Series BNT – triaxial miniature connectors

Description

HUBER+SUHNER BNT triaxial connectors are RF connectors with a bayonet coupling mechanism and three concentric contacts (inner conductor, inner screen and outer screen) for triaxial cables.

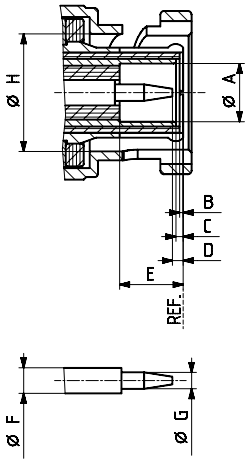
HUBER+SUHNER BNT connectors are intermateable with BNC connectors, but the inner conductor and outer screen are connected only.

BNT connectors are suitable for applications up to 3 GHz (inner coaxial line).

Content

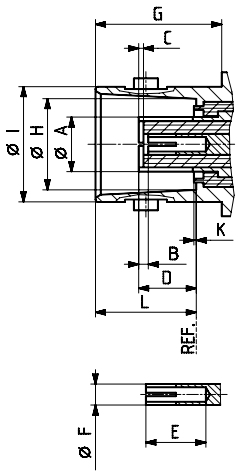
Interface dimensions (mm/inches)

Plug (male)



	Plug		Jack	
	min.	max.	min.	max.
	4.85/0.191	4.90/0.193	4.95/0.195 [1]	5.05/0.199 [1]
B	0.00/0.000	0.40/0.016	0.10/0.004	-
C	0.50/0.020 nom.		0.20/0.008 nom	
D	0.60/0.024 nom.		4.90/0.193 nom.	
E	5.30/0.209	-	5.00/0.197	-
F	1.43/0.056	1.47/0.058	1.70/0.067	1.75/0.069
G	1.32/0.052	1.37/0.054	10.52/0.414	-
H	9.78/0.385	9.91/0.390	8.10/0.319	8.15/0.321
I	-	-	9.60/0.378	9.70/0.382
K	-	-	0.20/0.008 nom.	
L	-	-	8.31/0.327	8.51/0.335

Jack (female)



[1] Prior to slotting

Series BNT – technical data

Electrical data	Requirements
Impedance	50 Ω (between centre contact and first outer contact)
Frequency range	DC to 3 GHz (inner coaxial line)
Dielectric withstanding voltage (at sea level) • Centre contact/inner screen • Between screens	 1 kV rms, 50 Hz 400 V rms, 50 Hz
Insulation resistance • Centre contact/inner screen • Between screens	 ≥ 5 · 10^3 MΩ ≥ 5 · 10^2 MΩ
Contact resistance • Centre contact • Inner screen • Outer screen	 ≤ 1.5 mΩ ≤ 1.0 mΩ ≤ 1.5 mΩ

Mechanical data	Requirements
Coupling nut torque	7 to 28 Ncm/0.6 in lbs to 2.5 in lbs
Coupling nut retention force	≥ 450 N/101.2 lbs
Contact captivation	≥ 27 N/6.1 lbs
Cable retention force [1]	see pages 32 – 37
Durability (matings)	≥ 500

Environmental data	Requirements
Temperature range	–50 to +125 °C/–58 to +257 °F
Climatic category	IEC → 55/155/21
Thermal shock	MIL-STD-202, method 107, condition B
Moisture resistance	MIL-STD-202, method 106
Corrosion	saltspray test acc. to MIL-STD-202, method 101, condition B
Vibration	MIL-STD-202, method 204, condition B
Shock	MIL-STD-202, method 213, condition G

Material data		
Connector parts	Material	Plating
Bodies	brass	SUCOPLATE®
Pin contacts	brass	gold
Socket contacts	copper-beryllium alloy	gold
1st outer contact	brass	silver/SUCOPLATE®
Crimp ferrules	copper	SUCOPLATE®
Insulators	PTFE or PFA	
Gaskets	silicon rubber	

Some connectors may have a specification that differs from the above mentioned data.

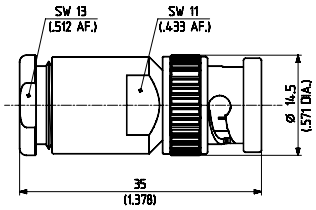
The products are designed and guaranteed to pass the above mentioned test procedures. Any additional or different requirement arising from specific applications or environmental conditions which is not covered by these test procedures is subject to request.

[1] Value considers maximum load of the cables without irreversible variations of specifications.

Series BNT – cable connectors

Straight cable plugs (male)

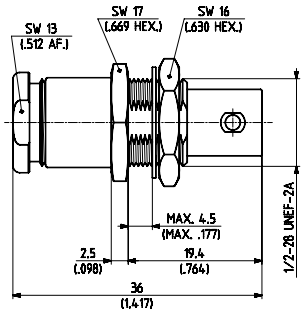
- Cable entry clamp



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
11_BNT-50-2-1/103_NE [1]	22541057	W1 (G_02332)	single	3082
11_BNT-50-3-1/103_NE	22541058	W2 (G_03332)		

Straight bulkhead cable jacks (female)

- Cable entry clamp
- With panel seal



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole
24_BNT-50-2-1/103_NE [1]	22541075	W1 (G_02332)	single	3082	ML 4
24_BNT-50-3-1/103_NE	22541077	W2 (G_03332)			

[1] Centre contact NOT captivated

Cable groups see page 32 | Assembly tools see page 509 | Mounting holes / PCB layouts see page 533

Series BNT – receptacles with solder end

Receptacles, jacks (female)

- Bulkhead mounted
- Without panel seal
- Front mounting

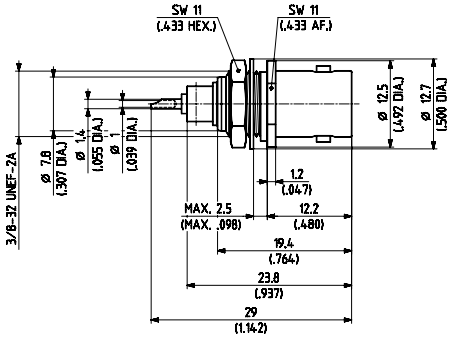


Fig. 1

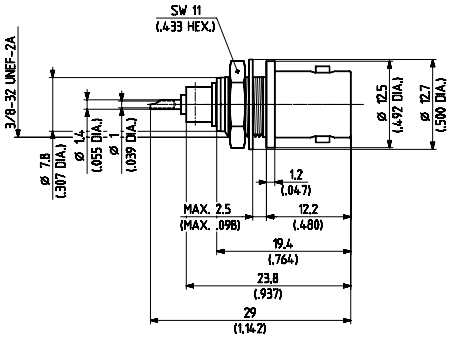
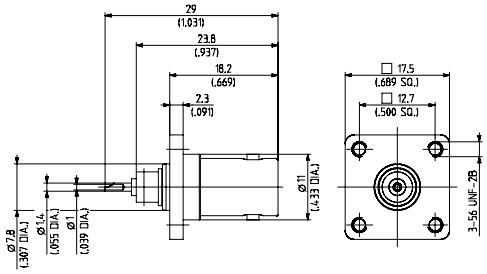


Fig. 2

HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Fig.
22_BNT-50-0-1/103_NE	22541069	single	ML 3	1
22_BNT-50-0-2/103_NE	22541070		ML 2	2

Flange mount, jacks (female)

- Panel mounted



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Fig.	Notes
23_BNT-50-0-1/103_NE	22544850	single	ML 6	1	flange with 4 threads [1]

[1] Mounting also possible with screws ISO M 2.5

Cable groups see page 32 | Assembly tools see page 509 | Mounting holes / PCB layouts see page 533