



# TECHNICAL DATA SHEET

## 50 ohm Connectors for RF Cables

Kabelwerk | **EUPEN** AG

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**cable**

# Connector 1/4" for EC1-50 (5062)

### FEATURES

- **Low reflection coefficient (up to 2.5 GHz)**
- **Low PIM level**
- **High contact force through inner contacts made in a high-strength copper alloy**
- **Gland on the cable**
- **Watertight (IP67/IP68)**
- **Corrosion resistant**
- **Quick trimming tool**
- **O-ring seal integrated in connector**



NF50A14



NM50AL14

The connectors are designed according the standard interface N. 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 by using silicone o-rings and a gland with nitrile o-ring on the cable to resist 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	N-male right angle
<b>Electrical specifications</b>			
• Nominal impedance [ $\Omega$ ]		50	
• Reflection coefficient @ 2.5 GHz	$\leq 0.02$		$\leq 0.03$
• Insulation resistance [ $G\Omega$ ]		$\geq 5$	
• Test voltage (at sea level) [kV rms, 50Hz]		2.5*	
• Working voltage (at sea level) [kV rms, 50Hz]		1	
• Max. peak power [kW]		10	
• Screening effectiveness up to 1 GHz [dB]		$> 128$	
• Contact resistance (outer contact) [ $m\Omega$ ]		$\leq 1$	
• Contact resistance (inner contact) [ $m\Omega$ ]		$\leq 1.5$	
• PIM ratio (2 x 20 W carrier) [dBc]		$\leq -155$ (Typical -163)	
<b>Mechanical specifications</b>			
• Torque of coupling mechanism [Nm]		3 to 5	
• Tensile strength of coupling mechanism [N]		400	
• Cable retention [N]		$> 400$	
• Mechanical endurance (Nr of couplings)		$\geq 500$	
• Outer diameter [mm]		22	
• Length [mm]		65	69 x 31
• Weight [g]	62	56	90
<b>Environmental specifications</b>			
• 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)		
<b>Materials</b>			
• Externals parts	Brass with passivated silver or trimetal or electroless nickel plating		
• Outer contact	Brass with passivated silver or trimetal plating		
• Inner contact	Passivated silver plated high-strength copper alloy and brass		
• Dielectric	PTFE		PTFE & TPX
• O-rings	High quality silicone & nitrile		
<b>Cable dimensions [mm]</b>			
• Inner conductor (helicoids) inner diameter	2.3 to 2.43		
• Outer conductor outer diameter	6.5 to 7.8		
• Jacket outer diameter	9.0 to 10.2		
<b>Order codes</b>			
• Connector type	NM50A14	NF50A14	NM50AL14
• Special trimming tool	SPTC50A14 - Silver color		

\* The N interface withstands a proof voltage of 2,5 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).