



# 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 interchangeable 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).

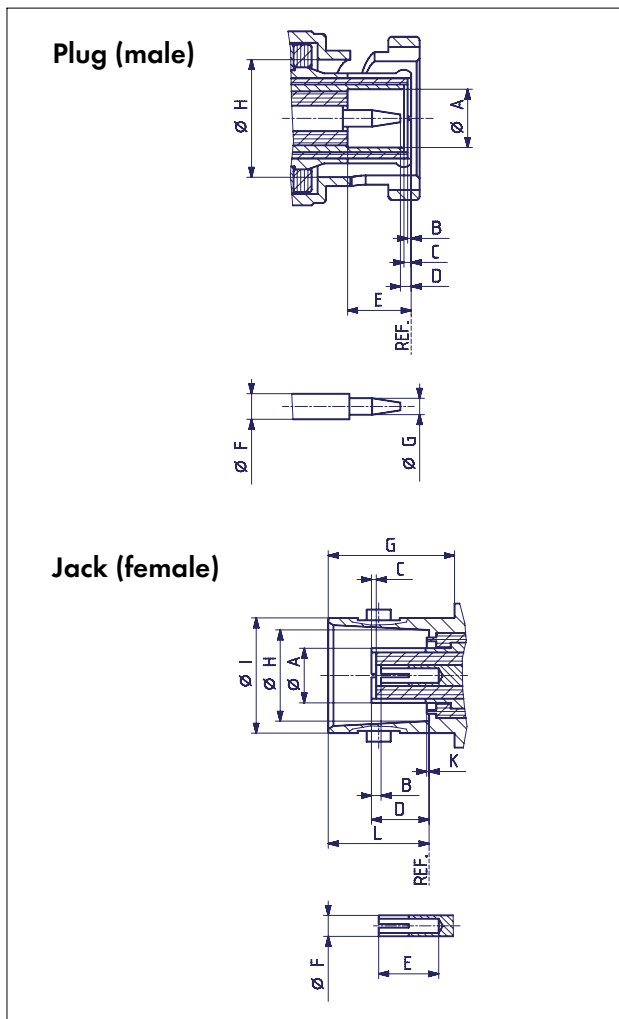
## CONTENTS

## PAGE

Description . . . . .	255
Interface dimensions . . . . .	255
Interface dimensions in mm / inches . . . . .	255
Technical data . . . . .	256
Cable connectors . . . . .	258
Receptacles with solder end . . . . .	259

## INTERFACE DIMENSIONS

## INTERFACE DIMENSIONS (MM / INCHES)



	Plug		Jack	
	min.	max.	min.	max.
A	4.85/.191	4.90/.193	4.95/.195*	5.05/.199*
B	0.00/.000	0.40/.016	0.10/.004	–
C	0.50/.020 nom.		0.20/.008 nom	
D	0.60/.024 nom.		4.90/.193 nom.	
E	5.30/.209	–	5.00/.197	–
F	1.43/.056	1.47/.058	1.70/.067	1.75/.069
G	1.32/.052	1.37/.054	10.52/.414	–
H	9.78/.385	9.91/.390	8.10/.319	8.15/.321
I	–	–	9.60/.378	9.70/.382
K	–	–	0.20/.008 nom.	
L	–	–	8.31/.327	8.51/.335

\* prior to slotting

**IP rating (interface, mated) IP64**

BNT

## TECHNICAL DATA

ELECTRICAL DATA	REQUIREMENTS
Impedance	50 $\Omega$ (between centre contact and first outer contact)
Frequency range	DC ... 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	$\geq 5 \cdot 10^3 \text{ M}\Omega$ $\geq 5 \cdot 10^2 \text{ M}\Omega$
Contact resistance - centre contact - inner screen - outer screen	$\leq 1.5 \text{ m}\Omega$ $\leq 1 \text{ m}\Omega$ $\leq 1.5 \text{ m}\Omega$

MECHANICAL DATA	REQUIREMENTS
Coupling nut torque	7 Ncm ... 28 Ncm / 0.6 in. lbs ... 2.5 in. lbs
Coupling nut retention force	$\geq 450 \text{ N} / 101.2 \text{ lbs}$
Contact captivation	$\geq 27 \text{ N} / 6.1 \text{ lbs}$
Cable retention force <sup>1)</sup>	see pages 28 - 34
Durability (matings)	$\geq 500$

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

ENVIRONMENTAL DATA	TEST CONDITIONS
Temperature range	- 50°C ... + 125°C / - 58 °F ... + 257 °F
Climatic category	IEC → 50/125/21
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
1 <sup>st</sup> outer contact	brass	silver / SUCOPLATE®
Crimp ferrules	copper	SUCOPLATE®
Insulators	PTFE or PFA	
Gaskets	silicone rubber	

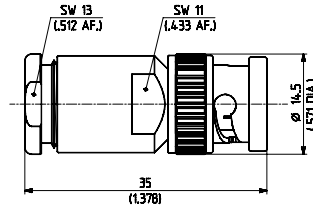
Some connectors may have a specification that differs from the above mentioned data.

**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.**

## CABLE CONNECTORS

### Straight cable plugs (male)

> cable entry clamp

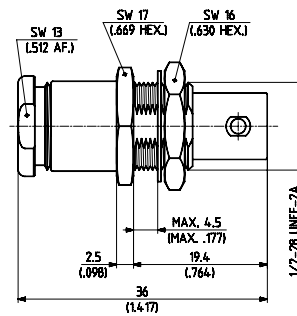


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
11_BNT-50-2-1/103_NE	22541057	W1 (G 02332)	single	3082
11_BNT-50-3-1/103_NE	22541058	W2 (G 03332)	single	3082
11_BNT-50-4-1/103_NE	22541061	(UR 114)	single	3082

### 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	22541075	W1 (G 02332)	single	3082	ML 4
24_BNT-50-3-1/103_NE	22541077	W2 (G 03332)	single	3082	ML 4

☒ centre contact NOT captivated

# RECEPTACLES WITH SOLDER END

## Receptacles, jacks (female)

- > bulkhead mounted
- > without panel seal
- > front mounting

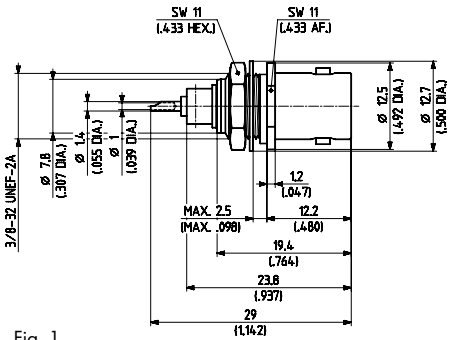


Fig. 1

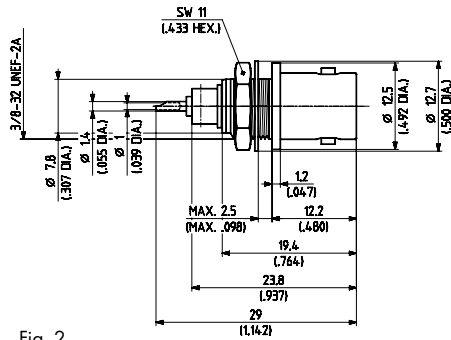


Fig. 2

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

## Flange mount, jacks (female)

- > panel mounted
- > fastening screws see page 407

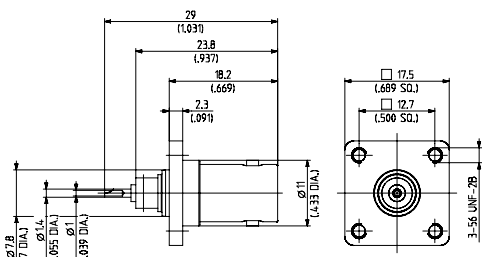


Fig. 1

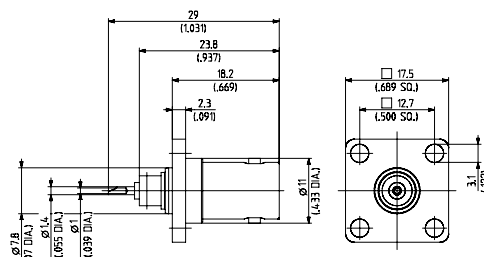


Fig. 2

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 *
23_BNT-50-0-2/103_NE	22541073	single	ML 6	2	flange with 4 holes

\* mounting also possible with screws ISO M 2.5