



DSX Series

SAE AS81659 Arinc 404



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#### Introduction |

The Radiall **DSX** rack and panel series are multipin rectangular connectors used to electrically interface avionics equipment to equipment rack. Usually the plug is installed on the avionics rack and the receptacle on the equipment box. The mated locking mechanism is provided for the equipment and cabinet and is not a part of the connector pair.

These connectors are widely used in applications such as:

- Commercial / military aircraft and helicopters
- Radar systems
- Power circuits
- In-flight electronic instrumentation
- Flight simulators, etc...

# The following versions are offered:

**DSX – SAE AS81659:** connectors conforming to SAE AS81659 including connectors listed on the QPL81659

DSX - ARINC 404 shell type B: connectors conforming to ARINC 404 shell type B - polarized shells

**DSX - ARINC 404 shell type A:** connectors conforming to ARINC 404 shell type A - single shell (without polarization)

DSX - F: connectors for front release front removable contacts (receptacle only)

DSX - DATA BUS: connectors for interconnection of multiplexed digital links

DSX - EMI/RFI: shielded connectors

#### **DSX - SAE AS81659**

These connectors fully conform to SAE AS81659 specifications and are listed on the associated Qualified Product List. They are available in four shell sizes (1, 2, 3 and 4) which can respectively accept 1, 2, 3 and 4 inserts. Inserts are offered in various contact arrangements accommodating rear release rear removable signal (size 22), power (sizes 5, 12, 16 and 20HD), coaxial (sizes 1, 3, 5, 7, 9 and 15), concentric twinax (sizes 5 and 9), triax (sizes 5 and 9) contacts in crimp, wire wrap or PC tail termination. Radiall's 29504 fiber optic termini are also available. Both environmental and non environmental connectors are offered.

Mismating is prevented by a polarizing system which provides 216 polarizing positions. For military part numbers, applicable polarizing positions range goes from 00 through 99 only.

#### **DSX - ARINC 404 SHELL TYPE B**

Arinc 404 shell type B are the commercial version. Here are the commercial features compared to the military version:

- They use both size 20HD and size 20 contacts.
- They are non environmental. Inserts are fitted with a rubber separator on the back of their wiring which does not provide sealing but provides wire protection.
- Removable size 5 and 9 coaxial contacts are not interchangeable with those of the military type.
- Insert retention plate is yellow anodized instead of blue anodized on the military version.

#### **DSX - ARINC 404 SHELL TYPE A**

DSX - ARINC 404 shell type A connectors are only available in shell size 1. They use ARINC 404 shell type B inserts; only one insert can be installed in the connector shell. Shell type A has no polarization system, mismating is prevented by keystone shaped shells. DSX ARINC 404 shell type A connectors cannot be fitted with any backshell.



#### Introduction

#### DSX-F

DSX - F receptacle connectors are available in four shell sizes (1, 2, 3 and 4) and are designed to be fitted with front release front removable contacts offered in pc tail and wire wrap termination. Inserts are offered with or without an interfacial seal (in both cases they are not and are fitted with a separator) and are available in the following contact arrangements: 106, 67, 57, 45, 40, 33C4, 26.

DSX - F connectors are fully intermateable with connectors of the ARINC 404 shell type B and SAE AS81659 versions.

#### **DSX - DATA BUS**

These connectors have been designed to ensure the interconnection of multiplexed digital links used in military equipment.

### DSX - EMI / RFI

In response to the continuing development of electronic systems used in ever harsher environments, these connectors have been designed to improve the shielding effectiveness against electromagnetic and radio frequency interferences (EMI/RFI) as well as electromagnetic pulses (EMP).

### **Applications**

 $These \ connectors \ are \ used \ to \ form \ the \ electrical \ interface \ between \ avionics \ equipment \ to \ rack \ equipment.$ 



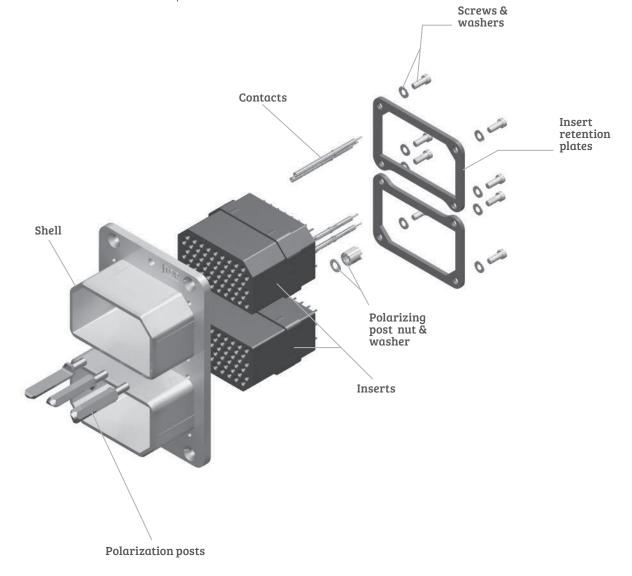
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# Product Overview

Detailed view of the various parts of this series connector.





#### Technical Characteristics

#### **ELECTRICAL**

Magnetic permeability: <2  $\mu$  Insulation resistance: >5000  $M\Omega$ 

Dielectric withstanding voltage: see contact arrangement on pages 6-10 to 6-12

Contact resistance: according to requirements of SAE AS39029

#### Coax contacts electrical characteristics

Nominal impedance:  $50 \Omega$ 

**VSWR** 

Sizes 5, 7 and 9: 1.3 from DC to 1500MHzSizes 1 and 3: 1.3 from DC to 5000 MHz

Contact size	AWG	Cross section mm² (sq.in)	Min. Outside dia. mm (inch)	Max. outside dia. mm (inch)	Max current (A)
	22	0.38 (0.015)			5
22	24	0.21 (0.008)	0.76 (0.030)	1.4 (0.055)	3
	26 0.14 (0.006)		2		
	20	0.60 (0.024)			7.5
20HD	22	0.38 (0.015)	1 (0.039)	1.8 (0.071)	5
	24	0.21 (0.008)			3
	16 1.34 (0.053)		13		
16	18	0.93 (0.037)	1.70 (0.067)	2.6 (0.102)	10
	20	0.60 (0.024)			7.5
	12	3.18 (0.125)			23
12	14	1.91 (0.075)	2.4 (0.094)	2.4 (0.094) 3.4 (0.134)	17
	16	1.34 (0.052)			13
	8	9.00 (0.354)			46
For cavity 5	10	5.00 (0.197)	3.4 (0.134)	6.48 (0.255)	33
FUI CAVILY 5	12	3.18 (0.125)	3.4 (0.134)	0.40 (0.255)	23
	14	1.91 (0.075)			17

#### **MECHANICAL & ENVIRONMENTAL**

Temperature range: -65°C (-85°F) / +125°C (+257°F) Temperature life: 1000 hours at +125°C (+257°F)

Salt spray: EIA 364-26 (MIL-STD-1344A method 1001.1 test condition B (48 hours)) Altitude moisture injection: Insulation resistance > 100 M  $\Omega$  altitude 50000 feet

Fluid resistance: resistance to 20 hours immersion in fluids MIL PRF 5606 & MIL PRF 23699

**Durability:** 500 matings & unmating cycles

**Vibration:** EIA 364-28 (MIL-STD-1344A method 2005 test condition IV (20g – 10-2000Hz)) **Shock:** EIA 364-27 (MIL-STD-1344A method 2004 test condition A (50g -11ms – half sine))

Mating force: < 200N (45 lbs) per insert

Insert retention force: > 534N (120 lbs) in each direction

Contact retention force: max axial displacement = 0.3mm (0.012 inches)

Contact size	22	20HD	16	12
Axial load N (lbs)	66N (15)	89N (20)	111N (25)	133.5N (30)



# Technical Characteristics

# **MATERIALS**

Description	Material	Plating
Shell	Aluminium alloy	Cadmium yellow chromate*
Insert	Thermosetting resin	/
Metallic insert	Aluminium alloy	Cadmium clear chromate*
Interfacial seal & grommet	Silicone rubber	/
Retention clip	Copper alloy	/
Contact	Copper alloy	Gold over nickel under plate
Insert retention plate	Aluminium alloy	Blue anodised*
Polarizing posts	Stainless steel	/
Polarizing keys	Zinc alloy	Cadmium yellow chromate
Polarizing keys retention plate	Aluminium alloy	Cadmium yellow chromate*
Screws, washers, clinch-nuts	Corrosion resistant steel	/
Sealing plugs and filler plugs	PTFE	/
Sealing boots and sleeves	Fluorinated silicon rubber	/
Sealing bushing	PEI /	
Junction shells	Aluminium alloy	Yellow anodized or nickel plated

<sup>\*</sup> More platings are available, see descriptions in modification codes

# MASSES (estimates)

Go online for data sheets & assembly instructions

Description	Weight g (oz)
Plug shell size 1	30 (1.05)
Plug shell size 2	45 (1.60)
Plug shell size 3	60 (2.15)
Plug shell size 4	85 (3)
Receptacle shell 1	30 (1.05)
Receptacle shell 2	50 (1.75)
Receptacle shell 3	85 (3)
Receptacle shell 4	115 (4.05)
Plastic insert	20 (0.70)
Metallic insert	35 (1.25)
Junction shells	25 (0.88)



# How to Order Connectors DSX **S8S S26S** S45P Series Class N: Non environmental (without grommet and interfacial seal) **E:** Environmental (with grommet and interfacial seal) T: Connector with interfacial seal on insert with protruding contacts only Shell size-1: One gang shell 2: Two gang shell 3: Three gang shell 4: Four gang shell Shell type -R: Receptacle P: Plug Grounding EMI/RFI-**G:** with grounding spring (only for plug connector) Termination style -X: Without contacts (for crimp contacts only) **S:** Crimp [1] V: Wire wrap two levels [4] W: Wire wrap three levels [4] Y: PC tail contact [4] Gang A Contact arrangement (2) -See available contact arrangements on pages 6-10 to 6-12 Contact type -S: Socket P: Pin Gang B Gang C-Modification code See pages 6-13 to 6-19 for selection Modification code will help in choosing the appropriate plating for your application.

Important note: If you want to get connectors marked with the military part number (i.e. M81659/66A2-0083) you must order by using the military part number. Radiall part numbers qualified to SAE AS81659 versus military part numbers are listed from pages 6-36 to 6-39.

#### NOTES:

Polarization code [3]

See pages 6-20 to 6-21 for selection

Go online for data sheets & assembly instructions

[1] For reduced crimp barrel, thermocouple or fiber optic contacts, use code X and order contact separately.

(2) For contact arrangements which include coax or quadrax contacts, use termination code X . Quadrax and coax contacts must be ordered separately.

(3) Without polarization code the connector is delivered with the polarizing system unassembled. With polarization code 00: the connector is delivered without polarizing system. With polarization code from 01 to 216: the connector is delivered with polarization hardware assembled as defined by code. Polarization codes for connector qualified to SAE AS81659 are ranging from 00 to 99 only.

(4) PC tail and wire wrap contacts must be used only with non environmental version. PC tail and wire wrap contacts are delivered installed. For 67, 32C4 and 33C4 contact arrangements, size 16 contacts are delivered not installed and in crimp termination.



6-9

# Contact Arrangements

Pin insert mating side shown Class N for non environmental insert Class E for environmental insert Class T for insert with interfacial seal only

Insert	Number of contacts	Dielectric Withstanding		Class		Insert	Number of contacts	DWV		Class	
name	Trainiber of contacts	Voltage (DWV)	N	Е	T	name	Trumber of contacts	200	N	Е	T
C5 <sup>(1)</sup>	5 x #5 (power)	2500V – 60Hz This insert is available in class N only.	✓			57 <sup>(1)</sup>	10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1500v – 60Hz	✓	<b>√</b>	✓
8	8 x #12	1500V – 60Hz	✓	✓	✓	67	64 x #20HD 3 x #16	1000V - 60Hz	<b>√</b>	✓	✓
D8	4 x #16 4 x #12	1500V – 60Hz	✓	✓	<b>√</b>	106	106 x #22	1000V - 60Hz	<b>√</b>	<b>√</b>	<b>√</b> (2)
26	26 x #16	1500V – 60Hz	✓	✓	<b>√</b>	40C1	1 x #5 (coax) 39 x #20HD	1500V – 60Hz	<b>√</b>	<b>√</b>	
40	40 x #20HD	1500V – 60Hz	✓	✓	✓	40T1 <sup>[1]</sup>	1 x #5 (coax) 39 x #20HD	1500V – 60Hz Size 5 contact cavity grounded to the shell	<b>√</b>	✓	
45	45 x #20HD	1500V – 60Hz	✓	✓	<b>√</b>	32C2	2 x #5 (coax) 30 x #20HD	1000V - 60Hz	<b>√</b>	<b>√</b>	

#### NOTES

[1] Contact arrangements are not referenced in the MS3157 and SAE AS81659 standards

(2) class T insert are for pin contacts only except insert arrangement 106; 36C7 and 36T7 which are for socket contacts only



# Contact Arrangements

# Pin insert mating side shown

Insert name	Number of contacts	DWV	N	Class	Т	Insert name	Number of contacts	DWV	N	Class E	T
32T2 <sup>[1]</sup>	2 x #5 (coax) 30 x #20HD	1000V – 60Hz Size 5 contact cavities grounded to the shell	√	✓		36C7 <sup>(1)</sup>	7 x #5 (coax) 29 x #22	1000V – 60Hz	√	✓	√ (2)
32C4	4 x #9 (coax) 4 x #16 24 x #20HD	1500V – 60Hz	✓	<b>√</b>	<b>√</b>	36T7 <sup>(1)</sup>	7 x #5 (coax) 29 x #22	1000V – 60Hz Size 5 contact cavities grounded to the shell	✓	<b>√</b>	√ (2)
32T4 <sup>[1]</sup>	4 x #9 (coax) 4 x #16 24 x #20HD	1500V – 60Hz Size 9 contact cavities grounded to the shell	✓	<b>√</b>		MC2	2 x #1 (coax)	This insert is metallic	✓		
33C4	4 x #5 (coax) 4 x #1625 x #20HD	1000V – 60Hz	✓	<b>√</b>	<b>√</b>	мсз	2 x #7 (coax) 1 x #3 (coax)	This insert is metallic	<b>√</b>		
33T4 <sup>(1)</sup>	4 x #5 (coax) 4 x #16 25 x #20HD	1000V – 60Hz Size 5 contact cavities grounded to the shell	✓	<b>√</b>	✓	C8	8 x #9 (coax)	1000V – 60Hz	✓	<b>√</b>	✓

#### NOTE:

[1] Contact arrangements are not referenced in the MS3157 and SAE AS81659 standards

(2) class T insert are for pin contacts only except insert arrangement 106; 36C7 and 36T7 which are for socket contacts only



# Contact Arrangements

# Pin insert mating side shown

Insert name	Number of contacts	DWV	Class				
msert mante	Number of contacts	DWV	N	Е	T		
Т8*	8 x #9 (coax)	Size 9 contact cavities grounded to the shell. Pin contact available only	<b>√</b>	<b>√</b>	<b>√</b>		
6CU	6 x #8 Quadrax	Size 8 contact cavities grounded to the shell. Non environmental only	<b>√</b>	<b>√</b>			
81C3	78 x # 22 3 x #5 (coax)	1000V - 60Hz	for pin contact only				
00*		Dummy insert					



Connectors can be front or rear mount. It should be noted that:

- There is only 4mm between the connector flange when fully mated. Please note that the modification code and screw type should be selected accordingly.
- The modification code with floating eyelets can be mated with the fixed modification.

CODE	Recepto	icle shell	Plug	ı shell
00	Ø3.05 (0.120)	Sizes 1,2 & 3: 6 holes Ø3,05 (0.120) Size 4: 10 holes Ø3,05 (0.120)	## ## ## ## ## ## ## ## ## ## ## ## ##	Sizes 1 & 2: 4 holes Ø3,05 (0.120) c'sunk 90° Size 3: 6 holes Ø3,05 (0.120) c'sunk 90° Size 4: 10 holes Ø3,05 (0.120) c'sunk 90°
01	140-UNC-38	Sizes 1 & 2: 4 clinch nuts 4.40 UNC 3B Size 3: 6 clinch nuts 4.40 UNC 3B Size 4: 10 clinch nuts 4.40 UNC 3B	A-40-UNC-3B	Sizes 1 & 2: 4 clinch nuts 4.40 UNC 3B Size 3: 6 clinch nuts 4.40 UNC 3B Size 4: 10 clinch nuts 4.40 UNC 3B
02	93.05 [0,120]	Sizes 1, 2 & 3: 6 holes Ø3,05 (0.120) with attaching tabs for RADIALL backshell  Not Available in Size 4	93.05 (0.120)	Sizes 1 & 2:  4 holes Ø3,05 (0.120) c'sunk 90° with attaching tabs for RADIALL backshell Size 3: 6 holes Ø3,05 (0.120) c'sunk 90° with attaching tabs for RADIALL backshell Not Available in Size 4
03	## ## ## ## ## ## ## ## ## ## ## ## ##	Sizes 1 & 2: 4 holes Ø3,05(0.120) c'sunk 100° Size 3: 6 holes Ø3,05(0.120) c'sunk 100° Size 4: 10 holes Ø3,05(0.120) c'sunk 100°	93.05 (0.120) 29unk 100	Sizes 1 & 2: 4 holes Ø3,05[0.120] c'sunk 100° Size 3: 6 holes Ø3,05[0.120] c'sunk 100° Size 4: 10 holes Ø3,05[0.120] c'sunk 100°
04	## ## ## ## ## ## ## ## ## ## ## ## ##	Sizes 1 & 2: 4 holes Ø3,05(0.120) c'sunk 100° with attaching tabs for RADIALL backshell Size 3: 6 holes Ø3,05(0.120) c'sunk 100° with attaching tabs for RADIALL backshell  Not Available in Size 4	93.05 (0.130) caunt 100*	Sizes 1 & 2: 4 holes Ø3,05(0.120) c'sunk 100° with attaching tabs for RADIALL backshell Size 3: 6 holes Ø3,05(0.120) c'sunk 100° with attaching tabs for RADIALL backshell Not Available in Size 4



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Code	Receptacle	shell	Plug shell		
05	Ø4.80 [0,189]	Sizes 1,2 & 3: 4 holes Ø4,80 (0.189) Size 4: 10 holes Ø4,80 (0.189)	Ø 4.80 ( 0,189)	Sizes 1,2 & 3: 4 holes Ø4,80 (0.189) Size 4: 10 holes Ø 4,80 (0.189)	
08	## (## 62*	Sizes 1 & 2: 4 holes Ø3,53 (0.139) c'sunk 82° Size 3: 6 holes Ø3,53 (0.139) c'sunk 82°	## ## ## ## ## ## ## ## ## ## ## ## ##	Sizes 1 & 2: 4 holes Ø3,53 (0.139) c'sunk 82° Size 3: 6 holes Ø3,53 (0.139) c'sunk 82°	
12			5.30 (0.210)	Sizes 1, 2 & 3: 4 mounting slots 5,33 (0.210) wide	
13	901020	Sizes 1, 2 & 3: 4 mounting slots 6,07 (0.239) wide	**************************************	Sizes 1, 2 & 3: 4 mounting slots 6,07 (0.239) wide	
17	4-40-UNC-38	Sizes 1 & 2: 4 clinch nuts 4.40 UNC 3B with attaching tabs for RADIALL backshell Size 3: 6 clinch nuts 4.40 UNC 3B with attaching tabs for RADIALL backshell Not Available in Size 4	1.40-UNC-3B	Sizes 1 & 2: 4 clinch nuts 4.40 UNC 3B with attaching tabs for RADIALL backshell Size 3: 6 clinch nuts 4.40 UNC 3B with attaching tabs for RADIALL backshell Not available in size 4	
18	4-40-UNC-3B	Sizes 1, 2 & 3: 6 clinch nuts 4.40 UNC 3B Not Available in Size 4			



Code	Receptacle	shell	Plug she	ell
19	440 UNC 30	Sizes 1, 2 & 3: 6 clinch nuts 4.40 UNC 3B with attaching tabs for RADIALL backshell  Not Available in Size 4		
22	9305 (0.120)	Sizes 1 & 2: 4 floating eyelets Ø3,05 [0.120] with attaching tabs for RADIALL backshell Size 3: 6 floating eyelets Ø3,05 [0.120] with attaching tabs for RADIALL backshell Not Available in Size 4	Ø3.05 (0.120)	Sizes 1 & 2: 4 floating eyelets Ø3,05 (0.120) with attaching tabs for RADIALL backshell Size 3: 6 floating eyelets Ø3,05 (0.120) with attaching tabs for RADIALL backshell Not Available in Size 4
23	Ø3.05 [0,120]	Sizes 1 & 2: 4 floating eyelets Ø3,05 (0.120 Size 3: 6 floating eyelets Ø3,05 (0.120) Size 4: 10 floating eyelets Ø3,05 (0.120)	Ø 3.05 (0.120)	Sizes 1 & 2: 4 floating eyelets Ø3,05 [0.120] Size 3: 6 floating eyelets Ø3,05 [0.120] Size 4: 10 floating eyelets Ø3,05 [0.120]
24	Ø5.33 [0.210]	Sizes 1, 2 & 3: 6 holes Ø5,33 (0.210)	95,33[0,219]	Sizes 1, 2 & 3: 6 holes Ø5,33 (0.210)
26	Ø3.05 [0.120]	Sizes 1 & 2: 4 holes Ø3,05[0.120] c'sunk 90° Size 3: 6 holes Ø3,05[0.120] c'sunk 90° Size 4: 10 holes Ø 3,05[0.120] c'sunk 90°		
33	Ø3.05 [0.120]	Sizes 1 & 2: 4 flush front embedded floating eyelets Ø3,05 (0.120) Size 3: 6 flush front embedded floating eyelets Ø3,05 (0.120) Size 4: 10 flush front embedded floating eyelets Ø3,05 (0.120)	Ø3.05 [0.120]	Sizes 1 & 2:  4 flush rear embedded floating eyelets Ø3,05 (0.120)  Size 3:  6 flush rear embedded floating eyelets Ø3,05 (0.120)  Size 4:  10 flush rear embedded floating eyelets Ø3,05 (0.120)



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Go online for data sheets & assembly instructions

Code	Receptacle	shell	Plug shel	l
34	Ø3.05 [0,120]	Sizes 1 & 2: 4 flush rear embedded floating eyelets Ø3,05 (0.120) Size 3: 6 flush rear embedded floating eyelets Ø3,05 (0.120) Size 4: 10 flush rear embedded floating eyelets Ø3,05 (0.120)	93.09 (0.120)	Sizes 1 & 2: 4 flush front embedded floating eyelets Ø3,05 (0.120) Size 3: 6 flush front embedded floating eyelets Ø3,05 (0.120) Size 4: 10 flush front embedded floating eyelets Ø3,05 (0.120)
35	M2.50	Sizes 1 & 2: 4 flush front embedded floating eyelets M2.5 threaded Size 3: 6 flush rear embedded floating eyelets M2.5 threaded	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sizes 1 & 2: 4 flush rear embedded floating eyelets M2.5 threaded  Size 3: 6 flush rear embedded floating eyelets M2.5 threaded
36	M2.50	Sizes 1 & 2:  4 flush front embedded floating eyelets M2.5 threaded with attaching tabs for RADIALL backshell Size 3:  6 flush front embedded floating eyelets M2.5 threaded with attaching tabs for RADIALL backshell Not Available in size 4	NZ.5	Sizes 1 & 2:  4 flush front embedded floating eyelets M2.5 threaded with attaching tabs for RADIALL backshell Size 3:  6 flush front embedded floating eyelets M2.5 threaded with attaching tabs for RADIALL backshell Not Available in size 4
55			Special control plate do you 1 Janes.  Page 17 most 2 min (Perspage Facult C29 min (Perspage Fac	Sizes 1, 2 & 3: Spring loaded shell 6 places
60	Ø3.05 (0.120)	Similar to modification code 00 except that the shell, keys and keys retention plate are nickel plated.	#3.05 (0.120) #3.05 (0.120) #3.05 (0.120)	Similar to modification code 00 except that the shell, keys and keys retention plate are nickel plated.
61	3.05 (0 120)	Similar to modification code 22 except that the shell, keys and keys retention plate are nickel plated. Not available in size 4	92.00 (P. 120)	Similar to modification code 22 except that the shell, keys and keys retention plate are nickel plated. Not available in size 4



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Code	Receptacle :	shell	Plug shel	l
62	Ø3.05 [0,120]	Similar to modification code 02 except that the shell, keys and keys retention plate are nickel plated.  Not available in size 4	93,001 (1,120) Chest 507	Similar to modification code 02 except that the shell, keys and keys retention plate are nickel plated. Not available in size 4
63	Ø3.65 (0.120)	Similar to modification code 23 except that the shell, keys and keys retention plate are nickel plated.	Ø3.05 [0.120]	Similar to modification code 23 except that the shell, keys and keys retention plate are nickel plated.
64	Ø3.05 [0.120] c'sunk 100*	Similar to modification code 03 except that the shell, keys and keys retention plate are nickel plated.	93.05 (0.120) 93.05 (0.120) 93.05 (0.120)	Similar to modification code 03 except that the shell, keys and keys retention plate are nickel plated.
66	4-40-UNC-38	Similar to modification code 01 except that the shell, keys and keys retention plate are nickel plated.	4-40UNC-3B	Similar to modification code 01 except that the shell, keys and keys retention plate are nickel plated.
67	Ø3.05 [0,320] ceunt 100	Sizes 1 & 2: 4 holes Ø3,05 (0.120) c'sunk 100° with attaching tabs for RADIALL backshell Size 3: 6 holes Ø3,05 (0.120) c'sunk 100° with attaching tabs for RADIALL backshell Shells are nickel plated. Not Available in size 4	## ## ## ## ## ## ## ## ## ## ## ## ##	Sizes 1 & 2:  4 holes Ø3,05 (0.120) c'sunk 100° with attaching tabs for RADIALL backshell Size 3:  6 holes Ø3,05 (0.120) c'sunk 100° with attaching tabs for RADIALL backshell. Shells are nickel plated Not Available for Size 4
73	\$3.05 (0.120) (fault 62)	Sizes 1 & 2: 4 holes Ø3,05 (0.120) c'sunk 82° Size 3: 6 holes Ø3,05 (0.120) c'sunk 82° Size 4: 10 holes Ø3,05 (0.120) c'sunk 82°	#3.05 (0.120)   Gards 52	Sizes 1 & 2: 4 holes Ø3,05 (0.120) c'sunk 82° Size 3: 6 holes Ø3,05 (0.120) c'sunk 82° Size 4: 10 holes Ø3,05 (0.120) c'sunk 82°



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Code	Receptacle	shell	Plug she	ll
77	# # # # # # # # # # # # # # # # # # #	Sizes 1 & 2: 4 holes Ø3,05 (0.120) c'sunk 82° with attaching tabs for RADIALL backshell Size 3: 6 holes Ø3,05 (0.120) c'sunk 82° with attaching tabs for RADIALL backshell Not Available for Size 4	#3.05 (0.120) Craum 62*	Sizes 1 & 2: 4 holes Ø3,05 (0.120) c'sunk 82° with attaching tabs for RADIALL backshell Size 3: 6 holes Ø3,05 (0.120) c'sunk 82° with attaching tabs for RADIALL backshell Not Available for Size 4
79	M3	Sizes 1 & 2: 4 M3 clinch nuts Size 3: 6 M3 clinch nuts Size 4: 10 M3 clinch nuts	M3	Sizes 1 & 2: 4 M3 clinch nuts Size 3: 6 M3 clinch nuts Size 4: 10 M3 clinch nuts

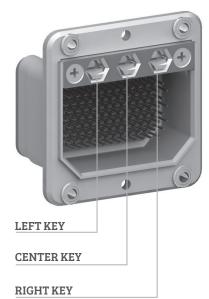


#### RIGHT POLARIZING POST

CENTER POLARIZING POST

LEFT POLARIZING POST













3





5



6

# **Position coding**

Dark area represents the polarizing post. Clear position represents the key hole.

Dalavination	Re	ceptacle sh	nell		Plug shell	
Polarization code	Left key	Center key	Right key	Left post	Center post	Right post
00	/	/	/	/	/	/
01	4	4	4	1	1	1
02	4	4	3	2	1	1
03	4	4	2	3	1	1
04	4	4	1	4	1	1
05	4	4	6	5	1	1
06	4	4	5	6	1	1
07	5	4	4	1	1	6
08	5	4	3	2	1	6
09	5 5 5	4	2	3	1	6
10	5	4	1	4	1	6
11	5	4	6	5	1	6
12	5	4	5	6	1	6
13	6	4	4	1	1	5
14	6	4	3	3	1	5
15	6	4	2	3	1	5
16	6	4	1	4	1	5 5 5 5
17	6	4	6	5	1	5
18	6	4	5	6	1	5
19	1	4	4	1	1	4
20	1	4	3	2	1	4
21	1	4	2	3	1	4
22	1	4	1	4	1	4
23	1	4	6	5	1	4
24	1	4	5	6	1	4
25	2	4	4	1	1	3
26		4	3	2	1	3
27	2	4	2	3	1	3
28	2	4	1	4	1	3

### POLARIZATION CODE TABLE

Dalawinatian	Red	ceptacle sl	nell		Plug shell	
Polarization code	Left key	Center key	Right key	Left post	Center post	Right post
29	2	4	6	5	1	3
30	2	4	5	6	1	3
31	3 3 3	4	4	1	1	2
32	3	4	3	2	1	2
33	3	4	2	3	1	2
34	3	4	1	4	1	2
35	3	4	6	5	1	2
36	3	4	5	6	1	2
37	4	3	4	1	2	1
38	4	3	3	2	2	1
39	4	3	2	3	2	1
40	4	3	1	4	2	1
41	4	3	6	5		1
42	4	3	5	6	2	1
43	5 5	3	4	1	2	6
44	5	3	3	2	2	6
45	5	3	2	3	2	6
46	5	3	1	4	2	6
47	5	3	6	5	2	6
48	5 5	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5	6	2	6
49	6	3	4	1	2	5
50	6	3	3	2	2	5
51	6	3 3 3 3	2	3	2	5
52	6	3	1	4	2	5
53	6	3	6	5	2	5 5 5
54	6	3	5	6	2	5
55	1	3	4	1	2	4
56	1	3	3 2	2	2	4
57	1	3	2	3	2	4

	Re	ceptacle sl	hell		Plug shell	
Polarization code	Left key	Center key	Right key	Left post	Center	Right post
58	1	_	1	4		4
59	1	3	6	5	2	4
60	1	3	5	6	2	4
61	2	3	4	1	2	3
62		3	3	2	2	3
63	2	3	2	3	2	3
64	2	3	11	4	2	3
65	2	3	6	5	2	3
66	2	3	5	6	2	3
67	3	3	4	1	2	2
68	3	3	3	2	2	2
69		3	2	3	2	2
70	3	3	1	4	2	2
71	3	3	6	5	2	2
72	3	3	5	6	2	2
73	4		4	1	3	1
74	4	2	3	2	3	1
75	4	2	2	3	3	1
76	4	2	1	4	3	1
77	4		6	5	3	1
78	4	2	5	6	3	1
79	5	2	4	1	3	6
80	5	2	3	2	3	6
81	5	2	2	3	3	6
82	5	2	1	4	3	6
83	5	2	6	5	3	6
84	5	2	5	6	3	6
85	6	2	4	1		5
86	6	2	3	2	3	5
87	6	2	2	3	3	5
88	6	2	1	4	3	5
89	6	2	6	5	3	5
					3	
90	6	2	5	6	3	5
91	11	2	4	1	3	4
92	1	2	3	2	3	4
93	1	2	2	3	3	4
94	1	2	1	4	3	4
95	1	2 2	6	5	3	4
96	1	2	5	6	3	4
97	2	2	4	1	3	3
98	2	2	3	2	3	3
99	2	2 2	2	3	3	3
100	2	2	1	4	3	3
101	2	2	6	5	3	3
102	2	2	5	6	3	3
103	3	2	4	1	3	2
104	3	2	3	2	3	2
105	3	2	2	3	3	2
	3	2	1	4	3	2
106						
107	3	2	6	5	3	2
108	3		5	6	3	2
109	4	1	4	1	4	1
110	4	1	3	2	4	1
111	4	1	2	3	4	11
112	4	11	11	4	4	1
113	4	1	6	5	4	1
114	4	1	5	6	4	1
115	5	1	4	1	4	6
116	5	1	3	2	4	6
117	5	1	2	3	4	6
118	5	1	1	4	4	6
119	5	1	6	5	4	6
120	5	1	5	6	4	6
121	6	1	4	1	4	5
122	6	1	3	2	4	5
123	6	1	2	3	4	5
124	6	1	1	4	4	5
125	6	1	6	5	4	5
126	6	1	5	6	4	5
127	1	1	4	1	4	4
128	1	1	3	2	4	4
129	1	1	2	3	4	4
130	1	1	1	4	4	4
131	1	1	6	5	4	4
132	1	1	5	6	4	4
133	2	1	4	1	4	3
	2					
134	2	1	3	2	4	3
135	2	1	2	3	4	3
136	2	1	1	4	4	3
137		11	6	5	4	3

Polarization	Re	ceptacle s	hell		Plug shell	l
code	Left key	Center key	Right key	Left post	Center post	Right post
138	2	1	5	6	4	3
139	3	1	4	11	4	2
140	3	1	3	2	4	2
141	3	1		3	4	2
142	3	1	1	4	4	2
143	3	1	6	5	4	2
144	3	1	5	5	4	2
145	4	6	4	1	5	1
146	4	6	3 2	2	5	1
147 148	4	6	1	3 4	5	1
149	4	6	6	5	5	1
150	4	6	5	6	5	1
151	5	6	4	1	5	6
152	5	6	3	2	5	6
153	5	6	2	3	5	6
154	5	6	1	4	5	6
155	5	6	6	5	5	6
156	5	6	5	6	5	6
157	6	6	4	1	5	5
158	6	6	3	2	5	5
159	6	6	2	3	5	5
160	6	6	1	4	5	5
161	6	6	6	5	5	5
162	6	6	5	6	5	5
163	1	6	4	1	5	4
164	1	6	3	2	5	4
165 166	1	6	2	3 4	5 5	4
167	1	6	6	5	5	4
168	1	6	5	6	5	4
169		6	4	1	5	3
170	2	6	3	2	5	3
171	2	6	2	3	5	3
172		6	1	4	5	
173	2	6	6	5	5	3
174	2	6	5	6	5	3
175	3	6	4	1	5	2
176	3	6	3	2	5	2
177	3	6	2	3	5	2
178	3	6	1	4	5	2
179	3	6	6	5	5	2
180	3	6	5	6	5	2
181	4	5	4	1	6	1
182	4	5	3	2	6	1
183	4	5	2	3	6	1
184 185	4	5	6	5	6	1
186	4	5	5	6	6	1
187	5	5	4	1	6	6
188	5	5	3	2	6	6
189	5	5	2	3	6	6
190	5	5	1	4	6	6
191	5	5	6	5	6	6
192	5	5	5	6	6	6
193	6	5	4	1	6	5
194	6	5	3	2	6	5
195	6	5	2	3	6	5
196	6	5	1	4	6	5
197	6	5	6	5	6	5
198	6	5 5	5	6	6	5
199 200	1	5	3	1 2	6	4
201	1	5	2	3	6	4
202	1	5	1	4	6	4
203	1	5	6	5	6	4
204	1	5	5	6	6	4
205	2	5	4	1	6	3
206		5	3	2	6	3
207	2	5	2	3	6	3
208	2	5	1	4	6	3
209	2	5	6	5	6	3
210	2	5	5	6	6	3
211	3	5	4	1	6	
212	3	5	3	2	6	2 2 2
213	3	5	2	3	6	2
214	3	5	1	4	6	2
215	3	5	6	5	6	2 2
216	3	5	5	6	6	



# SIGNAL AND POWER CRIMP CONTACTS SIZES 22, 20HD, 16, 12 & 5

Contact size	AWG	Cross section (mm²)	Wire outside dia mm (inch)	Striping length mm (inch)	PIN	SOCKET	Crimping tool	Positionner	SEL.	Ins/Ext tool	
	22	0.38			616200	616300			4		
22	24	0.21	1.4 (0.055)	3.5 (0.138)	(M39029/	(M39029/		282970	3	282885	
	26	0.14			11-144)	12-148)		(M22520/	3	(M81969/	
22 reduced	28	0.093	1.2 (0.047)	3.5	616201	616301		2-23)	5	1-01	
crimp barrel	30	0.055	1.2 (0.047)	0.0	010201	010001	282281		4		
	20	0.60			616210	616310	(M22520/		7		
20HD	22	0.38	1.8 (0.071)	4.0 (0.157)	(M39029/	(M39029/	2-01)		6		
	24	0.21			11-145)	12-149)		282971	5	282886	
20HD	26	0.14						(M22520/	6	(M81969/	
reduced	28	0.093	1.25 (0.049)	4.0 (0.157)	616211	616311		2-08)	5	1-02)	
crimp barrel	30	0.055							4		
	16	1.34			616230	616330			6		
16	18	0.93	2.6 (0.236)	6.0 (0.236)	(M39029/	(M39029/		202072	5	282546 (M81969/ 1-03)	
	20	0.60			11-146)	12-150)		282972 (M22520/	4		
16 reduced	20	0.60					282291	1-02)	5		
crimp barrel	22	0.38	1.80 (0.071)	6.0 (0.236)	616231	616331	(M22520/1-	1 02)	4	1 00)	
crimp barret	24	0.21					01)				
	12	3.18			616240	616340			8	282547	
12	14	1.91	3.4 (0.134)	6.0 (0.236)	(M39029/	(M39029/		282579	7	(M81969/	
	16	1.34			11-147)	11-151)		(M22520/	6	28-02)	
	12	3.18	3.4 (0.134)		616261	616361	00000/	1-11)	1	2000//	
For cavity 5	14	1.91	3.4 (0.134)	8.0 (0.315)	010201	010301	282296 (DANIELS		1	282946 (M81969/	
	10	5.0	F 7 (0 00 ()	0.0 (0.313)	/1/0//	(1/0//	M300BT) (1)	202557	5	28-01)	
	8		8	25 01)							

### THERMOCOUPLE CONTACTS SIZES 22 & 20HD MADE OF CHROMEL

Contact size	AWG	Cross section (mm²)	Wire outside dia mm (inch)	Striping length mm (inch)	PIN	SOCKET	Crimping tool	Positionner	SEL.	Ins/Ext tool
	22	0.38						282970	4	282885
22	24	0.21	1.4 (0.055)	3.5 (0.138)	620280	620380	282281	(M22520/	3	(M81969/
	26	0.14					(M22520/	2-23)	3	1-01)
	20	0.60					2-01)	282971	7	282886
20HD	22	0.38	1.8 (0.071)	4.0 (0.157)	620290	620390	2-01)	(M22520/	6	(M81969/
	24	0.21						2-08)	5	1-02)

# THERMOCOUPLE CONTACTS SIZES 22 & 20HD MADE OF ALUMEL

Contact size	AWG	Cross section (mm²)	Wire outside dia mm (inch)	Striping length mm (inch)	PIN	SOCKET	Crimping tool	Positionner	SEL.	Ins/Ext tool
	22	0.38						282970	4	282885
22	24	0.21	1.4 (0.055)	3.5 (0.138)	620281	620381	202201	(M22520/	3	(M81969/
	26	0.14					282281	2-23)	3	1-01)
	20	0.60					(M22520/ 2-01)	282971	7	282886
20HD	22	0.38	1.8 (0.071)	4.0 (0.157)	620291	620391	2-01)	(M22520/	6	(M81969/
	24	0.21						2-08)	5	1-02)

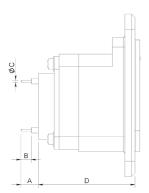
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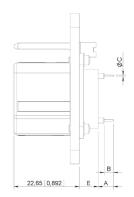
[1] Daniels WA27-309-EP air pressure tool with crimp setting 5 can also be used. Crimp setting 5 is not adjustable and must be set by the factory.



# **SIZES 22 & 20HD PC TAIL CONTACTS**

Contact	Contact	Pin	Socket	Ext. Tool		Dimens	ions mm (inch)			
size	arrangement	PIR	Socker	EXL. 1001	Α	В	С	D	Е	
		,	616379		6.1/5.3 (0.240/0.209)	6.5 (0.256)		25.25/25.75 [0.994/1.013]		
	106	/	616303		14.4/13.6 (0.567/0.535)	9.4 (0.370)			1.55/1.75 (0.061/0.069)	
22		/1/20/*	616306*	202000	5.9/6.7 (0.232/0.263)					
22	36C7 for pin contacts	616206*	/	282890	0.82/0.10 (0.032/0.004)	3.8 (0.149)	0.6 (0.023)		7.85/7.44 (0.293/0.309)	
	36C7 for socket contacts	/	616306		4/3.3 (0.157/0.130)			28.50/28.15 (1.122/1.108) 31.25/31.75	/	
		/	616303		11.72/11 (0.461/0.433)	9.4 (0.370)				
	40-45-57-32C2-32C4- 40C1	616216*	,		6.6/7.6 (0.259/0.299)	/	0.8 (0.031)			
00110	67-33C4	010210	/		6.3/7.3 (0.248/0.287)	/	0.8 (0.031)		7.45/7.75	
20HD	40-45-57-32C2-32C4- 40C1	616223	616323*	282891	3.5/4.3 (0.138/0.169)	3.2 (0.126)	0 / (0 022)	(1.23/1.25)	(0.293/0.305)	
	67-33C4	010223	616323**		3.2/4 (0.126/0.157)	3.2 (U.126)	0.6 (0.023)			





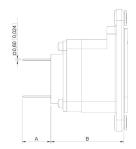
#### NOTE:

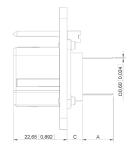
<sup>\*</sup> Connectors delivered in the "Y" termination style will be fitted with contacts marked by "\*" (see above table). If another style of pc tail contact is desired, use termination style "x" when ordering the connector and order contacts separately.



# **SIZES 22 & 20HD WIRE WRAP CONTACTS**

Contact	Contact AWG Contact ar		D:	Cooket	lun hanl		Dimensions			
size	AWG	Contact arrangement	Pin	Socket	Ins. tool	Α	В	С		
22	26 28 106	610203 (2 wrap levels)	610303 (2 wrap levels)		10/11 (0.393/0.433)	25.25/25.75	1.55/1.75			
22 28 30	100	610204 (3 wrap levels)	610304 (3 wrap levels)	202527	12.5/13.5 (0.492/0.531)	(0.994/1.013)	(0.061/0.069)			
20	26 40-45-57-3202-	610214	610314	282527	10.3/11.3 (0.405/0.445)	31.25/31.75	7.45/7.75			
20 28 30	32C4-40C1-67-33C4	(2 wrap levels)	(2 wrap levels)		9.85/10.95 (0.387/0.431)	(1.203/1.250)	(0.293/0.305)			





# COAXIAL CRIMP CONTACTS SIZE 1 (design as per MS3168-3169 specifications)

Contact	Contact	Cable	ъ.			Center contact		C	outer body	
size	arrangement	(1)	Pin	Socket	Crimping tool	Positioner	SEL.	Crimping tool	Die	Hex
		UT 141 RG 402	616005	/			Solder con	tact		
	RG KX RG	RG 58 RG 141 KX 15	616006 right angle	/	Solder contact				282246 (M22520/5-05)	А
		RG 213 KX 4	/	616102001	282291 [M22520/1-01]	282997 (M22520/1-13)	282997	8		282247
		RG 214 RG 225	/ 616003	616103001			J		(M22520/5-61)	A
1	MC2	RG 142	616007 right angle	/		Solder contact		282293 (M22520/5-01)	282246 (M22520/5-05)	
		RG 142 RG 223	/	616107001	282291 (22520/1-01)	282997 (M22520/1-13)	7			А
		RG 174 KX 22	/	616100		Solder contact				
		RD 316	616004 right angle	/		Solder contact				В
		/	616009	/			SMA Termin	ation		

Part number	616004 - 616006 - 616007	616009 - 616100 - 616103001 616106 - 616102001	616003 – 616005 616107001
Dielectric withstanding voltage at sea level (V rms)	1000	1500	2500

#### NOTE:

(1) For other cable, please contact Radiall.



### **COAXIAL CRIMP CONTACTS SIZE 3**

Contact	Contact	Cable				Center contact			Outer body	
size	arrangement	(1)	Pin	Socket	Crimping tool	Positioner	SEL.	Crimping tool	Die	Hex
		RG 142 RG 223 /	616013	/		Solder				
			/	616113	282291 (M22520/1-01)	282997 (M22520/5-05)	7	282293	282246	А
		RG 316	616015 Right angle	/	solder			(M22520/5-01)	(M22520/5-05)	В
3	MC3	UT 141 RG 402	616014	/	solder					
		RG 214 RG 225	616111	282291	282997	8	282293	282247		
		RG 213 KX 4	/	616112	(M22520/1-01)	(M22520/5-05)	ð	(M22520/5-01)	) (M22520/5-61)	А

# COAXIAL CRIMP CONTACTS SIZE 5 (design as per MS3172 specifications)

The following contacts have to be fitted with a sealing boot when used in DSX E connectors (see page 6-29). Coaxial cavities without any contact can be fitted with sealing plugs when used in DSX E connectors.

Contact	Contact	Cable	Pin	Socket		Center contact			Outer body	
size	arrangement	(1)	(See notes 3&4)	(See notes 3&4)	Crimping tool	Positioner	SEL.	Crimping tool	Die	Hex
		RG 58 KX 15	616120	616020			6			
		RG 141	616120	616020			8		282246 (M22520/5-05)	А
		RG 142 RG 223 KX 23	616121	616021	282281 (M22520/2-01)	282974	8			
	32C2 32T2 33C4	RG 179 RG 188 RG 174 RG316 KX 22	616122	616022			7	282293 (M22520/5-01)		
5	33T4 36C7 36T7	RG 179 RG 187	/	616022002		282550 DANIELS K345				В
	40C1 40T1	RG 196 RG 178 KX 21	616123	616023			6			
		RG 195 RG 180	616124	616024		282974				
		RG 316 DS	616163	616026			7			
		UT .085	616125	/			ما ما م	_		
		UT .141	616128	616028			solder			

#### NOTES:

- (1) For other cable, please contact Radiall
- (2) Dielectric withstanding voltage at sea level: 1500 V rms. Except 1000 V rms for 616015
- (3) Dielectric withstanding voltage at sea level: 750 V rms
- (4) Extraction tool: 282946 (M81969/28-01)





### **COAXIAL CRIMP CONTACTS SIZE 7**

Contact	Contact	Cable	Pin	Socket		Center contact			Outer body	
size	arrangement	(1)	(See notes 2&3)	(See notes 2&3)	Crimping tool	Positioner	SEL.	Crimping tool	Die	Hex
		RG 58 RG 141 KX 15	610120	/						А
		RG 174 RG 316 KX 22 RG 188	610126	/		solder				В
7	MC3	RG 58 KX 15	/	616030			6	282293 (M22520/5-01)	282246 (M22520/5-05)	А
		RG 141	/	616030			8	(, ,,		А
		RG 142 RG 223 KX 23	/	616031	282281 (M22520/2-01		8			А
		RG 174 RG 316 KX 22	/	616032			7			В

### **COAXIAL CRIMP CONTACTS SIZE 9**

Add **001** at the end of each part number pin or socket to order environmental size 9 coax contacts. Coaxial cavities without any contact can be fitted with sealing plugs when used in DSX E connectors.

Contact	Contact	Cable	Pin	Socket		Center contact			Outer body	
size	arrangement	(1)	(See notes 2&3)	(See notes 2&3)	Crimping tool	Positioner	SEL.	Crimping tool	Die	Hex
C8 T8 9 32C4 32T4		RG 58 KX 15	616140	616040			6			
	RG 141					8			А	
	RG 142 RG 223 KX 23	616141	616041			8			7	
	T8 32C4	T8 RG 174 32C4 RG 179	616142	616042	282281 (M22520/2-01)	282974	7	282293 (M22520/5-01)	282246 (M22520/5-05)	
		RG 178 RG196 KX 21	616143	616043			6			В
		RG 180 RG 195	616144	616044			6			

### **COAXIAL CRIMP CONTACTS SIZE 15**

Contact	Contact Contact		Cable Pin (See notes 2&3)	Socket (See notes 2&3)		Center contact			Outer body		
size arrangement (1)		Crimping tool			Positioner	SEL.	Crimping tool	Die	Hex		
D8	RG 316 RG 179	616154	618050								
15	26 67	KX 22 DS	616150	618000	282281 (M22520/2-01)	282555	2	282292 (M22520/4-01)	282556	/	
15 32C4 32T4 33C4 33T4	32T4	KX 21 DS	616151	618053							
	RG 178 KX 21	616153	618054								

#### NOTES:

- (1) For other cable, please contact Radiall
- (2) Dielectric withstanding voltage at sea level: 750 V rms
- (3) Extraction tool: 282946 (M81969/28-01)
- (4) Dielectric withstanding voltage at sea level: 350 V rms





# CONCENTRIC TWINAX CRIMP CONTACTS SIZE 5 (design as per 17B9E4005 specifications)

Contact size	Contact arrangement	Cable	Pin	Socket
	The following contacts h	nave to be installed in the noi	n environmental inserts	
	32C3 32T2	MIL-C-17/176-00002	616195001	616095001
5	40C1 40T1 36C7 36T7 33C4 33T4	PAN 6421	616195005	616095005
	The following contact	s have to be installed in the e	environmental inserts	
5	32C3 32T2 40C1 40T1 33C4 33T4	MIL-C-17/176-00002	616195009	616095009
	36C7 36T7		616195012	/

# CONCENTRIC TWINAX CRIMP CONTACTS SIZE 9 (design as per 17B9E4005 specifications)

Contact size	Contact arrangement	Cable	Pin	Socket							
The following contacts have to be installed in the non environmental inserts											
9	C8 T8 32C4 32T4	MIL-C-17/176-00002	616196003	616096003							
	The following conta	cts have to be installed in the e	nvironmental inserts								
0	C8 T8	MIL-C-17/176-00002	/	616096006							
7	32C4 32T4	IVIIL-C-1//1/6-00002	616196004	616096004							

### TRIAX CRIMP CONTACTS SIZE 5

Contact size	Contact arrangement	Cable	Pin	Socket								
	The following contacts have to be installed in the non environmental inserts											
	33C4 33T4	RGX 179	616195004	616095004								
5	32C2 32T2 40C1	ST5M 1323-1	616195007	616095007								
	40T1 36C7 36T7	HS4863-1 HS4863-2	616195000	616095000								
	The following conta	cts have to be installed in the e	nvironmental inserts									
5	36C7 36T7	RGX 179	/	616095010								

#### TRIAX CRIMP CONTACTS SIZE 9

Contact size	Contact arrangement	Cable	Pin	Socket						
	The following contacts	s have to be installed in the non	environmental inserts							
9	C8 T8 32C4 32T4	RGX 179	616196001	616096001						
	The following contacts have to be installed in the environmental inserts									
9	32C4 32T4	RGX 179	/	616096002						



# TRIAX CONTACTS WITH PC TAIL SIZE 5

The contacts shown in the table below are rear release rear removable contacts

Contact type	Part number	Contact drawing	Rear extension from the insert mm (inch)
Pin	616195003		32C2, 32T2, 33C4,33T4 40C1, & 40T1 = 3.2/4.0 (0.125/0.158)
FIII	616195008		36C7 & 36T7 = 5.40/6.10 (0.212/0.240)

Contact type	Part number	Contact drawing	Rear extension from the insert mm (inch)
Pin	616196005		C8 & T8 = 1.30/2.15 (0.051/0.085) 32C4 & 32T4 = 6.45/7.30 (0.253/0.288)
em	616196007		C8 & T8 = 0 32C4 & 32T4 = 3.70/4.35 (0.145/0.172)

# **SIZE 8 QUADRAX CONTACTS**

Wire	Туре	Part number (non environmental)	Part number (environmental)	Ins/Ext Tool
ABS1503KD24	Pin	620175010	620175011	
(110 Ω)	Socket	620075010	620075011	
THERMAX 956S-4T200	Pin	620179002	620179001	
GORE RCN8422 (110 Ω)	Socket 620079002 6200	620079001	282549001	
TENSOLITE	Pin	620175050	620175051	(M81969/28.03 or M81969/14.06)
NF24Q100 (100 Ω)	Socket	620075050	620075051	
TENSOLITE NF26Q100 JSFY 18	Pin	620175021	620175020	
	Socket	620075021	620075020	



#### Fiber Optic Contacts and Accessories

MIL-PRF-29504 fiber optic termini were developed several decades ago and are described into several MIL standard documents. They fit into standard electrical cavities and do not require specific inserts. They can replace MIL-PRF-29504/10 pin and MIL-PRF-29504/11 socket termini.

#### **MIL-PRF-29504 CONTACTS**

Pin contact part number	Socket contact part number	Contact size	Fiber diameter (µm)	Cable diameter (mm)	Ferrule material
F724 005 000	F724 104 000	16	125	1.5	Ceramic
F724 011 000	F724 111 000	16	125	1.8	Ceramic
F724 009 000	F724 109 000	16	125	2	Ceramic
F724 002 000	F724 101 000	16	140	1.5	Ceramic
F724 041 000	F724 140 000	16	230	2	Metallic
F724 007 000	F724 107 000	16	280	1.6	Ceramic

Size 12 MIL-T-29504 contacts can be available upon request, please contact your Radiall sales representative. Note that Radiall can support you with your cable and harness assemblies. Please contact your sales representative.

#### **ACCESSORIES**

Radiall offers you a unique solution to equip your DSX connectors with EN4531 fiber optic contacts. This solution offers the following characteristics and advantages:

- It turns a ARINC 404 size 5 or size 8 cavity into a fiber optic link
- It accepts any EN4531-101 fiber optic contacts

### EN4531-101 (ABS 1379) ADAPTER FOR QUADRAX SIZE 8 CAVITY

Part number	Description
620946005	Pin quadrax adapter for EN4531 contact
620946006	Socket quadrax adapter for EN4531 contact

#### EN4531-101 (ABS 1379) ADAPTER FOR SIZE 5 CAVITY

EN4531-101 adapter for size 5 cavity is available for DSX F connectors with inserts 33C4 and 81C3 only, see DSX F connectors page 6-41.

Part number	Description
616925001	Pin adapter for #5 cavity
616925002	Socket adapter for #5 cavity



#### Accessories

### **SEALING PLUGS AND FILLER PLUGS**

Filler plugs are used in non environmental connectors and sealing plugs are used in environmental connectors and conform to MS27488

Contact size	Sealing plugs	Filler plugs
Size 22	616910	620920
Size 20HD	616911	610941
Size 16	616912	620922
Size 12	616913	616923
Size 5	See notes	620924, 616923 [1] or 616917 [2] for pin contact cavity 620925 for socket contact cavity
Size 9	See notes	616915 [2]

#### **SEALING BOOTS**

The sealing boots in table 1 are to be used in all inserts with size 5 contact cavities except 36C7 and 36T7 inserts which use the sealing bushing plus one in the sealing sleeves in table 2.

Table 1

Cable	X dia. mm (inch)	Part number	Drawing
RG58, RG142	4.3 (0.169)	92505490	ØΧ
RG 174	2 (0.079)	92505470	
RG 178	1.4 (0.055)	92505460	
RG180	3.1 (0.122)	92505480	
/	0	92505450	

#### Table 2

Cable	X dia. mm (inch)	Sealing bushing	Sealing sleeve	Part number
RG58, RG141, RG142,	4.7 (0.185)		92505591	
RG223, KX15, KX23	4.7 (0.100)		72000071	Øx —
RG174, RG179, RG187,				<b>T</b>
RG188, RG316, KX22,	2.15 (0.085)	92505590	92505593	<u> </u>
UT.085				
RG178, RG196	1.5 (0.059)		92505594	SEALING SLEEVE SEALING BUSHING
RG180, RG195, UT.141	3.05 (0.120)		92505592	
/	0	61691	4010 <sup>(3)</sup>	

#### **DUST CAPS**

Conductive dust caps are made of thermoplastic and non conductive dust caps are made of polyethylene.

	Conductive (black)	Non Conductive (red)	Drawing
Plug	610804	610803	RADIALL
Receptacle	610806	610805	RADIALL

#### NOTES

(1) 616923 is made of aluminium and is nickel plated

(2) 616917 and 616915 provide interfacial sealing on class T connectors

(3) 616914010 is made of PTFE



# **Accessories**

### **BACKSHELLS**

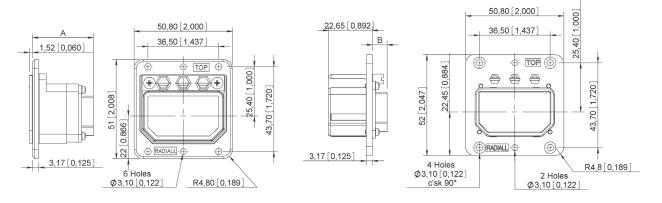
The following backshells are only for use with SAE AS81659 and ARINC 404 shell type B connectors for the following modification codes 02 - 04 - 17 - 19 - 22 - 36 - 61 - 67 and 77.

Backshells do not ensure EMI functions and cannot be installed on size 4 connectors as there is limited access to screws.

Entry type	Plating	Part number	Drawing
Top entry	Yellow anodized	610902	94 [1,339]
lop cha y	Nickel	610906	50[1,969]
Diebbanker	Yellow anodized	610900	64[2,520]   So [1,969]
Right entry	Nickel	610910	31,20 [1,228]
Left entry	Yellow anodized 610901		
Left entry	Nickel	610911	50[1,969]

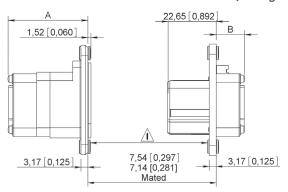


# SHELL SIZE 1 NON ENVIRONMENTAL (without grommet seal)



Max dimension mm (inch)	All crimp contact arrangements except 106	Contact arrangement 106	Arrangements with coax contacts size 1 & 3	Contact arrangement 36C7 & 36T7	Arrangements with coax contacts size 5 & 9 except 36C7
А	32 (1.260)	25.8 (1.016)	26.85 (1.057)	28.5 (1.122)	37.42 (1.473)
В	7.9 (0.311)	1.9 (0.075)	3 (0.118)	7.85 (0.309)	13.5 (0.531)

# SHELL SIZE 1 ENVIRONMENTAL (with grommet seal)

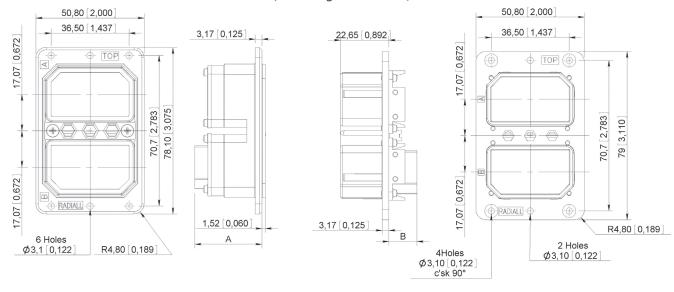


Max dimension mm (inch)	All crimp contact arrangements except MC2 – MC3 - 106	Contact arrangement 106	Contact arrangement 36C7 & 36T7
А	38.5 (1.516)	33.5 (1.319)	39.05(1.537)
В	14.2 (0.559)	9.5 (0.374)	18.55 (.730)

riangle Important Note: Only 4mm of space is available on the modification code selection

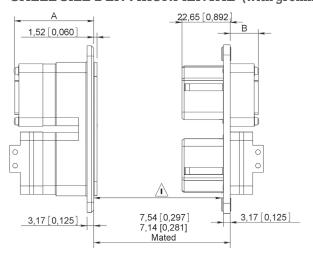


#### SHELL SIZE 2 NON ENVIRONMENTAL (without grommet seal)



Max dimension mm (inch)	All crimp contact arrangements except 106	Contact arrangement 106	Arrangements with coax contacts size 1 & 3	Contact arrangement 36C7 & 36T7	Arrangements with coax contacts size 5 & 9 except 36C7
А	32 (1.260)	25.8 (1.016)	26.85 (1.057)	28.5 (1.122)	37.42 (1.473)
В	7.9 (0.311)	1.9 (0.075)	3 (0.118)	7.85 (0.309)	13.5 (0.531)

# SHELL SIZE 2 ENVIRONMENTAL (with grommet seal)



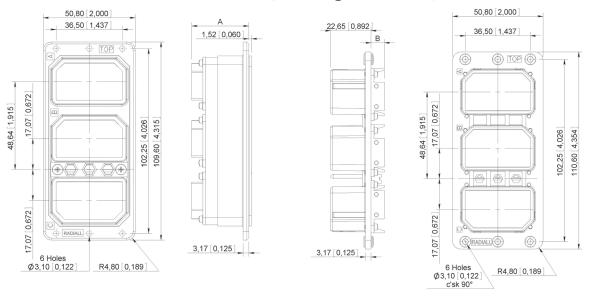
Max dimension mm (inch)	All crimp contact arrangements except MC2 – MC3 - 106	Contact arrangement 106	Contact arrangement 36C7 & 36T7
А	38.5 (1.516)	33.5 (1.319)	39.05(1.537)
В	14.2 (0.559)	9.5 (0.374)	18.55 (.730)

 $\triangle$  Important Note: Only 4mm of space is available on the modification code selection



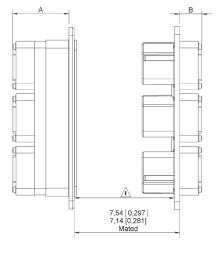
Go online for data sheets & assembly instructions

# SHELL SIZE 3 NON ENVIRONMENTAL (without grommet seal)



Max dimension mm (inch)	All crimp contact arrangements except 106	Contact arrangement 106	Arrangements with coax contacts size 1 & 3	Contact arrangement 36C7 & 36T7	Arrangements with coax contacts size 5 & 9 except 36C7
А	32 (1.260)	25.8 (1.016)	26.85 (1.057)	28.5 (1.122)	37.42 (1.473)
В	7.9 (0.311)	1.9 (0.075)	3 (0.118)	7.85 (0.309)	13.5 (0.531)

# SHELL SIZE 3 ENVIRONMENTAL (with grommet seal)

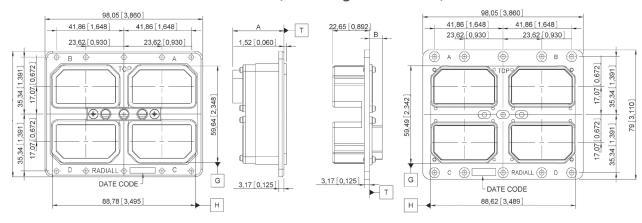


Max dimension mm (inch)	All crimp contact arrangements except MC2 – MC3 - 106	Contact arrangement 106	Contact arrangement 36C7 & 36T7
А	38.5 (1.516)	33.5 (1.319)	39.05(1.537)
В	14.2 (0.559)	9.5 (0.374)	18.55 (.730)

 $\triangle$  Important Note: Only 4mm of space is available on the modification code selection

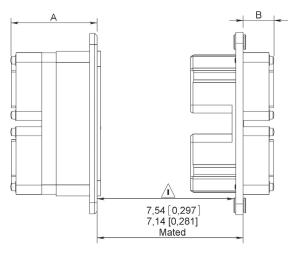


# SHELL SIZE 4 NON ENVIRONMENTAL (without grommet seal)



Max dimension mm (inch)	All crimp contact arrangements except 106	Contact arrangement 106	Arrangements with coax contacts size 1 & 3	Contact arrangement 36C7 & 36T7	Arrangements with coax contacts size 5 & 9 except 36C7
А	32 (1.260)	25.8 (1.016)	26.85 (1.057)	28.5 (1.122)	37.42 (1.473)
В	7.9 (0.311)	1.9 (0.075)	3 (0.118)	7.85 (0.309)	13.5 (0.531)

# SHELL SIZE 4 ENVIRONMENTAL (with grommet seal)



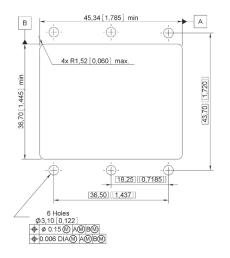
Max dimension mm (inch)	All crimp contact arrangements except MC2 – MC3 - 106	Contact arrangement 106	Contact arrangement 36C7 & 36T7
А	38.5 (1.516)	33.5 (1.319)	39.05(1.537)
В	14.2 (0.559)	9.5 (0.374)	18.55 (.730)

⚠ Important Note: Only 4mm of space is available on the modification code selection

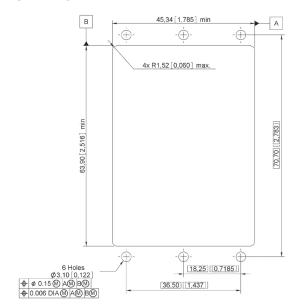


#### **Panel Cut Outs**

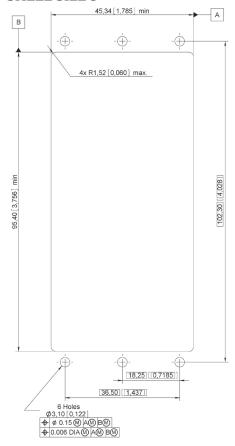
### **SHELL SIZE 1**



# **SHELL SIZE 2**



#### **SHELL SIZE 3**



#### **SHELL SIZE 4**

