



TECHNICAL DATA SHEET

50 ohm Connectors for RF Cables

Kabelwerk | **EUPEN** AG

Rev.: 11/2023-10-12

cable

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Connector 1/2" Hiflex for EC4-50-HF (5092)

FEATURES

- **Low reflection coefficient (up to 3 GHz)**
- **Low PIM level**
- **High contact force through inner contacts made in a high-strength copper alloy**
- **Watertight (IP67/IP68)**
- **Corrosion resistant**
- **Quick trimming tool for cable preparation**
- **One piece "screw on and tighten it"**



NF50B12X



716MB12X

The connectors are designed according the standard interfaces as N, 4.3-10 or DIN 7-16. Contact components are silver or trimetal plated to minimize insertion loss and passive intermodulation products; mechanical parts are nickel plated for heavy-duty handling and best corrosion resistance. Watertightness is achieved simultaneously on the outer conductor and on the jacket by using a special silicone gasket. This watertight solution allows the use of ours connectors in the toughest environmental conditions. For a cost effective, easy and reliable installation, special trimming tools are recommended.

SPECIFICATIONS

Connector type	N-male	N-female	4.3-10 male	4.3-10 female	7-16 male	7-16 female
Electrical specifications						
• Nominal impedance [Ω]	50					
• Reflection coefficient @ 3 GHz	≥ 34 dB					
• Insulation resistance [$G\Omega$]	≥ 5					
• Test voltage (at sea level) [kV rms, 50Hz]	2.5					
• Working voltage (at sea level) [kV rms, 50Hz]	1					
• Max. peak power [kW]	10		15**		40	
• Screening effectiveness up to 1 GHz [dB]	> 128					
• Contact resistance (outer contact) [$m\Omega$]	≤ 1					
• Contact resistance (inner contact) [$m\Omega$]	≤ 1					
• PIM ratio (2 x 20 W carrier) [dBc]	≤ -155 (Typical -163)					
Mechanical specifications						
• Torque of coupling mechanism [Nm]	3 to 5		5 to 8		30	
• Tensile strength of coupling mechanism [N]	400		500		1000	
• Cable retention [N]	> 400		> 500		> 700	
• Mechanical endurance (Nr of couplings)	≥ 500					
• Outer diameter [mm]	22	22	24	24	35	29
• Length [mm]	61	59	56	60	50	51
• Weight [g]	100	100	105	112	120	115
Environmental specifications						
• Temperature range	-40 °C to +85 °C (-40 °F to +185 °F)					
• Degree of protection	IP67/IP68 (mated connectors)					
• Climatic & moisture resistance test	acc. ANSI/SCTE 72 2002 R2007 (-40 °C / +60 °C @ 75% r.h.) for 2 weeks					
• Corrosion resistance test	acc. IEC 60068-2-11-Test Ka					
• Vibration test	acc. IEC 60068-2-6 (10 to 500 Hz @ 10 G)					
Materials						
• Externals parts	Brass with passivated silver or trimetal or nickel plating					
• Outer contact	Brass with passivated silver or trimetal plating					
• Inner contact	Passivated silver plated high-strength copper alloy and brass					
• Dielectric	TPX / PTFE					
• Gaskets	High quality silicone					
Cable dimensions [mm]						
• Inner conductor outer diameter	3.5 to 3.6					
• Outer conductor outer diameter	12 to 12.4					
• Jacket outer diameter	13 to 13.8					
Order codes						
• Connector type	NM50B12X	NF50B12X	43MB12X	43FB12X	716MB12X	716FB12X
• Special trimming tool	SPTC50B12X – Silver color					

* The 7-16 interface itself withstands a proof voltage of 4 kV rms, but the cable size limits the voltage at the end of the cable to a lower value (refer to the datasheet of the cable, where the peak voltage is given with a safety margin).

** ambient temperature 90 °C max.



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Connector 1/2" Hiflex for EC4-50-HF (5092)



43MBL12X



716MBL12X

SPECIFICATIONS

Connector type	N-male right angle	4.3-10 male right angle	7-16 male right angle
Electrical specifications			
• Nominal impedance [Ω]		50	
• Reflection coefficient @ 3 GHz		≥ 30 dB	
• Insulation resistance [$G\Omega$]	≥ 5	≥ 5	≥ 10
• Test voltage (at sea level) [kV rms, 50Hz]	2.5	2.5	4*
• Working voltage (at sea level) [kV rms, 50Hz]	1	1	2.7
• Max. peak power [kW]	10	15**	40
• Screening effectiveness up to 1 GHz [dB]		> 128	
• Contact resistance (outer contact) [$m\Omega$]		≤ 1	
• Contact resistance (inner contact) [$m\Omega$]		≤ 1	
• PIM ratio (2 x 20 W carrier) [dBc]		≤ -155 (Typical -163)	
Mechanical specifications			
• Torque of coupling mechanism [Nm]	3 to 5	5 to 8	30
• Tensile strength of coupling mechanism [N]	400	500	1000
• Cable retention [N]	> 400	> 500	> 700
• Mechanical endurance (Nr of couplings)		≥ 500	
• Outer diameter [mm]	23	23	23
• Length [mm]	51 x 41	68 x 41	55 x 39.5
• Weight [g]	138	200	160
Environmental specifications			
• Temperature range		-40 °C to +85 °C (-40 °F to +185 °F)	
• Degree of protection		IP67/IP68 (mated connectors)	
• Climatic & moisture resistance test		acc. ANSI/SCTE 72 2002 R2007 (-40 °C / +60 °C @ 75% r.h.) for 2 weeks	
• Corrosion resistance test		acc. IEC 60068-2-11-Test Ka	
• Vibration test		acc. IEC 60068-2-6 (10 to 500 Hz @ 10 G)	
Materials			
• Externals parts		Brass with passivated silver or trimetal or nickel plating	
• Outer contact		Brass with passivated silver or trimetal plating	
• Inner contact		Passivated silver plated high-strength copper alloy and brass	
• Dielectric		TPX / PTFE	
• Gaskets		High quality silicone	
Cable dimensions [mm]			
• Inner conductor outer diameter		3.5 to 3.6	
• Outer conductor outer diameter		12 to 12.4	
• Jacket outer diameter		13 to 13.8	
Order codes			
• Connector type	NNM50BL12X	43MBL12X	716MBL12X
• Special trimming tool		SPTC50BL12X-Black color	

* The 7-16 interface itself withstands a proof voltage of 4 kV rms, but the cable size limits the voltage at the end of the cable to a lower value (refer to the datasheet of the cable, where the peak voltage is given with a safety margin).

** ambient temperature 90 °C max.