



DATA SHEET

EC7-50A Cable & Connectors

Kabelwerk

EUPEN AG

Rev: 11/2013

cable

EC7-50A 1 5/8" Foam-Dielectric Coaxial Cable

CABLE

Construction

- **Inner conductor**
 - Material corrugated copper tube
 - Diameter, in (mm) 0.70 (17.7)
- **Dielectric**
 - Material gas-injected cellular polyethylene
 - Diameter, in (mm) 1.69 (43.0)
- **Outer conductor**
 - Material corrugated copper tube
 - Diameter, in (mm) 1.83 (46.6)
- **Outer sheath**
 - Material black polyethylene
 - Thickness, in (mm) 0.07 (1.7)
 - Diameter, in (mm) 1.97 (50.0)

Mechanical Characteristics

- **Minimum bending radius**
 - a) Single bending, in (cm) 8 (20)
 - b) 15 repeated bends, in (cm) 16 (40)
- **Maximum pulling strength, lb (daN) 550 (250)**
- **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 (1.5)**
- **Flat plate crush resistance, lb/in (kg/mm) 135 (2.4)**
- **Bending moment, lb/ft (Nm) 28 (38)**
- **Weight, lb/ft (kg/m) 0.68 (1.019)**

Electrical Characteristics

- **Characteristic impedance, (Ω) 50 ± 1**
- **Nominal capacity, pF/ft (pF/m) 23 (75)**
- **Relative propagation velocity, % 89**
- **Inductance, μH/ft (μH/m) 0.058 (0.19)**
- **DC-resistance at 20°C**
 - inner conductor Ω/1000 ft (Ω/km) 0.44 (1.44)
 - outer conductor Ω/1000 ft (Ω/km) 0.15 (0.5)
- **RF peak voltage, (kV) 5.5**
- **RF peak power, (kW) 302**
- **Cut-off frequency, (GHz) 2.8**
- **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	0.061	0.20	49.42
20	0.088	0.29	34.76
30	0.110	0.36	28.27
80	0.180	0.59	17.09
100	0.204	0.67	15.22
150	0.250	0.82	12.32
200	0.293	0.96	10.60
300	0.360	1.18	8.55
400	0.421	1.38	7.33
450	0.448	1.47	6.88
500	0.475	1.56	6.50
600	0.524	1.72	5.89
700	0.570	1.87	5.41
800	0.613	2.01	5.03
894	0.652	2.14	4.73
960	0.680	2.23	4.55
1000	0.695	2.28	4.45
1500	0.872	2.86	3.54
1700	0.936	3.07	3.30
1800	0.966	3.17	3.19
1880	0.991	3.25	3.12
2000	1.027	3.37	3.01
2170	1.076	3.53	2.87
2200	1.085	3.56	2.85
2300	1.113	3.65	2.77
2400	1.140	3.74	2.71
2500	1.167	3.83	2.64
2700	1.222	4.01	2.53

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 7/16F50V158N1**
- **7/16 DIN male 7/16M50V158N1**
- **Type N female NF50V158N1**
- **Type N male NM50V158MPA**
- **Cable preparation tool F-158**

* Nominal values

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

