



DATA SHEET

EC7-50A Cable & Connectors

Kabelwerk **EUPEN** AG
Rev: 04/2014 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)

Electrical Characteristics

- **Characteristic impedance, (Ω)** 50 \pm 1
- **Nominal capacity, pF/ft (pF/m)** 23 (75)
- **Relative propagation velocity, %** 89
- **Inductance, μ H/ft (μ H/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
- **Return Loss 680-2170 MHz, (dB)[†]** -24
- **3rd order intermodulation product, (dBc)** \leq -155^{**}
- **Insulation resistance, (M Ω /km)** \gg 5000
- **Attenuation and power rating**

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)

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
^{***} When assembled with suitable Eupen or similar compatible connector
[†] Value specified for cable only and lengths <150m

