

A New Kind of RF Solution

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Part Number: 172174 Family/Series: Type N Coaxial Connectors

Product Type: CRIMP/SOLDER ATTACHMENTS FOR FLEXIBLE AND SEMI-RIGID CABLE

Description: Straight Crimp Panel Jack-Captive Contact - Standard Cable

Cable: 214/225 **

Add to Cart | Product Specs | Customer Drawing

Between-Series Adapters

Shielded Terminations

Strain-Relief Boots

Tools

FME

MCX

<u>SMA</u>

SMB

SMC

TNC

Twin BNC

Type F Type N

<u>UHF</u>

MMCX

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Cable Group: 07A

Insulation: Teflon

Impedance: 50 ohms

Finish: Nickel

Crimp Tool: D

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Type N connector series

Features & Benefits | Applications | Standard Specs | Corrugated Specs | Assembly Instructions

Named after Paul Neill of Bell Labs after being developed in the 1940's, the Type N offered the first true microwave performance. The Type N connector was developed to satisfy the need for a durable, weatherproof, medium-size RF connector with consistent performance through 11 GHz.

There are two families of Type N connectors: Standard N (coaxial cable) and Corrugated N (helical and annular cable). Their primary applications are the termination of medium to miniature size coaxial cable, including RG-8, RG-58, RG-141, and RG-225. RF coaxial connectors are the most important element in the cable system. Corrugated copper coaxial cables have the potential to deliver all the performance your system requires, but they are often limited by the performance of the connectors.



Intermodulation distortion, a major concern in today's communications systems, is consistently low with corrugated cable connectors. Typical performance is -125 dBm (-168 dBdc). In-house IMD measurement capability gives Amphenol the unique ability to understand the effects of connector design elements on IMD generation and to design the best performing connectors in the industry. Selfflaring designs are easily attached with standard hand tools in the field, and are highly resistant to pull off and twist off. All corrugated cable connectors are optimally matched to their cables for low VSWR and insertion loss.

Type N Coaxial Connectors

CRIMP/SOLDER ATTACHMENTS FOR FLEXIBLE AND SEMI-RIGID CABLE

Straight Crimp Plug - Captive Contact

Straight Solder Plug - Semi-Rigid Cable

Crimp Plug - Ethernet Cable

Right Angle Crimp Plugs

Right Angle Solder Plug - Semi-Rigid Cable

Straight Crimp Jack - Captive Contact

Straight Solder Jack - Semi-Rigid Cable

Bulkhead Crimp Jack - Captive Contact - Standard Cables

Bulkhead Solder Jack - Semi-Rigid Cable

Bulkhead Crimp Jack - Ethernet Cable

Bulkhead Clamp Jack - Rear Mount - Miniature Cable

Bulkhead Clamp Jack - Front Mount- Miniature Cable

Straight Crimp Panel Jack- Captive Contact - Standard Cable

Straight Solder Panel Jack - Semi-Rigid Cable

CLAMP ATTACHMENTS FOR FLEXIBLE CABLE

Straight Solder Plug - Captive Contact

Straight Solder Plug - Captive Contact

Straight Solder Jack - Captive Contact

Straight Solder Jack - Captive Contact

BULKHEAD MOUNT SOLDER RECEPTACLES

Bulkhead Receptacle - Front Mount

Bulkhead Receptacle - Front Mount

PANEL MOUNT/SOLDER RECEPTACLES

Panel Receptacle Jack - Exposed TFE Type

Panel Receptacle Plug - Exposed TFE Type

Panel Receptacle Plug - Solder Pot Terminal

Panel Receptacle Jack - Solder Pot Terminal

Panel Mount - Round Flange

Panel Receptacle Plug - Slot Terminal

Panel Receptacle Jack - Slot Terminal

Panel Receptacle Jack - Extended Teflon

Panel Receptacle - Extended Body

Panel Receptacle- Extended Body - Post Contact

Panel Receptacle - Tab Post

Printed Circuit Board Receptacle

Press Fit Receptacle

Right Angle Printed Circuit Board Receptacle

FEEDTHROUGH ADAPTERS

Plug-To-Plug Adapter

Jack-To-Jack Adapter

Jack-To-Jack Bulkhead Adapter

TEE ADAPTERS/ANGLE ADAPTERS

Tee Adapter - Jack-To-Plug-To-Jack

Tee Adapter - Jack-To-Jack-To-Jack

Tee Adapter - Plug-To-Jack-To-Jack

Angle Adapter - Plug-To-Jack

Angle Adapter - Plug-To-Plug

TERMINATORS

N Terminator Plug

N Terminator Jack

ACCESSORIES

N Male Cap & Chain

Features & Benefits

- Accommodates a wide range of medium to miniature-sized RG coaxial cables in a rugged medium-sized design
- Broad line of Military (M39012), Industrial (UG) and Commercial (RFX) grade products available, giving customers choices in weighing cost versus performance benefits
- Meets many customer application demands with plug styles available in straight and right angle and jack styles available in panel mount, bulkhead mount, and receptacle

Applications

- Antennas
- Cable assemblies
- Instrumentation
- PCS
- Satcom

- Base stations
- Cellular
- Microwave Radio
- Radar
- Surge Protection
- Broadcast
- Components
- Mil-Aero
- Radios
- WLAN

Type N Standard Specifications

Impedance	50 Ω
Frequency Range	0 - 11 GHz
Voltage Rating	1,500 volts peak
VSWR	MIL-C-39012 straight connectors: 1.3 max 0-11 GHz MIL-C-39012 right angle connectors: 1.35 max 0-11 GHz
Dielectric Withstanding Voltage	2,500 volts rms
Insulation Resistance	5,000 MΩ minimum
Center Contact Resistance	1.0 mΩ
Outer Contact Resistance	0.2 mΩ
RF Leakage	-90 dB minimum at 3 GHz
Insertion Loss	.15 dB maximum at 10 GHz

Braid or Jacket Cable Affixment	All crimps: hex braid crimp Clamps: screw-thread nut and braid clamp
Center Conductor Cable Affixment	Crimp: crimp or solder All others: solder only
Captivated Contact	All crimps unless specified otherwise
Cable Retention	Crimps: 60-120 lbs Clamps: 30-70 lbs
Material	
Male Contacts	Brass, silver or gold plated
Female Contacts	Phosphorous bronze or beryllium copper, silver or gold plated
Other Metal Parts	Brass with ASTROplate® finish; M39012 has silver finish
Insulators	TFE, copolymer of styrene or glass-TFE (hermetic seal)
Weatherproof Gaskets	Silicone rubber of synthetic rubber
Crimp Ferrule	Copper
Environmental	
Temperature Range	TFE: -65°C to +165°C
Weatherproof	All series N with gaskets are weatherproof
Hermetic Seals	Pass helium leak test of 2x10-8 cc/sec
Pressurized Shock	Compression seal MIL-STD-202, method 213
Vibration	MIL-STD-202, method 204, test condition B
Moisture Resistance	MIL-STD-202, method 106
Corrosion	MIL-STD-202, method 101, test condition B
Temperature Cycling	MIL-STD-202, method 102, test condition C
Altitude	MIL-STD-202, method 105, test condition C
Millitary	
MIL-C-39012 MIL-A-55339	Where applicable
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5/8-24 threaded coupling

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

Corrugated Type N Specifications

Mating

Electrical		
Impedance	50 Ω	
Frequency Range	11.0 GHz	
Return Loss	33 dB (1-2 GHz) 28 dB (2-3 GHz)	
Operating Voltage	Maximum 707 rms	
Dielectric Withstanding Voltage	2,000 vdc	
Insulation Resistance	5,000 MΩ minimum	
Insertion Loss	.05 frequency GHz	
Shielding Effectiveness	Minimum 125 dB	
Peak Power	Maximum 10 kW	
Average Power	Maximum .60 kW	
3rd Order IM Product	Typical -125 dBm (-168 dBc)	
Mechanical		
Mating	MIL-STD-348	
Inner Attachment Method	Solder or captivated	
Outer Attachment Method	Compression	
Assembly Torque	18/22 lb-ft (25/30 N-m)	
Coupling Torque	15.00 lb-in (1.70 N-m)	
Coupling Nut Retention Force	100.00 lbs (444.80 N)	
Connector Durability	500 cycles, 12 cycles/minute	
Material		
Body	Brass, silver plated	