

Industrial Cable 8-wire, Cat. 6_A FRNC



Advantages

- Suitable for generic cabling Category 6_A / Class E_A according ISO/IE11801 respectively prEN 50173-1 especially for fixed installation
- Qualified for transmission up to 10GigaBit Ethernet 10Gbase-T acc. IEEE802.3an
- Based on solid copper wires 23AWG delivers full 100m channel performance up to 500MHz
- Applicable for industrial premises
- High EMC capability based on the PIMF construction
- Flame retardant, halogen free and RoHS compliant

General

This high-speed data cable was designed for fixed installation in industrial premises and it's especially suitable for connections between distribution cabinets and industrial outlets.

The four pair / eight wire PIMF-construction allows the transmission of IT digital and analogue signals like Ethernet 10/100Mbit/s, 1/10GigaBit/s, video and voice services as well as IP-based data services.

It delivers all characteristics to construct a Generic cabling system according ISO/IEC 24702:2006 respectively EN 50173-3:2007. Maximum channel length specified up to 100m (transmission channel class E_A)

Transmission performance meets Cat.6_A specification up to 500MHz for 10GigaBit Ethernet transmission according IEEE802.3an.

The cable is fully screened (each pair in metal foil plus an overall wire braid) and guaranties a very protective signal transmission and high EMC performance.

FRNC compound is used as jacket material. The cable is flame retardant, halogen free and RoHS compliant.

Identification

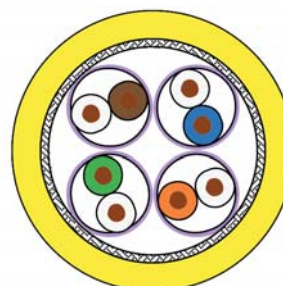
Part number

Drawing

Industrial Ethernet Cable
8-wires, Cat. 6_A FRNC

500 m reel
1000 m reel

09 45 600 0650
09 45 600 0660



- Wire: bare copper, AWG23/1
- Insulation: PE, Ø max. 1.4 mm
- Pairs: Aluminium-bonded polyester tape
- Overall screen: tinned copper wire braid
- Outer sheath: FRNC Compound, flame retardant, halogen free

Color code: whbu/bu, whor/or, whgn/gn, whbr/br
Color of outer sheath: rape yellow, RAL 1021
Overall diameter: approx. 7.4 mm

Technical Characteristics

Performance

Category 6_A according to EN 50288-10-1

Mechanical Characteristics

Minimal bending radius

During installation: 8 x diameter
After installation: 4 x diameter

Tensile strength
Crush

max. 110 N
1000 N/100mm

Electrical Characteristics at 20°C

Transfer impedance at 10 MHz
Coupling attenuation up to 1000 MHz
DC loop resistance
Insulation resistance
Mutual capacitance
Capacitive coupling
Signal velocity
Propagation delay
Skew at 100 MHz
Characteristic impedance at 100 MHz
Test voltage
Operating voltage

5 m Ohm/km
80 dB
max. 75 Ohm/km
min. 5 GOhm x km
42 pF/m
1500 pF/km
0.80 c
420 ns/100m
7 ns/100m
100 Ohm +/- 5 Ohm
1000V
max. 125V

Chemical Characteristics

Flame retardant
Halogen free
Smoke density
Fire load
Free of hazardous substances

IEC 60332-1-2
IEC 60754-2
IEC 61034
0.60 MJ/m
RoHS 2002/95/EG

Thermal Characteristics

Temperature range for fixed installation
Temperature range for mobile operation

- 20° C to + 60° C
0° C to + 50° C

Printing

HARTING INDUSTRIAL INSTALLATION CABLE S/FTP CAT
6 FRNC 4x2xAWG23/1 094560001080000 \$Charge Number\$
\$meter marking\$

Weight about

55 kg/km

Technical Characteristics

Frequency MHz	Attenuation dB/100m		NEXT dB		PS NEXT dB		ACR dB@100m		PS ACR dB@100m		EL FEXT dB@100m		PS EL FEXT dB@100m		Return Loss dB	
	typ.	Cat 6 max*	typ.	Cat 6 max*	typ.	Cat 6 max*	typ.	Cat 6 max*	typ.	Cat 6 max*	typ.	Cat 6 max*	typ.	Cat 6 max*	typ.	Cat 6 max*
1	1.9	2	95	66	92	64	93	64	90	62	91	66	88	63	26	-
10	5.2	5.9	90	59	87	57	85	53	82	51	96	57	93	54	35.9	25
100	17.7	19	75	44	72	42	57	25	54	23	90	42	87	39	37.2	20.1
200	26.4	27.5	68	40	65	38	42	12	39	10	78	38	75	35	33.1	18
250	29.9	31	66	38	63	36	36	7	33	5	75	36	72	33	30.5	17.3
300	31.9	34.2	65	37	62	35	33	3	30	1	72	35	69	32	29.9	17.3
450	38.9	42.7	63	35	60	33	24	-8	21	-10	69	33	66	30	28.9	17.3
500	41.2	45.3	61	34	58	32	20	-11	17	-13	66	32	63	29	28.3	17.3
600	46.2	-	57	-	54	-	11	-	8	-	60	-	57	-	27.2	-
700	51.4	-	54	-	51	-	3	-	0	-	56	-	53	-	26.2	-

* EN 50288-10-1

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