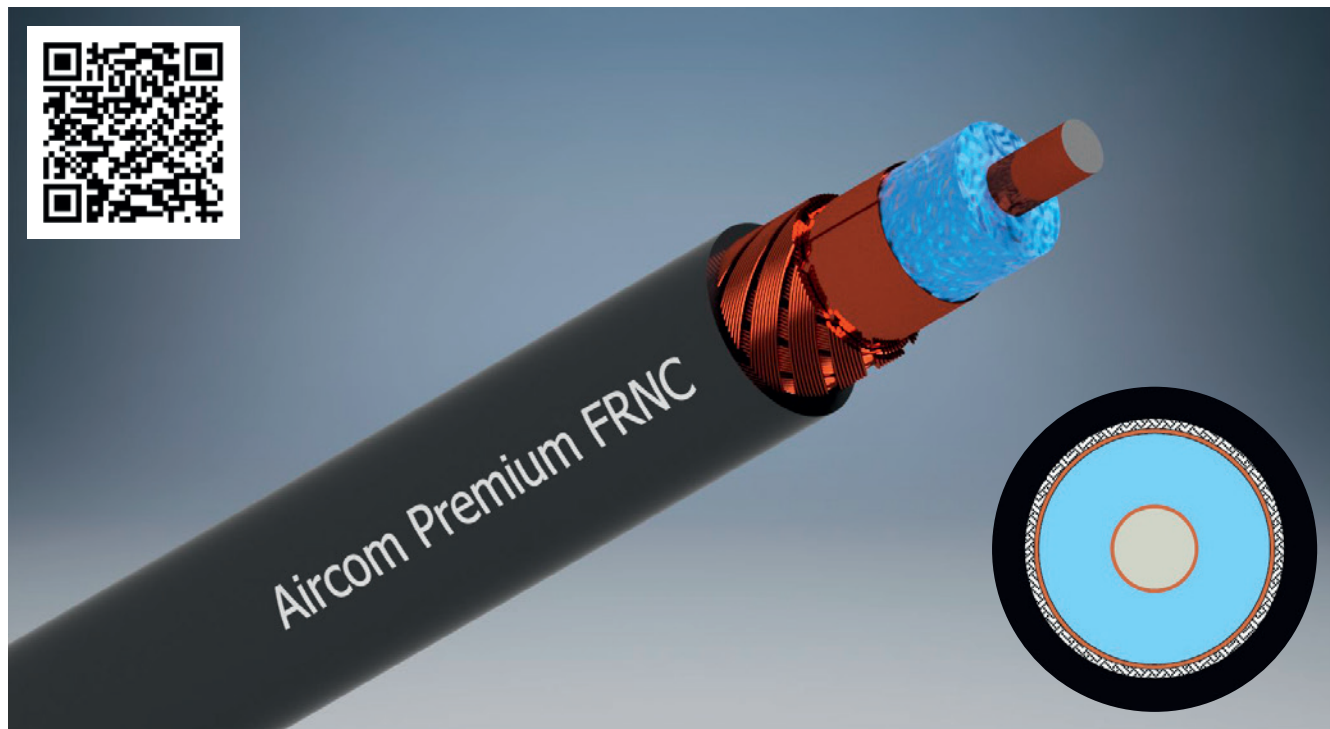


Aircom® Premium FRNC

ultra low loss up to 12 GHz and free of halogen



Aircom Premium FRNC is an ultra low loss coaxial cable with the maximum frequency of 12 GHz. It is characterized by a very low weight and a very low attenuation. Manufactured highly precisely this cable has a hybrid inner conductor of copper-clad aluminium wire (CCA), where copper cladding is covering the inner aluminium core. Combining copper's good electrical conductivity and aluminium's light weight in a composite material makes Aircom Premium FRNC perfectly suited for most high frequency coaxial applications. The precise formability of the aluminum core is responsible for almost no impurities in the entire frequency range. The skin effect ensures a high performance RF line. In addition, the cable is highly suitable for digital transmission modes due to its outstanding PIM (passive intermodulation) performance.

The extremely low attenuation of Aircom Premium FRNC is achieved by a low loss PE dielectric. The material is also resistant to moisture. Another feature of Aircom Premium FRNC is its double shielding which is constructed of a thin, overlapping copper foil and an additional shield braiding of bare copper wires with 75 % coverage. The copper foil has an applied PE coating which prevents foil cracking due to short radius bends. The jacket of Aircom Premium FRNC is made of a special thermoplastic copolymer (FRNC: Flame Retardant Non Corrosive). Due to this flame retardant and halo-

gen-free material the cable has a low fire load, low flame propagation and limited smoke emission. The amount of toxic and corrosive gases is considerably reduced during combustion. Aircom Premium FRNC is the right choice, when a light, low loss, halogen-free and microwave rated cable is required. It can be used for numerous RF applications.

Key features

Diameter	10,2 ± 0,2 mm
Impedance	50 ± 2 Ω
Attenuation at 1 GHz/100 m	11,88 dB
f max	12 GHz

Characteristics

Jacket material according to DIN EN 50290-2-27 (HD 624.7)
Flame retardant according to IEC 60332-1-2
RoHS compliant (Directive 2011/65/EC)
Low Smoke, Fire retardant, Zero Halogen (LSZH)
Corrosivity of fumes according to IEC 60754-2
Smoke density according to IEC 61034
UV-resistant

Technical data

Inner conductor	Hybrid CCA – bare copper-clad aluminium wire
Inner conductor Ø	1 x 2,75 mm
Dielectric	blue foamed Polyethylene (PE) with skin
Dielectric Ø	7,2 mm
Outer conductor 1	copper foil overlapped
Shielding factor	100%
Outer conductor 2	shield braiding of bare copper wires
Shielding factor	75%
Outer conductor Ø	7,9 mm
Jacket	thermoplastic copolymer (FRNC) black
Weight	108 kg/km
Min. Bending radius	4x Ø single, 8x Ø repeated
Temperature range	-55 bis +85°C Transport & fixed installation -40 bis +85°C Flexible use

Electrical data at 20°C

Capacitance (1 kHz)	78 nF/km
Velocity factor	0,85
Screening attenuation 1 GHz	≥ 90 dB
DC-resistance Inner conductor	≤ 5,0 Ω/km
DC-resistance Outer conductor	7,3 Ω/km
Insulation resistance	≥ 10 GΩ*km
Test voltage (wire/screen rms 50 Hz 1 Min.)	1000 V

Aircom Premium FRNC

	RG 213/U	RG 58/U	
Capacitance	78 pF/m	101 pF/m	102 pF/m
Velocity factor	0,85	0,66	0,66
Attenuation (dB/100m)			
10 MHz	1,05	2,00	5,00
100 MHz	3,42	7,00	17,00
500 MHz	8,08	17,00	39,00
1000 MHz	11,88	22,50	54,60
3000 MHz	21,85	58,50	118,00

Typ. Attenuation (db/100 m at 20°C)

5 MHz	1,03	1500 MHz	14,28
10 MHz	1,05	1800 MHz	16,16
50 MHz	2,09	2000 MHz	17,29
100 MHz	3,42	2400 MHz	19,00
144 MHz	3,90	3000 MHz	21,85
200 MHz	4,51	4000 MHz	25,65
300 MHz	5,70	5000 MHz	29,45
432 MHz	7,22	6000 MHz	33,25
500 MHz	8,08	8000 MHz	42,75
800 MHz	10,55	10000 MHz	57,00
1000 MHz	11,88	12000 MHz	71,25

Max. Power handling (W at 40°C)

10 MHz	4.700	3000 MHz	230
100 MHz	1400	4000 MHz	190
500 MHz	620	5000 MHz	170
1000 MHz	420	6000 MHz	150
2000 MHz	290	8000 MHz	130
2400 MHz	260	10000 MHz	100
		12000 MHz	80

Typ. Attenuation (db/100 m at 20°C)

