



# SERIES BNC 50 Ω, COAXIAL MINIATURE CONNECTORS

## DESCRIPTION

HUBER+SUHNER BNC is still one of the most popular connector series, featuring a two stud bayonet coupling mechanism, which is particularly useful for frequently coupled and uncoupled RF connections with frequencies up to 4 GHz.

### Compatibility

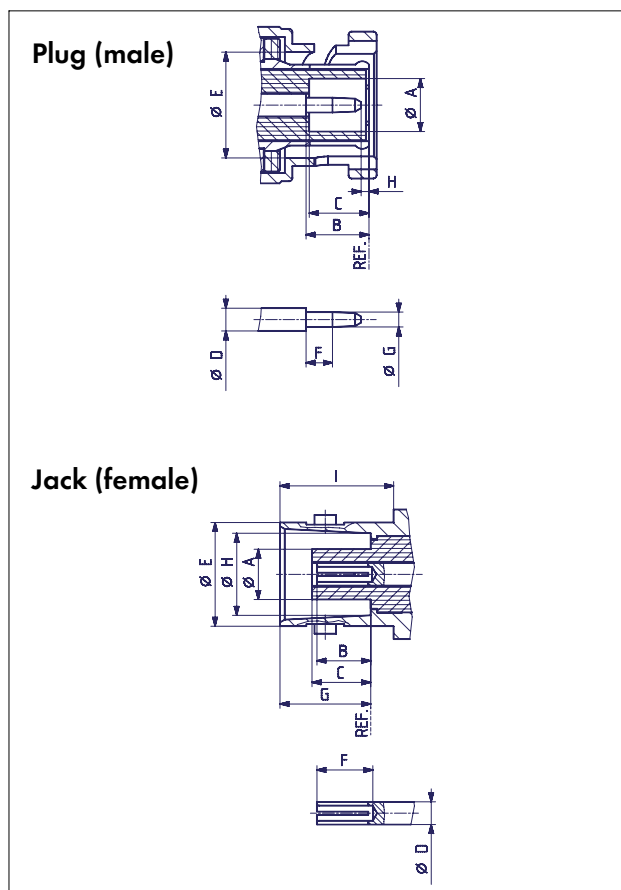
50 Ω BNC connectors and 75 Ω BNC connectors are intermateable without any restrictions.

## CONTENTS

## PAGE

Description	199
Interface dimensions	199
Interface dimensions in mm / inches	199
Technical data	200
Cable connectors	202
Receptacles with solder end	211
PCB connectors	215
Protective caps and shorts	216

## 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	9.78/.385	9.91/.390	9.60/.378	9.70/.382
F	1.98/.078	–	4.95/.195	–
G	1.32/.052	1.37/.054	8.31/.327	8.51/.335
H	0.08/.003	–	8.10/.319	8.15/.321
I	–	–	10.52/.414	–

### Interface dimensions conformable to the Standards:

International: **IEC 61169-8**  
 Europe: **CECC 22120**  
 USA: **MIL-C- 39012,**  
**BNC Interface MIL-STD-348A/301**  
 Great Britain: **BS 9210 N 004**

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

## TECHNICAL DATA

ELECTRICAL DATA	REQUIREMENTS
Impedance	50 $\Omega$
Frequency range (for connector interface)	DC ... 4 GHz
Dielectric withstanding voltage (at sea level)	1.5 kV rms, 50 Hz (depending on cable)
Working voltage (at sea level)	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)	$\geq 55 \text{ dB}$

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	- 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® / SUCOPRO
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

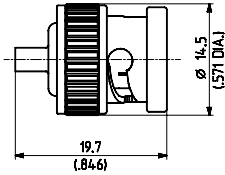


Fig. 1

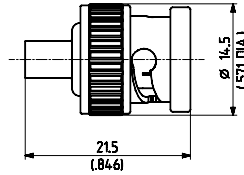
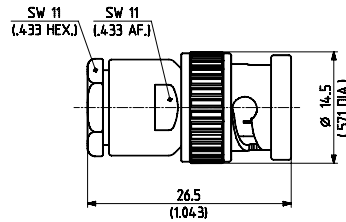


Fig. 2



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Fig.	Notes
11_BNC-50-2-20/103_NE	22641778	Y3, Y11 (EZ 86)	single	9100	1	
11_BNC-50-3-54/103_NE	22540108	Y5, Y12 (EZ 141)	single	9106	2	

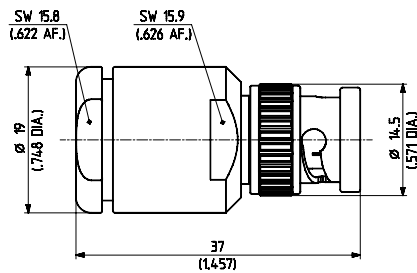
- > for flexible cables
- > cable entry clamp
- > centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Notes
11_BNC-50-1-1/133_NE	22540021	U1 (RG 178 B/U)	single	3005	
11_BNC-50-2-1/133_NE	22540029	U2 (RG 316/U)	single	3005	
11_BNC-50-3-1/133_NE	22540045	U7, 10 (RG 58C/U)	single	3004	
11_BNC-50-3-5/133_NE	22540054	U7, 10 (RG 58C/U)	single	3005	

☒ 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_BNC-50-7-1/133_NE	22540145	U28 (RG 213/U)	single	3008	
11_BNC-50-7-2/133_NE	22540149	U33 (RG 214/U)	single	3008	

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

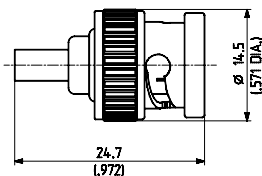


Fig. 1

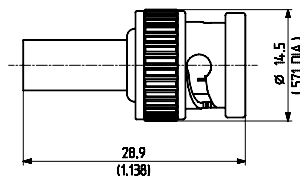


Fig. 2



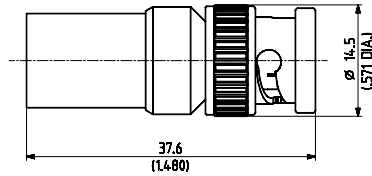
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Fig.
11_BNC-50-1-5/133_NE	22641759	U1 (RG 178 B/U)	single	9068	1 A	1
11_BNC-50-2-13/133_NE	22543749	U2 (RG 316/U)	single	9068	1 A	1
11_BNC-50-2-13/133_NH	22644716	U2 (RG 316/U)	bulk 100 pcs.	9068	1 A	1
11_BNC-50-2-14/133_NE	22641683	U4 (K 02252 D)	single	9068	1 A	1
11_BNC-50-2-14/133_NH	22649839	U4 (K 02252 D)	bulk 100 pcs.	9068	1 A	1
11_BNC-50-2-16/133_NE	22544026	U3 (G 01130 HT)	single	9068	1 A	1
11_BNC-50-2-16/133_NH	22648466	U3 (G 01130 HT)	bulk 100 pcs.	9068	1 A	1
11_BNC-50-3-4/133_NE	22540052	U7 (RG 58 C/U)	single	3015	2 B	2
11_BNC-50-3-4/133_NH	22641268	U7 (RG 58 C/U)	bulk 100 pcs.	3015	2 B	2
11_BNC-50-3-16/133_NE	22540071	U9 (RG 223/U)	single	3015	2 B	2
11_BNC-50-3-16/133_NH	22652130	U9 (RG 223/U)	bulk 100 pcs.	3015	2 B	2
11_BNC-50-3-36/133_NE	22540089	U13 (G 03130-HT)	single	27057	2 C	2
11_BNC-50-3-52/133_NE	22645522	U11 (RG 400/U)	single	3015	2 B	2
11_BNC-50-3-52/133_NH	22652006	U11 (RG 400/U)	bulk 100 pcs.	3015	2 B	2
11_BNC-50-3-58/133_NE	22641576	U8 (S 03232-1)	single	3015	2 B	2
11_BNC-50-3-58/133_NH	23008429	U8 (S 03232-1)	bulk 100 pcs.	3015	2 B	2
11_BNC-50-4-4/133_NE	22540115	U16 (RG 59 B/U)	single	3015	2 C	2
11_BNC-50-4-4/133_NH	22648238	U16 (RG 59 B/U)	bulk 100 pcs.	3015	2C	2
11_BNC-50-4-23/133_NE	22543958	U16 (RG 62 A/U)	single	9098	2 C	2

Cable groups see page 28

Assembly tools see page 385

Mounting holes see page 412

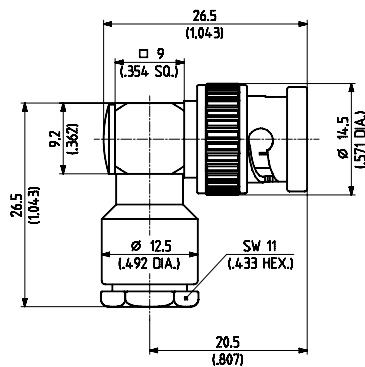
- > for flexible cables
- > HUBER+SUHNER® full crimp
- > taper sleeves see page 406



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
11_BNC-50-7-6/133_NE	22640863	U32 (RG 214/U)	single	3061	3 D
11_BNC-50-7-7/133_NE	22543766	U29 (RG 213/U)	single	3061	3 D

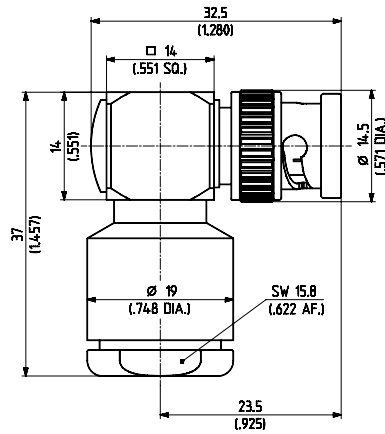
### Right angle cable plugs (male)

- > for flexible cables
- > cable entry clamp



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Notes
16_BNC-50-2-9/133_NE	84013192	U2 (RG 316/U)	single	3024	
16_BNC-50-3-25/133_NE	84013233	U7, 10 (RG 58C/U)	single	3024	

- > for flexible cables
- > cable entry clamp



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Notes
16_BNC-50-7-6/133_NE	22651588	U28 (RG 213/U) U33 (RG 214/U)	single	27121	

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

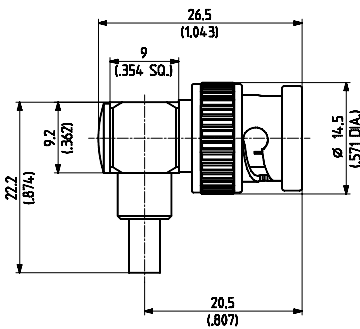


Fig. 1

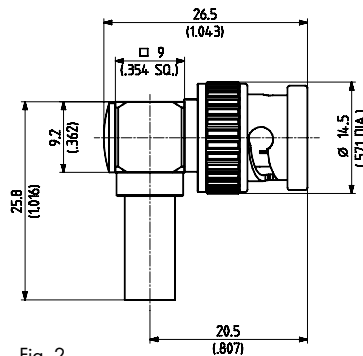
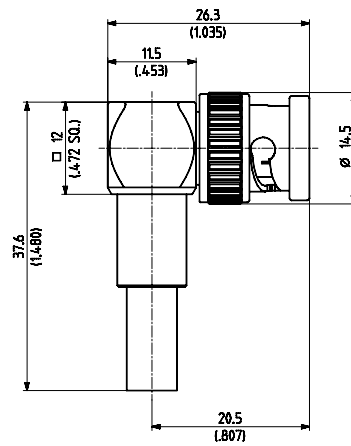


Fig. 2



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Fig.
16_BNC-50-2-3/133_NE	22540168	U2 (RG 316/U)	single	3079	A	1
16_BNC-50-2-3/133_NH	22648628	U2 (RG 316/U)	bulk 100 pcs.	3079	A	1
16_BNC-50-2-5/133_NE	22540169	U4 (K 02252 D)	single	3079	A	1
16_BNC-50-2-5/133_NH	22650221	U4 (K 02252 D)	bulk 100 pcs.	3079	A	1
16_BNC-50-3-5/133_NE	22540185	U7 (RG 58 C/U)	single	3058	B	2
16_BNC-50-3-7/133_NE	22540192	U9, 11 (RG 400/U)	single	3058	B	2
16_BNC-50-3-7/133_NH	22650222	U9, 11 (RG 400/U)	bulk 100 pcs.	3058	B	2

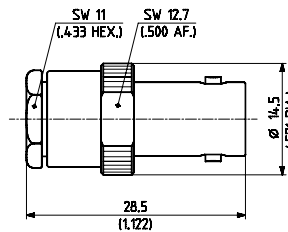
- > for flexible cables
- > HUBER+SUHNER® full crimp
- > taper sleeves see page 406



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
16_BNC-50-3-13/133_NE	22540198	U7 (RG 58 C/U)	single	3015	2 B

### Straight cable jacks (female)

- > for flexible cables
- > cable entry clamp



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Notes
21_BNC-50-2-1/133_NE	22540228	U2 (RG 316/U)	single	3005	
21_BNC-50-3-12/133_NE	22540263	U7, 10 (RG 58C/U)	single	3005	



> for flexible cables

> HUBER+SUHNER® full crimp

> taper sleeves see page 406

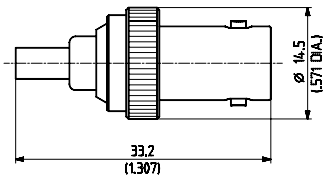


Fig. 1

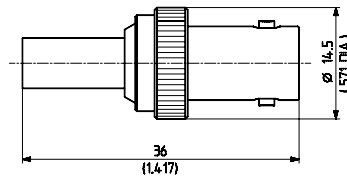


Fig. 2

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Fig.
21_BNC-50-1-4/133_NE	22641777	U1 (RG 178 B/U)	single	9068	1 A	1
21_BNC-50-2-9/133_NE	22641732	U2 (RG 316/U)	single	9068	1 A	1
21_BNC-50-2-10/133_NE	22641779	U4 (K 02252 D)	single	9068	1 A	1
21_BNC-50-3-2/133_NE	22540242	U7 (RG 58 C/U)	single	3015	2 B	2
21_BNC-50-3-9/133_NE	22540255	U9 (RG 223/U)	single	3015	2 B	2

### Straight bulkhead cable jacks (female)

> for semi-rigid cables

> cable entry soldered

> insulating washers see page 408

> with panel seal

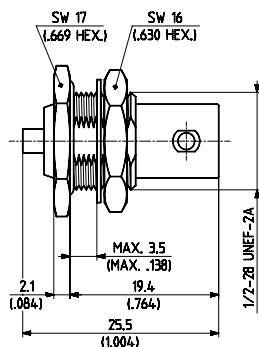


Fig. 1

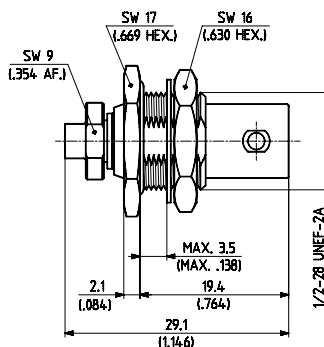
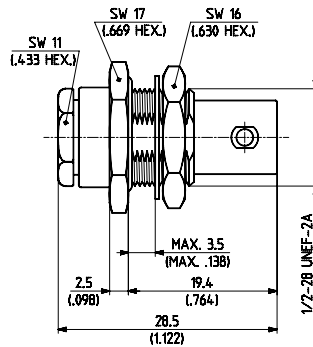


Fig. 2

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole	Fig.
24_BNC-50-2-20/133_NE	22641886	Y3, Y11 (EZ 86)	single	9100	ML 4	1
24_BNC-50-3-33/133_NE	22641923	Y5, Y12 (EZ 141)	single	9005	ML 4	2

> for flexible cables

- > cable entry clamp
- > with panel seal
- > insulating washers see page 408



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole
24_BNC-50-1-1/133_NE	22540362	U1 (RG 178 B/U)	single	3005	ML 4
24_BNC-50-2-1/133_NE	22540365	U2 (RG 316/U)	single	3005	ML 4
24_BNC-50-3-5/133_NE	22540385	U7, 10 (RG 58C/U)	single	3005	ML 4

> for flexible cables

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

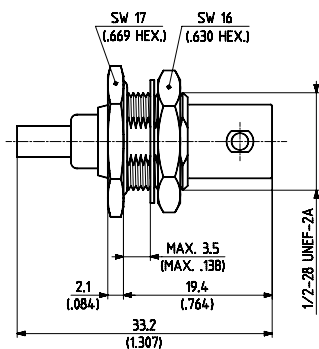


Fig. 1

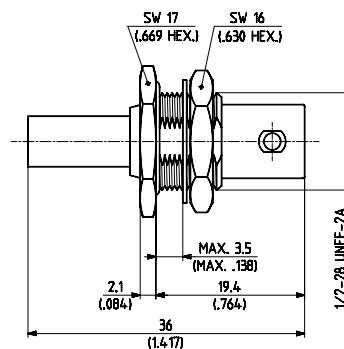
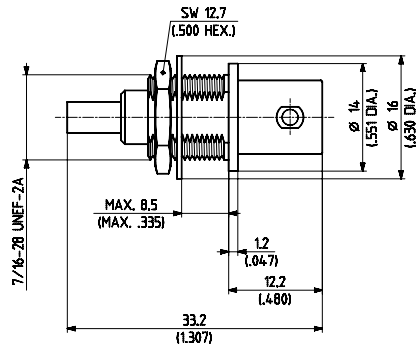


Fig. 2

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole	Crimp insert	Fig.
24_BNC-50-1-6/133_NE	22641781	U1 (RG 178 B/U)	single	9068 / ML 4	1 A	1
24_BNC-50-1-6/133_NH	84011438	U1 (RG 178 B/U)	bulk 100 pcs.	9068 / ML 4	1 A	1
24_BNC-50-2-13/133_NE	22641731	U2 (RG 316/U)	single	9068 / ML 4	1 A	1
24_BNC-50-2-13/133_NH	22645373	U2 (RG 316/U)	bulk 100 pcs.	9068 / ML 4	1 A	1
24_BNC-50-2-14/133_NE	22641783	U4 (K 02252 D)	single	9068 / ML 4	1 A	1
24_BNC-50-2-14/133_NH	22652154	U4 (K 02252 D)	bulk 100 pcs.	9068 / ML 4	1 A	1
24_BNC-50-3-1/133_NE	22540378	U7 (RG 58 C/U)	single	3015 / ML 4	2 B	2
24_BNC-50-3-8/133_NE	22540389	U9 (RG 223/U)	single	3015 / ML 4	2 B	2
24_BNC-50-3-25/133_NE	22658913	U11 (RG 400/U)	single	3015 / ML 4	2 B	2
24_BNC-50-3-25/133_NH	22660362	U11 (RG 400/U)	bulk 100 pcs.	3015 / ML 4	2 B	2

> for flexible cables

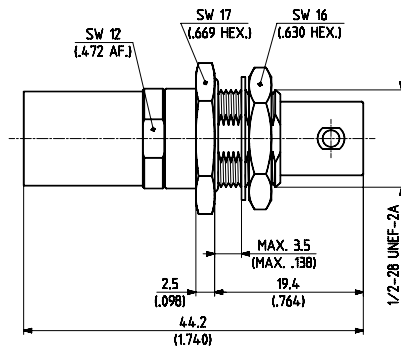
- > HUBER+SUHNER® full crimp
- > taper sleeves see page 406
- > front mounting
- > without panel seal



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole	Crimp insert
24_BNC-50-2-29/133_NE	22648682	U2 (RG 316/U)	single	9068 / ML 3	1 A

> for flexible cables

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



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole	Crimp insert
24_BNC-50-7-3/133_NE	22540415	U29 (RG 213/U)	single	9121 / ML 4	3 D

BNC 50

## Straight panel cable jacks (female)

### > for flexible cables

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

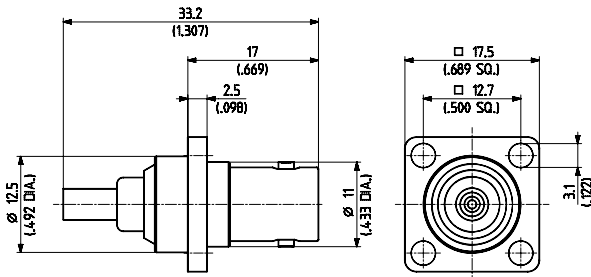


Fig. 1

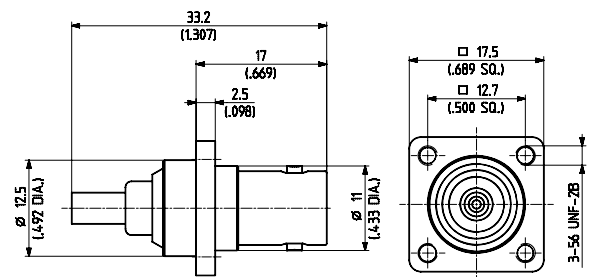


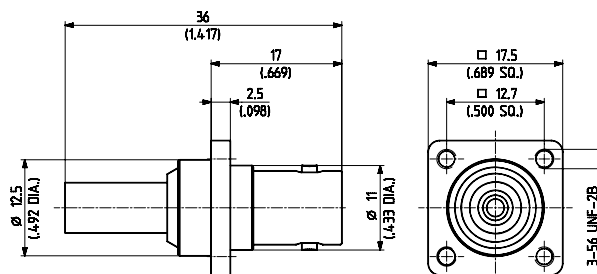
Fig. 2

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole	Crimp insert	Fig.
25_BNC-50-2-13/133_NE	22641919	U2 (RG 316/U)	single	9068 / ML 8	1 A	2*
25_BNC-50-2-14/133_NE	22641924	U2 (RG 316/U)	single	9068 / ML 8	1 A	1
25_BNC-50-2-16/133_NE	22641795	U4 (K 02252 D)	single	9068 / ML 8	1 A	1

\* mounting also possible with screws ISO M 2.5

### > for flexible cables

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



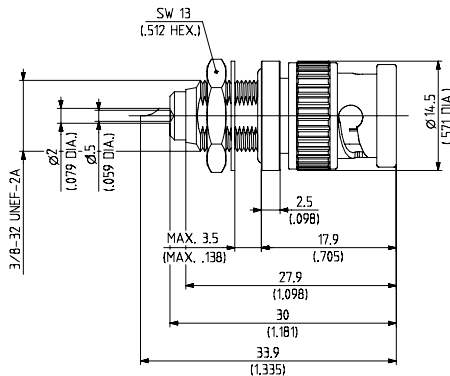
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole	Crimp insert	Notes
25_BNC-50-3-13/133_NE	22540463	U7 (RG 58 C/U)	single	3015 / ML 8	2 B	*

\* mounting also possible with screws ISO M 2.5

## RECEPTACLES WITH SOLDER END

### Receptacles, plugs (male)

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



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Panel thickness	Notes
12_BNC-50-0-1/133_NE	22540154	single	ML 2	max. 3.5 mm	with panel seal

### Receptacles, jacks (female)

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

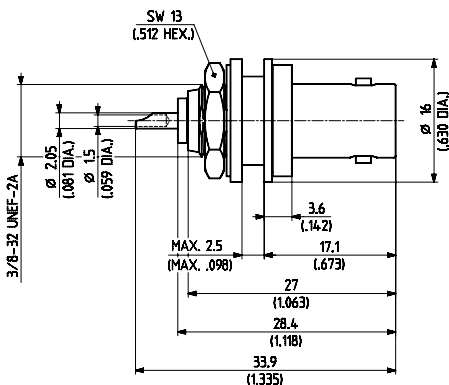


Fig. 1

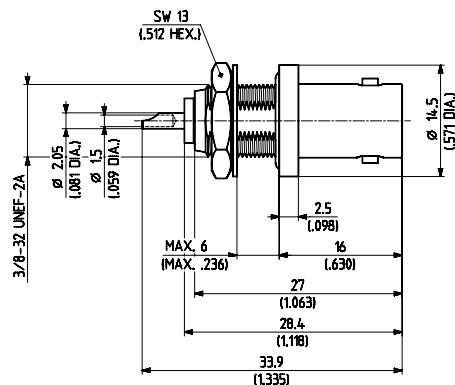


Fig. 2

HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Fig.	Notes
22_BNC-50-0-2/133_NE	22540293	single	ML 102	1	insulated mounting / *
22_BNC-50-0-3/133_NE	22540301	single	ML 1	2	with panel seal
22_BNC-50-0-3/133_NH	22645500	bulk 100 pcs.	ML 1	2	with panel seal

\* equipped with insulating washers 77\_Z0-0-2 (not protected against rotation)

## Receptacles, jacks (female)

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

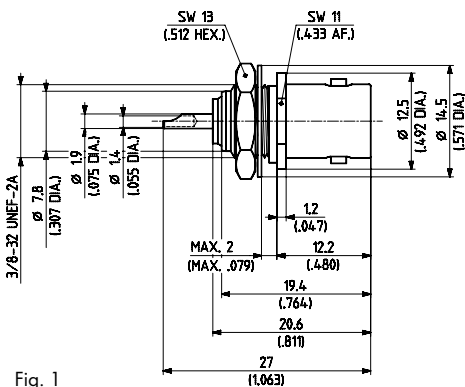


Fig. 1

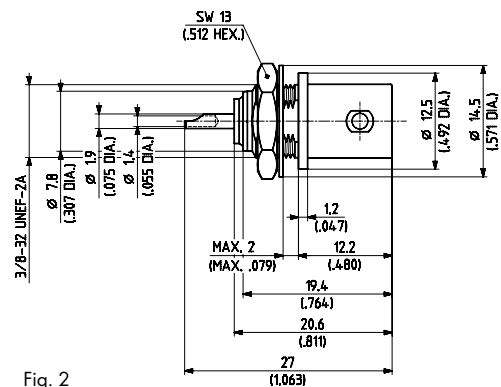


Fig. 2

H+S type	Item no.	Packaging	Mounting hole	Fig.	Notes
22_BNC-50-0-4/133_NE	22540303	single	ML 3	1	not suitable for insulated mounting
22_BNC-50-0-5/133_NE	22540308	single	ML 2	2	suitable for insulated mounting
22_BNC-50-0-5/133_NH	22650242	bulk 100 pcs.	ML 2	2	suitable for insulated mounting

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

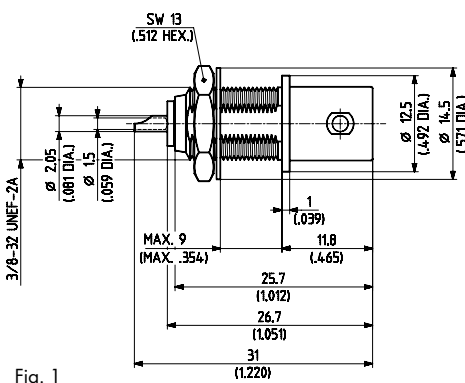


Fig. 1

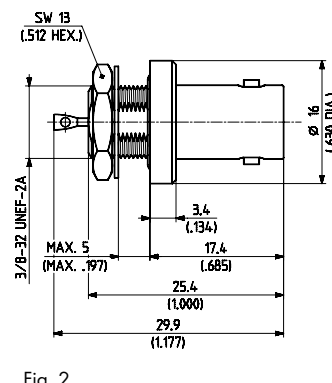


Fig. 2

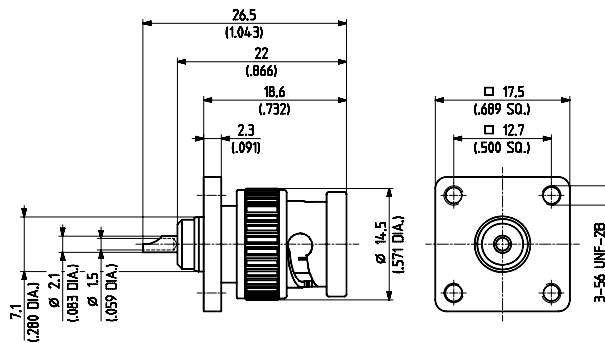
H+S type	Item no.	Packaging	Mounting hole	Fig.	Notes
22_BNC-50-0-16/133_NE	22540314	single	ML 2	1	suitable for insulated mounting
22_BNC-50-0-24/100_NE**	22540321	single	ML 2	2	hermetically sealed / body silver plated*

\* leak rate  $10^{-6}$  Torr l/sec.(atm cc/s) max.

\*\* RoHS compliant alternative on request

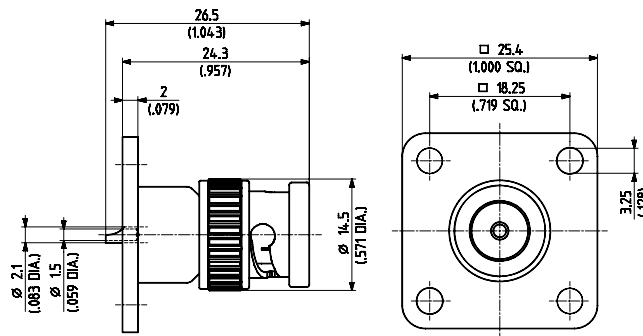
## Receptacles, plugs (male)

- > panel mounted
- > fastening screws see page 407



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
13_BNC-50-0-1/133_NE	22543470	single	ML 6	mounting also possible with screws ISO M 2.5

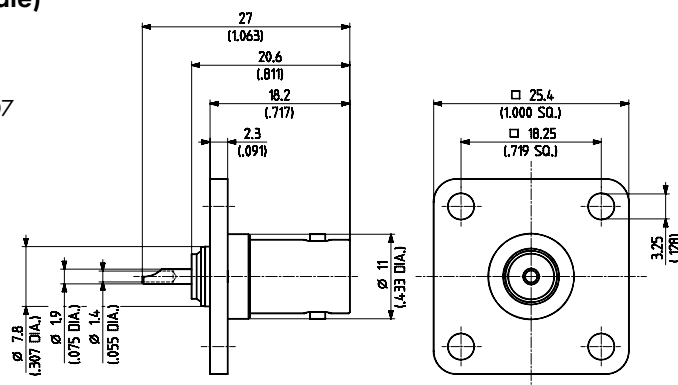
- > panel mounted
- > fastening screws see page 407



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
13_BNC-50-0-2/133_NE	22540160	single	ML 5	suitable for SUCOBOX® applications, see page 410

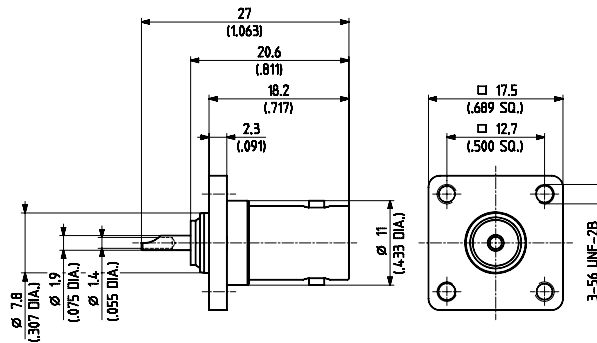
## Receptacles, jacks (female)

- > panel mounted
- > fastening screws see page 407



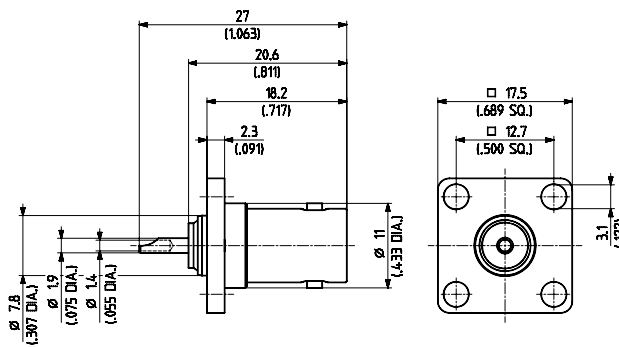
HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
23_BNC-50-0-2/133_NE	22540333	single	ML 5	suitable for SUCOBOX® applications, see page 410

- > panel mounted
- > fastening screws see page 407



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
23_BNC-50-0-12/133_NE	22540349	single	ML 6	mounting also possible with screws ISO M 2.5

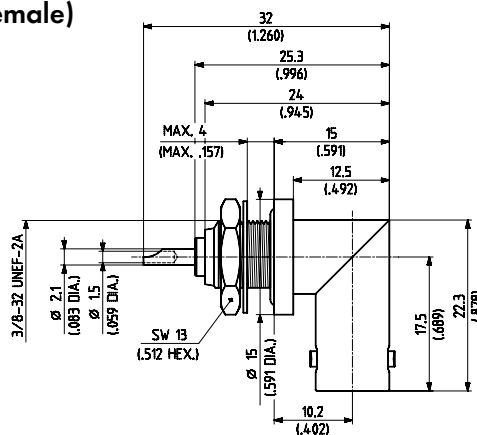
- > panel mounted
- > fastening screws see page 407



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
23_BNC-50-0-16/133_NE	22540355	single	ML 6	

### Right angle receptacles, jack (female)

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

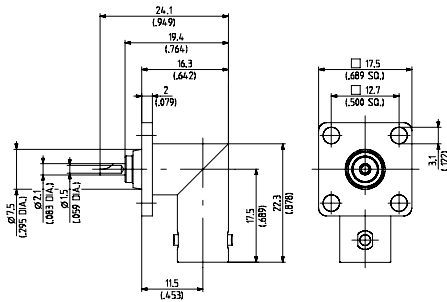


HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
27_BNC-50-0-1/133_NE	22540492	single	ML 2	



## Right angle receptacles, jack (female)

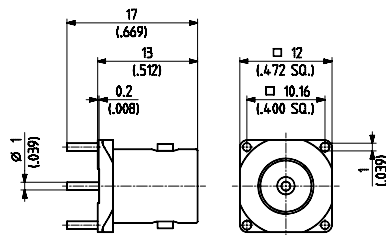
- > panel mounted
- > fastening screws see page 407



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
28_BNC-50-0-2/133_NE	22540500	single	ML 6	fastening hole d = 3.1 mm / .12 in.

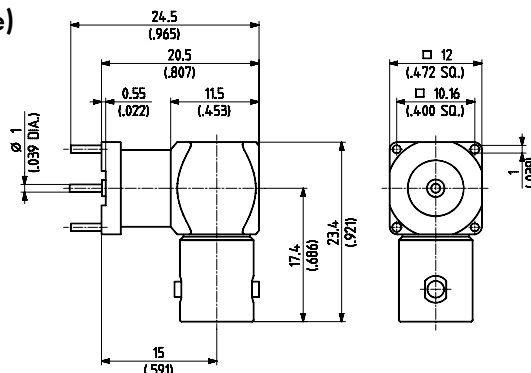
## PCB CONNECTORS

### Straight PCB jacks (female)



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
82_BNC-50-0-1/133_NE	22645779	single	ML 49	
82_BNC-50-0-1/133_NH	22543974	bulk 100 pcs.	ML 49	
82_BNC-50-0-1/111_NH	23012124	bulk 100 pcs.	ML 49	Plating body: SUCOPRO

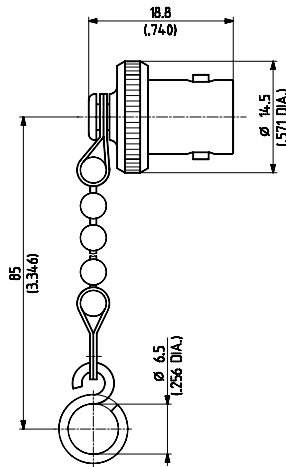
### Right angle PCB jacks (female)



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
85_BNC-50-0-1/133_NE	22540736	single	ML 49	
85_BNC-50-0-1/111_NE	23022540	single	ML 49	Plating body: SUCOPRO

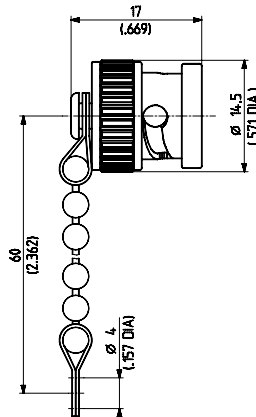
## PROTECTIVE CAPS AND SHORTS

> protective cap for plugs (males)



HUBER+SUHNER type	Item no.	Packaging	Notes
61_BNC-0-0-1/-33_E	22540660	single	with chain and loop

> for jacks (females)



HUBER+SUHNER type	Item no.	Packaging	Notes
62_BNC-0-0-1/-33_E	22540666	single	protective cap with chain
64_BNC-50-0-1/133_NE	22540681	single	short circuit with chain

> protective caps for jacks (females)

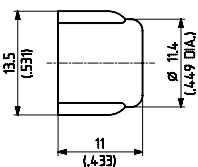


Fig. 1

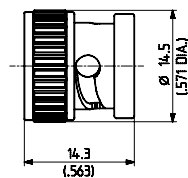


Fig. 2



HUBER+SUHNER type	Item no.	Packaging	Fig.	Notes
62_BNC-0-0-2/-_H	22540667	bulk 100 pcs.	1	made of plastic
62_BNC-0-0-3/-33_E	22540669	single	2	