



# TECHNICAL DATA SHEET

## 50 ohm Connectors for RF Cables

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cable

### Connector 1/2" for EC4-50 (5128) and EA4-50 (5127)

#### 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
- Installation "fit on and tighten it"
- O-ring sealing



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 by using silicone o-rings to resist in the toughest environmental conditions. For a cost effective, easy and reliable installation, special trimming tools are recommended.

#### SPECIFICATIONS

| Connector type                                 | straight                                                              |          |             |               |           |             | right angled |           |             |
|------------------------------------------------|-----------------------------------------------------------------------|----------|-------------|---------------|-----------|-------------|--------------|-----------|-------------|
|                                                | N-male                                                                | N-female | 4.3-10 male | 4.3-10 female | 7-16 male | 7-16 female | N-male       | 7-16 male | 4.3-10 male |
| Electrical specifications                      |                                                                       |          |             |               |           |             |              |           |             |
| • Nominal impedance [Ω]                        | 50                                                                    |          |             |               |           |             |              |           |             |
| • Return loss @ 3 GHz [dB]                     | ≥ 35                                                                  |          |             |               |           |             |              | ≥ 30      | ≥ 28        |
| • Insulation resistance [GΩ]                   | ≥ 5                                                                   |          |             |               | ≥ 10      |             | ≥ 5          | ≥ 10      | ≥ 5         |
| • Test voltage (at sea level) [kV rms, 50Hz]   | 2.5                                                                   |          |             |               | 4         |             | 2.5          | 4         | 2.5         |
| • Working voltage (at sea level) [kV rms,50Hz] | 1                                                                     |          |             |               | 2.7       |             | 1            | 2.7       | 1           |
| • Max. peak power [kW]*                        | 10                                                                    |          | 27**        |               | 40        |             | 10           | 40        | 22.5        |
| • Screening effectiveness up to 1 GHz [dB]     | > 128                                                                 |          |             |               |           |             |              |           |             |
| • Contact resistance (outer contact) [mΩ]      | ≤ 1                                                                   |          |             |               |           |             |              |           |             |
| • Contact resistance (inner contact) [mΩ]      | ≤ 1                                                                   |          |             |               |           |             |              |           |             |
| • PIM ratio (2 x 20 W carrier) [dBc]           | ≤ -155 (Typical -163)                                                 |          |             |               |           |             |              |           |             |
| Mechanical specifications                      |                                                                       |          |             |               |           |             |              |           |             |
| • Torque of coupling mechanism [Nm]            | 3 to 5                                                                |          | 5 to 8      |               | 30        |             | 3 to 5       | 30        | 5 to 8      |
| • Tensile strength of coupling mechanism [N]   | 400                                                                   |          | 500         |               | 1000      |             | 400          | 1000      | 500         |
| • Cable retention [N]                          | > 500                                                                 |          | > 500       |               | > 1000    |             | > 400        | > 700     | > 500       |
| • Mechanical endurance (Nr of couplings)       | ≥ 500                                                                 |          |             |               |           |             |              |           |             |
| • Outer diameter [mm]                          | 22                                                                    | 22       | 24          | 24            | 35        | 29          | 22           | 35        | 35          |
| • Length [mm]                                  | 61                                                                    | 59       | 59          | 66            | 59        | 60          | 54 x 40.4    | 60 x 39.5 | 61.5 x 35   |
| • Weight [g]                                   | 90                                                                    | 88       | 90          | 110           | 140       | 138         | 164          | 188       | 150         |
| 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                                                            |          |             |               |           |             |              |           |             |
| • O-rings                                      | High quality silicone                                                 |          |             |               |           |             |              |           |             |
| Cable dimensions [mm]                          |                                                                       |          |             |               |           |             |              |           |             |
| • Inner conductor outer diameter               | 4.75 to 4.85                                                          |          |             |               |           |             |              |           |             |
| • Outer conductor outer diameter               | 13.6 to 13.9                                                          |          |             |               |           |             |              |           |             |
| • Jacket outer diameter                        | 15.6 to 16.4                                                          |          |             |               |           |             |              |           |             |
| Order codes                                    |                                                                       |          |             |               |           |             |              |           |             |
| • Connector code                               | NM50V12                                                               | NF50V12  | 43MV12N1    | 43FV12N1      | 716MV12N1 | 716FV12N1   | NM50VL12     | 716MVL12  | 43MVL12     |
| • Special trimming tool                        | SPTC50AV12 – Silver color                                             |          |             |               |           |             |              |           |             |

\* ambient temperature 20 °C

\*\* 4.3-10 interface according to IEC61169-54