

Series BNC 75 Ω – coaxial miniature connectors

Description

HUBER+SUHNER BNC 75 Ω featuring a two stud bayonet coupling mechanism which is particularly useful for frequently coupled and uncoupled RF connections. At frequencies up to 1 GHz the small impedance deviation is negligible for most applications.

Compatibility

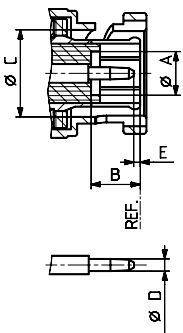
75 Ω BNC connectors and 50 Ω BNC connectors are intermateable without any restrictions.

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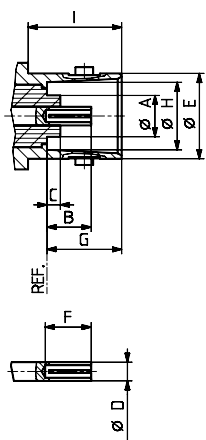
Interface dimensions (mm/inches)

Plug (male)



| | Plug | | Jack | |
|---|------------|------------|-----------------|------------|
| | min. | max. | min. | max. |
| A | 4.83/0.190 | 4.97/0.196 | - | 4.72/0.186 |
| B | 5.28/0.208 | 5.79/0.228 | 4.72/0.186 | 5.23/0.206 |
| C | 9.78/0.385 | 9.91/0.390 | 1.50/0.059 nom. | |
| D | 1.32/0.052 | 1.37/0.054 | 2.10/0.827 nom. | |
| E | 0.08/0.003 | 1.02/0.040 | 9.60/0.378 | 9.70/0.382 |
| F | - | 4.95/0.195 | - | - |
| G | - | 8.35/0.328 | 8.48/0.334 | - |
| H | - | - | 8.10/0.319 | 8.15/0.321 |
| I | - | - | 10.60/0.417 | - |

Jack (female)



Interface dimensions conformable to the standards:

International: IEC 61169-8

Series BNC 75 Ω – technical data

| Electrical data | Requirements |
|--|--|
| Impedance | 75 Ω |
| Frequency range | DC to 1 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"> • Centre contact • Outer contact | ≤ 1.5 mΩ ≤ 1 mΩ |
| RF leakage (measured at 1 GHz) | ≥ 55 dB |

| Mechanical data | Requirements |
|-------------------------------------|-------------------------------|
| Coupling nut torque | 7 to 28 Ncm/0.6 to 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 32 - 37 |
| Durability (matings) | ≥ 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.

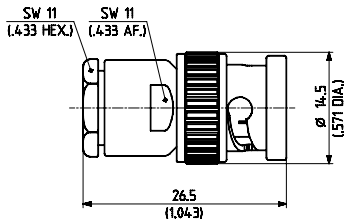
¹⁾ Value considers maximum load of the cables without irreversible variations of specifications.

Series BNC 75 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-75-2-1/133_NE | 22543768 | U5 (RG_187_A/U) | single | 3005 |
| 11_BNC-75-4-3/133_NE | 22540758 | U6 (RG_59_B/U) | | |

For flexible cables

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

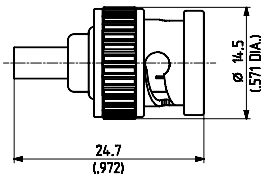


Fig. 1

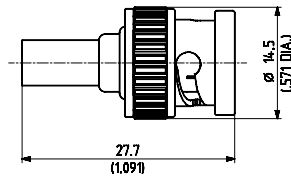


Fig. 2

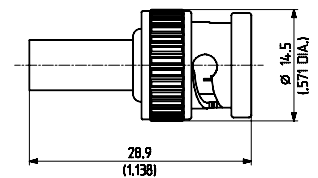


Fig. 3

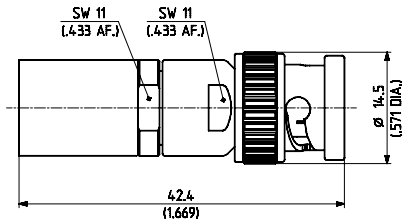
| HUBER+SUHNER type | Item no. | Cable group (example) | Packaging | Assembly instruction | Crimp insert | Fig. |
|-----------------------|----------|-----------------------|---------------|----------------------|--------------|------|
| 11_BNC-75-2-15/133_NE | 22641685 | U5 (RG_187_A/U) | single | 9068 | 1 A | 1 |
| 11_BNC-75-2-15/133_NH | 22644586 | | bulk 100 pcs. | | | |
| 11_BNC-75-2-21/133_NE | 22644358 | X12 (G_02133_D-05) | single | 27001 | 1/4.95 | 2 |
| 11_BNC-75-3-8/133_NE | 22540707 | U12 (G_03233) | single | | | |
| 11_BNC-75-3-9/133_NE | 22540709 | U14 (G_03233_D) | single | 3015 | 2 B | 3 |
| 11_BNC-75-4-4/133_NE | 22540761 | U16 (RG_59_B/U) | single | | | |
| 11_BNC-75-4-4/133_NH | 22544846 | | bulk 100 pcs. | | | |
| 11_BNC-75-4-6/133_NE | 22540765 | U18 (G_04233_D) | single | 2 C | | |
| 11_BNC-75-4-6/133_NH | 22540766 | | bulk 100 pcs. | | | |
| 11_BNC-75-4-30/133_NE | 22544636 | U17 (S_04263) | single | | | |

Series BNC 75 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-75-7-5/133_NE | 22540811 | U34 (RG_11_A/U) | single | 9120 | 2D |
| 11_BNC-75-7-6/133_NE | 22543960 | U36 (RG_216/U) | | | |

Right angle cable plugs (male)

For flexible cables

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

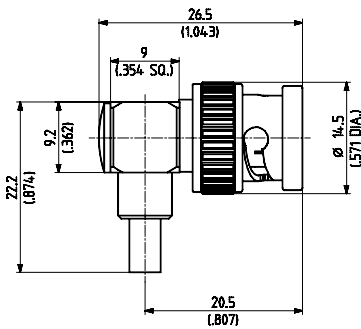


Fig. 1

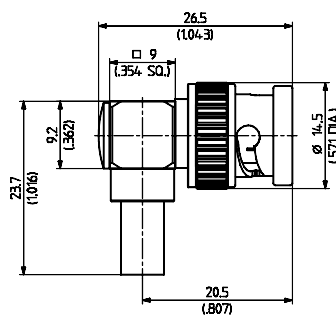


Fig. 2



| HUBER+SUHNER type | Item no. | Cable group (example) | Packaging | Assembly instruction | Crimp insert | Fig. |
|----------------------|----------|-----------------------|-----------|----------------------|--------------|------|
| 16_BNC-75-2-3/133_NE | 22540820 | U5 (RG_187_A/U) | single | 3079 | A | 1 |
| 16_BNC-75-4-4/133_NE | 22540840 | U16 (RG_59_B/U) | | 3058 | C | 2 |

Series BNC 75 Ω – cable connectors

Straight cable jacks (female)

For flexible cables

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

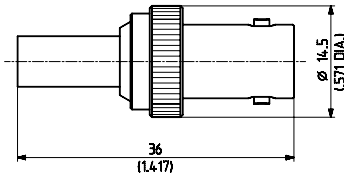


Fig. 1

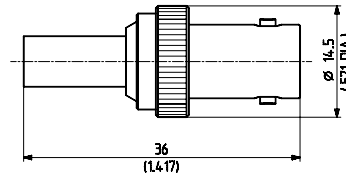


Fig. 2

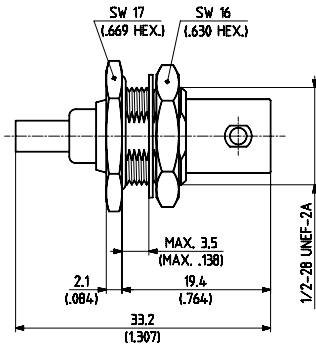


| HUBER+SUHNER type | Item no. | Cable group (example) | Packaging | Assembly instruction | Crimp insert | Fig. |
|----------------------|----------|-----------------------|-----------|----------------------|--------------|------|
| 21_BNC-75-2-5/133_NE | 22641780 | U5 (RG_187_A/U) | single | 9068 | 1A | 1 |
| 21_BNC-75-4-4/133_NE | 22540872 | U16 (RG_59_B/U) | single | 3015 | 2 C | 2 |

Straight bulkhead cable jacks (female)

For flexible cables

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



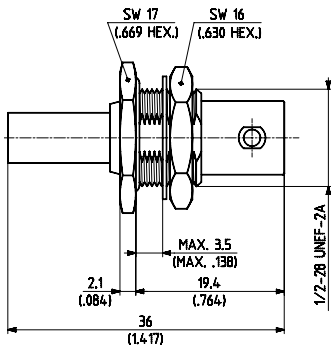
| HUBER+SUHNER type | Item no. | Cable group (example) | Packaging | Assembly instruction | Mounting hole | Crimp insert |
|----------------------|----------|-----------------------|---------------|----------------------|---------------|--------------|
| 24_BNC-75-2-6/133_NE | 22641786 | U5 (RG_187_A/U) | single | 9068 | ML4 | 1A |
| 24_BNC-75-2-6/133_NH | 22644569 | | bulk 100 pcs. | | | |

Series BNC 75 Ω - cable connectors

Straight bulkhead cable jacks (female)

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-75-4-3/133_NE | 22540930 | U16 (RG_59_B/U) | single | 3015 | ML 4 | 2 C |

Straight panel cable jacks (female)

For flexible cables

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

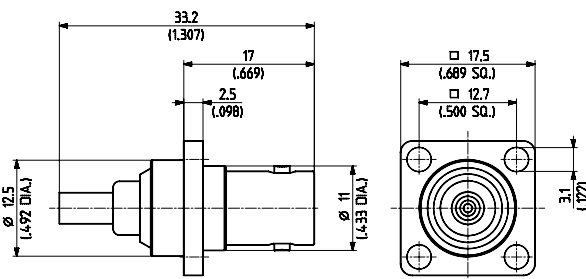


Fig. 1

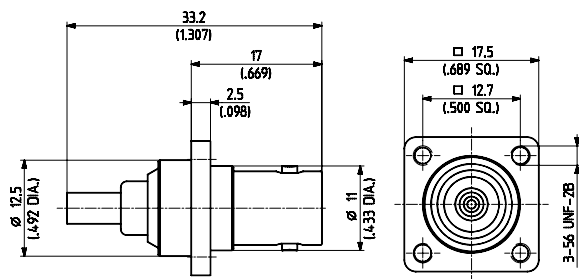


Fig. 2

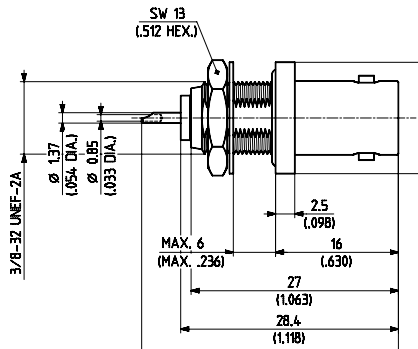
| HUBER+SUHNER type | Item no. | Cable group (example) | Packaging | Assembly instruction | Crimp insert | Fig. |
|----------------------|----------|-----------------------|-----------|----------------------|--------------|-----------------|
| 25_BNC-75-2-7/133_NE | 22641790 | U5 (RG_187_A/U) | single | 9068 | 1 A | 1 |
| 25_BNC-75-2-8/133_NE | 22641791 | | | | | 2 ¹⁾ |

¹⁾ mounting also possible with screws ISO M 2.5

Series BNC 75 Ω – receptacles with solder end

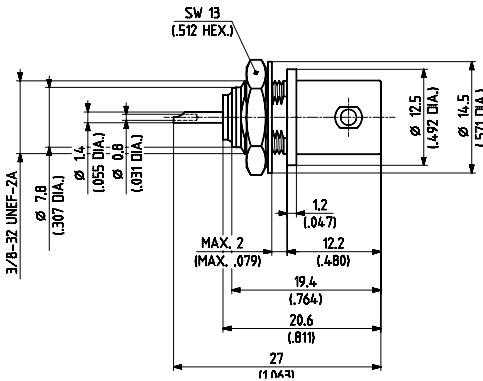
Receptacles, jacks (female)

- Bulkhead mounted
- With panel seal
- Solder tags see page 529
- Insulating washers see page 528



| HUBER+SUHNER type | Item no. | Packaging | Mounting hole |
|----------------------|----------|-----------|---------------|
| 22_BNC-75-0-1/133_NE | 22540883 | single | ML 1 |

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



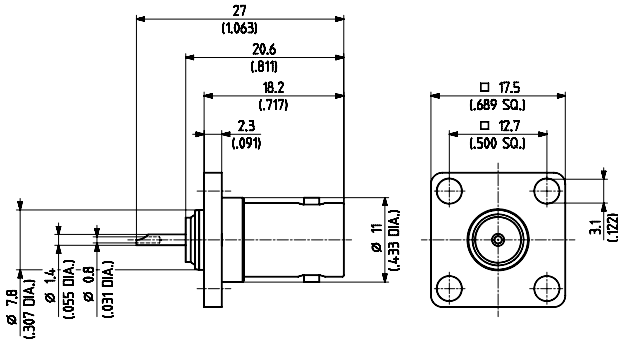
| HUBER+SUHNER type | Item no. | Packaging | Mounting hole | Notes |
|----------------------|----------|-----------|---------------|--------------------|
| 22_BNC-75-0-4/133_NE | 22540889 | single | ML 2 | without panel seal |

BNC 75 Ω

Series BNC 75 Ω – receptacles with solder end

Receptacles, jacks (female)

- Panel mounted

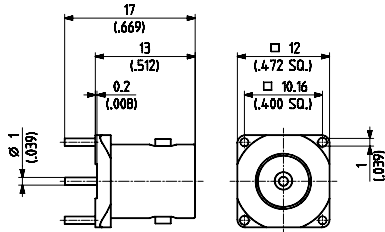


| HUBER+SUHNER type | Item no. | Packaging | Mounting hole |
|-----------------------|----------|-----------|---------------|
| 23_BNC-75-0-10/133_NE | 22540906 | single | ML 6 |

BNC 75 Ω

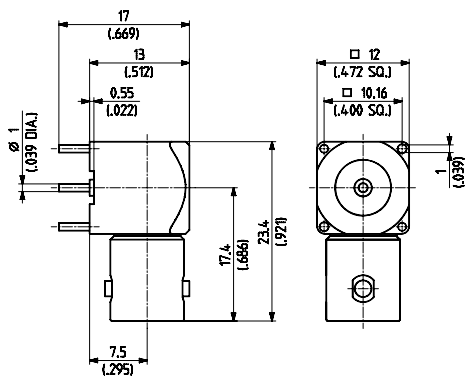
Series BNC 75 Ω – PCB connectors

Straight PCB jacks (female)



| HUBER+SUHNER type | Item no. | Packaging | Mounting hole | Plating body |
|----------------------|----------|---------------|---------------|--------------|
| 82_BNC-75-0-2/122_NE | 22643586 | single | ML 49 | nickel |
| 82_BNC-75-0-2/122_NH | 22646624 | bulk 100 pcs. | | |

Right angle PCB jacks (female)

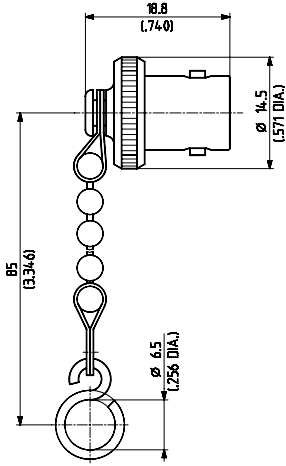


| HUBER+SUHNER type | Item no. | Packaging | Mounting hole |
|----------------------|----------|---------------|---------------|
| 85_BNC-75-0-1/133_NE | 22641623 | single | ML 49 |
| 85_BNC-75-0-1/133_NH | 22646488 | bulk 100 pcs. | |

BNC 75 Ω

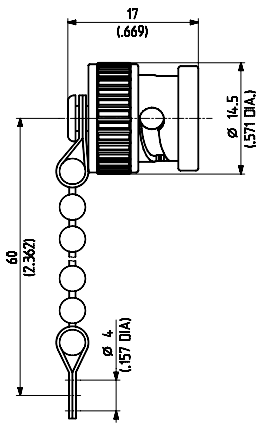
Series BNC 75 Ω – protective caps and shorts

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 cap for jacks (female)



| HUBER+SUHNER type | Item no. | Packaging | Notes |
|---------------------|----------|-----------|------------|
| 62_BNC-0-0-1/-33_-E | 22540666 | single | with chain |

Series BNC 75 Ω – protective caps and shorts

Protective caps for jacks (female)

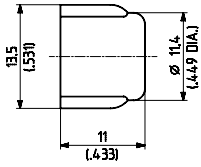


Fig. 1

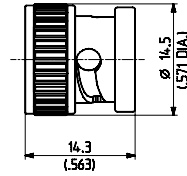


Fig. 2



| 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 | |



Series BNC "real" 75 Ω connectors

Description

"Real" 75 Ω BNC connectors are suitable for applications up to 3 GHz, contrary to the conventional 75 Ω BNC connector types, which are applicable up to 1 GHz only. With our HUBER+SUHNER full crimp technique, they can be assembled quick and easy to all convenient cable types. Thanks to good electrical properties they are suitable for different applications, such as broadcast, telecommunication, etc.

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Compatibility

Mechanically they are mateable with all conventional BNC connectors (50 Ω and 75 Ω).

Properties

- True 75 Ω impedance
- DC to 3 GHz
- Good return loss properties

Benefits

- Fast and easy mounting (HUBER+SUHNER full crimp)
- Intermateable with standard BNC 50 Ω and BNC 75 Ω connectors



Series BNC "real" 75 Ω - technical data

| Electrical data | Requirements |
|--|--|
| Impedance | 75 Ω |
| Frequency range | DC to 3 GHz |
| Return loss | see table below |
| 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 conductor | $\leq 1.5 \text{ m}\Omega$ |
| • Outer conductor | $\leq 1.0 \text{ m}\Omega$ |

| Connector type | Typical RL (dB) values | | | Cable |
|--|------------------------|-------|-------|-------------------------|
| | 1 GHz | 2 GHz | 3 GHz | |
| Straight cable plugs (11_BNC-75-..) | 30 | 28 | 24 | Draka 0.6/2.8 |
| | 30 | 28 | 24 | Draka 0.8/3.7 AF |
| | 30 | 28 | - | G_04233_D ¹⁾ |
| | 30 | 28 | 24 | Draka 1.0/4.8 AF |
| Right angle cable plug (16_BNC-75-..) | 28 | 21 | - | G_04233_D ¹⁾ |
| Straight bulkhead cable jacks (24_BNC-75-..) | 35 | 24 | 24 | Draka 0.8/3.7 AF |
| | 30 | 25 | - | G_04233_D ¹⁾ |
| | 35 | 26 | 24 | Draka 1.0/4.8 AF |

| Mechanical data | Requirements |
|------------------------------|--|
| Coupling nut torque | 7 to 28 Ncm/0.6 to 2.5 in lbs |
| Coupling nut retention force | $\geq 450 \text{ N}/101.2 \text{ lbs}$ |
| Contact captivation | $\geq 27 \text{ N}/6.1 \text{ lbs}$ |
| Durability (matings) | 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 |

¹⁾ For applications up to 2 GHz

Series BNC "real" 75 Ω - technical data

| Material data | | |
|-----------------|------------------------|----------------------------|
| Connector part | Material | Plating |
| Bodies | brass/spring bronze | SUCOPLATE® |
| Pin contacts | brass | gold/SUCOPRO® gold plating |
| Socket contacts | copper-beryllium alloy | gold/SUCOPRO® gold plating |
| Crimp ferrules | copper | SUCOPLATE® |
| Insulators | PTFE or PFA | |
| Gaskets | silicon rubber | |

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

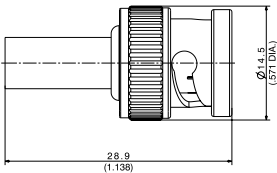
The products are designed and guaranteed to pass the above mentioned test procedures. Any additional or different requirement arising from specific applications or environmental conditions which is not covered by these test procedures is subject to request.

Series BNC "real" 75 Ω - cable connectors

Straight cable plugs (male)

For flexible cables

- Cable entry clamp
- HUBER+SUHNER full crimp

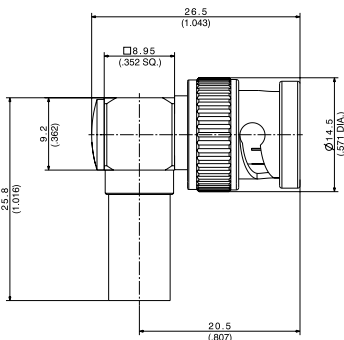


| HUBER+SUHNER type | Item no. | Cable group (example) | Packaging | Assembly instruction | Crimp insert ¹⁾ |
|-----------------------|----------|-----------------------|-----------|----------------------|----------------------------|
| 11_BNC-75-3-38/133_NE | 84070521 | Draka 0.6/2.8 | single | 0000270344 | 76_Z-0-3-26 |
| 11_BNC-75-4-40/133_NE | 84112535 | U18 (G_04233_D) | | 0000270231 | 76_Z-0-4-24 |
| 11_BNC-75-5-20/133_NE | 84070641 | Draka 1.0/4.8 AF | | 0000270280 | 76_Z-0-5-22 |

Right angle cable plugs (male)

For flexible cables

- Cable entry crimp
- Center contact soldered



| HUBER+SUHNER type | Item no. | Cable group (example) | Packaging | Assembly instruction | Crimp insert ¹⁾ |
|-----------------------|----------|-----------------------|-----------|----------------------|----------------------------|
| 16_BNC-75-4-14/133_NE | 84135532 | U18 (G_04233_D) | single | 3058 | 76_Z-0-4-24 |

¹⁾ Suitable for the large HUBER+SUHNER crimping tool

Series BNC "real" 75 Ω - cable connectors

Straight bulkhead cable jacks (female)

For flexible cables

- HUBER+SUHNER full crimp
- Mounting hole ML 4
- Panel thickness max. 3.5 mm

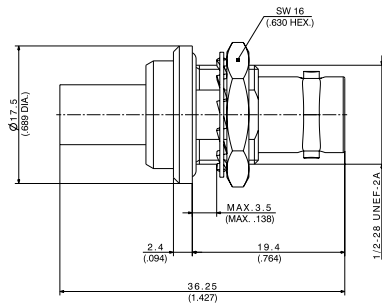


Fig. 1

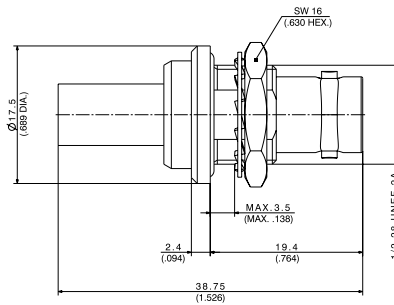


Fig. 2

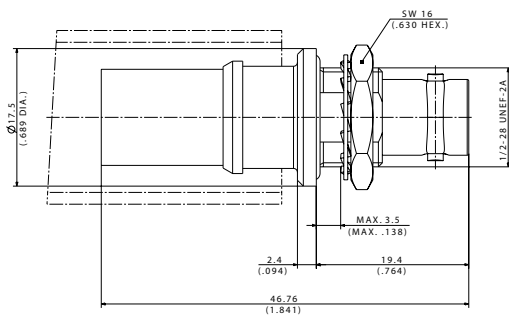


Fig. 3

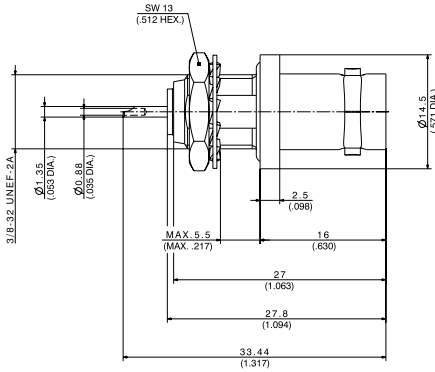
| HUBER+SUHNER type | Item no. | Cable group (example) | Packaging | Assembly instruction | Crimp insert ¹⁾ | Fig. |
|-----------------------|----------|-----------------------|-----------|----------------------|----------------------------|------|
| 24_BNC-75-4-18/133_NE | 84135127 | Draka 0.8/3.7 AF | single | 0000365601 | 76_Z-0-4-24 | 1 |
| 24_BNC-75-4-19/133_NE | 84135191 | U18 (G_04233_D) | | 0000365657 | 76_Z-0-4-24 | 2 |
| 24_BNC-75-5-7/133_NE | 84135216 | Draka 1.0/4.8 AF | | 0000365714 | 76_Z-0-5-22 | |
| 24_BNC-75-7-5/133_NE | 85025799 | (X33) SPUMA_400-FR-75 | | 0000468773 | 76_Z-0-7-1 | 3 |

¹⁾ Suitable for the large HUBER+SUHNER crimping tool

Receptacles with solder end

Receptacles, jacks (female)

- Bulkhead mounted
- Flange with O-ring



| HUBER+SUHNER type | Item no. | Packaging | Mounting hole | Panel thickness |
|-----------------------|----------|-----------|---------------|-----------------|
| 22_BNC-75-0-16/133_NE | 84135058 | single | ML 1 | 5.5 mm max. |

BNC
«real» 75 Ω