



DATA SHEET

EC1-50-HF Cable & Connectors

Kabelwerk **EUPEN** AG

Rev: 11/2013

cable

EC1-50-HF 1/4" Hiflex Foam-Dielectric Coaxial Cable

CABLE

Construction

- **Inner conductor**
 - Material copper clad aluminum
 - Diameter, in (mm) 0.075 (1.9)
- **Dielectric**
 - Material gas-injected cellular polyethylene
 - Diameter, in (mm) 0.181 (4.6)
- **Outer conductor**
 - Material corrugated copper tube
 - Diameter, in (mm) 0.252 (6.4)
- **Outer sheath**
 - Material black polyethylene
 - Thickness, in (mm) 0.022 (0.55)
 - Diameter, in (mm) 0.295 (7.5)

Mechanical Characteristics

- **Minimum bending radius**
 - a) Single bending, in (cm) 1.0 (2.5)
 - b) 15 repeated bends, in (cm) 1.0 (2.5)
- **Maximum pulling strength**, lb (daN) 68 (31)
- **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) -
- **Flat plate crush resistance**, lb/in (kg/mm) 101 (1.8)
- **Bending moment**, lb/ft (Nm) 0.8 (1.1)
- **Weight**, lb/ft (kg/m) 0.056 (0.08)

Electrical Characteristics

- **Characteristic impedance**, (Ω) 50 ± 1
- **Nominal capacity**, pF/ft (pF/m) 24.4 (80)
- **Relative propagation velocity**, % 83
- **Inductance**, μH/ft (μH/m) 0.061 (0.20)
- **DC-resistance at 20°C**
 - inner conductor Ω/1000 ft (Ω/km) 2.80 (9.19)
 - outer conductor Ω/1000 ft (Ω/km) 1.34 (4.4)
- **RF peak voltage**, (kV) 0.60
- **RF peak power**, (kW) 3.6
- **Cut-off frequency**, (GHz) 22
- **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	0.536	1.76	3.60
20	0.759	2.49	2.77
30	0.932	3.06	2.26
50	1.21	3.96	1.74
88	1.61	5.28	1.31
100	1.72	5.63	1.23
150	2.11	6.93	1.00
174	2.28	7.47	0.92
200	2.45	8.03	0.86
300	3.02	9.89	0.70
400	3.50	11.5	0.60
450	3.72	12.2	0.57
500	3.93	12.9	0.54
600	4.32	14.2	0.49
700	4.69	15.4	0.45
800	5.03	16.5	0.42
824	5.11	16.8	0.41
894	5.33	17.5	0.39
960	5.54	18.2	0.38
1000	5.66	18.6	0.37
1250	6.37	20.9	0.33
1500	7.02	23.0	0.30
1700	7.51	24.6	0.28
1800	7.74	25.4	0.27
2000	8.20	26.9	0.26
2100	8.42	27.6	0.25
2200	8.63	28.3	0.24
2300	8.84	29.0	0.24
3000	10.2	33.5	0.21
4000	12.0	39.3	0.18
6000	15.0	49.4	0.14

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)

- **Type N male, O-ring** NM50B14X
- **Type N female, O-ring panel mount** NF50P14X
- **7/16 DIN male, O-ring** 7/16M50B14X
- **7/16 DIN female, O-ring** 7/16F50B14X
- **Cable preparation tool** SPTC50B14X

* Nominal values

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

