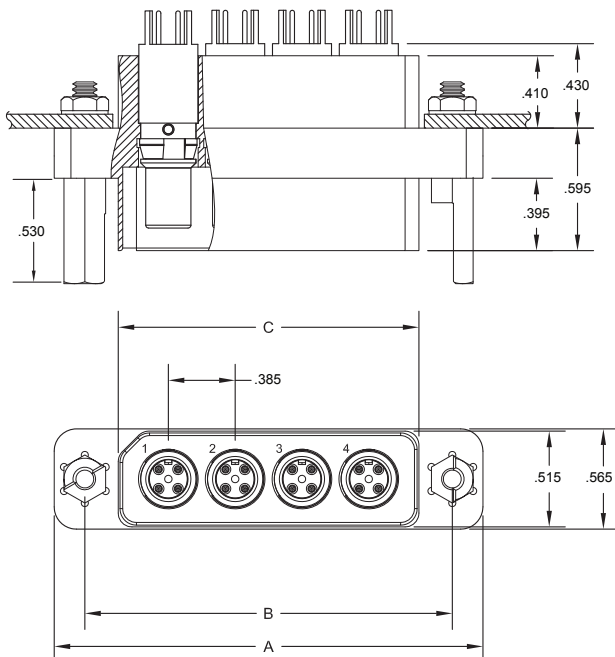
### RIGHT ANGLE RECEPTACLE



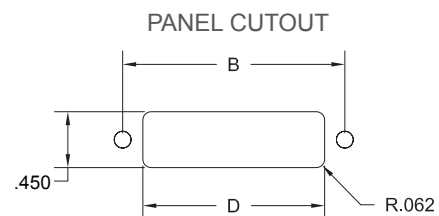
PART NUMBER	CONTACTS	A	B	C
<b>052717-1180</b>	2	1.710	1.370	.895
<b>052717-1181</b>	4	2.480	2.140	1.665
<b>052717-1182</b>	6	3.250	2.910	2.435
<b>052717-1183</b>	8	4.020	3.680	3.205



### STRAIGHT, FRONT PANEL MOUNT RECEPTACLE



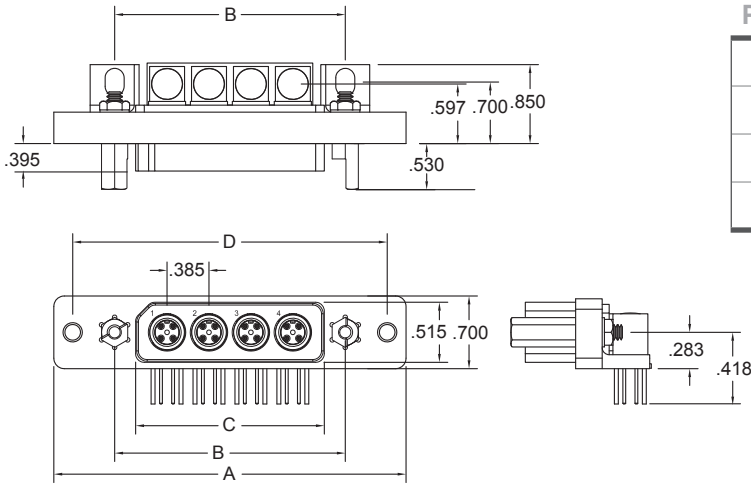
PART NUMBER	CONTACTS	A	B	C	D
<b>052717-3180</b>	2	1.710	1.370	0.895	0.920
<b>052717-3181</b>	4	2.480	2.140	1.665	1.690
<b>052717-3182</b>	6	3.250	2.910	2.435	2.460
<b>052717-3183</b>	8	4.020	3.680	3.205	3.230



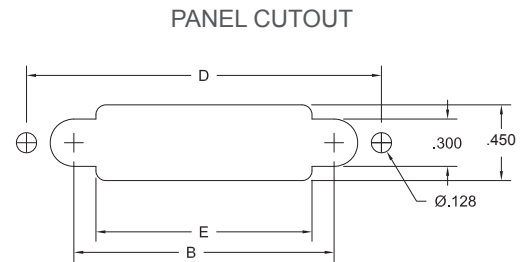
► **SIZE 3 QUADRAX KEYED PCB MOUNT D-SUB SHELLS**

Includes Contacts

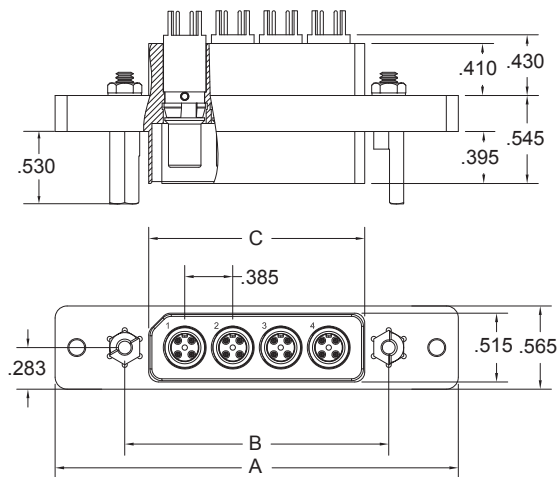
**RIGHT ANGLE, REAR PANEL MOUNT RECEPTACLE**



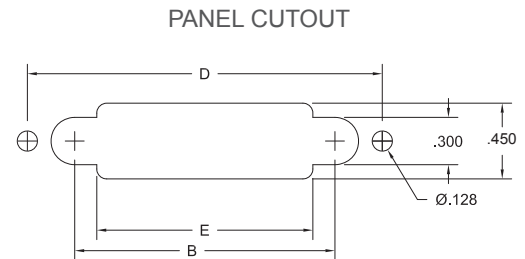
PART NUMBER	CONTACTS	A	B	C	D	E
<a href="#">052717-1184</a>	2	2.230	1.370	0.895	1.980	0.920
<a href="#">052717-1185</a>	4	3.000	2.140	1.665	2.750	1.690
<a href="#">052717-1186</a>	6	3.770	2.910	2.435	3.520	2.460
<a href="#">052717-1187</a>	8	4.540	3.680	3.205	4.290	3.230



**STRAIGHT, REAR PANEL MOUNT RECEPTACLE**



PART NUMBER	CONTACTS	A	B	C	D	E
<a href="#">052717-3184</a>	2	2.230	1.370	0.895	1.980	0.920
<a href="#">052717-3185</a>	4	3.000	2.140	1.665	2.750	1.690
<a href="#">052717-3186</a>	6	3.770	2.910	2.435	3.520	2.460
<a href="#">052717-3187</a>	8	4.540	3.680	3.205	4.290	3.230

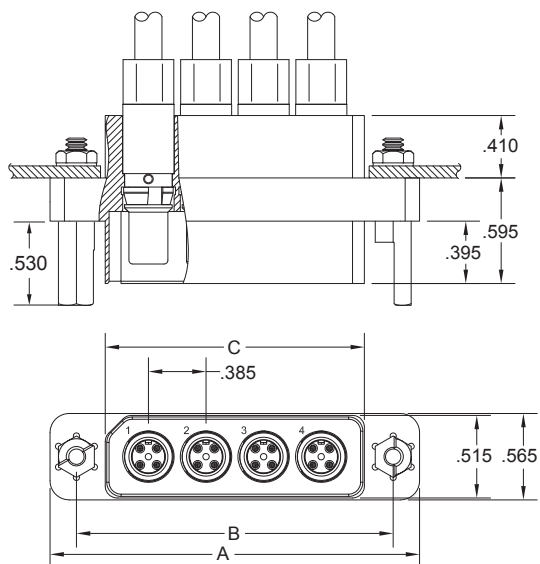




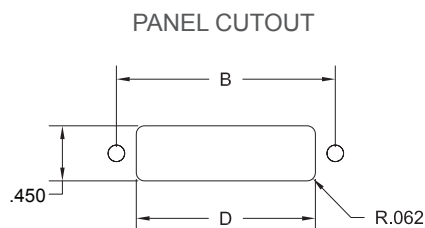
## ► SIZE 3 QUADRAx KEyED CABLE MOUNT D-SUB SHELLS

Contacts Not Included

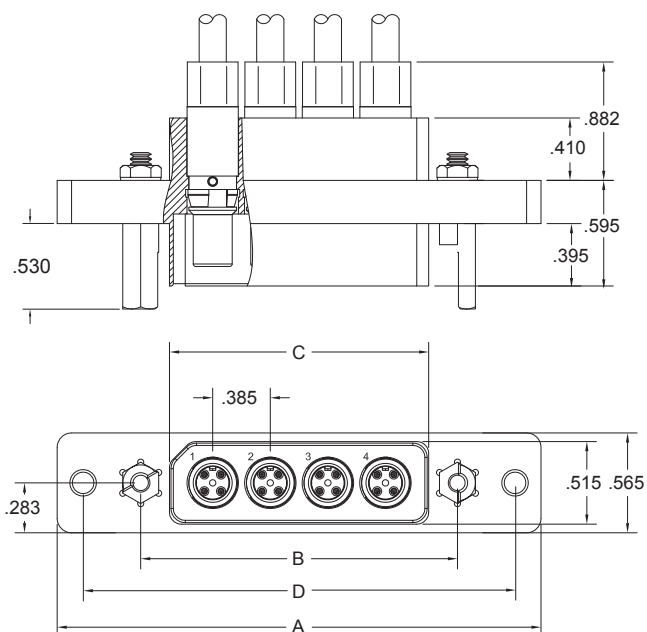
### FRONT PANEL MOUNT RECEPTACLE



PART NUMBER	CONTACTS	A	B	C	D
<b>052700-3080</b>	2	1.710	1.370	0.895	0.920
<b>052700-3081</b>	4	2.480	2.140	1.665	1.690
<b>052700-3082</b>	6	3.250	2.910	2.435	2.460
<b>052700-3083</b>	8	4.020	3.680	3.205	3.230



### REAR PANEL MOUNT RECEPTACLE



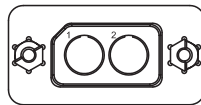
PART NUMBER	CONTACTS	A	B	C	D
<b>052700-3084</b>	2	2.230	1.370	0.895	1.980
<b>052700-3085</b>	4	3.000	2.140	1.665	2.750
<b>052700-3086</b>	6	3.770	2.910	2.435	3.520
<b>052700-3087</b>	8	4.540	3.680	3.205	4.290

# INSERT ARRANGEMENTS

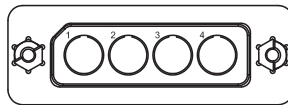
For Keyed & Non-Keyed Shells

## ► SIZE 3 KEYED & NON-KEYED ARRANGEMENTS

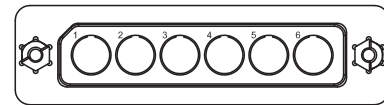
**SHELL SIZE 1  
ARRANGEMENT 1-2**  
2 #3 Quadrax Contacts



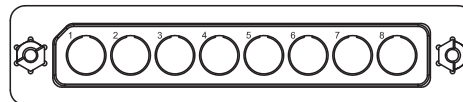
**SHELL SIZE 2  
ARRANGEMENT 2-4**  
4 #3 Quadrax Contacts



**SHELL SIZE 3  
ARRANGEMENT 3-6<sup>(2)</sup>**  
6 #3 Quadrax Contacts



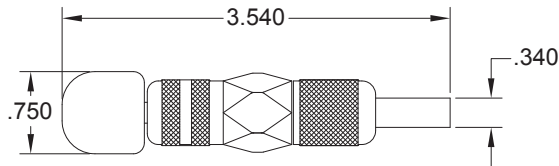
**SHELL SIZE 4  
ARRANGEMENT 4-8**  
8 #3 Quadrax Contacts



# TOOLS & ACCESSORIES

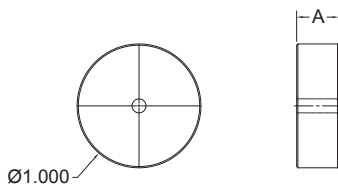
## ▶ INSERT REMOVAL TOOL

Part Number: SIR-050 | Use to remove size 3 pin and socket contacts from the plug or receptacle body



## ▶ CABLE STRIPPING GAGE

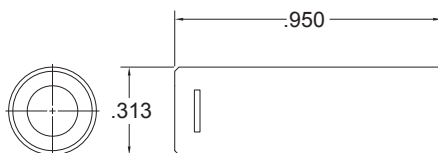
Use to trim and strip the quadrax cables to the proper length<sup>(1)</sup>



PART NUMBER	DESCRIPTION	A
<a href="#">T-2177-3</a>	Dielectric Cable Stripping Gage	0.175
<a href="#">T-2177-4</a>	Wire Cable Stripping Gage	0.340

## ▶ ASSEMBLY INSPECTION GAUGE

Part Number: T-2150 | Use to verify the proper trim length and consistency during assembly<sup>(1)</sup>



**Notes:**

1) Consult factory for Assembly Instructions AI-5020

# HOW TO ORDER

For custom products only. Standard part numbers are listed throughout the brochure.



## 1 ▶ PREFIX

**RDC3** RUGGED D-SUB SIZE 3

## 2 ▶ SHELL

**RN** RECEPTACLE, NON-KEYED

**RK** RECEPTACLE, KEYED

**PN** PLUG, NON-KEYED

**PK** PLUG, KEYED

## 3 ▶ INSERT ARRANGEMENT

**2, 4, 6, OR 8** WAY

## 4 ▶ PLATING

**C** CADMIUM (YELLOW CHROMATE)

**N** ELECTROLESS NICKEL

## 5 ▶ CONTACT TYPE

**P** PIN

**S** SOCKET

## 6 ▶ CONTACT TERMINATION

**C** CRIMP

**S** STRAIGHT PC TAIL

**RA** RIGHT ANGLE PC TAIL

## 7 ▶ CONTACT

**Q** QUADRAX

## 8 ▶ CABLE GROUP

**42** 540-1211-000

**0** NO CABLE REQUIRED