



DATA SHEET

EC5-50A Cable & Connectors

Kabelwerk **EUPEN** AG

Rev: 04/2014

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/ft (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
- **Return Loss 680-2170 MHz**, (dB)[†] -24
- **3rd order intermodulation product**, (dBc) ≤ -155^{***}
- **Insulation resistance**, (MΩ/km) >>5000
- **Attenuation and power rating**

Frequency (MHz)	Attenuation at 68°F (20°C) [*]		Mean power rating ^{**} (kW)
	(dB/100ft)	(dB/100 m)	
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
^{***} When assembled with suitable Eupen or similar compatible connector
[†] Value specified for cable only and lengths <150m

