



SERIES BNT

TRIAXIAL MINIATURE CONNECTORS

Description

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.

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.

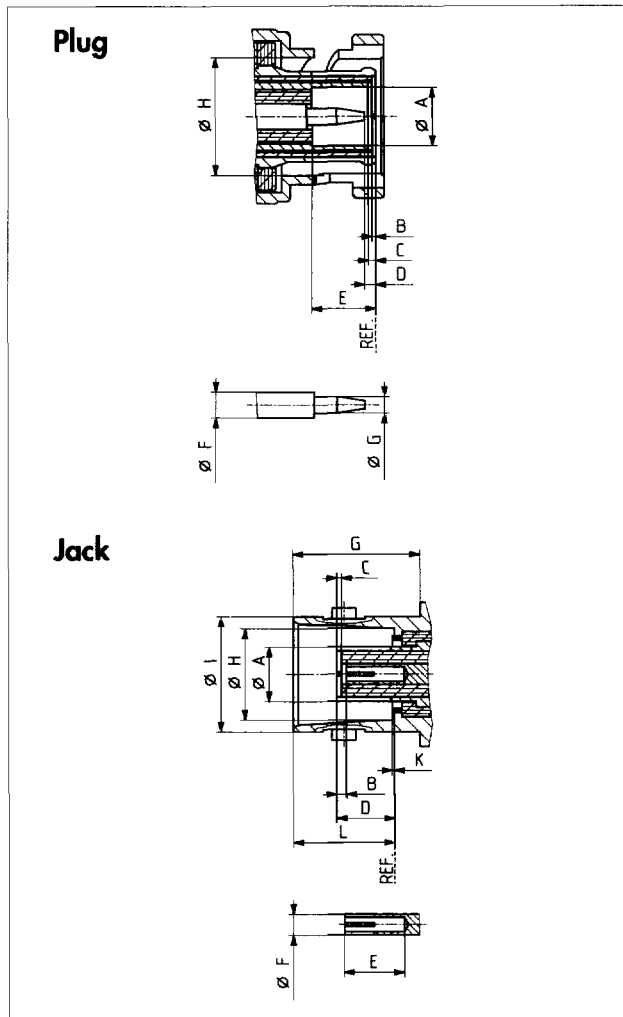
Contents

Page

Description	275
Interface Dimensions	275
Interface Dimensions in mm / inches	275
Technical Data	276
Cable Connectors	278
Receptacles with Solder End	279

Interface Dimensions

Interface Dimensions in 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	.050/.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

BNT

Technical Data

ELECTRICAL DATA	REQUIREMENTS
Impedance	50 Ω (between center contact and inner screen)
Frequency range	DC ... 3 GHz (see also Appendix page 436)
VSWR, mated pair	typ. 1.25
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	$\geq 5 \cdot 10^3$ M Ω $\geq 5 \cdot 10^2$ M Ω
Contact resistance – centre contact – inner screen – outer screen	≤ 1.5 m Ω ≤ 1 m Ω ≤ 1.5 m Ω

MECHANICAL DATA	REQUIREMENTS
Coupling nut torque	7 Ncm ... 28 Ncm / 0.6 in.-lbs ... 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 36 – 41
Durability (matings)	≥ 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 acc. to 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

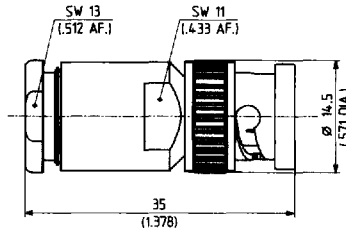
CONNECTOR PART	STANDARDS	MATERIAL	SURFACE/PLATING
Bodies Pin contact	QQ-B-626	brass	SUCOPLATE® gold plated
Socket contact	QQ-C-530	beryllium-copper, hardened	gold plated
Crimp ferrules	SUHNER® specification	copper	SUCOPLATE®
Insulators, standard version	ASTM-D-1457 BS 4271, Grade B	PTFE	
Gaskets	ASTM-E-1418 PS 1	silicone rubber	

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

Cable Connectors

straight plugs

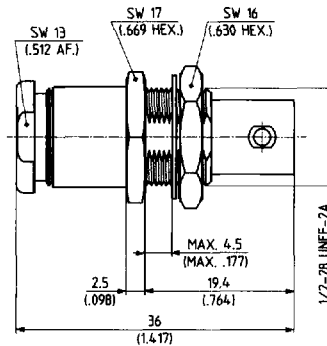
> cable entry clamp



SUMNER TYPE	Ident. no.	Cable group (example)	Assembly instruction	Weight	Notes
11 BNT-50-2-1	541057	W1 (G 02332)	3082	26.0 g/.910 oz.	
11 BNT-50-3-1	• 541058	W2 (G 03332)	3082	23.0 g/.805 oz.	
11 BNT-50-4-1	• 541061	W3 (UR 114)	3082	22.0 g/.770 oz.	

bulkhead jacks

> cable entry clamp
> without panel seal



SUMNER TYPE	Ident. no.	Cable group (example)	Assembly instruction	Mounting hole	Weight	Notes
24 BNT-50-2-1	541075	W1 (G 02332)	3082	ML 4	26.0 g/.910 oz.	
24 BNT-50-3-1	• 541077	W2 (G 03332)	3082	ML 4	24.0 g/.840 oz.	

• centre contact captivated

Receptacles with Solder End

receptacles, female

- > bulkhead mounted
- > without panel seal

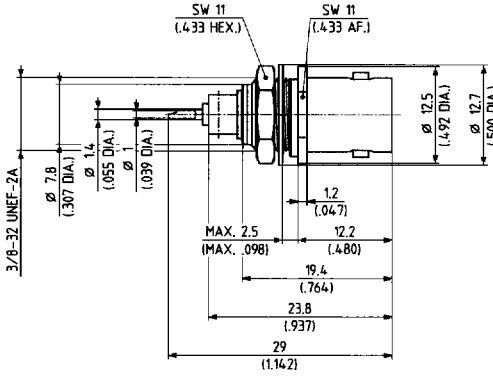


Fig. 1

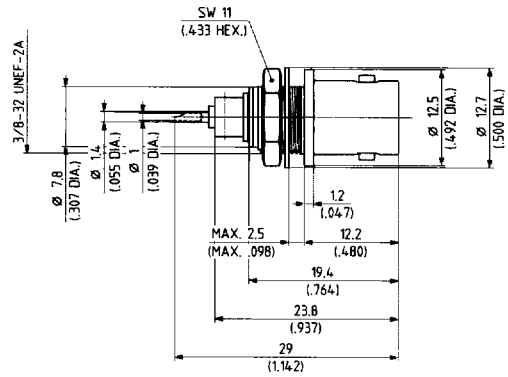


Fig. 2

SUNNER TYPE	Ident. no.	Mounting hole	Weight	Fig.	Notes
22 BNT-50-0-1	• 541069	ML 3	8.0 g/.280 oz.	1	
22 BNT-50-0-2	• 541070	ML 2	8.0 g/.280 oz.	2	

- > panel mounted

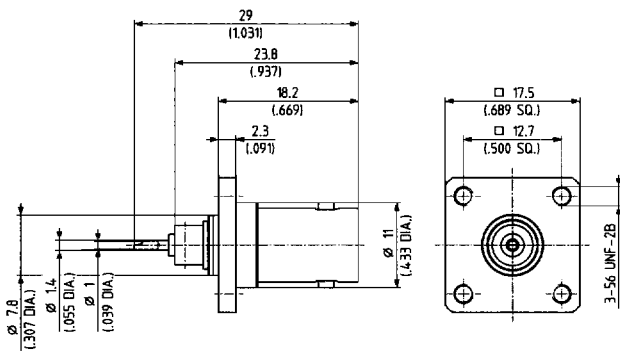
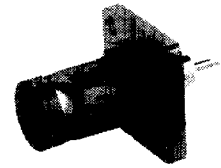


Fig. 1

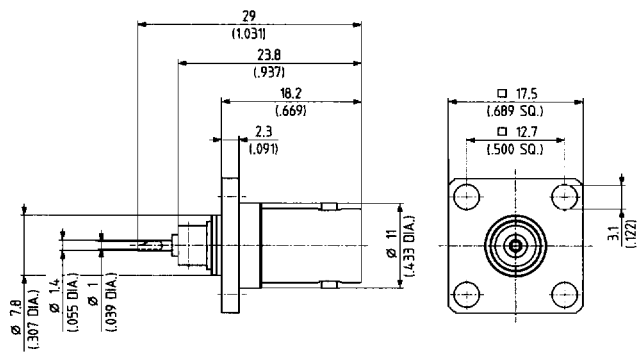


Fig. 2

SUNNER TYPE	Ident. no.	Mounting hole	Weight	Fig.	Notes
23 BNT-50-0-1	• 544850	ML 6	12.0 g/.420 oz.	1	mounting also possible with screws ISO M 2.5
23 BNT-50-0-2	• 541073	ML 6	11.5 g/.403 oz.	2	

- centre contact captivated