



RTX SERIES

EN3716

Section 11 Table of Contents

RTX SERIES

Introduction..... 11-2

Applications..... 11-2

Product Overview 11-3

Technical Characteristics 11-4 to 11-5

How To Order RTX Connectors 11-6

Dimensions & Panel Cut-Out 11-7 to 11-8

RTX TERMINATIONS SERIES

How To Order RTX Terminations..... 11-9

Technical Characteristics 11-9

Dimensions RTX Terminations 11-10

Twinax Contacts..... 11-11 to 11-12

Tools 11-13

RTX Series

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

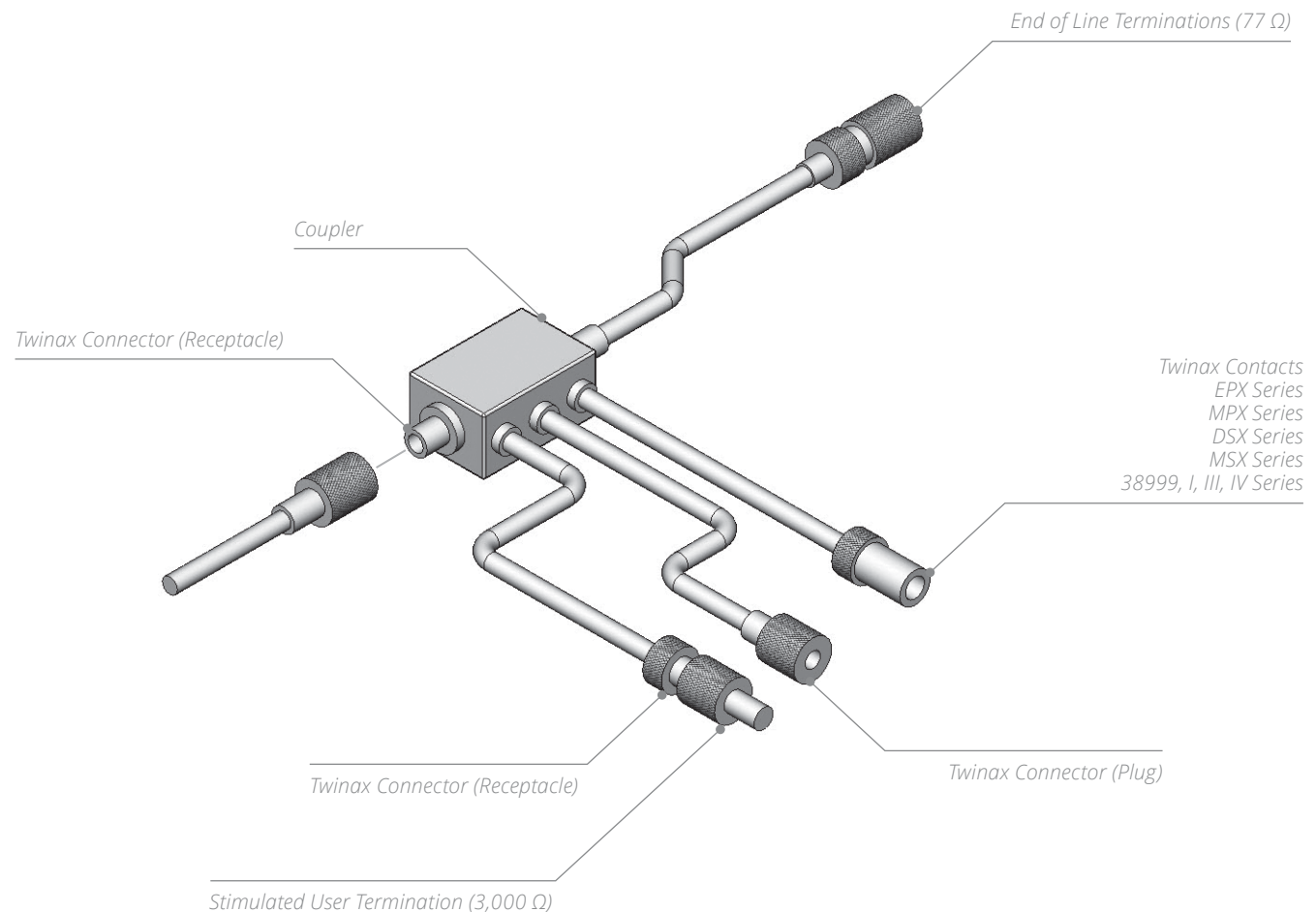
EPX EN4644

MPX MIL DTL-83527B / EN3682

DSX SAE AS81659 / Arinc 404

MIL-DTL-38999

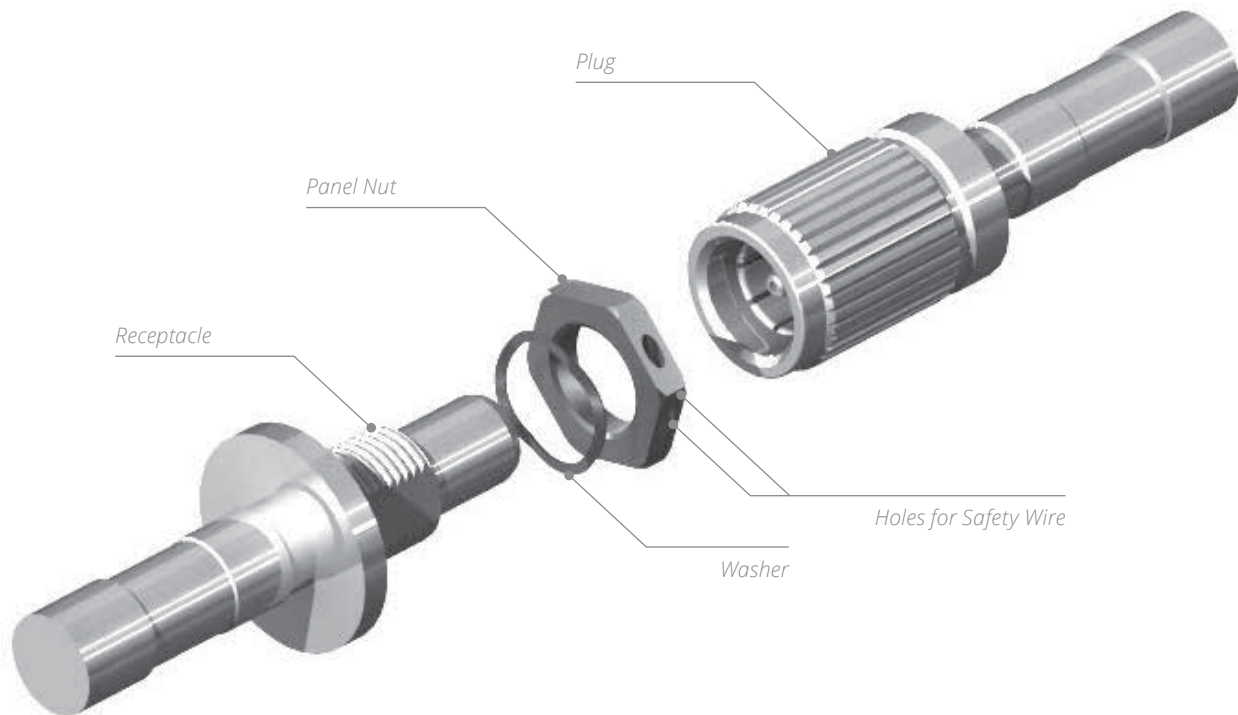
APPLICATIONS



RTX Series

PRODUCT OVERVIEW

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



TECHNICAL CHARACTERISTICS

ELECTRICAL

- Frequency Range: 5 MHz max
- Insulation Resistance: at 25 °C (77 °F) $\geq 5000 \text{ M}\Omega$
at 150 °C (302 °F) $\geq 1,000 \text{ M}\Omega$
- DWV (Sea Level): 900 Vac RMS – 50 Hz
- DWV (70,000 ft): 200 Vac RMS – 50 Hz
- Contact Resistance:
 - Center & 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: 1,000 Hours at 150 °C (+302 °F)
- Salt Spray: 500 Hours
- Altitude Immersion: 47 kPa (0.68 psi)
- Air Leakage: 0.5 cm³/s
- Sand & Dust: 1 Cycle – Wind Speed 3.5 \pm 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: $1 \leq C \leq 1.25 \text{ Nm}$ ($8.85 \leq C \leq 11 \text{ lb in.}$)
 - Unmating: $C \leq 1.35 \text{ Nm}$ (11.95 lb in.)
- RoHs statue: Not RoHs

RTX Series

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 & Crimp Pot	Copper Alloy Gold over Nickel
Ferrule	Nickel-Plated Brass
Insulator & 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.

RTX

SERIES PREFIX _____

CONNECTOR TYPE _____
003: Receptacle
004: Plug

INTERMEDIATE CONTACT TYPE _____
F: Socket
M: Pin

CABLE TYPE ⁽¹⁾ _____
01: Twisted pair single braid
02: Twisted pair double braid



Notes

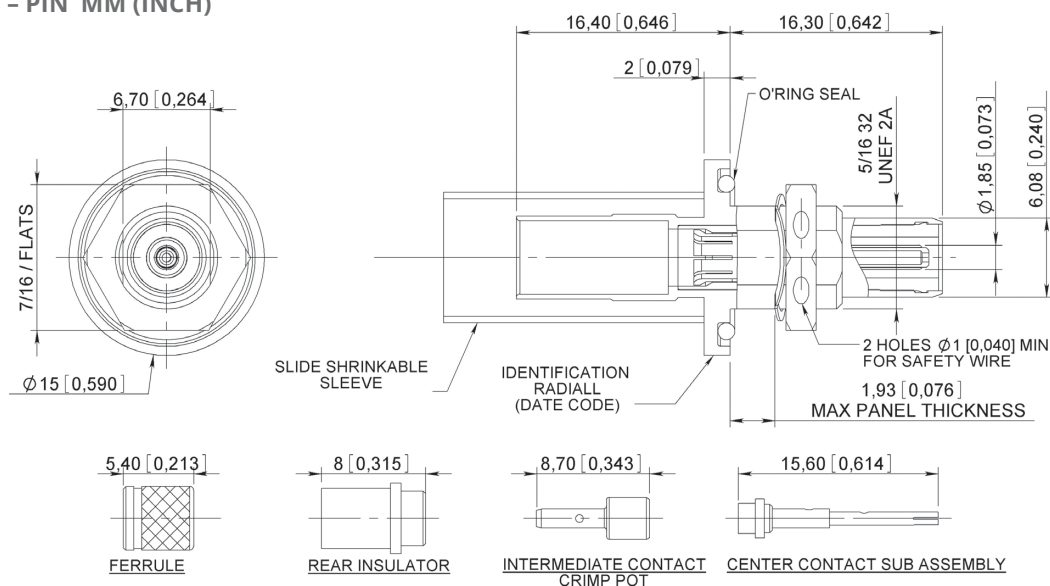
1. A version for triaxial cable is also available, please consult Radiall.

RTX Series

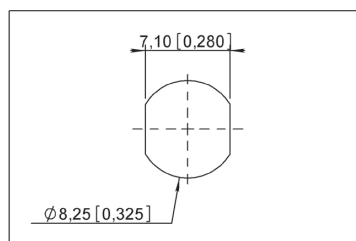
DIMENSIONS & PANEL CUT-OUT

RECEPTACLE - PIN MM (INCH)

RTX003M -

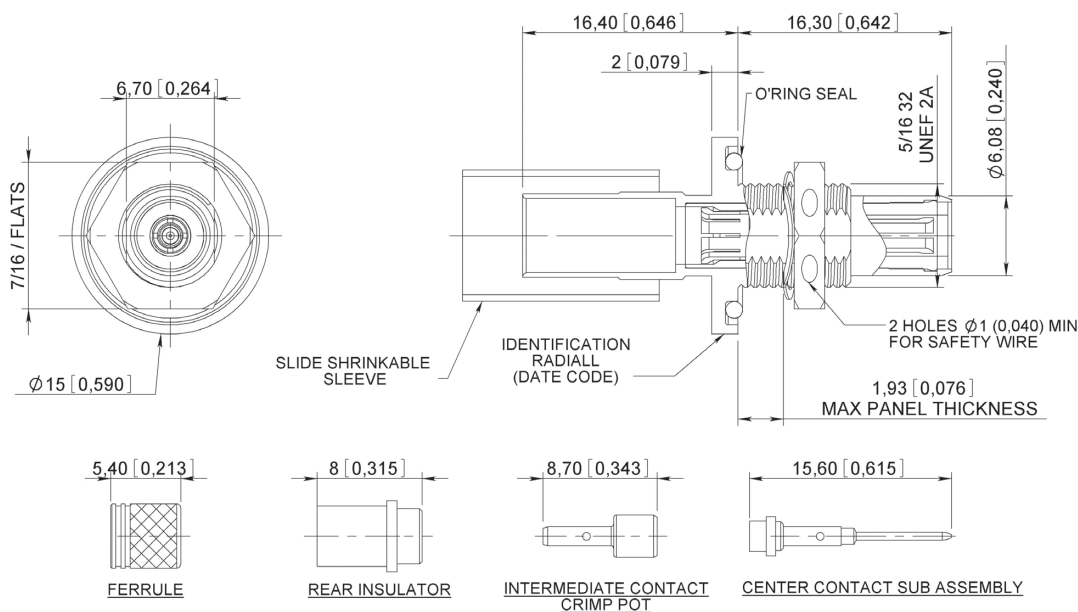


PANEL CUT OUT



RECEPTACLE - SOCKET MM (INCH)

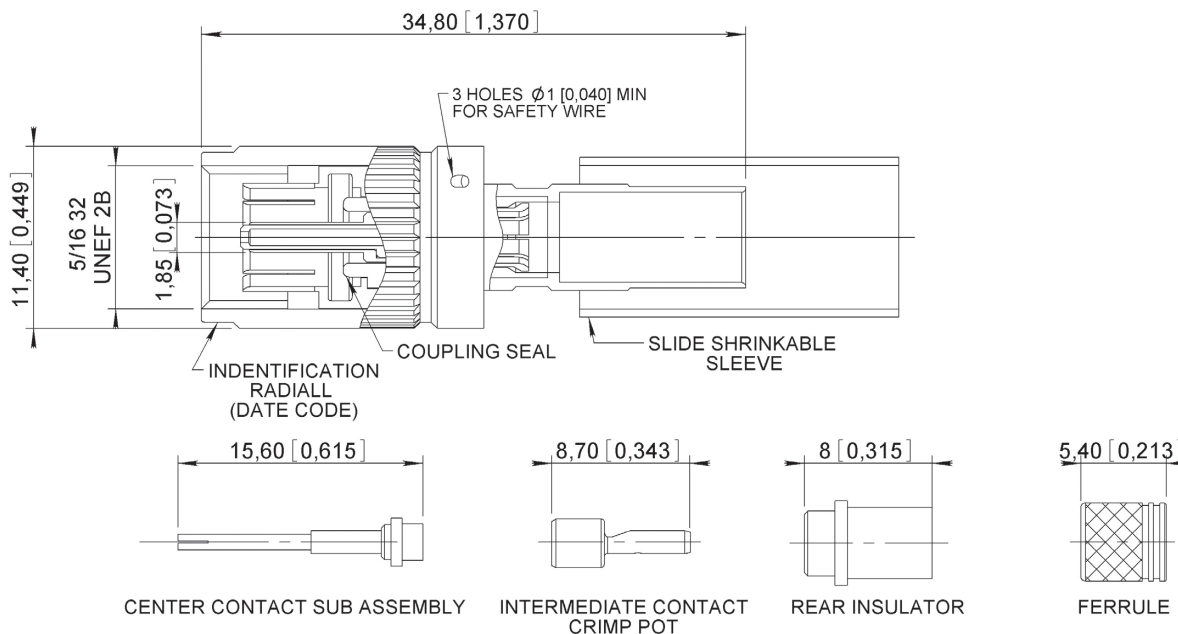
RTX003F -



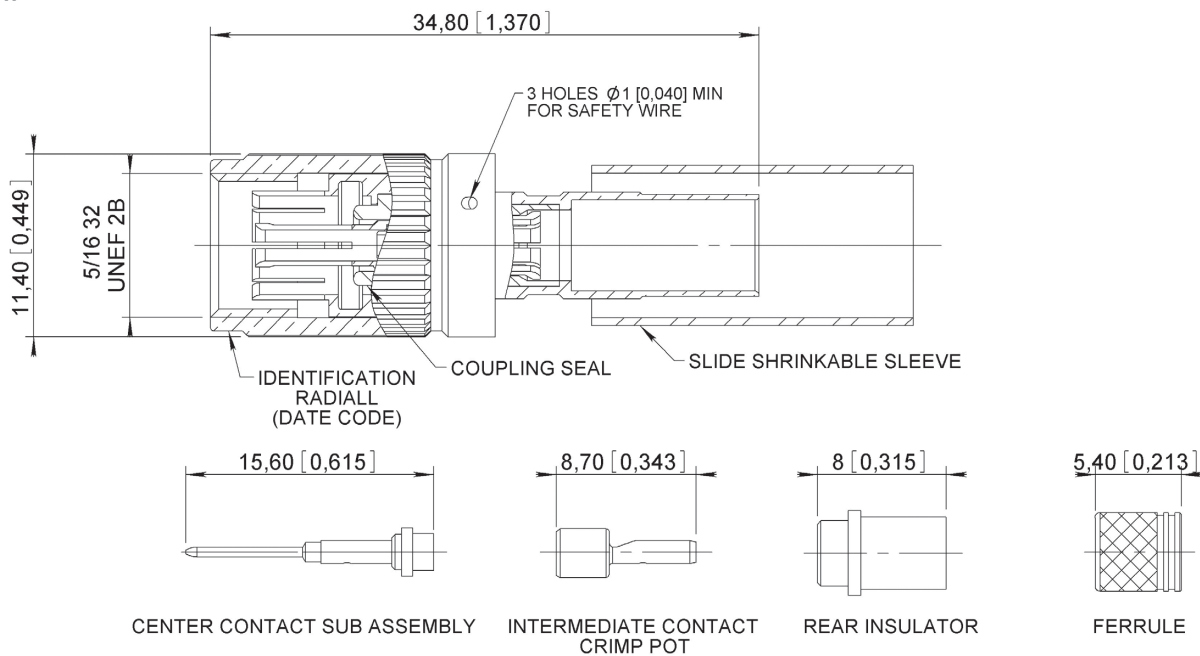
RTX Series

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.

RTX

SERIES PREFIX _____

CONNECTOR TYPE _____

003: Receptacle

004: Plug

INTERMEDIATE CONTACT TYPE _____

F: Socket

M: Pin

TERMINATION VALUE ^[1] _____

770: End of line terminations (77 Ω)

302: Simulated user terminations (3,000 Ω)

TECHNICAL CHARACTERISTICS

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

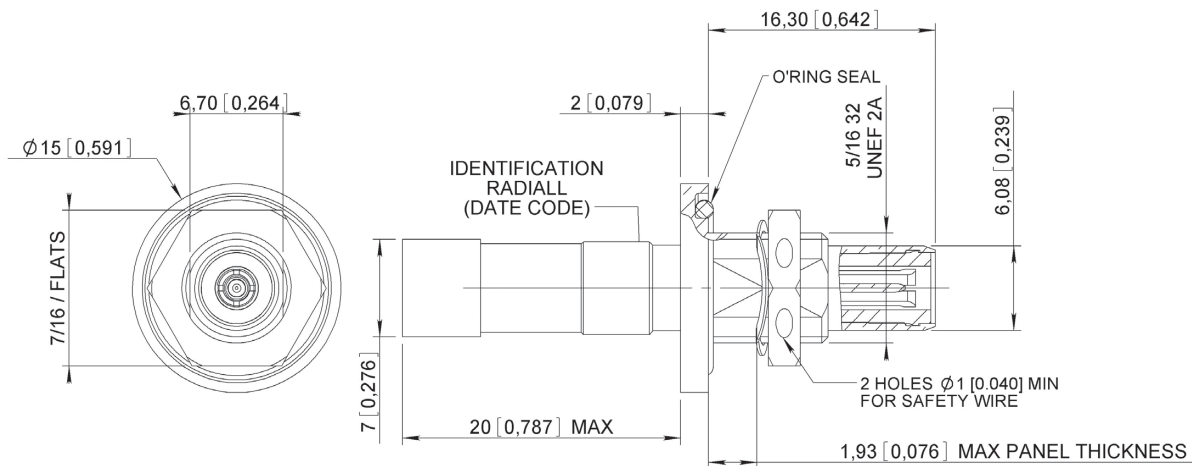
- **Termination Values:** $77 \pm 5 \Omega$ or $3,000 \pm 60 \Omega$
- **DWV:** 700 Vac RMS – 60Hz
- **Working Voltage:** 120 Vac RMS – 60 Hz

Notes

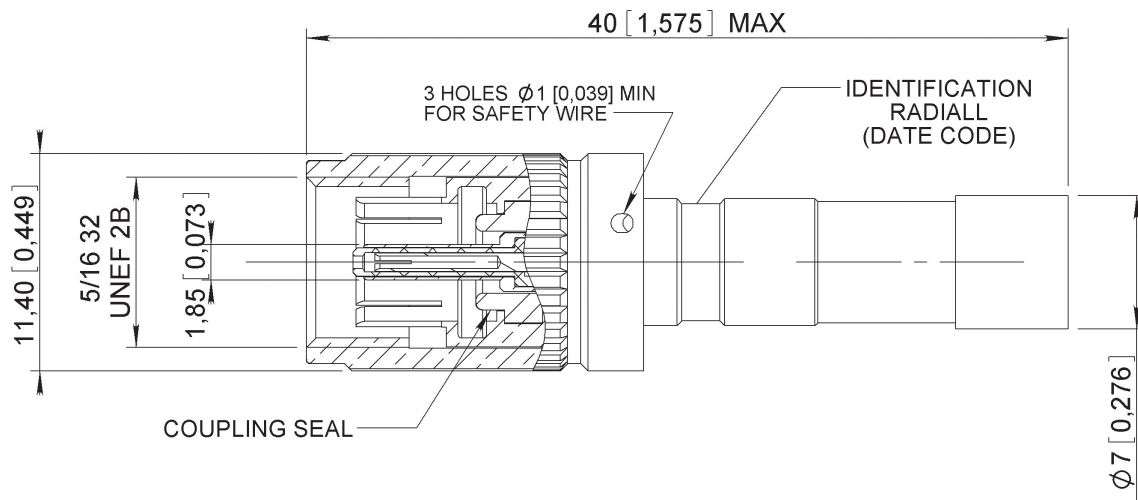
1. Write the two first significant digits of the resistance value plus 1 digit giving the number of zeros of the resistance value (i.e. 5500 will be written 552)

DIMENSIONS RTX TERMINATIONS**RECEPTACLE TERMINATION MM(INCH)**

RTX003 –

**PLUG TERMINATION MM(INCH)**

RTX004 –



TWINAX CONTACTS


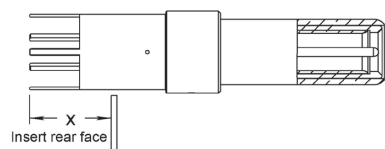
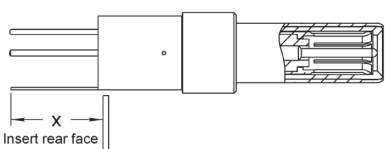
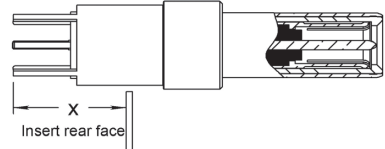
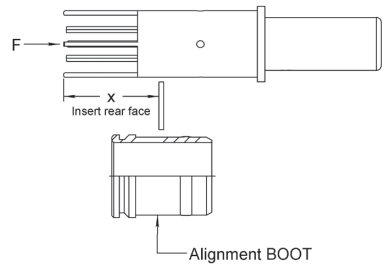
CRIMP TERMINATION

CONNECTOR SERIES	CONTACT				INSERTION/EXTRACTION TOOL
	SIZE	CABLE	TYPE	PART NUMBER	
MIL DTL 38999	8	MIL-C17/176000002 EN3375-003ST	Socket	670050 ^[1]	282549001 M81969/28-03
			Pin	670150 ^[1]	
		EN3375-004DT Or EN3375-005DT	Socket	670051 ^[1]	
			Pin	670151 ^[1]	
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 ^[3]	282946 M81969/28-01
			Pin	616195001 ^[3]	
			Socket	616095009 ^[2]	
			Pin	616195009 ^[2]	
		PAN 6421	Socket	616095005 ^[3]	
			Pin	616195005 ^[3]	
	9	MIL-C-17/17600002	Socket	616096003 ^[3]	
			Pin	616196003 ^[3]	
			Socket	616096004 ^[2]	
			Pin	616196004 ^[2]	
			Socket	616096006 ^[2]	
MPX MIL DLT 83527B	8	EN3375-004DT EN3375-005DT	Socket	618060 ^[1]	282549001 M81969/28-03
			Pin	618160 ^[1]	
		MIL-C-17/17600002 or EN3375-003ST	Socket	618061 ^[1]	
			Pin	618161 ^[1]	
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.

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 (0.125/0.158) 36C7, 36T7 = 5.40/6.10 (0.212/0.240)	282946 M81969/28-01
		616195008			
	9	616196005		C8, T8 = 1.30/2.15 (0.050/0.085) 32C4, 32T4 = 6.45/7.30 (0.253/0.288)	
		616196007		C8, T8 = 0 32C4, 32T4 = 3.70/4.35 (0.145/0.170)	
MPX MIL DLT 83527B	8	618163 ^[1]		7.65 ± 0.5 (0.282/0.321)	282549001 M81969/28-03

Notes

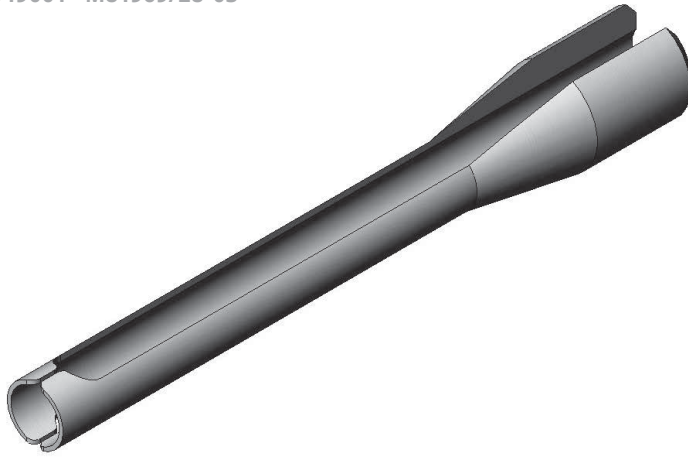
1. For 62T2 contact arrangement, the rear extension from the insert is 0.303/0.343 (8.2 ± 0.5). This contact is delivered with an alignment boot.

RTX Termination Series

TOOLS

INSERTION / EXTRACTION TOOL

282549001 - M81969/28-03



282946 - M81969/28-01



Notes