

# Series BNC 50 Ω - coaxial miniature connectors

## Description

HUBER+SUHNER BNC is still a 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

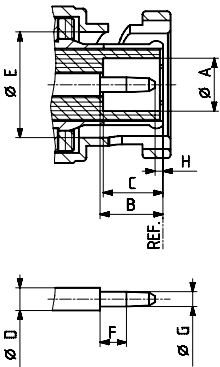
50 Ω BNC connectors and 75 Ω BNC connectors are intermateable without any restrictions.

## Content

Description	279
Compatibility	279
Interface dimensions in mm/inches	279
Technical data	280
Cable connectors	281
Receptacles with solder end	290
PCB connectors	295
Protective caps and shorts	296

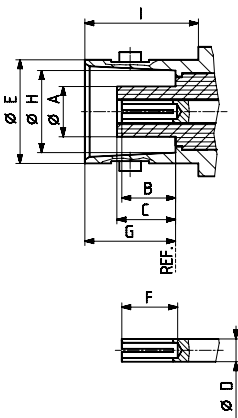
## Interface dimensions (mm/inches)

### Plug (male)



	Plug		Jack	
	min.	max.	min.	max.
A	4.83/0.190	-	-	4.72/0.186
B	5.33/0.210	5.84/0.230	4.72/0.186	5.23/0.206
C	5.28/0.208	5.79/0.228	4.78/0.188	5.28/0.208
D	2.06/0.081	2.21/0.087	2.06/0.081	2.21/0.087
E	9.78/0.385	9.91/0.390	9.60/0.378	9.70/0.382
F	1.98/0.078	-	4.95/0.195	-
G	1.32/0.052	1.37/0.054	8.31/0.327	8.51/0.335
H	0.08/0.003	-	8.10/0.319	8.15/0.321
I	-	-	10.52/0.414	-

### Jack (female)



### Interface dimensions conformable to the standards:

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

# Series BNC 50 Ω – technical data

Electrical data	Requirements
Impedance	50 Ω
Frequency range	DC to 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	$\geq 5 \cdot 10^3$ MΩ
Contact resistance <ul style="list-style-type: none"> <li>• Centre contact</li> <li>• Outer contact</li> </ul>	$\leq 1.5$ mΩ $\leq 1$ mΩ
RF leakage (between 2 to 3 GHz)	$\geq 55$ dB

Mechanical data	Requirements
Coupling nut torque	7 to 28 Ncm/0.6 to 2.5 in lbs
Coupling nut retention force	$\geq 450$ N/101.2 lbs
Contact captivation	$\geq 27$ N/6.1 lbs
Cable retention force <sup>1)</sup>	see pages 32 - 37
Durability (matings)	$\geq 500$

Environmental data	Requirements
Temperature range	-65 to +165 °C/-85 to +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 parts	Material	Plating
Bodies	brass	SUCOPLATE®/SUCOPRO® gold plating
Pin contacts	brass	gold/SUCOPRO® gold plating
Socket contacts	copper-beryllium alloy copper alloy	gold/SUCOPRO® gold plating
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.

<sup>1)</sup> Value considers maximum load of the cables without irreversible variations of specifications.

# Series BNC 50 Ω - cable connectors

## Straight cable plugs (male)

For semi-rigid cables

- Cable entry soldered
- Centre contact soldered

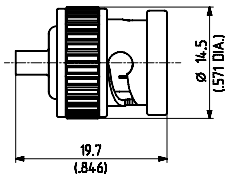


Fig. 1

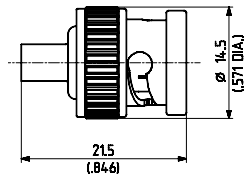


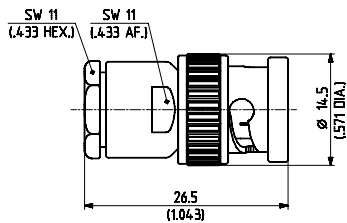
Fig. 2



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Fig.
11_BNC-50-2-20/103_NE <sup>1)</sup>	22641778	Y3, Y11, Y16 (EZ_86)	single	9100	1
11_BNC-50-3-54/103_NE <sup>1)</sup>	22540108	Y5, Y12, Y17 (EZ_141)		9106	2

For flexible cables

- Cable entry clamp
- Centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
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)		
11_BNC-50-3-1/133_NE <sup>1)</sup>	22540045	U7, U9 (RG_58_C/U)		3004
11_BNC-50-3-5/133_NE	22540054			3005

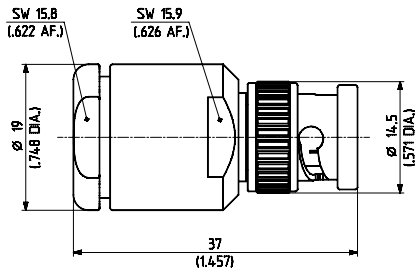
<sup>1)</sup> Centre contact NOT captivated.

# Series BNC 50 Ω - cable connectors

## Straight cable plugs (male)

For flexible cables

- Cable entry clamp
- Centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
11_BNC-50-7-1/133_NE	22540145	U29 (RG_213/U)	single	3008
11_BNC-50-7-2/133_NE	22540149	U32 (RG_214/U)		

For flexible cables

- HUBER+SUHNER full crimp
- Taper sleeves see page 526

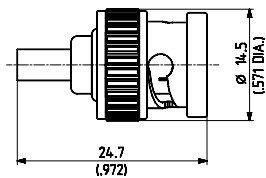


Fig. 1

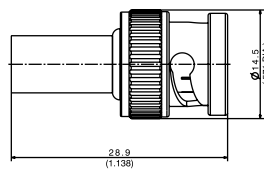


Fig. 2



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			
11_BNC-50-2-13/133_NH	22644716		bulk 100 pcs.			
11_BNC-50-2-14/133_NE	22641683	U4 (K_02252_D)	single			
11_BNC-50-2-14/133_NH	22649839		bulk 100 pcs.			
11_BNC-50-2-16/133_NE	22544026	U3 (G_01130_HT)	single	3015	2 B	2
11_BNC-50-2-16/133_NH	22648466		bulk 100 pcs.			
11_BNC-50-3-87/133_NE	84057578	U7 (RG_58_C/U)	single	27057	2 C	
11_BNC-50-3-87/133_NH	84057579		bulk 100 pcs.			
11_BNC-50-3-86/133_NE	84057576	U9 (RG_223/U)	single	3015	2 B	
11_BNC-50-3-86/133_NH	84057577		bulk 100 pcs.			
11_BNC-50-3-36/133_NE	22540089	U13 (G_03130-HT)	single	27057	2 C	
11_BNC-50-3-88/133_NE	84057580	U11, U41 (RG_400/U)	single			
11_BNC-50-3-88/133_NH	84057581		bulk 100 pcs.			
11_BNC-50-4-4/133_NE	22540115	U16 (RG_59 B/U)	single	27057	2 C	
11_BNC-50-4-4/133_NH	22648238		bulk 100 pcs.			

Cable groups see page 32

Assembly tools see page 509

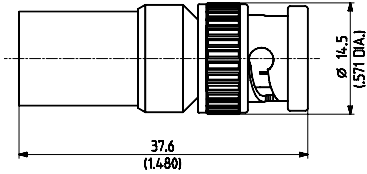
Mounting holes/PCB layouts see page 533

# Series BNC 50 Ω - cable connectors

## Straight cable plugs (male)

For flexible cables

- HUBER+SUHNER full crimp
- Taper sleeves see page 526

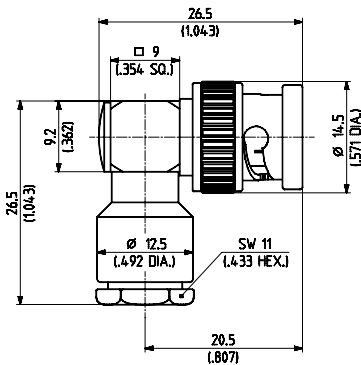


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
11_BNC-50-7-6/133_NE	22640863	U32, U43 (RG_214/U)	single	3061	3 D
11_BNC-50-7-7/133_NE	22543766	U29, U42 (RG_213/U)			

## Right angle cable plugs (male)

For flexible cables

- Cable entry clamp



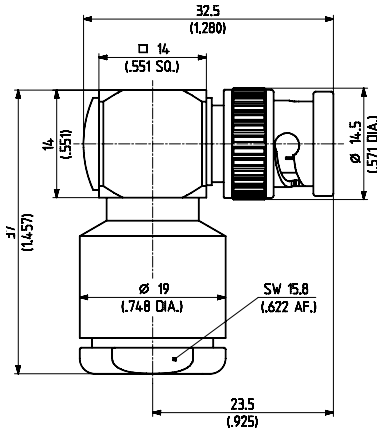
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
16_BNC-50-2-9/133_NE	84013192	U2 (RG_316_/U)	single	3024
16_BNC-50-3-25/133_NE	84013233	U7, U9 (RG_58_C/U)		

# Series BNC 50 Ω - cable connectors

## Right angle cable plugs (male)

For flexible cables

- Cable entry clamp



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
16_BNC-50-7-6/133_NE	22651588	U29 (RG_213/U) U32 (RG_214/U)	single	27121

For flexible cables

- Cable entry crimp
- Center contact soldered
- Taper sleeves see page 526

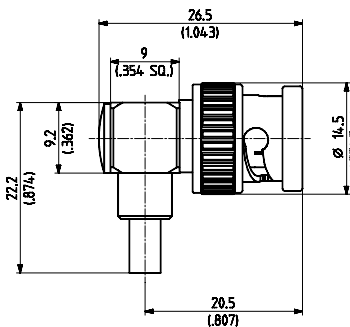


Fig. 1

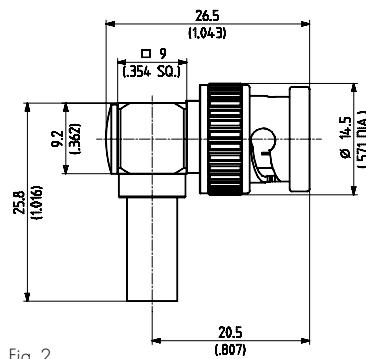


Fig. 2

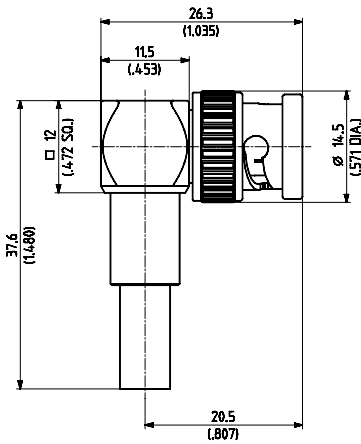
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Fig.
16_BNC-50-2-3/133_NE	22540168	U2 (RG_316_/U)	single	3079	A	1
16_BNC-50-2-3/133_NH	22648628		bulk 100 pcs.			
16_BNC-50-2-5/133_NE	22540169	U4 (K_02252_D)	single	3058	B	2
16_BNC-50-2-5/133_NH	22650221		bulk 100 pcs.			
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, U11; U39 (RG 400/U)	single			
16_BNC-50-3-7/133_NH	22650222		bulk 100 pcs.			

# Series BNC 50 Ω - cable connectors

## Right angle cable plugs (male)

For flexible cables

- HUBER+SUHNER full crimp
- Taper sleeves see page 526



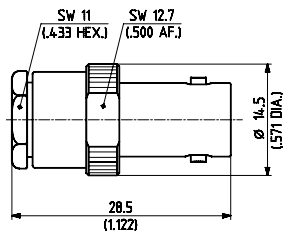
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
16_BNC-50-3-13/133_NE	22540198	U7 (RG_58_C/U)	single	3015	2 B

BNC 50 Ω

## Straight cable jacks (female)

For flexible cables

- Cable entry clamp



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
21_BNC-50-2-1/133_NE	22540228	U2 (RG_316_/U)	single	3005
21_BNC-50-3-12/133_NE	22540263	U7, U9 (RG_58_C/U)		

# Series BNC 50 Ω - cable connectors

## Straight cable jacks (female)

For flexible cables

- HUBER+SUHNER full crimp
- Taper sleeves see page 526

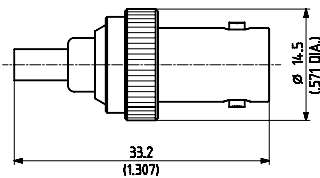


Fig. 1

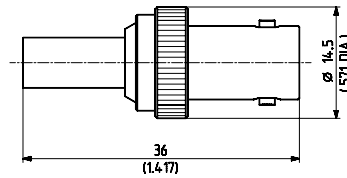


Fig. 2

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)				
21_BNC-50-2-10/133_NE	22641779	U4 (K_02252_D)				
21_BNC-50-3-27/133_NE	84057699	U7 (RG_58_C/U)		0000231215	2 B	2
21_BNC-50-3-28/133_NE	84057722	U9, U39 (RG_223/U)		0000231453		

## Straight bulkhead cable jacks (female)

For semi-rigid cables

- Cable entry soldered
- Insulating washers see page 528
- With panel seal

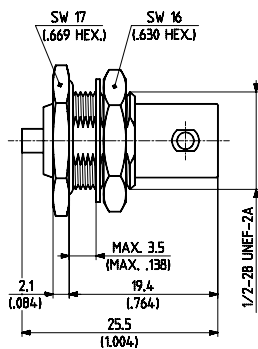


Fig. 1

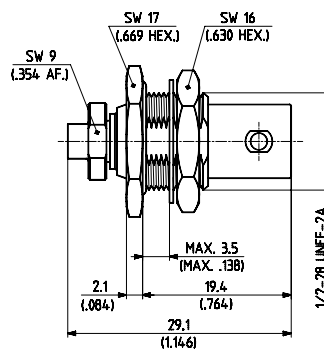


Fig. 2

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole	Fig.
24_BNC-50-2-20/133_NE	22641886	Y3, Y11, Y16 (EZ_86)	single	9100	ML4	1
24_BNC-50-3-33/133_NE	22641923	Y5, Y12, Y17 (EZ_141)		9005		

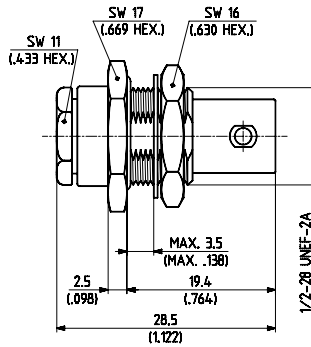


# Series BNC 50 Ω - cable connectors

## Straight bulkhead cable jacks (female)

### For flexible cables

- Cable entry clamp
- With panel seal
- Insulating washers see page 528



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)			
24_BNC-50-3-5/133_NE	22540385	U7, U9 (RG_58_C/U)			

### For flexible cables

- HUBER+SUHNER full crimp
- With panel seal
- Insulating washers see page 528
- Taper sleeves see page 526

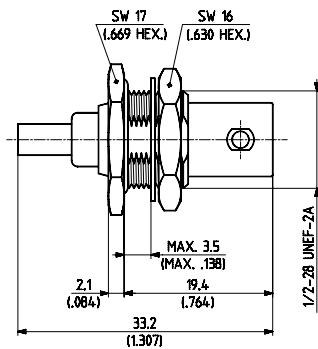


Fig. 1

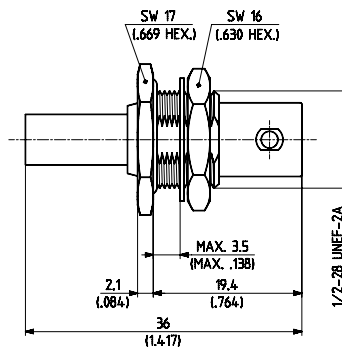


Fig. 2



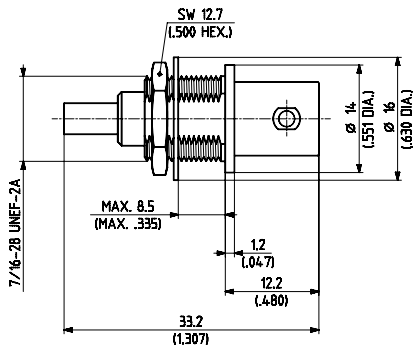
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction/ Mounting hole	Crimp insert	Fig.
24_BNC-50-1-6/133_NE	22641781	U1 (RG_178_B/U)	single	9068/ML 4	1 A	1
24_BNC-50-1-6/133_NH	84011438		bulk 100 pcs.			
24_BNC-50-2-45/133_NE	84057863	U2 (RG_316_/U)	single	3015/ML 4	2 B	2
24_BNC-50-2-45/133_NH	84057864		bulk 100 pcs.			
24_BNC-50-2-46/133_NE	84057872	U4 (K_02252_D)	single	3015/ML 4	2 B	2
24_BNC-50-2-46/133_NH	84057873		bulk 100 pcs.			
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			
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		bulk 100 pcs.			

# Series BNC 50 Ω - cable connectors

## Straight bulkhead cable jacks (female)

### For flexible cables

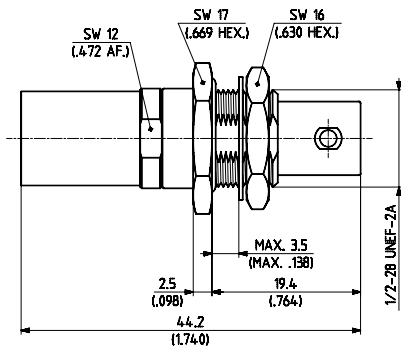
- HUBER+SUHNER full crimp
- Taper sleeves see page 526
- Front mounting
- Without panel seal



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	ML3	1 A

### For flexible cables

- HUBER+SUHNER full crimp
- With panel seal
- Insulating washers see page 528
- Taper sleeves see page 526



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole	Crimp insert
24_BNC-50-7-3/133_NE	22540415	U29, U42 (RG_213/U)	single	9121	ML4	3 D

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

# Series BNC 50 Ω - cable connectors

## Straight panel cable jacks (female)

For flexible cables

- HUBER+SUHNER full crimp
- Taper sleeves see page 526

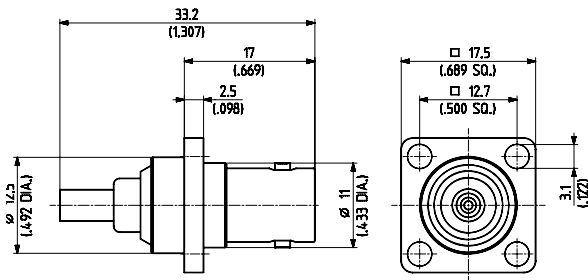


Fig. 1

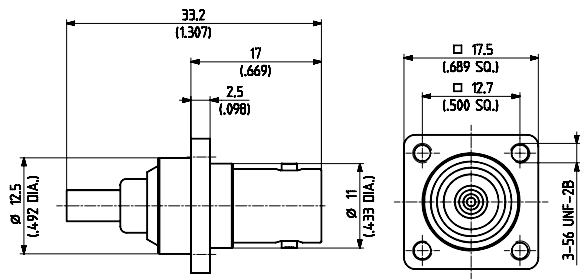


Fig. 2

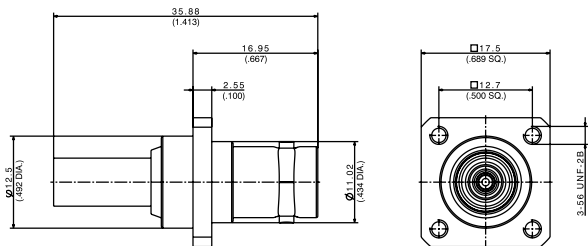


Fig. 3

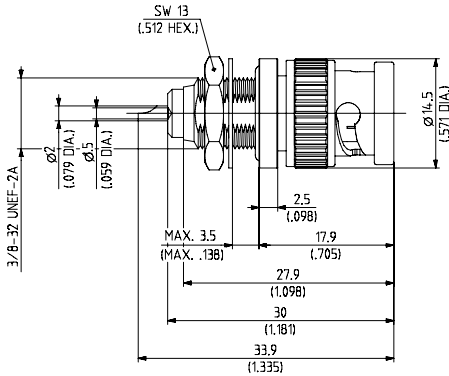
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole	Crimp insert	Fig.
25_BNC-50-2-13/133_NE	22641919	U2 (RG_316_/U)	single	9068	ML 8	1 A	2 <sup>1)</sup>
25_BNC-50-2-14/133_NE	22641924						1
25_BNC-50-2-16/133_NE	22641795	U4 (K_02252_D)		0000231565		2 B	3
25_BNC-50-3-39/133_NE	84057974	U7 (RG_58_C/U)					

<sup>1)</sup> Mounting also possible with screws ISO M 2.5.

# Series BNC 50 Ω – receptacles with solder end

## Receptacles, plugs (male)

- Bulkhead mounted
- Insulating washers see page 528
- Solder tags see page 529



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 528
- Solder tags see page 529

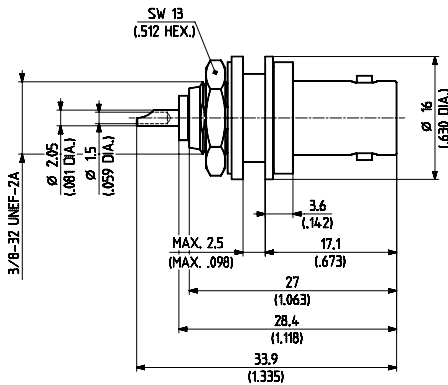


Fig. 1

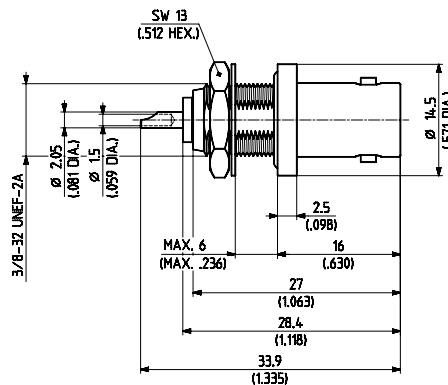


Fig. 2

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

<sup>1)</sup> equipped with insulating washers 77\_Z0-0-2 (not protected against rotation)

# Series BNC 50 Ω – receptacles with solder end

## Receptacles, jacks (female)

- Bulkhead mounted
- Insulating washers see page 528
- Solder tags see page 529

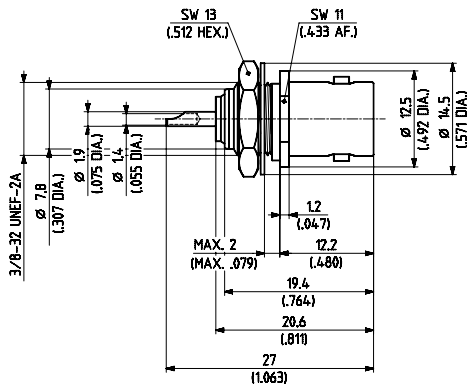


Fig. 1

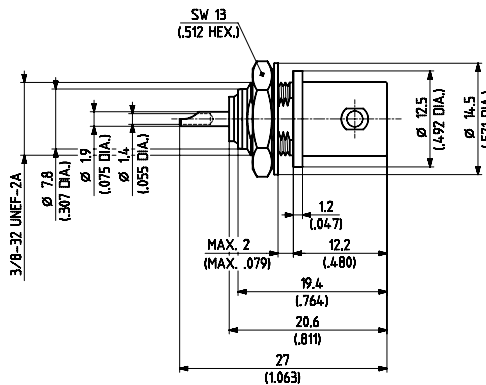


Fig. 2

HUBER+SUHNER 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 22_BNC-50-0-5/133_NH	22540308 22650242	single bulk 100 pcs.	ML 2	2	suitable for insulated mounting

- Bulkhead mounted
- Insulating washers see page 528
- Solder tags see page 529

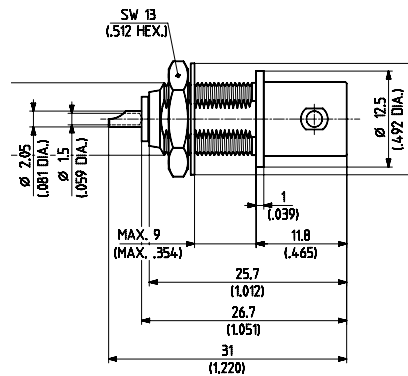


Fig. 1

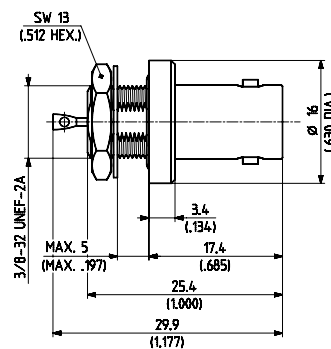


Fig. 2



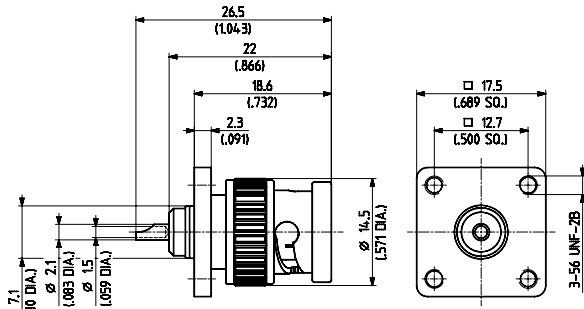
HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Fig.	Notes
22_BNC-50-0-16/133_NE	22540314	single	ML 2	1	suitable for insulated mounting
22_BNC-50-0-24/100_NE <sup>1)</sup>	22540321			2	hermetically sealed/body silver plated <sup>2)</sup>

<sup>1)</sup> RoHS compliant alternative on request  
<sup>2)</sup> Leakrate 10<sup>-6</sup> Torr l/sec.(atm cc/s) max.

# Series BNC 50 Ω - receptacles with solder end

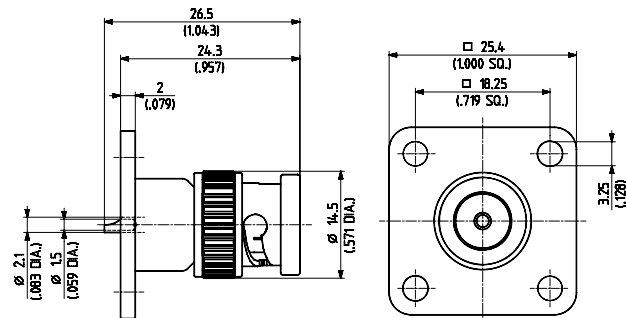
## Receptacles, plugs (male)

- Panel mounted



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

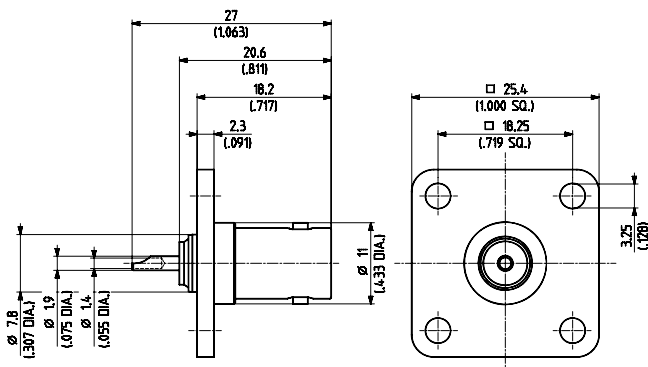
- Panel mounted



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 530

## Receptacles, jacks (female)

- Panel mounted

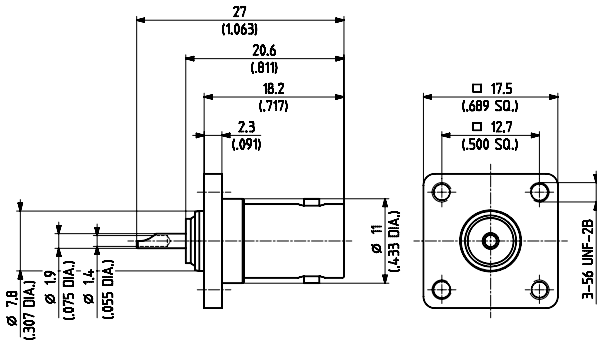


HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
23_BNC-50-0-2/133_NE	22540333	single	ML 5	suitable for Sucobox applications, see page 530

# Series BNC 50 Ω - receptacles with solder end

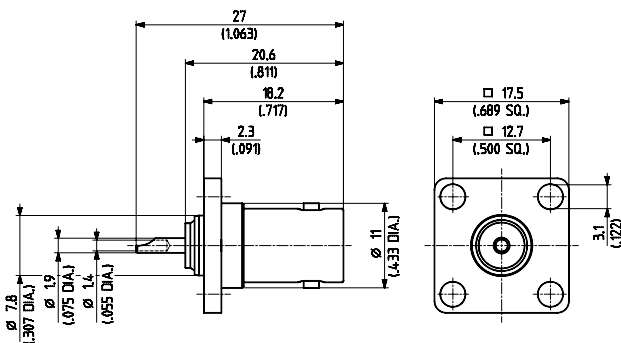
Receptacles, jacks (female)

- Panel mounted



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



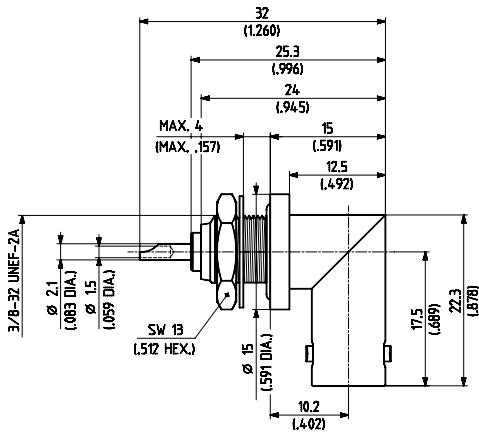
HUBER+SUHNER type	Item no.	Packaging	Mounting hole
23_BNC-50-0-16/133_NE	22540355	single	ML 6

BNC 50 Ω

# Series BNC 50 Ω - receptacles with solder end

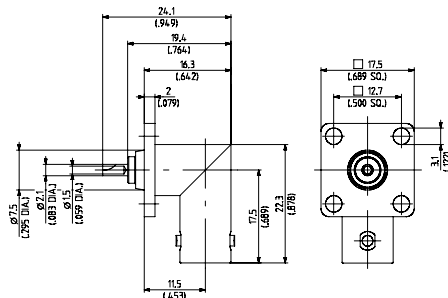
Right angle receptacles, jack (female)

- Bulkhead mounted
- With panel seal
- Insulating washers see page 528



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

- Panel mounted

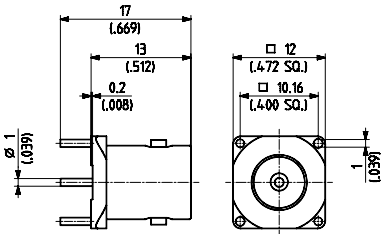


HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
28_BNC-50-0-2/133_NE	22540500	single	ML 6	fastening hole d = 3.1 mm/0.12 in



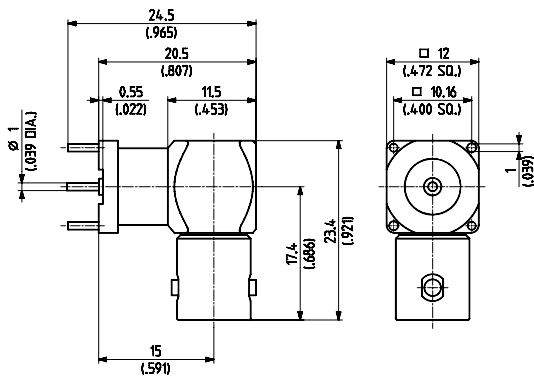
# Series BNC 50 Ω – PCB connectors

## Straight PCB jacks (female)



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

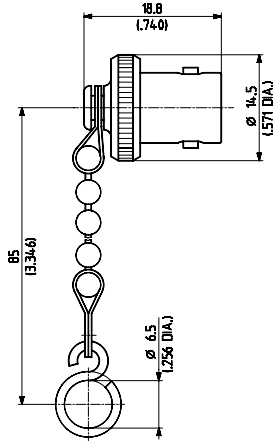
## Right angle PCB jacks (female)



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
85_BNC-50-0-1/133_NE	22540736	single	ML 49	plating body: SUCOPLATE®

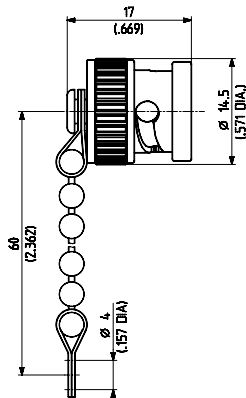
# Series BNC 50 Ω – protective caps and shorts

## Protective cap for plugs (male)



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

## Protective caps for jacks (female)



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		short circuit with chain

## Protective caps for jacks (female)

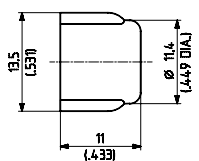


Fig. 1

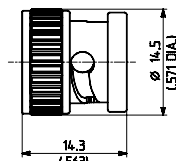


Fig. 2



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	