## Amphenol<sup>®</sup>Connex

A New Kind of RF Solution



122422	DWG. NO.	C:/122/122422 DWG	CAD FILE		QTY 1	FINISH	BRASS	BODY DESCRIPTION	
TNC R/A (FOR .141	PART DESCRIPTION PART NO.	OF 1	SHEET 1	8 - 30mm ± 0.40mm 30 - 120mm ± 0.50mm uNLESS ONERWSE SPECIFIC TOLENANCES FOR INGHES ARE: .020 - 1.315 = ± 0.007" 315 - 1.180 - ± 0.007"		NICKEL GOLD NATURAL	BRASS BRASS TEFLON	COUPLING NUT CONTACT PIN INSULATOR	τυ 4 ω α
Amphenol Connex		APPROVALS DATE G.R.S. 03/18/04	DRAWN	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLINETERS, DMENSIONS IN [] JAR IN INCHES AND FOR CUSTOMER REFERANCE ONLY. UNLESS OTHERWISE SPECIFIED TOLERWICES FOR MILLINETERS ARE: 0.5 - 8 mm ± 0.20mm					6 7 8
				2.40 [.095]					
				12.00 [.473] 00 [.67]	- 17.00 [.4]	1			
5.00 [.197]	RECOMMENDED CABLE STRIPPING DIM'S	L		T/16-28UNEF-28UN					
ADD COUPLING NUT UNDER PART DESCRIPTION	03/18/04	₿							
UPDATE DRAWING FORMAT	11/26/03	A							
DESCRIPTION	DATE	REV.							

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### **Our Products**

7/16 **BNC** D-Sub FME <u>MCX</u> **MMCX** SMA <u>SMB</u> SMC TNC Twin BNC Type F Type N UHF Between-Series Adapters

**Shielded Terminations** Strain-Relief Boots Tools

View All Products

## TNC connector series

### Features & Benefits | Applications | Standard Specs | Reverse Polarity Specs | Assembly Instructions

Developed in the late 1950's, the TNC stands for Threaded Neill Concelman and is named after Amphenol engineer Carl Concelman. Designed as a threaded version of the BNC, the TNC series features screw threads for mating. TNC are miniature, threaded weatherproof units with a constant 75  $\Omega$  impedance and they operate from 0 - 11 GHz.

Shopping Cart

There are two types of TNC connectors: Standard and Reverse Polarity. Reverse polarity is a keying system accomplished with a reverse interface. and ensures that reverse polarity interface connectors do not mate with standard interface connectors. Amphenol accomplishes this by inserting female contacts into plugs and male contacts into jacks. Other manufacturers may use reverse threading to accomplish reverse polarity keying.

### **TNC Coaxial Connectors**

#### PLUG CRIMP ATTACHMENTS FOR FLEXIBLE AND SEMI-RIGID CABLE Straight Crimp Plug - Miniature Cable

Straight Crimp Plug - Single Crimp Straight Crimp Plug - Standard Cable

- Straight Crimp Plug Plenum Cable
- Straight Solder Plug Semi-Rigid Cable
- Straight Crimp Plug Miniature Cable
- Straight Crimp Plug Pin-In-Pin Miniature Cable
- RIGHT ANGLE PLUG CRIMP ATTACHMENTS FOR FLEXIBLE AND SEMI-RIGID CABLE Right Angle Crimp/Solder Plug - Standard Cable
  - Right Angle Crimp/Solder Plug Standard Cable
  - Right Angle Crimp/Solder Plug Miniature Cable
  - Right Angle Crimp/Crimp Plug Standard Cable
- Right Angle Solder Plug Semi-Rigid Cable
- Right Angle Crimp/Crimp Plug Plenum Cable
- Right Angle Crimp/Crimp Plug Miniature Cable
- Right Angle Crimp/Solder Plug Plenum Cable

JACK CRIMP ATTACHMENTS FOR FLEXIBLE AND SEMI-RIGID CABLE

- Straight Crimp Jack Standard Cable
- Straight Crimp Jack Plenum Cable
- Straight Crimp Jack Miniature Cable
- Straight Crimp Jack Semi-Rigid Cable

BULKHEAD JACK CRIMP ATTACHMENTS FOR FLEXIBLE AND SEMI-RIGID CABLE

- Bulkhead Crimp Jack Standard Cable
- Bulkhead Crimp Jack Plenum Cable
- Bulkhead Crimp Jack Plenum Cable
- Bulkhead Crimp Jack Miniature Cable
- Bulkhead Solder Jack Semi-Rigid Cable- Front Mount
- Bulkhead Solder Jack Semi-Rigid Cable- Rear Mount
- Bulkhead Isolated Crimp Jack Standard Cable
- Bulkhead Isolated Crimp Jack Plenum Cable
- Bulkhead Isolated Crimp Jack Miniature Cable
- Bulkhead Crimp Jack Standard Cable
- PANEL JACK CRIMP ATTACHMENTS FOR FLEXIBLE AND SEMI-RIGID CABLE/RECEPTACLE Panel Crimp Jack - Standard Cable
- Panel Crimp Jack Plenum Cable

TWIST-ON ATTACHMENTS FOR FLEXIBLE CABLE	
Twist-On Plug	
Right Angle Twist -On Plug	
Twist-On Jack	
CLAMP ATTACHMENTS FOR FLEXIBLE CABLE	
Straight Clamp Plug - Captive Contact	
Straight Clamp Plug	
Right Angle Clamp Plug	
Straight Clamp Jack - Captive Contact	
WEDGE COMPRESSION ATTACHMENTS FOR FLEXI	BLE CABLE
Wedge Compression Plug	
Wedge Compression Jack	
PANEL RECEPTACLES	
Panel Receptacle - Extended Teflon Post - Gasket Seal	
Panel Receptacle Jack	
Panel Receptacle - Extended Teflon Post 0.500 Flange	
Panel Receptacle - Extended Teflon Post	
PRINTED CIRCUIT BOARD/STRAIGHT R/A TERMINAL	S
Commercial Straight PCB Mount Jack	
Commercial Right Angle PCB Mount Jack	
Straight PCB Mount Receptacle Jack	
Right Angle Bulkhead Receptacle	
BULKHEAD RECEPTACLE/SOLDER POT TERMINALS	
Bulkhead Receptacle Plug	
Bulkhead Receptacle Jack	
Bulkhead Receptacle Isolated Jack	
BULKHEAD FEEDTHROUGH ADAPTERS	
Bulkhead Crimp Jack - Plenum Cable	
Jack-To-Jack Bulkhead Adapter	
Jack-To-Jack Bulkhead Adapter	
Jack-To-Jack Bulkhead - Isolated Adapter	
Jack-To-Plug Bulkhead Adapter - Push On	
Bulkhead Right Angle TNC Female To MCX Female Adapter	
ADAPTERS	
Jack-To-Jack Adapter	
Plug-To-Plug Adapter_	
<u>Right Angle Adapter - Plug-To-Jack</u>	
TEE ADAPTERS	
Tee Adapter - Jack-To-Jack-To-Jack	
Tee Adapter - Jack-To-Plug-To-Jack	
TNC Terminator Plug	
ACCESSORIES	
TNC Male Cap & Chain	

applicationsMany TNCs are recognized under the component program of Underwriter's Laboratories and

have undergone stringent testing from an independent laboratory

Performance from 0 - 11 GHz operations in many applications

### Applications

- Antennas
- Cellular
- Mil-Aero
- Telecom

- Base Stations Components
- Networks

- Cable Assembly
- Instrumentation
- Radar

#### **Standard TNC Specifications**

Impedance	50 Ω
Frequency Range	0 - 11 GHz
Voltage Rating	500 volts peak
Dielectric Withstanding Voltage	1,500 volts rms
VSWR	M39012 straight connectors: 1.3 max @ 0 - 11 GHzM39012 right angle connectors: 1.35 max @ 0 - 11 GHz
Contact Resistance	Center: contact 1.5 m $\Omega$ Outer contact: 0.2 m $\Omega$
Braid to Body	0.1 mΩ
RF Leakage	-60 dB minimum @ 3 GHz
Insertion Loss	0.18 dB @ 9 GHz
Insulation Resistance	= 5,000 ΜΩ
Mechanical	
Mating	7/16 threaded coupling
Braid/Jacket Cable Affixment	Crimps: hex braid crimpClamps: screw-thread nut and braid clamp
Center Conductor Cable Affixment	Crimps: crimp or solderAll others: solder only
Captivated Contact	All crimps unless specified otherwise
Cable Retention	Crimps: 20 - 100 lbsClamps: 20 - 50 lbs
Material	
Male Center Contacts	Brass, silver or gold plated
Female Center Contact	Beryllium copper or phosphorous bronze, silver or gold plated
Other Metal Parts	Brass with nickel finish (except for M39012 which are silver)
Insulators	TFE, Delrin
Clamp Gaskets	Synthetic rubber, silicone rubber
Crimp Ferrule	Copper
	°
Environmental	
Environmental Temperature Range	-65°C to +165°C
Temperature Range	
	-65°C to +165°C Clamps with clamp gaskets, Crimps with heat-shrink tubing Pass helium leak test of 2x10-8 cc/sec
Temperature Range Weatherproof	Clamps with clamp gaskets, Crimps with heat-shrink tubing
Temperature Range Weatherproof Hermetic Seals	Clamps with clamp gaskets, Crimps with heat-shrink tubing Pass helium leak test of 2x10-8 cc/sec
Temperature Range Weatherproof Hermetic Seals Shock	Clamps with clamp gaskets, Crimps with heat-shrink tubing Pass helium leak test of 2x10-8 cc/sec MIL-STD-202, method 202
Temperature Range Weatherproof Hermetic Seals Shock Vibration	Clamps with clamp gaskets, Crimps with heat-shrink tubing Pass helium leak test of 2x10-8 cc/sec MIL-STD-202, method 202 MIL-STD-202, method 204, test condition D
Temperature Range Weatherproof Hermetic Seals Shock Vibration Moisture Resistance	Clamps with clamp gaskets, Crimps with heat-shrink tubing Pass helium leak test of 2x10-8 cc/sec MIL-STD-202, method 202 MIL-STD-202, method 204, test condition D MIL-STD-202, method 106

Note: These characteristics are typical but may not apply to all connectors.

#### **Reverse Polarity TNC Specifications** Г

Electrical	
Impedance	50Ω
Frequency Range	0 - 4 GHz
Voltage Rating	500 volts peak
Dielectric Withstanding Voltage	1,500 volts rms
VSWR	M39012 straight connectors: 1.3 max @ 0 - 4 GHzM39012 right angle connectors: 1.35 max @ 0 - 4 GHz