



# DATA SHEET

## EC5-50A Cable & Connectors

Kabelwerk **EUPEN** AG

Rev: 11/2013

cable

# EC5-50A 7/8" Foam-Dielectric Coaxial Cable

## CABLE

### Construction

- **Inner conductor**
  - Material smooth copper tube
  - Diameter, in (mm) 0.36 (9.2)
- **Dielectric**
  - Material gas-injected cellular polyethylene
  - Diameter, in (mm) 0.93 (23.5)
- **Outer conductor**
  - Material corrugated copper tube
  - Diameter, in (mm) 0.98 (25.0)
- **Outer sheath**
  - Material black polyethylene
  - Thickness, in (mm) 0.06 (1.4)
  - Diameter, in (mm) 1.09 (27.8)

### Mechanical Characteristics

- **Minimum bending radius**
  - a) Single bending, in (cm) 4 (10)
  - b) 15 repeated bends, in (cm) 10 (25)
- **Maximum pulling strength, lb (daN) 285 (130)**
- **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) 4 (1.2)**
- **Flat plate crush resistance, lb/in (kg/mm) 89 (1.6)**
- **Bending moment, lb/in (Nm) 7.4 (10)**
- **Weight, lb/ft (kg/m) 0.29 (0.43)**

### Electrical Characteristics

- **Characteristic impedance, (Ω) 50 ± 1**
- **Nominal capacity, pF/ft (pF/m) 23 (75)**
- **Relative propagation velocity, % 89**
- **Inductance, μH/ft (μH/m) 0.06 (0.187)**
- **DC-resistance at 20°C**
  - inner conductor Ω/1000 ft (Ω/km) 0.49 (1.63)
  - outer conductor Ω/1000 ft (Ω/km) 0.40 (1.31)
- **RF peak voltage, (kV) 2.9**
- **RF peak power, (kW) 86**
- **Cut-off frequency, (GHz) 5.1**
- **Insulation resistance, (MΩ/km) >>5000**
- **Attenuation and power rating**

Frequency (MHz)	Attenuation at 68°F (20°C) (dB/100ft)	(dB/100 m)	Mean power rating** (kW)
10	0.107	0.35	25.46
20	0.152	0.50	17.93
30	0.189	0.62	14.60
80	0.311	1.02	8.85
100	0.347	1.14	7.89
150	0.430	1.41	6.40
200	0.497	1.63	5.51
300	0.616	2.02	4.46
400	0.716	2.35	3.83
450	0.762	2.50	3.60
500	0.805	2.64	3.41
600	0.887	2.91	3.09
700	0.936	3.16	2.85
800	1.036	3.40	2.65
894	1.100	3.61	2.49
960	1.143	3.75	2.40
1000	1.167	3.83	2.35
1500	1.460	4.79	1.88
1700	1.564	5.13	1.75
1800	1.615	5.30	1.70
1880	1.655	5.43	1.66
2000	1.713	5.62	1.60
2170	1.792	5.88	1.53
2200	1.804	5.92	1.52
2300	1.850	6.07	1.48
2400	1.896	6.22	1.45
2500	1.942	6.37	1.41
2700	2.027	6.65	1.35
3000	2.152	7.06	1.27
4000	2.539	8.33	1.08

## 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 7/16F50V78N1**
  - **7/16 DIN male 7/16M50V78N1**
  - **Type N female NF50V78N1**
  - **Type N male NM50V158MA**
  - **Cable preparation tool F-78**
- (F-78 tools is compatible with both EC5-50 & EC5-50A cable and connectors.)

\* Nominal values

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

