

BNCpro at a glance

BNCpro for UHD/4K (12G)

INNER SPRING RING MADE FROM BERYLLIUM COPPER

Constant contact pressure over the entire operating life of at least 2000 connections - designed for outdoor use, shock resistant

-28 dB
Return loss
up to 6 GHz

POLYURETHANE STRAIN RELIEF SLEEVE

Proven technology that insures the geometry remains stable beyond the crimp zone

FREQUENCY RANGE UP TO 6 GHz

Specification to Full HD and Ultra HD/4K; Virtually interference-free delivery of video signals; signal path is magnet-free

THREADED GROOVE IN THE CONTACT PIN

Greater axial load capacity

CONTINUOUS CRIMP

Easier installation of the strain relief sleeve, improved cable attachment, greater anti-twist protection

WIDE STRUCTURED GRIPPING SURFACE

Ergonomic Handling

BNCpro is mating compatible with commercially available BNC connectors.

Successfully tested for HDTV signal transmission in accordance with SMPTE 424M from ARGE RBT (a technical consortium of the German public broadcasters)

DAMAR & HAGEN

Made
in
Germany

The connectors of the **BNCpro** series were developed and perfected on the basis of our 40 years of experience as a manufacturer of BNC connectors.

BNCpro combines the mechanical robustness of the legendary BNC/DS series (outer conductor with spring ring) with the required electrical properties of a plug connection for Ultra HD/4K.

Due to their mechanical properties, all cable connectors of the series have a constant contact pressure over their entire operating life of at least 2000 connections.

They can thus be used without problem in extreme application areas where they may be subjected to shocks/vibrations (OB vans).

BNCpro connectors have a characteristic impedance of 75 ohms.

The return loss of **-28 dB up to 6 GHz** is extremely low and significant for BNCpro. With the connectors of the BNCpro series, the electrical properties of the used cables and their working length are fully utilised.

Other Features:

- Inner and outer conductor are gold-plated and the signal path is magnet-free.
- Easier to use due to larger gripping surface.
- Cable installation is performed by simply crimping the inner and outer conductor and there by contributes to a high level of efficiency.
- Strain-relief sleeves for all cable diameters from 3 to 11 mm in 11 colours.
- Twist Sleeves for cable diameter 5 mm in 11 colours.
- BNCpro is compatible with all common BNC connectors available on the market.
- Successfully tested for HDTV signal transmission in accordance with SMPTE 424M from ARGE RBT (a technical consortium of the German public broadcasters)



Electrical Characteristics (at 20°C and 65 % rel. humidity)

Impedance.....	75 Ω
Frequency range	0 up to 6 GHz (12 Gbit/s)
Return loss* - Plug	≥ 32 dB up to 3 GHz
.....	≥ 28 dB up to 6 GHz
VSWR - Plug	≤ 1.05 up to 3 GHz
.....	≤ 1.08 up to 6 GHz
Reflection factor - Plug	$\leq 2.5\%$ up to 3 GHz
.....	$\leq 4\%$ up to 6 GHz
Return loss* - Socket.....	≥ 31 dB up to 3 GHz
.....	≥ 27 dB up to 6 GHz
VSWR - Socket	≤ 1.06 up to 3 GHz
.....	≤ 1.09 up to 6 GHz
Reflection factor - Socket	$\leq 2.8\%$ up to 3 GHz
.....	$\leq 4.5\%$ up to 6 GHz

Contact resistance (connector plugged with socket)

Inner conductor	≤ 3 m Ω
Outer conductor.....	≤ 1 m Ω
Isolation resistance.....	≥ 5 G Ω

Test voltage U_{eff}

Connectors for cable diameter	≤ 4 mm 1000 V
Connectors for cable diameter	≥ 5 mm 1500 V

Operating voltage U_{eff}

Connectors for cable diameter	≤ 4 mm 400 V
Connectors for cable diameter	≥ 5 mm 500 V

Operating Temperature Range - 65 °C up to +165 °C

Mechanical Characteristics

Durability (mating cycles)*	≥ 2000
RoHS	compliant

Construction Socket

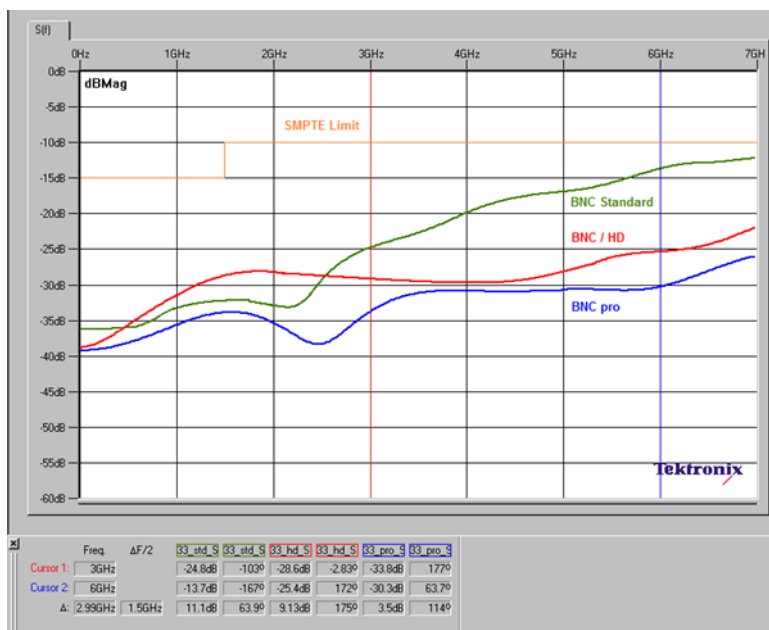
Inner conductor	Beryllium copper, non-magnetic, hard gold-plated
Dielectric.....	PTFE
Outer conductor.....	Brass, non-magnetic, hard gold-plated
Crimp sleeve.....	Copper, nickel-plated
Strain relief sleeve	Polyurethane (PUR)

*Divergent data mentioned at the respective product.

Construction Plug

Inner conductor	Brass, non-magnetic, hard gold-plated
Dielectric	PTFE
Outer conductor	Brass, non-magnetic, hard gold-plated
Spring elements	Beryllium copper/ Stainless steel
Other material parts	Brass, nickel-plated/ Stainless steel
Gasket	Silicon
Coupling ring	Brass, nickel-plated
Crimp sleeve	Copper, nickel-plated
Strain relief sleeve	Polyurethane (PUR)

Comparative measurement of Cable Plugs:



Series	Part Number	R _L [dB] (Return loss)		VSWR (Voltage standing wave ra-)		r [%] (Reflection)	
		3 GHz	6 GHz	3 GHz	6 GHz	3 GHz	6 GHz
BNC Standard	1-5126-2100	-23	-12	1.15	1.67	7	25
BNC HD	1-6051-2100	-27	-23	1.09	1.15	4.5	7
BNC pro	1-8478-13100	-32	-28	1.05	1.08	2.5	4

Measured: Patch cable 0.3 m with cable plugs of different BNC-Series

Instrument: Measurement with time domain reflectometer of Tektronix.

The specified data serve only to describe the product and should not be considered legally binding, guaranteed properties. Depending on the application, design, type of cable and assembly method the specified values may differ.

Individual customized High Performance Cable Connectors

On the basis of our 90 years of experience as Developer and Producer of high quality cable connectors we are able to provide customer-specific solutions by manufacturing individual precision cable connectors from Damar & Hagen.

Options

Surface	special surfaces according to customers requirement, for the layer structure and also for the layer thicknesses
Cable connections	halogen-free cables, two braids cable, multi-wire cable, unusual cable diameter, different cable length, additional clamping of the cable sheath, Assembly by our company,
Dimensions	all dimensions, distances, nuts, tread length mounting holes, insulation bases etc. are variable according to customers requirement
Electrically variable.....	special resistors, circuits, contacts are possible According to customers requirement
Insulating parts, gaskets and contacts	other colours and materials are possible (e. g. Beryllium bronze for outer conductor contact)