



## RTX Series

EN3716



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### Introduction

The digital data bus defined by MIL-STD-1553B is commonly considered as a worldwide standard regarding digital avionics equipment such as navigation by radar, communications, weapon control systems, etc.

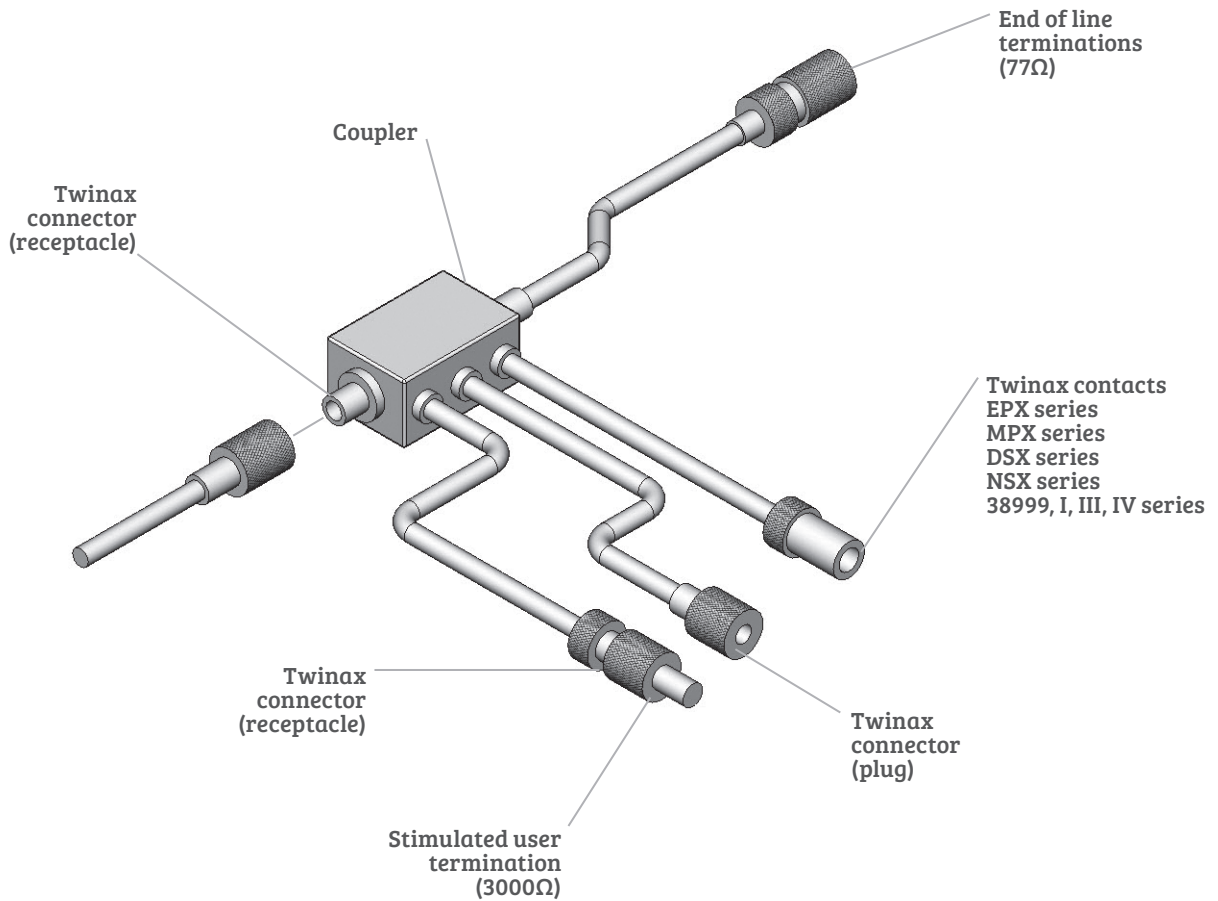
All these systems linked together exchange data through a network of “shielded twisted pairs,” transformer couplers and twinax connectors.

Radiall offers the RTX range of twinax connectors, contacts and terminations suitable for use on this digital data bus.

In addition, Radiall can supply twinax contacts for installation into multipin connectors to connect equipment to the data bus.

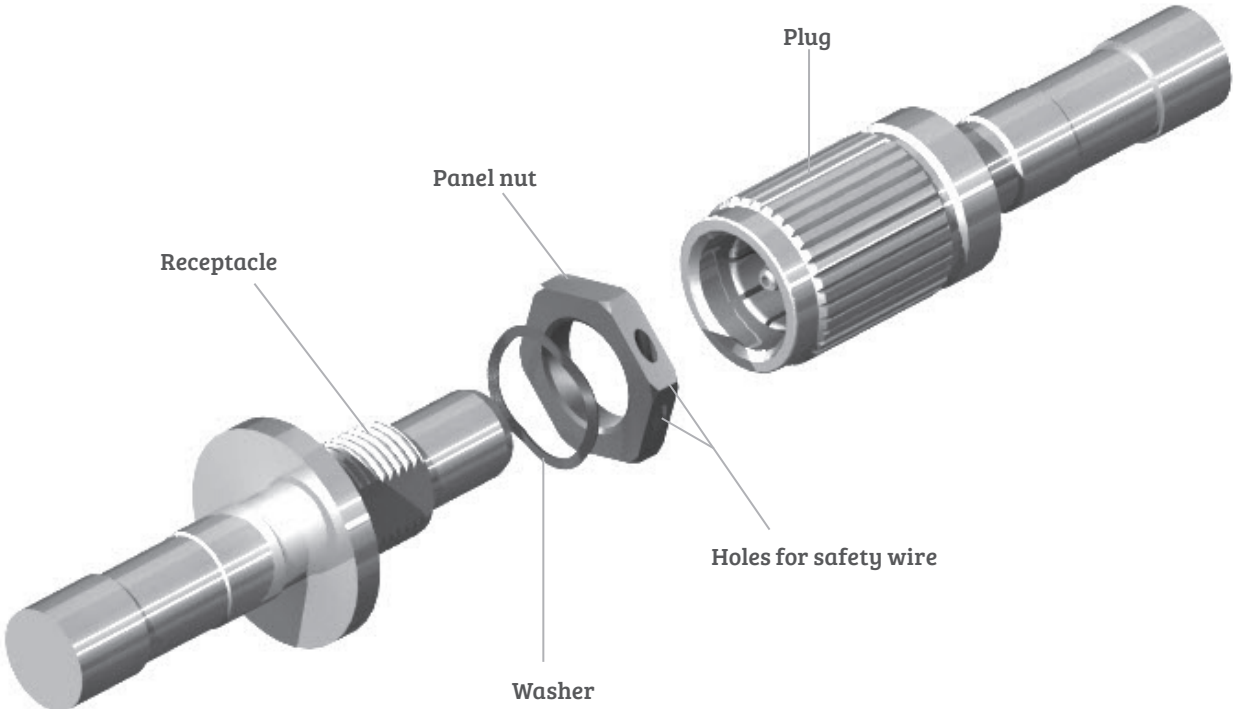
- NSX Arinc 600
- EPX EN4644
- MPX MIL DTL-83527B / EN3682
- DSX SAE AS81659 / Arinc 404
- MIL-DTL-38999

### Applications



**Product Overview**

Detailed view of the various parts of the RTX series connector.



**RTX SERIES**

## Technical Characteristics

### ELECTRICAL

Frequency range: 5 MHz max

Insulation resistance:

@ 25°C (77°F)  $\geq 5000 \text{ M}\Omega$

@ 150°C (302°F)  $\geq 1000 \text{ M}\Omega$

DWV (sea level): 900 Vac RMS – 50 Hz

DWV (70000feet): 200 Vac RMS – 50 Hz

Contact resistance:

Center and intermediate contacts:  $\leq 35 \text{ m}\Omega$

Outer body:  $\leq 8 \text{ m}\Omega$

### MECHANICAL & ENVIRONMENTAL

Temperature range: -65°C (-149°F) to +150°C (+302°F)

Temperature life: 1000 hours at 150°C (+302°F)

Salt spray: 500 hours

Altitude immersion: 47 kPa (.68 psi)

Air leakage: 0,5cm<sup>3</sup>/s

Sand and dust: 1 cycle – wind speed 3,5±0,5m/s

Humidity: 28 days

Shock: 100g – 6 ms

Vibration: AECMA EN2591 test D3 – method B

Mating & unmating: 500 cycles

Contact retention: > 45 N

Locking torque (C)

Mating :  $1 \leq C \leq 1.25 \text{ N.m}$  ( $8.85 \leq C \leq 11 \text{ Lb.inch}$ )

Unmating:  $C \leq 1.35 \text{ N.m}$  ( $11.95 \text{ Lb.inch}$ )

RoHs statue: Not RoHs

Technical Characteristics

**MATERIALS**

Description	Material / Finish
Coupling ring	Tin-lead plated brass
Plug outer body	Copper alloy tin-lead plated
Receptacle outer body	Tin-lead plated brass
Center contact and crimp pot	Copper alloy gold over nickel
Ferrule	Nickel plated brass
Insulator and sheath	PTFE

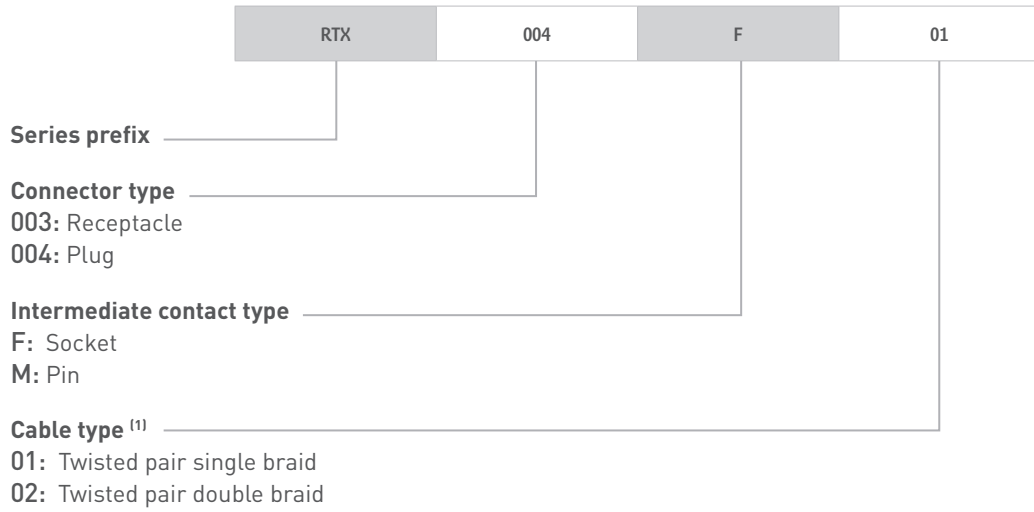
**WEIGHT**

Description	Weight g (oz)
Plug	12 (0.423)
Receptacle	9 (0.317)

RTX SERIES

### How to Order RTX Connectors

The RTX series consists of plugs, receptacles (crimp version) and terminations. The plug has a knurled and threaded coupling ring which provides mating and locking. The jam nut style receptacle is provided with an o-ring for sealing to the bulkhead.



**NOTES:**

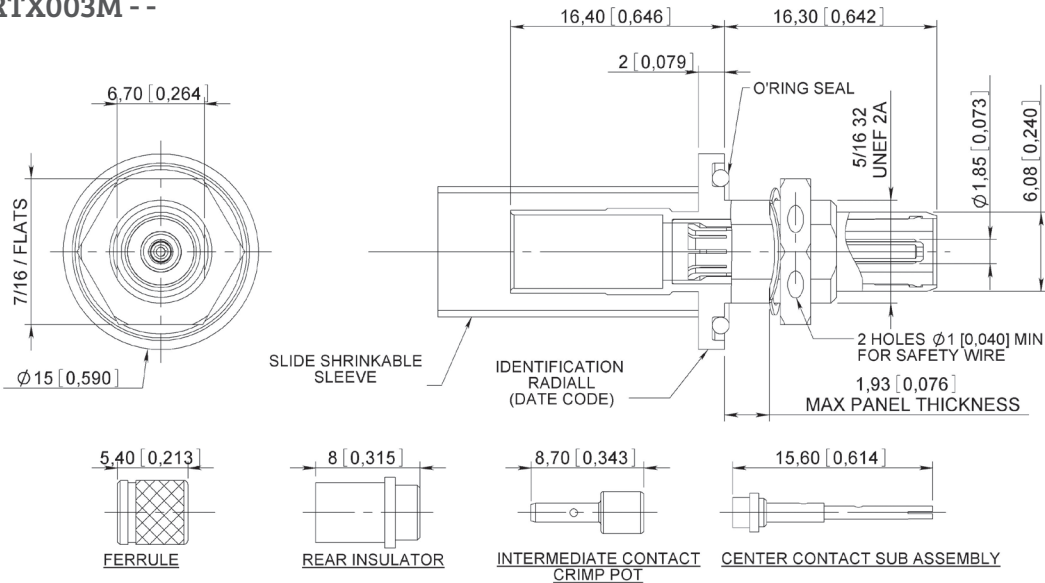
(1) A version for triaxial cable is also available, please consult Radiall



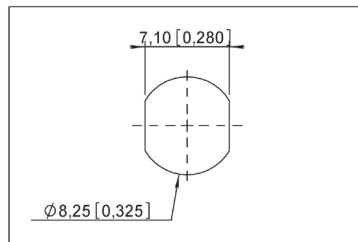
Dimensions & Panel Cut Out

RECEPTACLE – PIN mm (inch)

RTX003M --

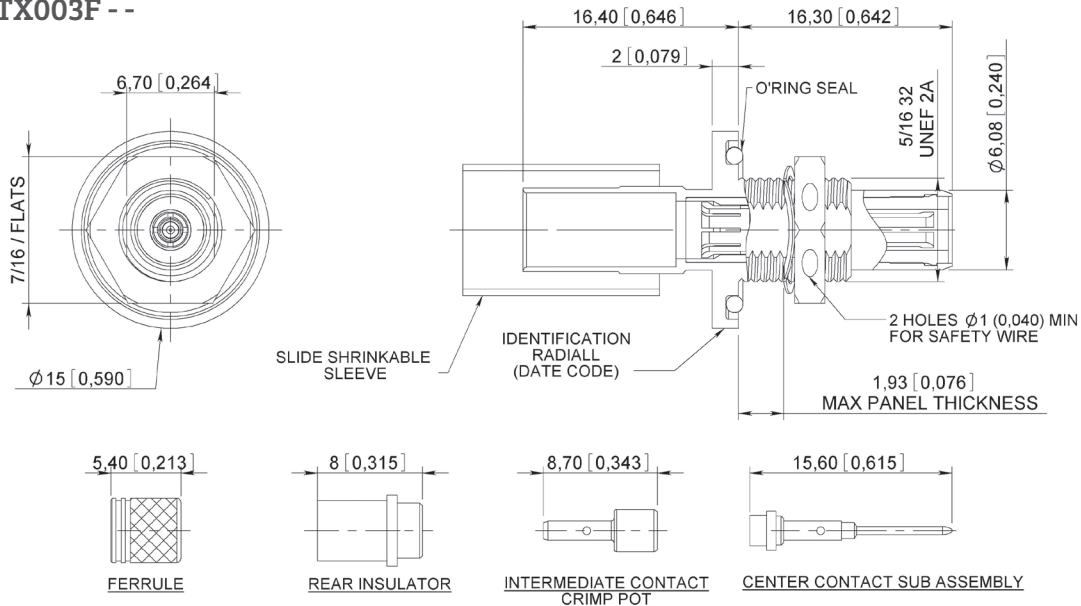


PANEL CUT OUT



RECEPTACLE – SOCKET mm (inch)

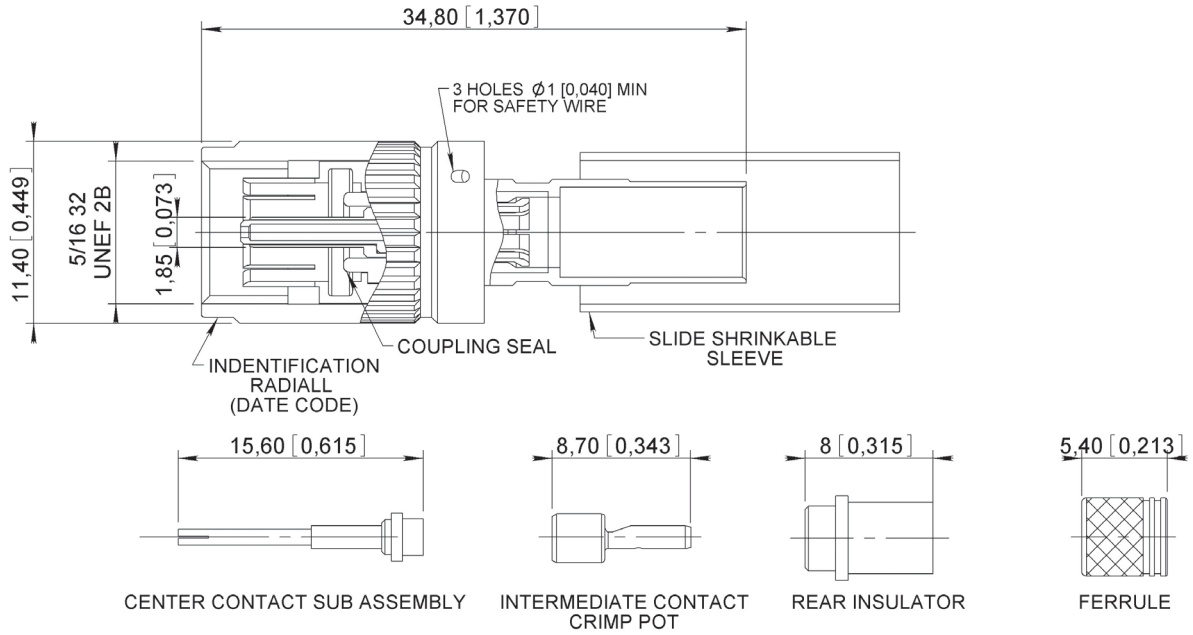
RTX003F --



Dimensions

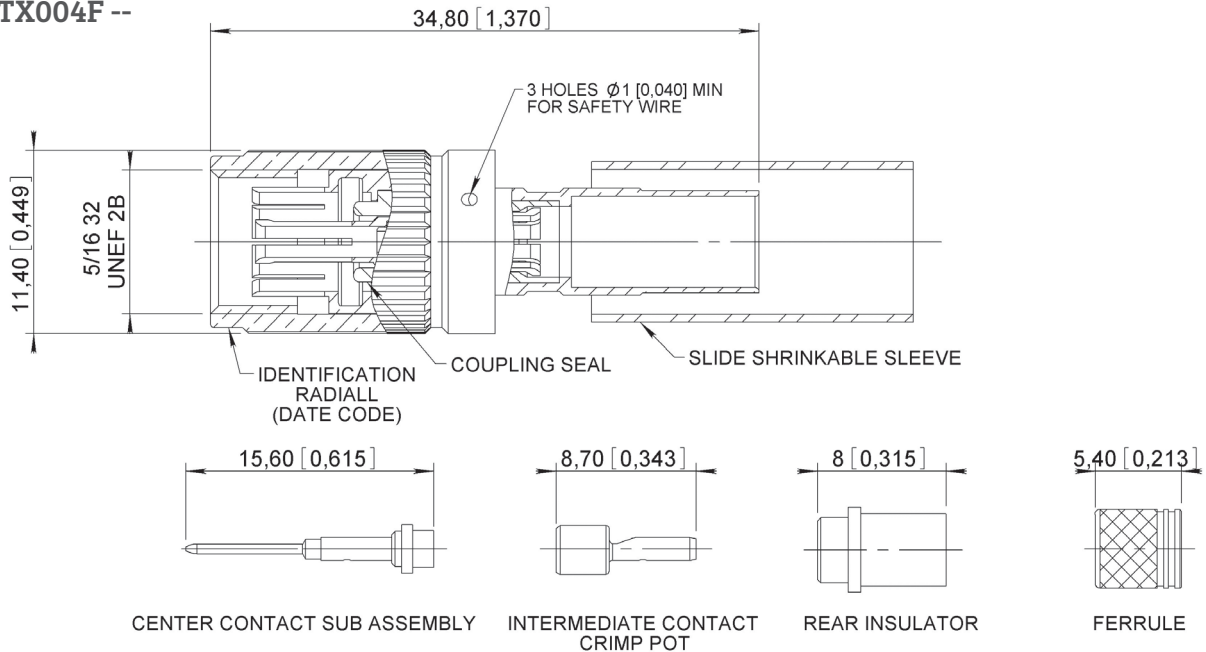
PLUG – PIN mm (inch)

RTX004M --



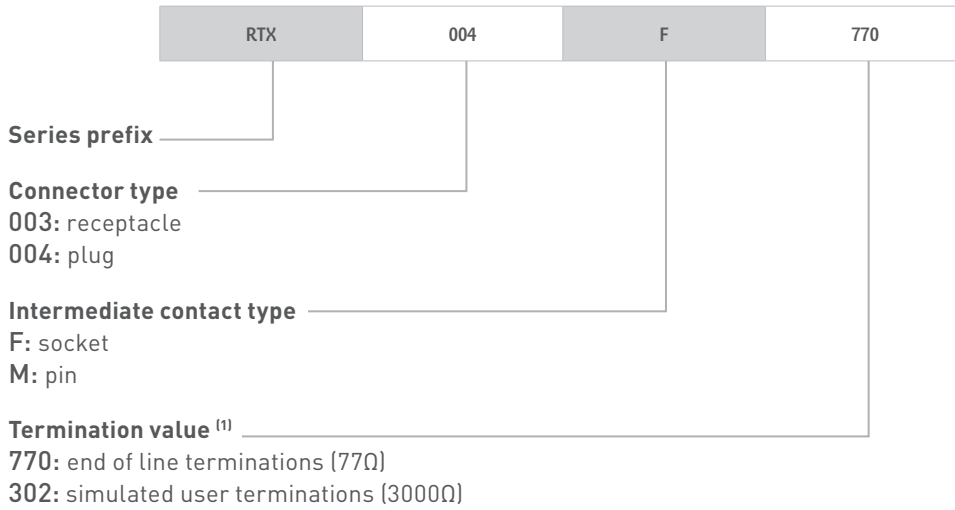
PLUG – SOCKET mm (inch)

RTX004F --



## How to Order RTX Terminations

RTX series terminations are used to simulate a bus user or as end of line load.



## Technical Characteristics

RTX series terminations have the same technical characteristics as the RTX plug and receptacle except the following:

**Termination values:**  $77 \pm 5 \Omega$  or  $3000 \pm 60 \Omega$

**DWV:** 700 Vac RMS – 60Hz

**Working voltage:** 120 Vac RMS – 60 Hz

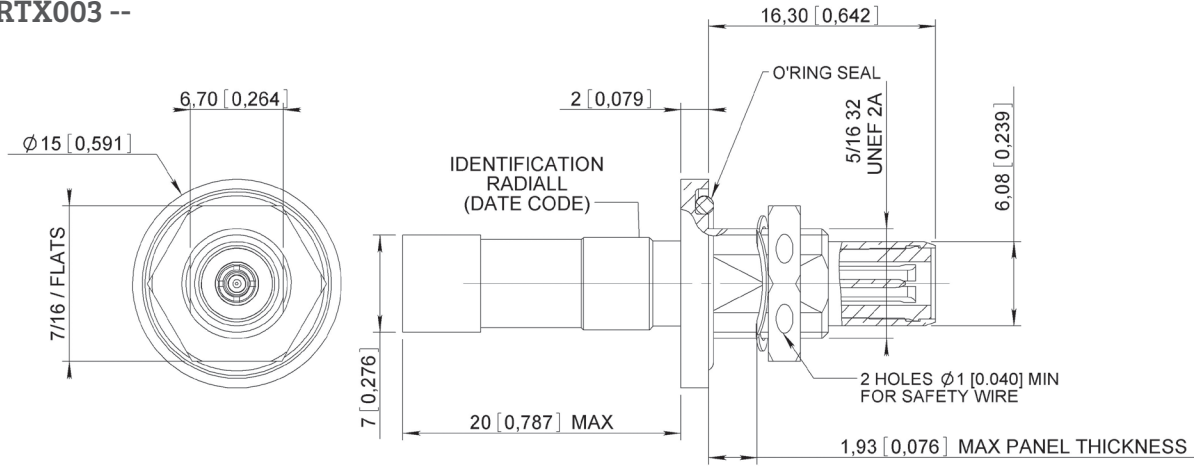
### NOTES:

(1) Write the two first significant digits of the resistance value plus 1 digit giving the number of zeros of the resistance value (i.e. 5500 will be written 552)

Dimensions RTX Terminations

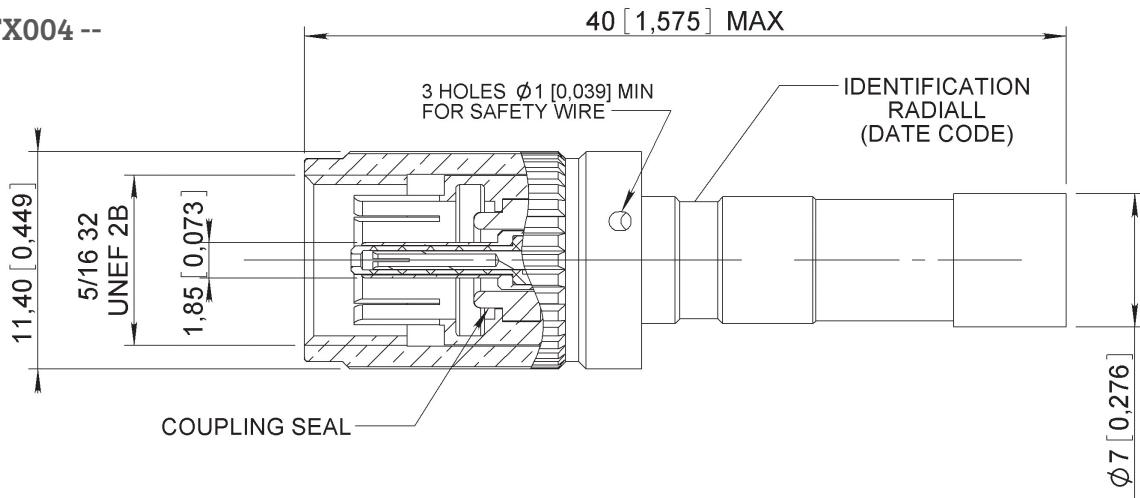
RECEPTACLE TERMINATION mm(inch)

RTX003 --



PLUG TERMINATION mm(inch)

RTX004 --



Twinax Contacts

**CRIMP TERMINATION**

Connector series	Contact				Insertion/Extraction tool
	Size	Cable	Type	Part Number	
MIL DTL 38999	8	MIL-C17/17600002 EN3375-003ST	Socket	670050 <sup>(1)</sup>	282549001 M81969/28-03
			Pin	670150 <sup>(1)</sup>	
		EN3375-004DT Or EN3375-005DT	Socket	670051 <sup>(1)</sup>	
			Pin	670151 <sup>(1)</sup>	
EPX EN 4644	5	MIL-C-17/17600002 or PAN 6421	Socket	617050	282946 M81969/28-01
			Pin	617150	
DSX ARINC 404 SAE AS81659	5	MIL-C-17/17600002	Socket	616095001 <sup>(3)</sup>	282946 M81969/28-01
			Pin	616195001 <sup>(3)</sup>	
			Socket	616095009 <sup>(2)</sup>	
			Pin	616195009 <sup>(2)</sup>	
	PAN 6421	Socket	616095005 <sup>(3)</sup>		
		Pin	616195005 <sup>(3)</sup>		
	9	MIL-C-17/17600002	Socket	616096003 <sup>(3)</sup>	
			Pin	616196003 <sup>(3)</sup>	
			Socket	616096004 <sup>(2)</sup>	
			Pin	616196004 <sup>(2)</sup>	
MPX MIL DLT 83527B	8	EN3375-004DT EN3375-005DT	Socket	618060 <sup>(1)</sup>	282549001 M81969/28-03
			Pin	618160 <sup>(1)</sup>	
		MIL-C-17/17600002 or EN3375-003ST	Socket	618061 <sup>(1)</sup>	
			Pin	618161 <sup>(1)</sup>	
ARINC	8	MIL-C-17/17600002 or EN3375-003ST	Socket	619070001 / 002 [env]	282549001 M81969/28-03
			Pin	619170001/ 002 [env]	
ARINC	8	PAN6421ZA002	Socket	619070011 / 012 [env]	
			Pin	619170011/ 012 [env]	
ARINC	8	EN3375-004 Raychem 10613 ASNE0479WJ	Socket	619070021 / 022 [env]	
			Pin	619170021/ 022 [env]	
ARINC	8	10614 Triple shielded	Socket	619070031 / 032 [env]	
			Pin	619170031/ 032 [env]	

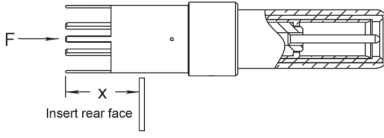
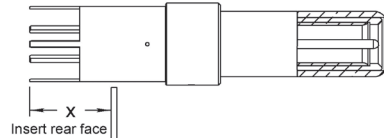
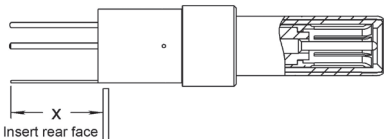
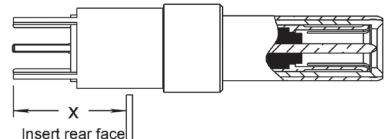
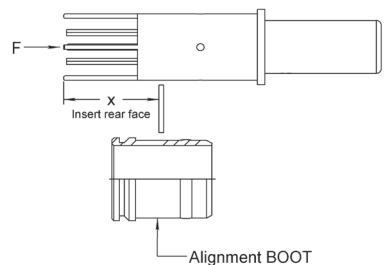
**Notes:**

- (1) In order to have environmental versions add 001 to the part number except for 619x70xxx contacts
- (2) These contacts are to be installed in environmental connectors only
- (3) These contacts are to be installed in non environmental connectors only

RTX SERIES

Twinax Contacts

PC TAIL TERMINATIONS

Connector series	Contact				Insertion/Extraction tool
	Pin Size	Part number	Contact drawing	Rear extension from insert = X mm (inch)	
DSX ARINC 404 SAE AS81659	5	616195003		32C2, 32T2, 33C4, 33T4, 40C1, 40T1 = 3.2/4.0 (.125/.158) 36C7, 36T7 = 5.40/6.10 (.212/.240)	282946 M81969/28-01
		616195008			
	9	616196005		C8, T8 = 1.30/2.15 (.050/.085) 32C4, 32T4 = 6.45/7.30 (.253/.288)	
		616196007		C8, T8 = 0 32C4, 32T4 = 3.70/4.35 (.145/.170)	
MPX MIL DLT 83527B	8	618163 <sup>(1)</sup>		7.65 ± 0.5 (.282/.321)	282549001 M81969/28-03

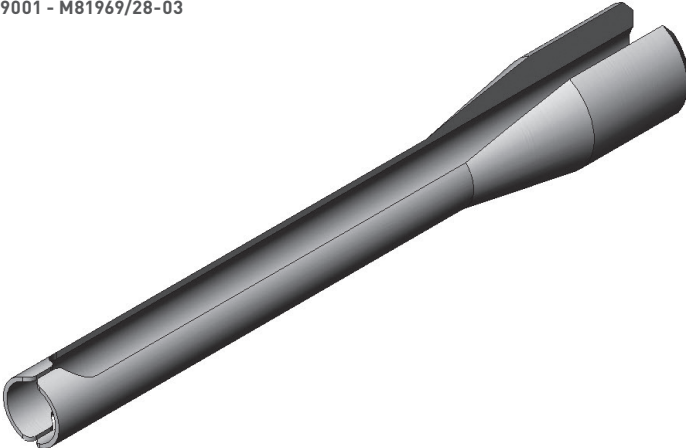
Notes:

(1) For 62T2 contact arrangement, the rear extension from the insert is .303/.343 [8.2 ± 0.5]. This contact is delivered with an alignment boot

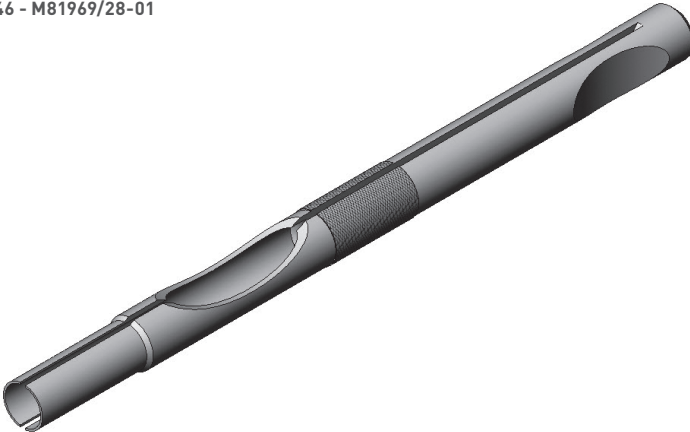
Tools

**INSERTION / EXTRACTION TOOL**

282549001 - M81969/28-03



282946 - M81969/28-01



**RTX SERIES**

# RTX SERIES

Notes

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Our most  
important  
connection  
is with you.™

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