



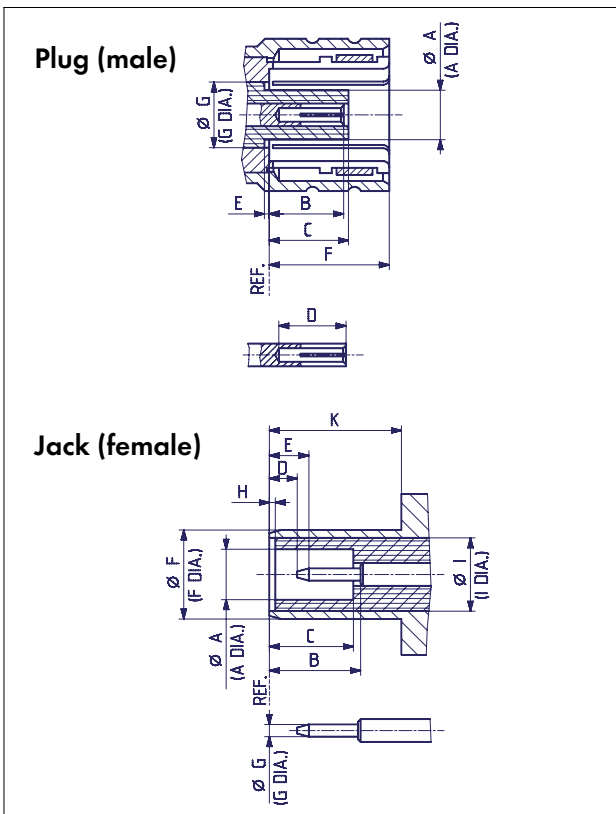
SERIES SMS, SUBMINIATURE CONNECTORS

DESCRIPTION

HUBER+SUHNER SMS connectors are used in applications requiring rapid connection and disconnection, even where space is limited. The small physical size of the connector allows a high packing density to be achieved. These connectors are suitable for applications up to 4 GHz.

The SMB, SMC and SMS series have an identical inner construction, but a different coupling mechanism. In accordance with the international specifications, plugs are fitted with female center contacts and jacks with male center contacts. To increase the voltage rating, all insulators overlap.

INTERFACE DIMENSIONS



CONTENTS

PAGE

| | |
|-------------------------------------|-----|
| Description | 109 |
| Interface dimensions | 109 |
| Interface dimensions in mm / inches | 109 |
| Technical data | 110 |
| Cable connectors | 112 |
| Receptacles with solder end | 113 |
| PCB connectors | 113 |

SMS

INTERFACE DIMENSIONS (MM / INCHES)

| | Plug | | Jack | |
|---|----------------|-----------|----------------|-----------|
| | min. | max. | min. | max. |
| A | – | 2.06/.081 | 2.08/.082 | – |
| B | 2.85/.112 | 3.40/.134 | 3.40/.134 | – |
| C | – | 3.40/.134 | 3.40/.134 | – |
| D | 2.79/.110 | – | 0.61/.024 | – |
| E | 0.00/.000 | – | – | 2.13/.084 |
| F | – | 5.20/.205 | 3.66/.144 | 3.71/.146 |
| G | 3.05/.120 nom. | | 0.48/.019 | 0.53/.021 |
| H | – | – | 0.00/.000 | – |
| I | – | – | 3.05/.120 nom. | |
| K | – | – | 5.30/.209 | – |

Note: HUBER+SUHNER SMS plugs are interchangeable with HUBER+SUHNER SMB jacks without any restrictions.

IP rating (interface, mated) IP50

TECHNICAL DATA

| ELECTRICAL DATA | REQUIREMENTS |
|---|--|
| Impedance | 50 Ω |
| Frequency range | DC ... 4 GHz |
| Dielectric withstanding voltage (at sea level) | 750 V rms, 50 Hz (depending on cable) |
| Working voltage (at sea level) | 250 V rms for cables with 1 mm / 0.039 in. dielectric 335 V rms for cables with 2 mm / 0.078 in. dielectric |
| Insulation resistance | $\geq 10^4$ M Ω |
| Contact resistance - centre contact - outer contact | ≤ 5 m Ω ≤ 2.5 m Ω |
| RF-leakage (measured at 1 GHz) | ≥ 55 dB |

| MECHANICAL DATA | REQUIREMENTS |
|-------------------------------------|------------------------|
| Engagement force | typ. 8 N / 1.8 lbs |
| Disengagement force | typ. 5 N / 1.1 lbs |
| Contact captivation | ≥ 10 N / 2.25 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 D |

| MATERIAL DATA | | |
|-----------------|------------------------|---------|
| CONNECTOR PARTS | MATERIAL | PLATING |
| Bodies | brass | gold |
| Pins contacts | brass | gold |
| Socket contacts | copper-beryllium alloy | gold |
| Crimp ferrules | copper / brass | gold |
| Springs | copper-beryllium alloy | gold |
| Insulators | PTFE or PFA | |

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

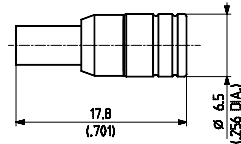
The products are designed and guaranteed to pass the above mentioned test procedures. Any additional or different requirement arising from specific applications or environmental conditions which is not covered by these test procedures is subject to request.

CABLE CONNECTORS

Straight cable plugs (male)

> for flexible cables

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

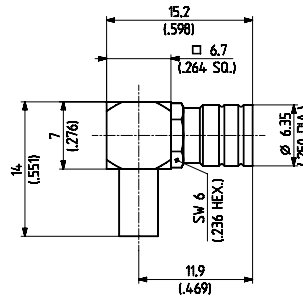


| HUBER+SUHNER type | Item no. | Cable group (example) | Packaging | Assembly instruction | Crimp insert |
|------------------------|----------|-----------------------|---------------|----------------------|--------------|
| 11_SMS-50-1-10/111_NE | 22543572 | U1 (RG 178 B/U) | single | 3077 | 1 A |
| 11_SMS-50-2-110/111_NH | 23011901 | U2 (RG 316/U) | bulk 100 pcs. | 3077 | 1 A |

Right angle cable plugs (male)

> for flexible cables

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

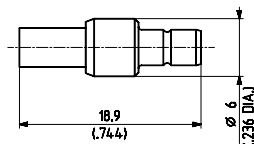


| HUBER+SUHNER type | Item no. | Cable group (example) | Packaging | Assembly instruction | Crimp insert |
|-----------------------|----------|-----------------------|---------------|----------------------|--------------|
| 16_SMS-50-1-10/111_NH | 22649894 | U1 (RG 178 B/U) | bulk 100 pcs. | 3096 | 1 A |
| 16_SMS-50-2-10/111_NE | 22543574 | U2 (RG 316/U) | single | 3096 | 1 A |

Straight cable jacks (female)

> 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 | Notes |
|-----------------------|----------|-----------------------|---------------|----------------------|--------------|-------|
| 21_SMB-50-1-10/111_NE | 22543424 | U1 (RG 178 B/U) | single | 3077 | 1 A | * |
| 21_SMB-50-2-10/111_NH | 22651810 | U2 (RG 316/U) | bulk 100 pcs. | 3077 | 1 A | * |

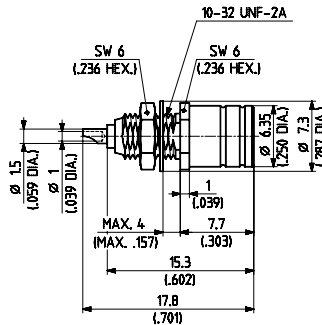
* intermateable with SMS plug without any restrictions

☒ centre contact NOT captivated

RECEPTACLES WITH SOLDER END

Receptacles, plugs (male)

- > open entry
- > bulkhead mounted
- > front mounting



| HUBER+SUHNER type | Item no. | Packaging | Mounting hole | Crimp insert |
|----------------------|----------|---------------|---------------|--------------------|
| 12_SMS-50-0-3/133_NH | 22651812 | bulk 100 pcs. | ML 11 | without panel seal |

Receptacles, jacks (female)

- > bulkhead mounted
- > insulating washers see page 408

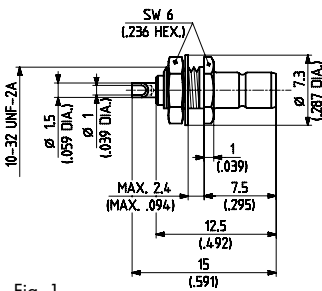


Fig. 1

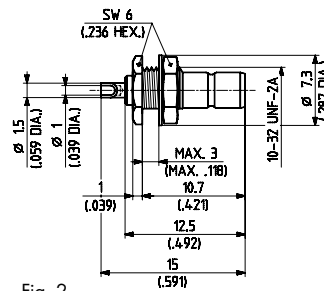


Fig. 2

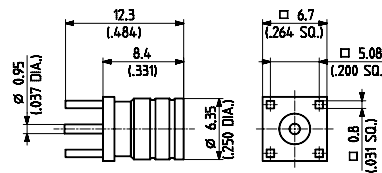


| HUBER+SUHNER type | Item no. | Packaging | Mounting hole | Notes | Fig. |
|----------------------|----------|-----------|---------------|--|------|
| 22_SMB-50-0-2/111_NE | 22640206 | single | ML 11 | front mounting, intermateable with SMS plug without any restrictions | 1 |
| 22_SMB-50-0-3/111_NE | 22640207 | single | ML 11 | rear mounting, intermateable with SMS plug without any restrictions | 2 |

PCB CONNECTORS

Straight PCB plugs (male)

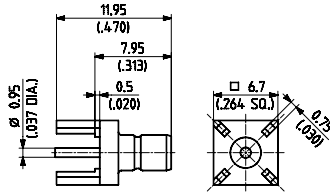
- > open entry
- > 2.54 mm / .100 in. grid



| HUBER+SUHNER type | Item no. | Packaging | Mounting hole | Notes |
|----------------------|----------|---------------|---------------|-------------------|
| 81_SMS-50-0-1/111_NH | 22650093 | bulk 100 pcs. | ML 15 | without stand-off |

Straight PCB jacks (female)

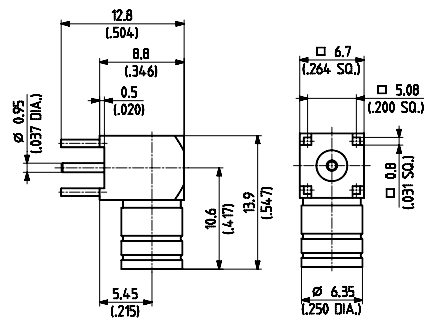
- > with stand-off
- > 2.54 mm / .100 in. grid



| HUBER+SUHNER type | Item no. | Packaging | Mounting hole | Notes |
|----------------------|----------|---------------|---------------|--|
| 82_SMB-50-0-1/111_NH | 22645143 | bulk 100 pcs. | ML 15 | intermateable with SMS plug without any restrictions |

Right angle PCB plugs (male)

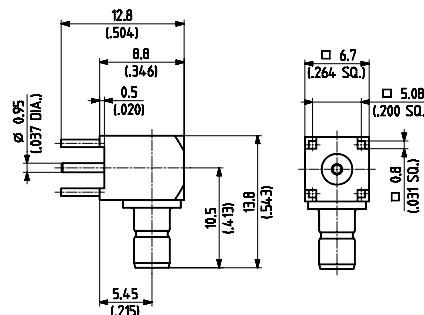
- > open entry
- > with stand-off
- > 2.54 mm / .100 in. grid



| HUBER+SUHNER type | Item no. | Packaging | Mounting hole | Notes |
|----------------------|----------|-----------|---------------|-------|
| 84_SMS-50-0-1/111_NE | 22640377 | single | ML 15 | |

Right angle PCB jacks (female)

- > 2.54 mm / .100 in. grid
- > with stand-off



| HUBER+SUHNER type | Item no. | Packaging | Mounting hole | Notes |
|----------------------|----------|---------------|---------------|--|
| 85_SMB-50-0-1/111_NH | 22645989 | bulk 100 pcs. | ML 15 | intermateable with SMS plug without any restrictions |