N Series

Features

- 50 ohm and 75 ohm Compatible Versions
- Choice of Plating Options
- Cable Connectors, Bulkhead, Panel and Adapters Available
- Available for a Wide Selection of Cables
- Choice of Solder/Clamp and Crimp/Crimp Cable Connectors

N connectors have a threaded coupling mechanism to provide a rigid coaxial termination. The range covers cable connectors (flexible and semi-rigid), bulkhead, panel and adapter versions and most are available in 50 ohm or 75 ohm compatible impedance. The most popular cable entry versions are those with solder center contact and clamp outer contact, or crimp center contact, and crimp outer contact. Full crimp versions offer reduced production time and fast, consistent, reliable connections at a low applied cost. Standard finish is bright nickel plated body and silver plated center contact. Other finishes are also available. M/A-COM N connectors are manufactured to ensure compatibility with connectors manufactured to the MIL-C-39012 specification.

Methods of Cable Retention

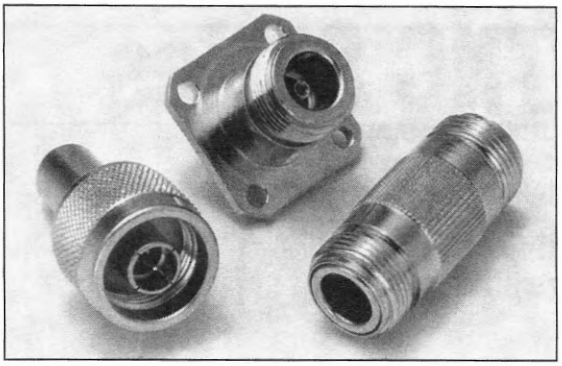
Solder/Clamp Piece Parts

The clamp method of fastening connectors to coaxial cable requires mechanical clamping of the braid, usually by means of a threaded nut, and soldering of the center conductor to the contact. In some cases the braid of flexible cable can be soldered directly to the connector ferrule. The main advantage of the clamp/solder termination is its independence from special tools - only common workshop tools are needed. It also has the advantage that the joint can be inspected and if necessary, be remade with or without shortening the cable.

Crimp Piece Parts

A crimped connector comprises only a few piece parts, typically only three, a center contact, body and crimp sleeve. It produces a fast consistent and reliable connection at a low installed cost. Consistency is assured by using ratchet controlled crimp tools that do not release until the die set has bottomed.

Crimp connectors are not reusable. If re-termination is required, the unwanted connector must be cut from the cable.



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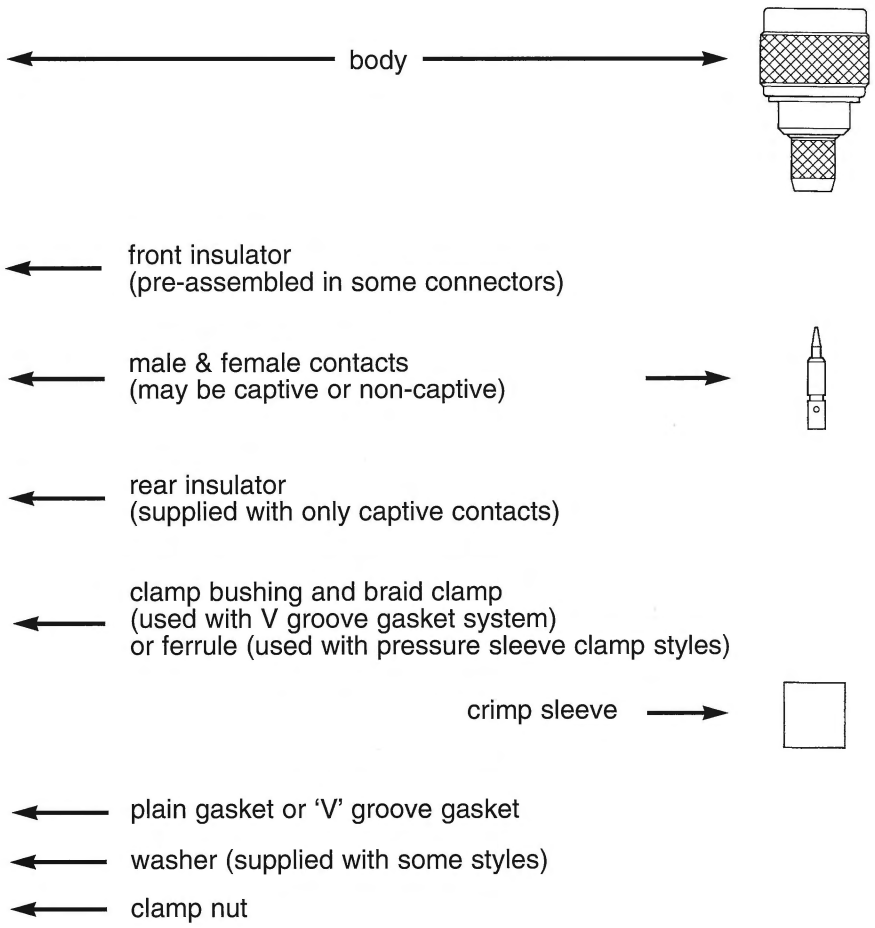
The following factors should be considered when selecting a connector:

Series . . . . . .(Consider Application, Compatibility)
Impedance . . . . . .(50 or 75 ohms)
Style . . . . . .(Plug, Jack, Adapter...etc.)
Finish . . . . . .(Bright Nickel, Gold...etc.)
Method of Assembling Connector to Cable . . . . .(Crimp, Clamp or Solder)

TYPICAL PIECE PARTS IN SOLDER/CLAMP AND CRIMP/CRIMP CONNECTORS

Solder/clamp connectors

Solder/crimp and crimp/crimp connectors



The piece parts indicated above are typical for N connectors. For assembly information and to assist recognition and checking of parts supplied, consult our Sales Office.

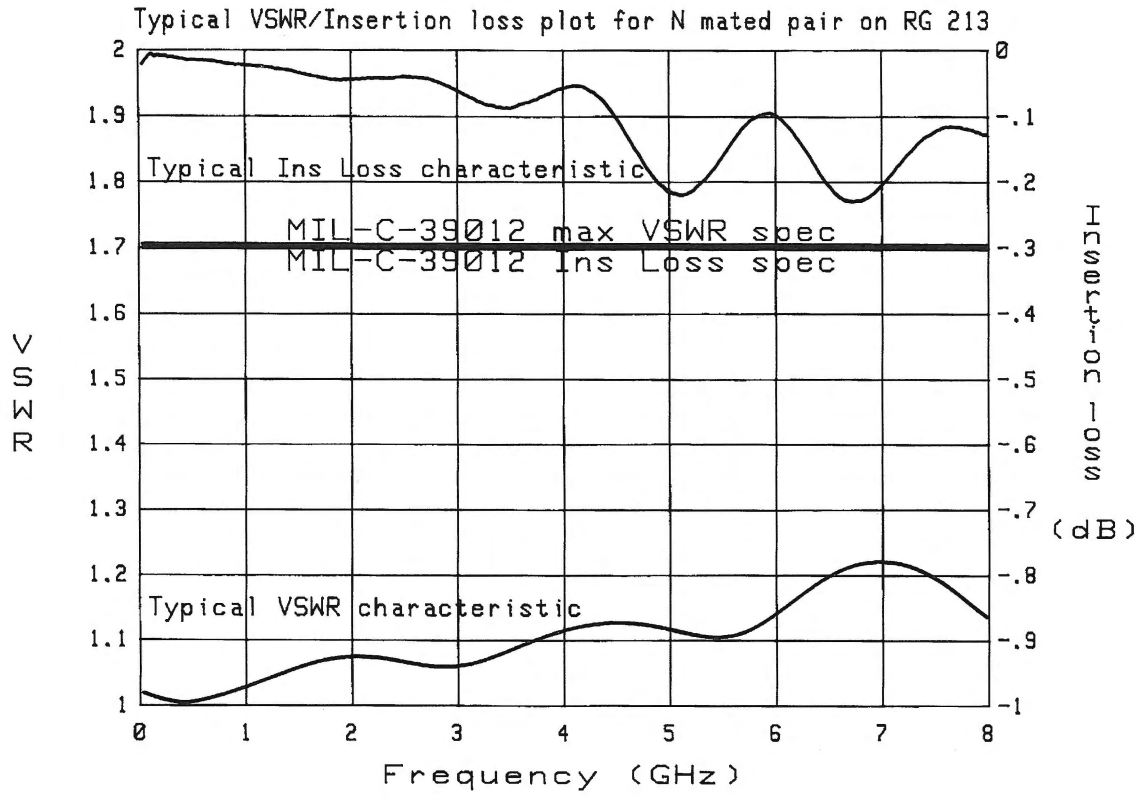
N Series Specifications

N connectors have been designed to be fully intermatable with MIL-C-39012 connectors. All the information included within this page is typical for the series but will not necessarily apply to every style or version.

Specification	Straight Cable Connectors	Right Angle Cable Connectors and Adapters	Tee Adapters and Receptacles
V.S.W.R. at 1 GHz	NA	1.35 max	NA
V.S.W.R. at 4 GHz	1.30 max	1.50 max	NA
Max capacitance	NA	NA	5 pF
Max insertion loss (at 3 GHz)	0.15 dB	0.30 dB	NA
R.F. leakage (between 2 GHz & 3 GHz)	-90dB min -90dB max	NA	NA
Max working voltage (At sea level)	1000V rms		
(At an altitude of 26 km)	350V rms		
Max proof voltage d.c. (At sea level)	2 kV peak		
(At an altitude of 26 km)	750V peak		
Max proof voltage R.F. (5 MHz at sea level)	1500V peak		
Max current rating at 1GHz	3.2 kw 10 GHz 950W		
Insulation resistance (min)	5G ohm		
Max contact resistance (Center contact)	1.0m ohm		
(Outer contact)	0.25m ohm		
(Braid to body)	0.05m ohm		

Piece part specification	Base materials	Plating types
Body parts	Brass	Bright nickel over copper
Insulators	P.T.F.E.	NA
Gaskets	Silicone rubber	NA
Center contacts	Brass or Beryllium copper	Passivated silver over copper

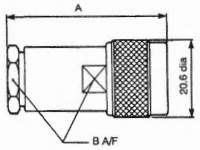
TYPICAL VSWR AND INSERTION LOSS CHARACTERISTICS



N Series

STRAIGHT PLUGS

Solder center contact, clamp outer



Impedance	Cable group ①	Part Number ②	A	B	
50 ohm	001	N15 A14 • 001 X99	43.9	15.9	Captive contact, pressure sleeve cable clamp
50 ohm	004	N15 A01 • 004 X99	44.5	18.3	UG Style item, non-captive contact, plain gasket
50 ohm	004	N15 A17 • 004 X99	43.9	15.9	Non-captive contact, V groove gasket, braid clamp
50 ohm	004	N15 A15 • 004 X99	43.9	15.9	Captive contact, V groove gasket, braid clamp
50 ohm	004	N15 A14 • 004 X99	43.9	15.9	Captive contact, pressure sleeve cable clamp
50 ohm	434	N15 A16 • 434 X99	43.9	15.9	Captive contact, plain gasket, braid-clamp
75 ohm	001	N17 A01 • 001 X99	43.9	15.9	UG Style item, non-captive contact, plain gasket
75 ohm	001	N17 A14 • 001 X99	43.9	15.9	Captive contact, pressure sleeve cable clamp
75 ohm	004	N17 A14 • 004 X99	43.9	15.9	As above

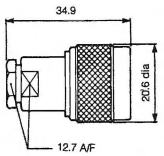
① For cable group to cable type cross reference refer to page 200.
② Replace the • in the part number with required plating code, see page 3 for details.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.

N Series

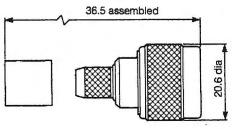
STRAIGHT PLUGS

Solder center contact, clamp outer



Impedance	Cable group ①	Part Number ②	
50 ohm	009	N15 A55 • 009 X99	Captive contact, pressure sleeve cable clamp
50 ohm	010	N15 A54 • 010 X99	Non-captive contact, V groove gasket, braid clamp
50 ohm	010	N15 A56 • 010 X99	Captive contact, braid clamp, V groove gasket
50 ohm	010	N15 A55 • 010 X99	Captive contact, pressure sleeve cable clamp
50 ohm	022	N15 A55 • 022 X99	As above
50 ohm	060	N15 A55 • 060 X99	As above
50 ohm	073	N15 A55 • 073 X99	As above (for semi-rigid cable)
75 ohm	012	N17 A55 • 012 X99	As above
75 ohm	025	N17 A55 • 025 X99	As above

Crimp center contact, crimp outer



Impedance	Cable group ①	Part Number ②	Crimp tool ③
50 ohm	001	N15 A61 • 001 X99	30051 or 30074
50 ohm	004	N15 A61 • 004 X99	30051 or 30074
50 ohm	010	N15 A61 • 010 X99	30040 or 30074 or 30039
50 ohm	060	N15 A61 • 060 X99	30040 or 30074 or 30039
50 ohm	373	N15 A61 • 373 X99	30051 or 30074

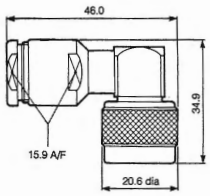
① For cable group to cable type cross reference refer to page 200.
② Replace the • in the part number with required plating code, see page 3 for details.
③ Crimp tool 30039 requires separate dies, for all details on tooling, see page 194.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.

N Series

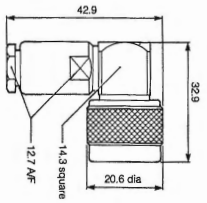
ELBOW PLUGS

Solder center contact, clamp outer



Impedance	Cable group ①	Part Number ②	
50 ohm	001	N15 B03 • 001 X99	Captive contact, pressure sleeve cable clamp
50 ohm	004	N15 B02 • 004 X99	UG Style item, non-captive contact, V groove gasket
50 ohm	004	N15 B03 • 004 X99	Captive contact, pressure sleeve cable clamp
75 ohm	001	N17 B03 • 001 X99	As above
75 ohm	004	N17 B03 • 004 X99	As above

Solder center contact, clamp outer



Impedance	Cable group ①	Part Number ②	
50 ohm	009	N15 B74 • 009 X99	Captive contact, pressure sleeve cable clamp
50 ohm	010	N15 B74 • 010 X99	As above
50 ohm	060	N15 B74 • 060 X99	As above
75 ohm	012	N17 B74 • 012 X99	As above
75 ohm	025	N17 B74 • 025 X99	As above

① For cable group to cable type cross reference refer to page 200.
② Replace the • in the part number with required plating code, see page 3 for details.
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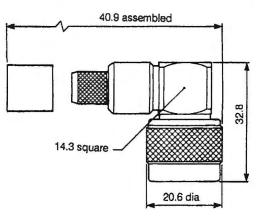
N Series

ELBOW PLUGS

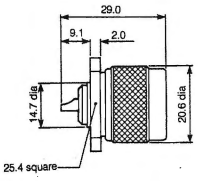
Crimp center contact, crimp outer



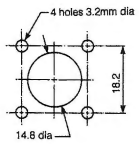
Impedance	Cable group ①	Part Number ②	Crimp tool ③
50 ohm	001	N15 B61 • 001 X99	30051 or 30074
50 ohm	004	N15 B61 • 004 X99	30051 or 30074
50 ohm	010	N15 B61 • 010 X99	30039 or 30040 or 30074
50 ohm	060	N15 B61 • 060 X99	30039 or 30040 or 30074

PANEL PLUG

Straight



panel mounting details



Impedance	Part Number ②
50 ohm	N15 C20 • 999 C99

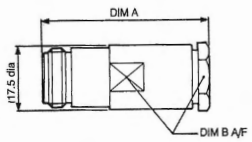
① For cable group to cable type cross reference refer to page 200.
② Replace the • in the part number with required plating code, see page 3 for details.
③ Crimp tool 30039 requires separate dies, for all details on tooling, see page 194.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.

N Series

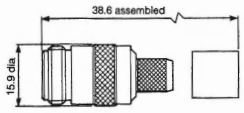
STRAIGHT JACKS

Solder center contact, clamp outer



Impedance	Cable group ①	Part Number ②	A	B	
50 ohm	001	N15 E21 • 001 X99	39.7	15.8	Captive contact, pressure sleeve cable clamp
50 ohm	004	N15 E04 • 004 X99	46.0	18.3	UG Style item, non-captive contact plain gasket
50 ohm	004	N15 E21 • 004 X99	39.7	15.8	Captive contact, pressure sleeve cable clamp
50 ohm	010	N15 E30 • 010 X99	37.3	12.7	Captive contact, braid clamp V groove gasket
50 ohm	010	N15 E31 • 010 X99	37.3	12.7	Captive contact, pressure sleeve, cable clamp
50 ohm	060	N15 E31 • 060 X99	37.3	12.7	As above
75 ohm	001	N17 E22 • 001 X99	39.7	15.8	As above
75 ohm	004	N17 E22 • 004 X99	39.7	15.8	As above
75 ohm	012	N17 E21 • 012 X99	37.3	12.7	As above
75 ohm	025	N17 E21 • 025 X99	37.3	12.7	As above

Crimp center contact, crimp outer



Impedance	Cable group ②	Part Number ②	Crimp tool ③
50 ohm	001	N15 E61 • 001 X99	30051 or 30074
50 ohm	004	N15 E61 • 004 X99	30051 or 30074
50 ohm	010	N15 E61 • 010 X99	30039 or 30040 or 30074
50 ohm	060	N15 E61 • 060 X99	30039 or 30040 or 30074

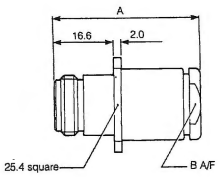
① For cable group to cable type cross reference refer to page 200.
② Replace the • in the part number with required plating code, see page 3 for details.
③ Crimp tool 30039 requires separate dies, for all details on tooling, see page 196.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.

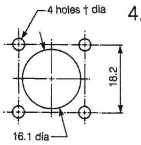
N Series

PANEL JACKS

Solder center contact, clamp outer

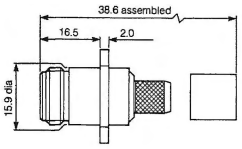


panel mounting details fixing hole sizes (see part No)
3.2mm dia — C
4.40 UNC — F
6 BA — G

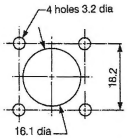


Impedance	Cable group ①	Part Number ②	A	B	
50 ohm	001	N15 G06 • 001 †99	39.7	15.8	Captive contact pressure sleeve cable clamp
50 ohm	004	N15 G06 • 004 †99	39.7	15.8	As above
50 ohm	010	N15 G57 • 010 †99	37.3	12.7	As above
50 ohm	022	N15 G57 • 022 †99	37.3	12.7	As above
50 ohm	073	N15 G57 • 073 †99	37.3	12.7	As above (for semi-rigid)
75 ohm	012	N17 G57 • 012 †99	37.3	12.7	As above
75 ohm	025	N17 G57 • 025 †99	37.3	12.7	As above

Crimp center contact, crimp outer



panel mounting details



Impedance	Cable group ①	Part Number ②	Crimp Tool ③
50 ohm	001	N15 G61 • 001 †99	30051 or 30074
50 ohm	004	N15 G61 • 004 †99	30051 or 30074
50 ohm	010	N15 G61 • 010 †99	30039 or 30040 or 30074
50 ohm	060	N15 G61 • 060 †99	30039 or 30040 or 30074

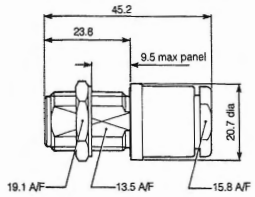
① For cable group to cable type cross reference refer to page 200.
② Replace the • in the part number with required plating code, see page 3 for details.
† Replace the † in the part number with the letter corresponding to fixing hole sizes.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.

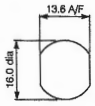
N Series

BULKHEAD JACKS

Solder center contact, clamp outer (rear mount)

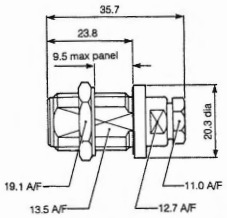


panel mounting details

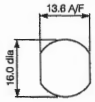


Impedance	Cable group ①	Part Number ②	
50 ohm	001	N15 H32 • 001 X99	Captive contact, pressure sleeve cable clamp
50 ohm	004	N15 H32 • 004 X99	As above

Solder center contact, clamp outer (rear mount)



panel mounting detiails



Impedance	Cable group ①	Part Number ②	
50 ohm	010	N15 H41 • 010 X99	Captive contact pressure sleeve cable clamp
50 ohm	022	N15 H41 • 022 X99	As above
50 ohm	073	N15 H41 • 073 X99	As above (for semi-rigid cable)
75 ohm	012	N17 H41 • 012 X99	As above
75 ohm	022	N17 H41 • 022 X99	As above
75 ohm	025	N17 H41 • 025 X99	As above

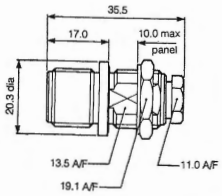
① For cable group to cable type cross reference refer to page 200.
② Replace the • in the part number with required plating code, see page 3 for details.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.

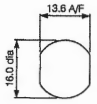
N Series

BULKHEAD JACKS

Solder center contact, clamp outer (front mount)

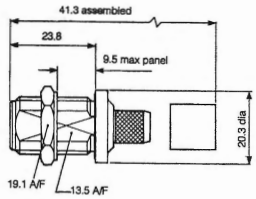


panel mounting details

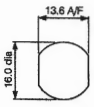


Impedance	Cable group ①	Part Number ②	
50 ohm	010	N15 H31 • 010 X99	Captive contact pressure sleeve cable clamp
50 ohm	022	N15 H31 • 022 X99	As above

Crimp center contact, crimp outer



panel mounting details



Impedance	Cable group ①	Part Number ②	Crimp Tool ③
50 ohm	001	N15 H61 • 001 X99	30051 or 30074
50 ohm	004	N15 H61 • 004 X99	30051 or 30074
50 ohm	010	N15 H61 • 010 X99	30039 or 30040 or 30074
50 ohm	060	N15 H61 • 060 X99	30039 or 30040 or 30074

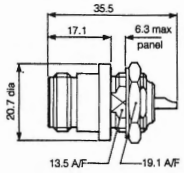
① For cable group to cable type cross reference refer to page 200.
② Replace the • in the part number with required plating code, see page 3 for details.
Please contact the Sales Office for any uncataloged requirements.
③ Crimp tools 30039 and 30051 require the separate dies. For all details on tooling, see page ≈.

All measurements are in millimeters unless otherwise specified.

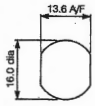
N Series

BULKHEAD SOCKETS

Straight (rear mount)

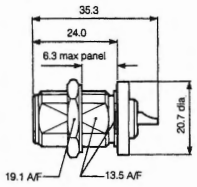


panel mounting details

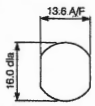


Impedance	Part Number ①	
50 ohm	N15 M33 • 999 X99	
50 ohm	N15 M32 • 999 X99	Panel sealed version
75 ohm	N17 M33 • 999 X99	

Straight (front mount)



panel mounting details



Impedance	Part Number ①	
50 ohm	N15 M34 • 999 X99	
50 ohm	N15 M35 • 999 X99	Panel sealed version

① Replace the • in the part number with required plating code see page 3 for details.
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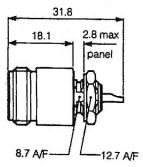
N Series

BULKHEAD SOCKET

Straight

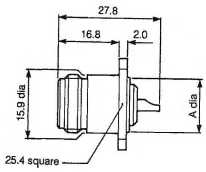


panel mounting details

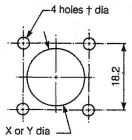
Impedance	Part Number ①	
50 ohm	N15 M28 • 999 X99	BNC size mounting hole

PANEL SOCKETS

Straight

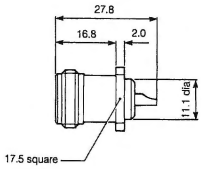


panel mounting detiails fixing hole sizes (see part No)
3.2mm dia — C
6 BA — G

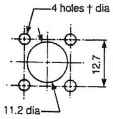


Impedance	Part Number ①	A	X	Y	
50 ohm	N15 K07 • 999 †99	14.7	16.1	14.9	**X** = rear mounting
50 ohm	N15 K42 • 999 †99	12.0	16.1	12.2	**Y** = front mounting
75 ohm	N17 K07 • 999 †99	14.7	16.1	14.9	

Straight



panel mounting detiails fixing hole sizes (see part No)
3.0 dia — H
2.8 dia — K



Impedance	Part Number ①
50 ohm	N15 K11 • 999 †99

① Replace the • in the part number with required plating code see page 3 for details.
† Replace the † in the part number with the letter corresponding to fixing hole sizes.
Please contact the Sales Office for any uncataloged requirements.

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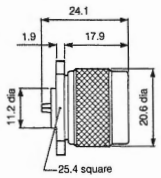
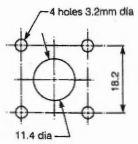
N Series

LAUNCHERS

Panel plug, sliding contact

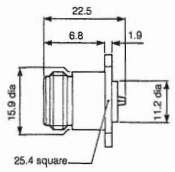


panel mounting details

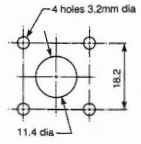


Impedance	Part Number ①	
50 ohm	N15 C46 • 999 C99	Socket contact on rear to accept pin 1.65mm dia.

Panel socket, sliding contact

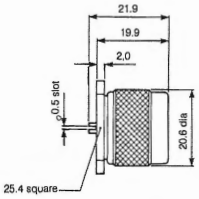


panel mounting details

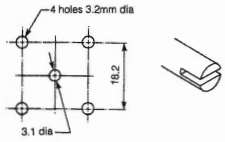


Impedance	Part Number ①	
50 ohm	N15 K45 • 999 C99	Socket contact on rear to accept pin 1.65mm dia.

Panel plug, slotted contact* flush dielectric



panel mounting details



Impedance	Part Number ①	
50 ohm	N15 T33 • 999 C99	Other contact variants available.

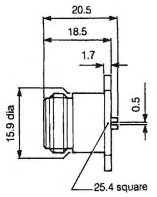
① Replace the • in the part number with required plating code see page 3 for details.
* Other contact styles available.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.

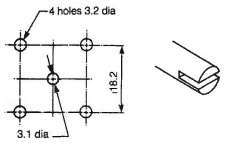
N Series

LAUNCHERS

Panel socket, slotted contact,* flush dielectric

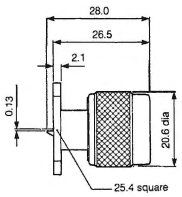


panel mounting details

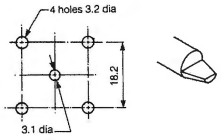


Impedance	Part Number ①	
50 ohm	N15 S33 • 999 C99	Captive contact

Panel plug, semi-slotted contact,* flush dielectric

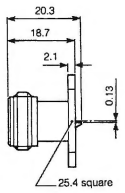


panel mounting details

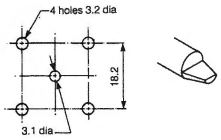


Impedance	Part Number ①	
50 ohm	N15 T53 • 999 C99	Captive contact

Panel socket, semi-slotted contact,* flush dielectric



panel mounting details



Impedance	Part Number ①	
50 ohm	N15 S50 • 999 C99	Captive contact

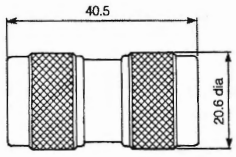
① Replace the • in the part number with required plating code see page 3 for details.
* Other contact styles available.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.

N Series

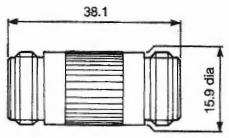
ADAPTERS

Straight adapter, plug to plug



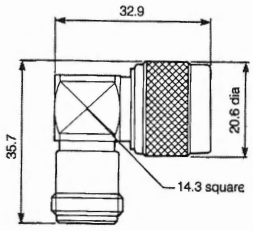
Impedance	Part Number ①
50 ohm	N15 P10 • 999 X99
75 ohm	N17 P10 • 999 X99

Straight adapter, jack to jack



Impedance	Part Number ①
50 ohm	N15 P12 • 999 X99
75 ohm	N17 P12 • 999 X99

Elbow adapter, plug to jack



Impedance	Part Number ①
50 ohm	N15 P09 • 999 X99
75 ohm	N17 P09 • 999 X99

① Replace the • in the part number with required plating code see page 3 for details.
Please contact the Sales Office for any uncataloged requirements.

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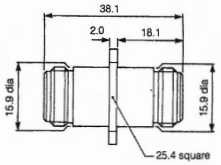
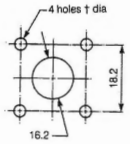
N Series

ADAPTERS

Panel adapter, jack to jack



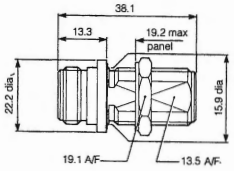
panel mounting details fixing hole sizes (see part No)
3.2mm dia — C
4.40 UNC — F
6.32 UNC — J

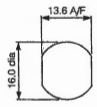


Impedance	Part Number ①
50 ohm	N15 R30 • 999 †99
75 ohm	N17 R30 • 999 †99

Bulkhead adapter, jack to jack

panel mounting details

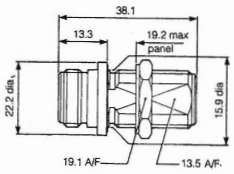


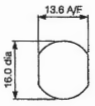


Impedance	Part Number ①
50 ohm	N15 R56 • 999 X99

Bulkhead adapter, jack to jack (panel sealed)

panel mounting details





Impedance	Part Number ①
50 ohm	N15 R07 • 999 X99

① Replace the • in the part number with required plating code see page 3 for details.
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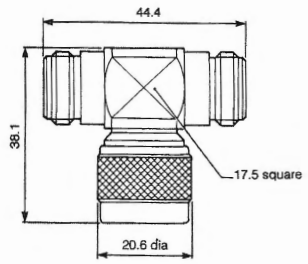
All measurements are in millimeters unless otherwise specified.

N Series

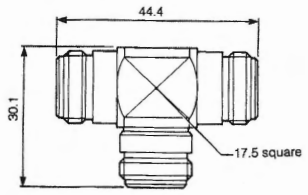
ADAPTERS

Tee adapter, one plug two jacks



Impedance	Part Number ①
50 ohm	N15 P08 • 999 X99
75 ohm	N17 P08 • 999 X99

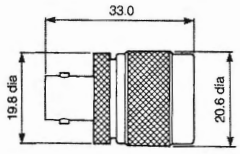
Tee adapter, three jacks



Impedance	Part Number ①
50 ohm	N15 P29 • 999 X99
75 ohm	N17 P29 • 999 X99

INTER SERIES ADAPTERS

Straight N plug to BNC jack



Impedance	Part Number ①
50 ohm	A55 P28 • 999 X99

① Replace the • in the part number with required plating code see page 3 for details.
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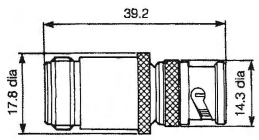
N Series

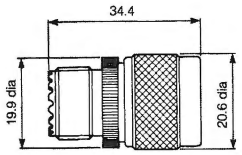
INTER SERIES ADAPTERS

Straight N jack to BNC plug



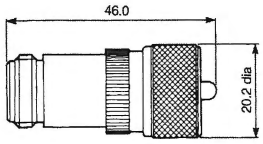
Impedance	Part Number ①
50 ohm	A55 P04 • 999 X99

Straight N plug to UHF jack



Impedance	Part Number ①
50 ohm	A55 P32 • 999 X99

Straight N jack to UHF plug



Impedance	Part Number ①
50 ohm	A55 P09 • 999 X99

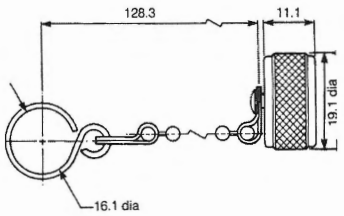
① Replace the • in the part number with required plating code see page 3 for details.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.

N Series

CAPS

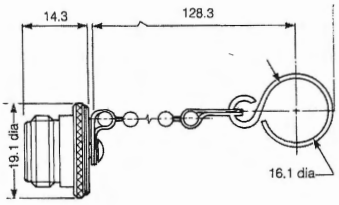
(With chain)



Part Number ①

N10 Z01 • 999 X99

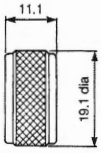
(With chain)



Part Number ①

N10 Z03 • 999 X99

Cap



Part Number ①

N15 Z02 • 999 X99

① Replace the • in the part number with required plating code see page 3 for details.
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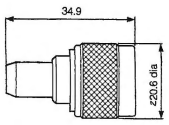
N Series

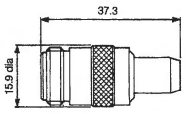
TERMINATIONS

(Plug)



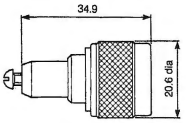
Impedance	Part Number ①	Specification
50 ohm	N15 X40 • 999 X99	1.0W VSWR 1.1 (DC to 1GHz)/1.2(1GHz-2GHz)

(Female)



Impedance	Part Number ①	Specification
50 ohm	N15 X41 • 999 X99	1.0W VSWR 1.1 (DC to 1GHz)/1.2 (1GHz-2GHz)

With earth screw (male)



Impedance	Part Number ①	Specification
50 ohm	N15 X42 • 999 X99	1.0W VSWR 1.1(DC to1GHz)/1.2(1GHz-2GHz)

① Replace the • in the part number with required plating code see page 3 for details.
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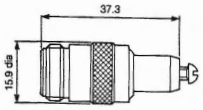
N Series

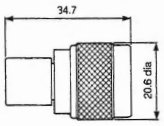
TERMINATIONS

With earth screw (female)



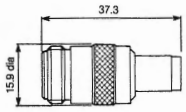
Impedance	Part Number ①	Specification
50 ohm	N15 X43 • 999 X99	1.0W VSWR 1.1 (DC-1GHz)/1.2 (1GHz-2GHz)

High performance (male)



Impedance	Part Number ①	Specification
50 ohm	N15 X02 • 999 X99	1.0W VSWR 1.05 (DC-1GHz)/1.2 (1GHz-4GHz)

High performance (female)



Impedance	Part Number ①	Specification
50 ohm	N15 X01 • 999 X99	1.0W VSWR 1.05 (DC-1GHz)/1.2 (1GHz-4GHz)

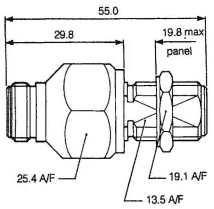
① Replace the • in the part number with required plating code see page 3 for details.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.

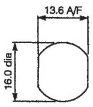
N Series

SURGE ARRESTER

Bulkhead surge arrester jack to jack



panel mounting details



Impedance	Part Number ①
50 ohm	M80 X20 • 999 X99

Surge arrestor capsule characteristics:

Construction . . . . . .gas filled metal-ceramic
Strike Voltage, d .c. 150-250V
Arc Voltage (approx.) 25V
Surge strike voltage, (max) at 1 kVns rise . . . .1 kV
Glow to arc transition current (approx.) 1.5A
Glow voltage (approx.) at 10mA 180V
Holdover voltage (max.) 100V
Peak current (max.) . . . . . .5 kA

Note:

Peak current is specified for an 8:20 microsecond waveform, 5 pulses of each polarity. At higher peak currents, and under a.c. conditions, the tendency is to fail to short circuit.

R.F. power rating:

The permissible rf power may be estimated from the minimum d.c. strike voltage of 150V, taking account also of the maximum VSWR of the system in which it is installed. In general it must be assumed that the surge arrestor may be located at a voltage maximum, and the power de-rated accordingly in line with the applicable VSWR.

① Replace the • in the part number with required plating code see page 3 for details.
Please contact the Sales Office for any uncataloged requirements.

All measurements are in millimeters unless otherwise specified.