

ETHERLINE® FD P Cat. 6_A

DB2170484

valid from: 13.02.2014

Application

ETHERLINE® FD P Cat. 6_A is a highly flexible CATEGORY 6_A high speed data cable off halogen free materials for industrial usage. The screening ensures high transmission reliability in areas with a high load of electromagnetic capacity. The PUR jacket is resistant against mineral oils and abrasion. The cable is designed for applications in power chains and on permanently moved machine parts in dry and damp areas.

Approvals: c(UL)us type CMX acc. to UL 444; UL AWM styles 11117 and 21576 (1000 V, 80 °C) acc. to UL 758
cRU AWM I/II A/B (FT2) acc. to CSA C22.2 No.210-05

Design

Conductor	tinned copper, fine-wire stranded 7 x ca. 0,20 mm Ø (7/32 AWG), ca. 0.22 mm ² (24 AWG)
Insulation	foam-skin polyolefin, ca. 1.3 mm outer Ø
Core identification code	pair 1: white-blue, pair 2: white-orange, pair 3: white-green, pair 4: white-brown
Pair screening	Plastic laminated aluminum foil
Stranding	2 cores stranded to pair, 4 pairs stranded to bundle with central cross
Wrapping	conductive wrapping
Screening	braid of copper wire, tinned wire, coverage ca. 85 %
Wrapping	non-woven tape
Outer sheath	PUR, green similar to RAL 6018, outer Ø: ca. 8.9 mm

Electrical properties at 20° C

Resistance (loop)	max. 175.2 Ω/km
Insulation resistance	min. 5 GΩxkm
Mutual capacitance	nom. 50 nF/km
Characteristic impedance	nom. 100 Ω acc. to IEC 61156-6
Operating peak voltage	125 V (not for power purposes)
Test voltage (rms 50 Hz, 1 minute)	core/core: 750 V core/screening: 750 V

Transmission properties

Transmission properties acc. to Category 6_A, IEC 61156-6.

Abridgment of boundary values for attenuation and NEXT as follows:

f [MHz]	Attenuation max. [dB/100m]	NEXT [dB/100m]
4	5.7	66.3
10	8.9	60.3
16	11.2	57.2
20	12.6	55.8
31,25	15.8	52.9
62,5	22.5	48.4
100	28.7	45.3
200	41.4	40.8
300	51.4	38.1
500	67.9	34.8

ETHERLINE® FD P Cat. 6_A**DB2170484**

valid from: 13.02.2014

Mechanical and thermal properties

Minimum bending radius	moved: 15 x cable Ø fixed installation: 8 x cable Ø
Permissible temperature range	moved: -30° C up to +70° C fixed installation: -40° C up to +80° C
Power chain	min. 2.500.000 bending cycles length 5 m acceleration 3 m/s ² speed 3 m/s
Flame propagation	flame retardant acc. to IEC 60332-1-2, VW-1 acc. to UL 1581
Oil resistance	oil resistant acc. to IEC 60811-2-1
Halogen free	halogen free acc. to VDE 0472-815
General requirements	Dangerous and forbidden substances acc. to RoHS directive (2011/65/EU) are not allowed to the manufacturing.