



TECHNICAL DATA SHEET

50 ohm Connectors for RF Cables

Kabelwerk | **EUPEN** AG

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cable

Connector 1/2" Hiflex for EC4-50-HF (5092)

FEATURES

- **Low reflection coefficient (up to 3 GHz)**
- **Low PIM level**
- **High contact force through inner contacts made in a high-strength copper alloy**
- **Watertight (IP67/IP68)**
- **Corrosion resistant**
- **Quick trimming tool for cable preparation**
- **One piece "screw on and tighten it"**



716MBL12X



NF50B12X



716MB12X

The connectors are designed according the standard interfaces as N, 4.3-10 or DIN 7-16. Contact components are silver or trimetal plated to minimize insertion loss and passive intermodulation products; mechanical parts are nickel plated for heavy-duty handling and best corrosion resistance. Watertightness is achieved simultaneously on the outer conductor and on the jacket by using a special silicone gasket. This watertight solution allows the use of ours connectors in the toughest environmental conditions. For a cost effective, easy and reliable installation, special trimming tools are recommended.

SPECIFICATIONS

| Connector type | N-male | N-female | 4.3-10 male | 7-16 male | 7-16 female | N-male right angle | 7-16 male right angle |
|--|--|----------|-------------|-----------|-------------|--------------------|-------------------------|
| Electrical specifications | | | | | | | |
| • Nominal impedance [Ω] | 50 | | | | | | |
| • Reflection coefficient @ 3 GHz | ≥ 34 dB | | | | | | |
| • Insulation resistance [$G\Omega$] | ≥ 5 | | ≥ 10 | | ≥ 5 | | ≥ 10 |
| • Test voltage (at sea level) [kV rms, 50Hz] | 2.5 | | 4* | | 2.5 | | 4* |
| • Working voltage (at sea level) [kV rms, 50Hz] | 1 | | 2.7 | | 1 | | 2.7 |
| • Max. peak power [kW] | 10 | | 15** | | 10 | | 40 |
| • Screening effectiveness up to 1 GHz [dB] | > 128 | | | | | | |
| • Contact resistance (outer contact) [$m\Omega$] | ≤ 1 | | | | | | |
| • Contact resistance (inner contact) [$m\Omega$] | ≤ 1 | | | | | | |
| • PIM ratio (2 x 20 W carrier) [dBc] | ≤ -155 (Typical -163) | | | | | | |
| Mechanical specifications | | | | | | | |
| • Torque of coupling mechanism [Nm] | 8 | | 5 to 8 | | 30 | | 30 |
| • Tensile strength of coupling mechanism [N] | 400 | | 500 | | 1000 | | 1000 |
| • Cable retention [N] | > 400 | | > 500 | | > 700 | | > 700 |
| • Mechanical endurance (Nr of couplings) | ≥ 500 | | | | | | |
| • Outer diameter [mm] | 22 | | 24 | | 29 | | 23 |
| • Length [mm] | 61 | | 56 | | 51 | | 51 x 41 |
| • Weight [g] | 100 | | 105 | | 115 | | 138 |
| Environmental specifications | | | | | | | |
| • Temperature range | -40 °C to $+85$ °C (-40 °F to $+185$ °F) | | | | | | |
| • Degree of protection | IP67/IP68 (mated connectors) | | | | | | |
| • Climatic & moisture resistance test | acc. ANSI/SCTE 72 2002 R2007 (-40 °C / $+60$ °C @ 75% r.h.) for 2 weeks | | | | | | |
| • Corrosion resistance test | acc. IEC 60068-2-11-Test Ka | | | | | | |
| • Vibration test | acc. IEC 60068-2-6 (10 to 500 Hz @ 10 G) | | | | | | |
| Materials | | | | | | | |
| • Externals parts | Brass with passivated silver or trimetal or nickel plating | | | | | | |
| • Outer contact | Brass with passivated silver or trimetal plating | | | | | | |
| • Inner contact | Passivated silver plated high-strength copper alloy and brass | | | | | | |
| • Dielectric | TPX / PTFE | | | | | | |
| • Gaskets | High quality silicone | | | | | | |
| Cable dimensions [mm] | | | | | | | |
| • Inner conductor outer diameter | 3.5 to 3.6 | | | | | | |
| • Outer conductor outer diameter | 12 to 12.4 | | | | | | |
| • Jacket outer diameter | 13 to 13.8 | | | | | | |
| Order codes | | | | | | | |
| • Connector type | NM50B12X | NF50B12X | 43MB12X | 716MB12X | 716FB12X | NM50BL12X | 716MBL12X |
| • Special trimming tool | SPTC50B12X – Silver color | | | | | | SPTC50BL12X-Black color |

* The 7-16 interface itself withstands a proof voltage of 4 kV rms, but the cable size limits the voltage at the end of the cable to a lower value (refer to the datasheet of the cable, where the peak voltage is given with a safety margin).

** ambient temperature 90 °C max.