



SERIES TNC 50 Ω, COAXIAL MINIATURE CONNECTORS

DESCRIPTION

HUBER+SUHNER TNC connectors are threaded RF connectors applicable from DC up to 11 GHz. Precision designs using a dielectric bead are suitable for use up to 18 GHz. The threaded coupling mechanism improves control over the interface dimensions and allows them to be used under a higher environmental load than BNC, especially under a high vibration load.

Compatibility

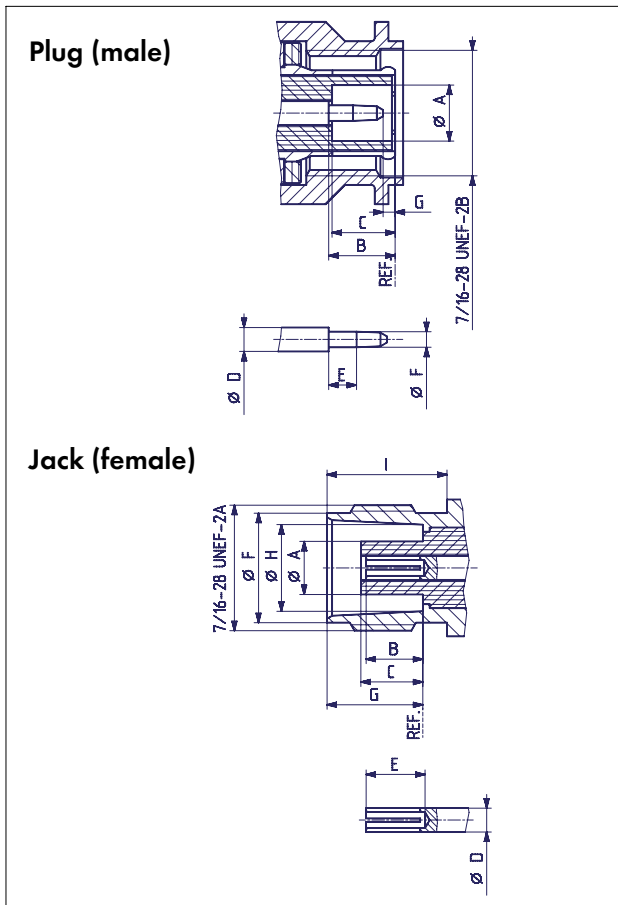
50 Ω TNC connectors and 75 Ω TNC connectors are intermateable without restrictions.

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INTERFACE DIMENSIONS



INTERFACE DIMENSIONS (MM / INCHES)

	Plug		Jack	
	min.	max.	min.	max.
A	4.83/.190	—	—	4.72/.186
B	5.33/.210	5.84/.230	4.72/.186	5.23/.206
C	5.28/.208	5.79/.228	4.78/.188	5.28/.208
D	2.06/.081	2.21/.087	2.06/.081	2.21/.087
E	1.98/.078	—	4.95/.195	—
F	1.32/.052	1.37/.054	9.60/.378	9.70/.382
G	0.08/.003	—	8.31/.327	8.51/.335
H	—	—	8.10/.319	8.15/.321
I	—	—	10.52/.414	—

Interface dimensions conformable to the Standards:

- International: **IEC 60169-17**
- Europe: **CECC 22 200**
- USA: **MIL-C-39012**
TNC-Interface MIL-STD-348A/313

IP rating (interface, mated) IP68

TNC

TECHNICAL DATA

ELECTRICAL DATA	REQUIREMENTS
Impedance	50 Ω
Frequency range	DC ... 11 GHz
Dielectric withstanding voltage (at sea level)	1.5 kV rms, 50 Hz (depending on cable)
Working voltage (at sea level) - unmated	500 V rms, 50 Hz (depending on cable)
Insulation resistance	$\geq 5 \cdot 10^3 \text{ M}\Omega$
Contact resistance - centre contact - outer contact	$\leq 1.5 \text{ m}\Omega$ $\leq 1 \text{ m}\Omega$
RF-leakage (between 2 ÷ 3 GHz)	$\geq 60 \text{ dB}$

MECHANICAL DATA	REQUIREMENTS
Coupling nut torque - recommended - proof torque	46 Ncm ... 69 Ncm / 4.1 in. lbs ... 6.1 in. lbs 170 Ncm / 15.0 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 ¹⁾	see pages 28 - 34
Durability (matings)	≥ 500

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

ENVIRONMENTAL DATA	TEST CONDITIONS
Temperature range	- 65°C ... + 165°C / - 85 °F ... + 329 °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 PART	MATERIAL	PLATING
Bodies	brass	SUCOPLATE®
Pin contacts	brass	gold / SUCOPRO
Socket contacts	copper-beryllium alloy copper alloy	gold / SUCOPRO
Crimp ferrules	copper brass	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)

- > for semi-rigid cables
- > cable entry soldered
- > centre contact soldered

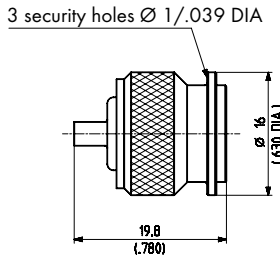


Fig. 1

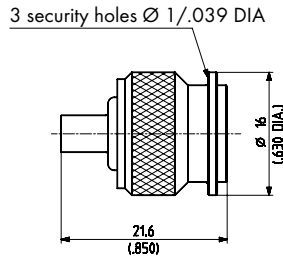
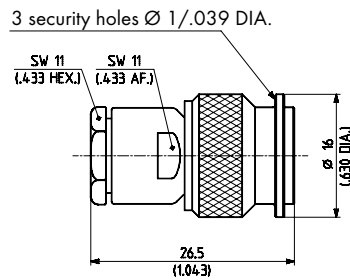


Fig. 2

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Fig.	Notes
11_TNC-50-2-20/103_NE	22642519	Y3, Y11 (EZ 86)	single	9100	1	
11_TNC-50-3-29/103_NE	22641997	Y5, Y12 (EZ 141)	single	9106	2	outer contact silver
11_TNC-50-3-29/113_NE	22544841	Y5, Y12 (EZ 141)	single	9106	2	outer contact gold

- > for flexible cables
- > cable entry clamp
- > centre contact soldered

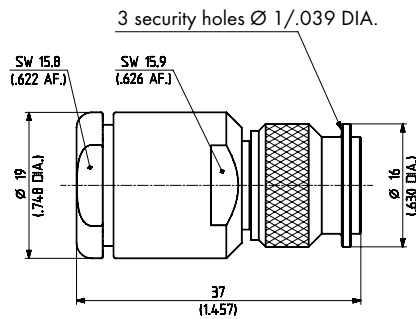


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Notes
11_TNC-50-2-1/133_NE	22640783	U2 (RG 316/U)	single	3005	
11_TNC-50-3-5/133_NE	22640798	U7, 10 (RG 58C/U)	single	3005	
11_TNC-50-3-6/133_NE	22543475	U7, 10 (RG 58C/U)	single	3004	

☒ centre contact NOT captivated

> for flexible cables

- > cable entry clamp
- > centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Notes
11_TNC-50-7-2/133_NE	22640466	U28 (RG 213/U) U33 (RG 214/U)	single	3008	

> for flexible cables

- > HUBER+SUHNER® full crimp
- > taper sleeves see page 406

3 security holes Ø 1/039 DIA.

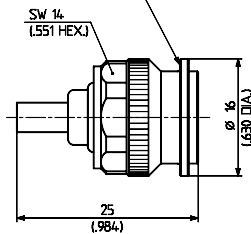


Fig. 1

3 security holes Ø 1/039 DIA.

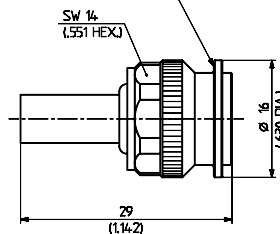


Fig. 2



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Fig.
11_TNC-50-2-112/133_NE	23001710	U2 (RG 316/U)	single	27215	1 A	1
11_TNC-50-2-113/133_NE	23001711	U4 (K 02252 D)	single	27215	1 A	1
11_TNC-50-3-115/133_NE	23001712	U9 (RG 223/U)	single	3015	2 B	2
11_TNC-50-3-115/133_NH	23001713	U9 (RG 223/U)	bulk 100 pcs.	3015	2 B	2
11_TNC-50-3-116/133_NE	23001714	U7 (RG 58 C/U)	single	3015	2 B	2
11_TNC-50-3-117/133_NE	23010015	U11 (RG 400/U)	single	3015	2 B	2

Right angle cable plugs (male)

- > for flexible cables
- > cable entry clamp
- > centre contact soldered

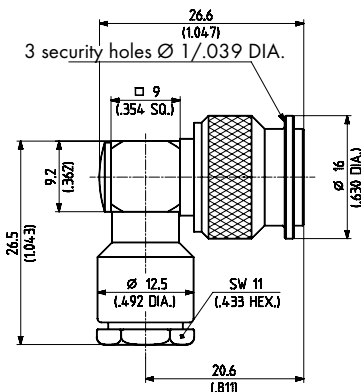


Fig. 1

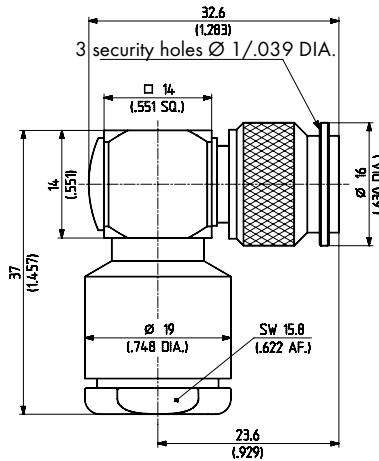
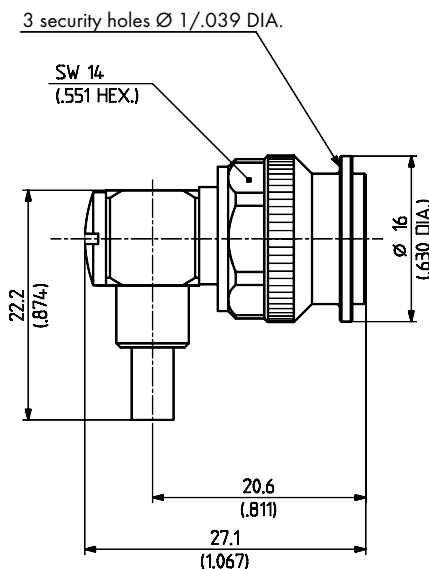


Fig. 2



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Fig.	Notes
16_TNC-50-2-10/133_NE	8403229	U2 (RG 316/U)	single	3024	1	
16_TNC-50-3-28/133_NE	84012481	U7, 10 (RG 58C/U)	single	3024	1	
16_TNC-50-7-4/133_NE	22651587	U28 (RG 213/U) U33 (RG 214/U)	single	3003	2	

- > for flexible cables
- > cable entry crimp
- > centre contact soldered
- > taper sleeves see page 406

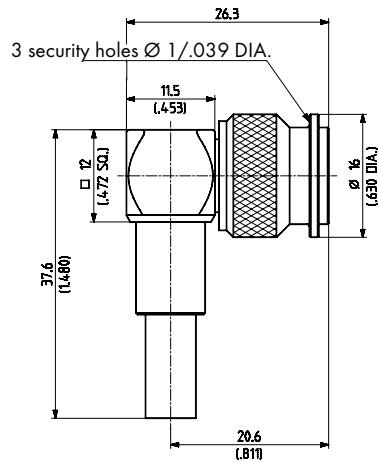


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
16_TNC-50-2-119/133_NE	23010087	U2 (RG 316/U)	single	27216	A
16_TNC-50-2-7/133_NE	23001716	U4 (K 02252 D)	single	27216	A

> for flexible cables

> HUBER+SUHNER® full crimp

> taper sleeves see page 406



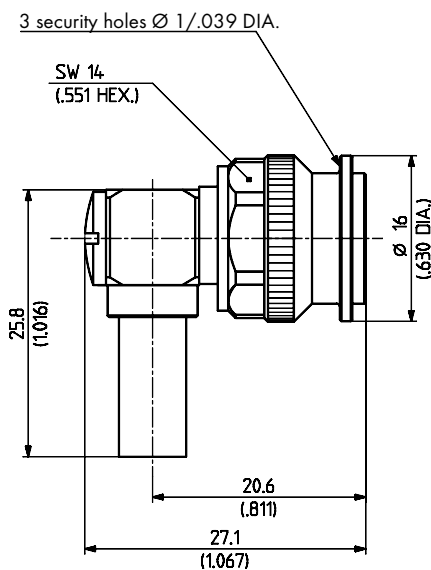
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
16_TNC-50-3-13/133_NE	22640492	U7 (RG 58 C/U)	single	3015	2 B
16_TNC-50-3-18/133_NE	22543606	U9 (RG 223/U)	single	3015	2 B

> for flexible cables

> cable entry clamp

> centre contact soldered

> taper sleeves see page 406

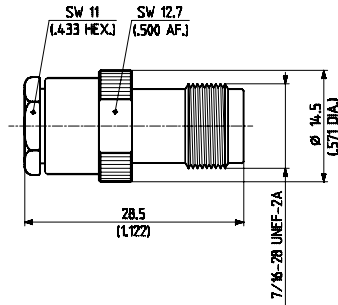


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
16_TNC-50-3-111/133_NE	23001717	U9 (RG 223/U)	single	27218	B
16_TNC-50-3-112/133_NE	23010115	U7 (RG 58 C/U)	single	27218	B
16_TNC-50-4-115/133_NE	23001718	S16 (S 04262 D)	single	27219	C
16_TNC-50-4-115/133_NH	22658175	S16 (S 04262 D)	bulk 100 pcs.	27219	C

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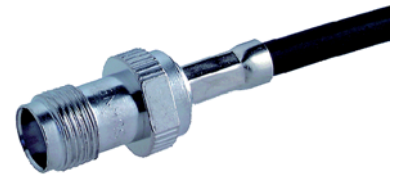
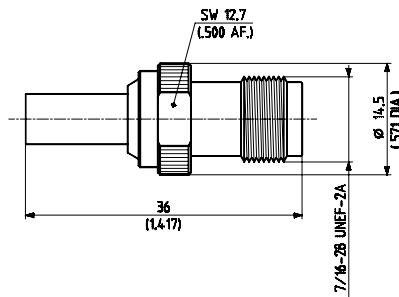
Straight cable jacks (female)

- > for flexible cables
- > cable entry clamp
- > centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Notes
21_TNC-50-2-2/133_NE	22640515	U2 (RG 316/U)	single	3005	
21_TNC-50-3-4/133_NE	22640523	U7, 10 (RG 58C/U)	single	3005	

- > for flexible cables
- > HUBER+SUHNER® full crimp
- > taper sleeves see page 406



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
21_TNC-50-3-31/133_NE	84016544	U7 (RG 58 C/U)	single	0000231215	2 B
21_TNC-50-3-32/133_NE	84016601	U9 (RG 223/U)	single	0000231453	2 B

Straight bulkhead cable jacks (female)

- > for semi-rigid cables
- > cable entry soldered
- > with panel seal
- > insulating washers see page 408

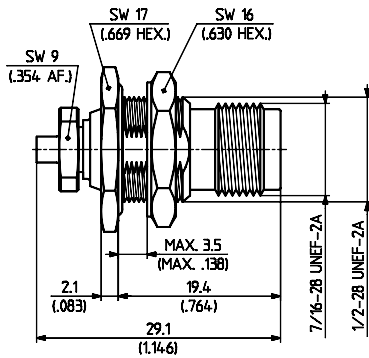


Fig. 1

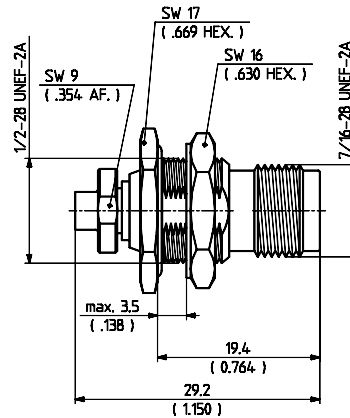
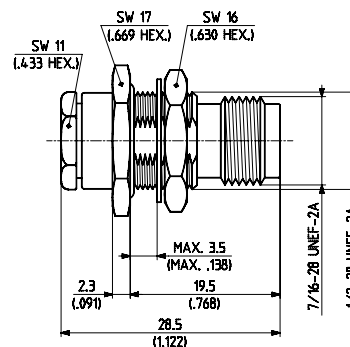


Fig. 2



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole	Fig.
24_TNC-50-2-31/133_NE	23001721	Y3, Y11 (EZ 86)	single	27269	ML 4	1
24_TNC-50-3-30/133_NH	23001723	Y5, Y12 (EZ 141)	bulk 100 pcs.	27220	ML 4	2

- > for flexible cables
- > cable entry clamp
- > centre contact soldered
- > with panel seal
- > insulating washers see page 408



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole
24_TNC-50-2-1/133_NE	22543398	U2 (RG 316/U)	single	3005 / ML 4

☒ centre contact NOT captivated

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> for flexible cables

- > HUBER+SUHNER® full crimp
- > with panel seal
- > taper sleeves see page 406
- > insulating washers see page 408

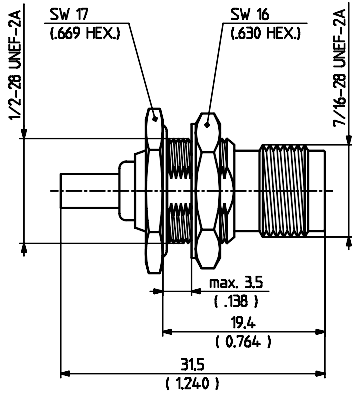


Fig. 1

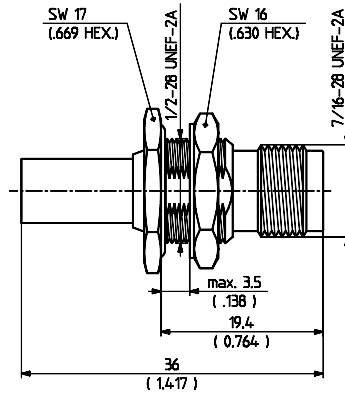


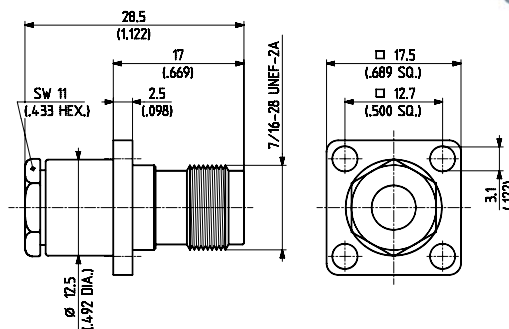
Fig. 2

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole	Crimp insert	Fig.
24_TNC-50-2-27/133_NE	23001719	U2 (RG 316/U)	single	9068 / ML 4	1 A	1
24_TNC-50-2-29/133_NH	23001720	U4 (K 02252 D)	bulk 100 pcs.	9068 / ML 4	1 A	1
24_TNC-50-3-21/133_NE	23001722	U9 (RG 223/U)	single	27221 / ML 4	2 B	2
24_TNC-50-3-23/133_NE	23010150	U7 (RG 58 C/U)	single	27221 / ML 4	2 B	2

Straight panel cable jacks (female)

> for flexible cables

- > cable entry clamp
- > centre contact soldered
- > fastening screws see page 407



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole
25_TNC-50-2-1/133_NE	22640578	U2 (RG 316/U)	single	3005 / ML 8
25_TNC-50-3-9/133_NE	22643707	U7, 10 (RG 58C/U)	single	3005 / ML 8

> for flexible cables

- > HUBER+SUHNER® full crimp
- > fastening screws see page 407
- > taper sleeves see page 406

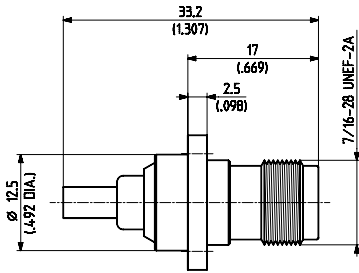


Fig. 1

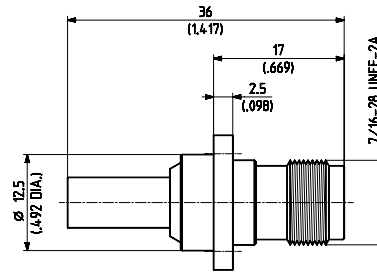
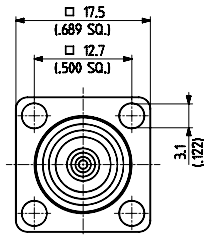
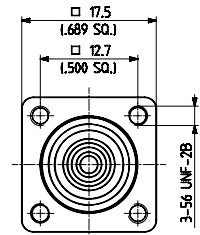


Fig. 2



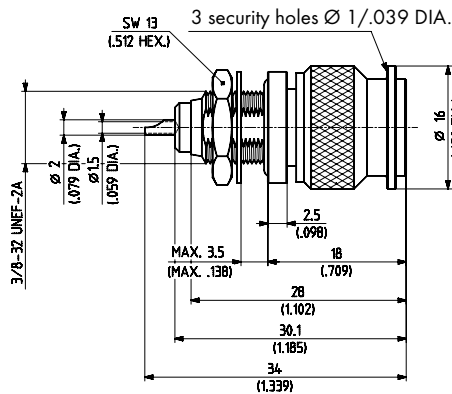
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Mounting hole	Crimp insert	Fig.
25_TNC-50-2-19/133_NE	84016723	U2 (RG 316/U)	single	ML 8	1 A	1
25_TNC-50-3-19/133_NE	84016722	U7 (RG 58 C/U)	single	ML 8	2 B	2 *

* mounting also possible with screws ISO M 2.5

RECEPTACLES WITH SOLDER END

Receptacles, plugs (male)

- > bulkhead mounted
- > with panel seal
- > insulating washers see page 408
- > solder tags see page 409



TNC 50

HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
12_TNC-50-0-1/133_NE	22640467	single	ML 2	

Receptacles, jacks (female)

- > bulkhead mounted
- > insulating washers see page 408
- > solder tags see page 409

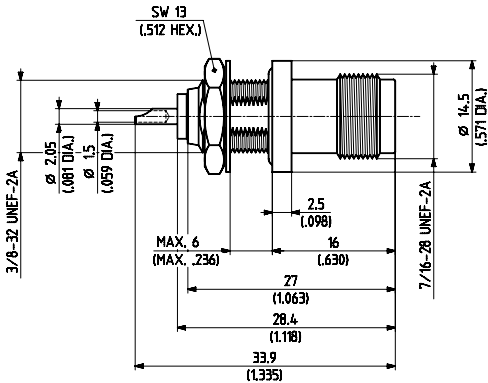


Fig. 1

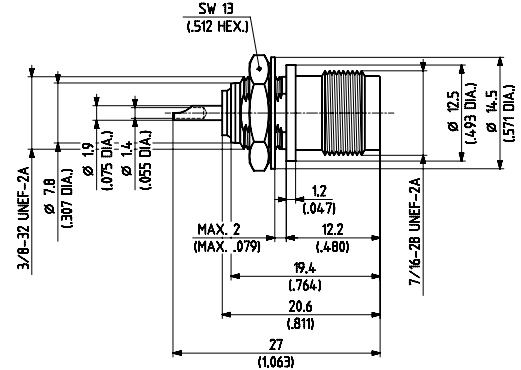
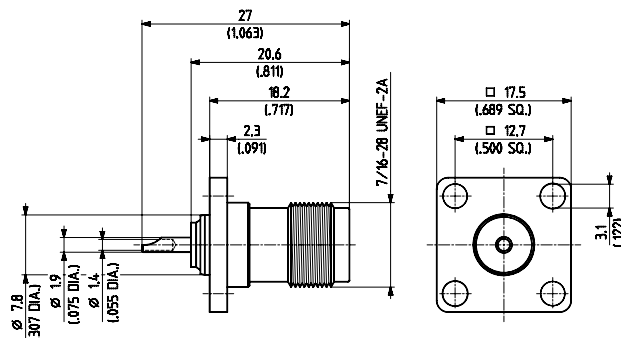


Fig. 2

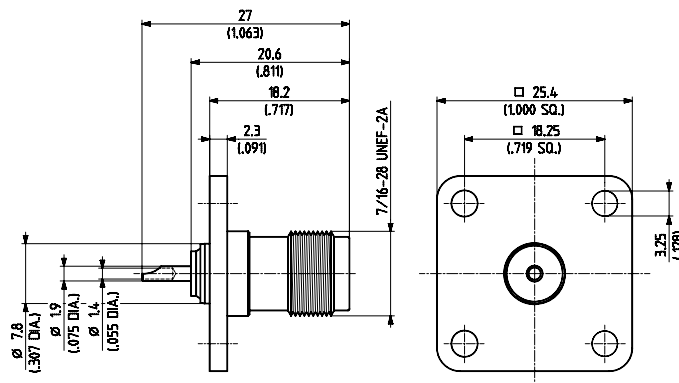
HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Fig.	Notes
22_TNC-50-0-1/133_NE	22640537	single	ML 1	1	with panel seal
22_TNC-50-0-2/133_NE	22640539	single	ML 2	2	

- > panel mounted
- > fastening screws see page 407



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
23_TNC-50-0-2/133_NE	22640549	single	ML 6	
23_TNC-50-0-2/133_NH	22644322	bulk 100 pcs.	ML 6	

- > panel mounted
- > fastening screws see page 407



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
23_TNC-50-0-6/133_NE	22640551	single	ML 5	suitable for SUCOBOX® applications, see page 410

