



# DATA SHEET

## EC6-50A Cable & Connectors

Kabelwerk

**EUPEN** AG

Rev: 11/2013

cable

# EC6-50A

## 1 1/4" Foam-Dielectric Coaxial Cable

### CABLE

#### Construction

- **Inner conductor**
  - Material smooth copper tube
  - Diameter, in (mm) 0.51 (13.0)
- **Dielectric**
  - Material gas-injected cellular polyethylene
  - Diameter, in (mm) 1.32 (33.5)
- **Outer conductor**
  - Material corrugated copper tube
  - Diameter, in (mm) 1.42 (36.0)
- **Outer sheath**
  - Material black polyethylene
  - Thickness, in (mm) 0.06 (1.5)
  - Diameter, in (mm) 1.54 (39.0)

#### Mechanical Characteristics

- **Minimum bending radius**
  - a) Single bending, in (cm) 8 (20)
  - b) 15 repeated bends, in (cm) 14 (35)
- **Maximum pulling strength, lb (daN)** 528 (240)
- **Recommended temperature range**
  - Storage -94 to +185°F (-70 to +85°C)
  - Installation -40 to +140°F (-40 to +60°C)
  - Operation -67 to +185°F (-55 to +85°C)
- **Maximum length per hoisting grip ft (m)** 230 (70)
- **Maximum hanger spacing, ft (m)** 5 (1.4)
- **Flat plate crush resistance, lb/in (kg/mm)** 134 (2.4)
- **Bending moment, lb/ft (Nm)** 22 (30)
- **Weight, lb/ft (kg/m)** 0.54 (0.803)

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#### Electrical Characteristics

- **Characteristic impedance, (Ω)** 50 ± 1
- **Nominal capacity, pF/ft (pF/m)** 23 (76)
- **Relative propagation velocity, %** 88
- **Inductance, μH/ft (μH/m)** 0.0576 (0.189)
- **DC-resistance at 20°C**
  - inner conductor Ω/1000 ft (Ω/km) 0.29 (0.95)
  - outer conductor Ω/1000 ft (Ω/km) 0.21 (0.69)
- **RF peak voltage, (kV)** 4.3
- **RF peak power, (kW)** 184
- **Cut-off frequency, (GHz)** 3.7
- **Insulation resistance, (MΩ/km)** >>5000
- **Attenuation and power rating**

| Frequency (MHz) | Attenuation at 68°F (20°C) *<br>(dB/100ft) (dB/100 m) | Mean power rating **<br>(kW) |
|-----------------|-------------------------------------------------------|------------------------------|
| 10              | 0.076                                                 | 37.13                        |
| 20              | 0.110                                                 | 26.12                        |
| 30              | 0.134                                                 | 21.24                        |
| 80              | 0.223                                                 | 12.84                        |
| 100             | 0.247                                                 | 11.44                        |
| 150             | 0.308                                                 | 9.26                         |
| 200             | 0.357                                                 | 7.96                         |
| 300             | 0.442                                                 | 6.42                         |
| 400             | 0.515                                                 | 5.51                         |
| 450             | 0.549                                                 | 5.17                         |
| 500             | 0.582                                                 | 4.88                         |
| 600             | 0.640                                                 | 4.42                         |
| 700             | 0.698                                                 | 4.07                         |
| 800             | 0.750                                                 | 3.78                         |
| 894             | 0.799                                                 | 3.56                         |
| 960             | 0.829                                                 | 3.42                         |
| 1000            | 0.850                                                 | 3.34                         |
| 1500            | 1.067                                                 | 2.56                         |
| 1700            | 1.146                                                 | 2.84                         |
| 1800            | 1.183                                                 | 2.40                         |
| 1880            | 1.213                                                 | 2.34                         |
| 2000            | 1.256                                                 | 2.26                         |
| 2170            | 1.317                                                 | 2.15                         |
| 2200            | 1.326                                                 | 2.14                         |
| 2300            | 1.362                                                 | 2.08                         |
| 2400            | 1.396                                                 | 2.03                         |
| 2500            | 1.430                                                 | 1.98                         |
| 2700            | 1.497                                                 | 1.90                         |
| 3000            | 1.591                                                 | 1.78                         |

### CONNECTORS

#### Electrical

- **Nominal impedance, (Ω)** 50
- **Return loss @ 2.5 GHz (dB)** -35
- **3rd order intermodulation product, (dBc)** -155
- **Temperature range** -40°F to +140°F (-40°C to +60°C)
- **Water immersion testing** IP67 & IP68
- **Materials**
  - External parts Passivated silver plated or electroless nickel plated brass
- **Outer contact** Passivated silver plated brass
- **Inner contact** Passivated silver plated Cu-Be
- **Dielectric** TXP / PTFE
- **O-rings** Silicone rubber

#### Ordering Information (Call customer service for availability.)

- **7/16 DIN female** 7/16F50V114N1
- **7/16 DIN male** 7/16M50V114MA
- **Type N female** NF50V114MA
- **Type N male** NM50V114MA
- **Cable preparation tool** F-114

\* Nominal values

\*\* Ambient temperature = 104°F; temperature of inner conductor = 212°F; VSWR = 1.0; no solar loading

