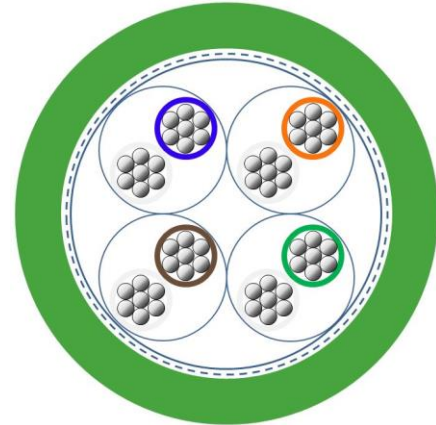


2170485	DATA SHEET	
valid from: 18.10.2022	ETHERLINE® FD CAT.6A 4x2x24/7 AWG	

Application

ETHERLINE® FD Cat. 6A is a highly flexible CATEGORY 6A high speed data cable for industrial usage. The screening ensures high transmission reliability in areas with a high load of electromagnetic capacity. The cable is designed for applications in power chains and on permanently moved machine parts in dry and damp areas.




Design

Certification	c(UL)us type CM (75 °C) acc. to UL 444
Conductor	fine-stranded, tinned copper wires, AWG24/7 or approx. 0.22 mm ²
Insulation	foam-skin polyolefin, outer Ø approx. 1.3 mm
Core identification code	pair 1: white-blue, pair 2: white-orange, pair 3: white-green, pair 4: white-brown
Stranding	2 cores twisted to pairs Pair screening with aluminium laminated foil 4 screened pairs twisted around central core element and shielded with aluminium laminated foil
Screen	braid of tinned copper wires, coverage approx. 85 %
Taping	thin non-woven tape (optional)
Outer sheath	PVC, Colour: green similar RAL 6018, outer Ø: approx. 8.9 mm

Electrical properties at 20 °C

Loop resistance	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
Velocity of propagation	100 MHz: 0.72 c
Maximum operating voltage	125 V
Test voltage	conductor/conductor 750 V conductor/screen 750 V

Creator: KIOS / PDC	Document: DB2170485EN	Page 1 of 2
Released: PESA / PDC	Version: 05	

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Electrical transmission properties at 20°C

f [MHz]	max. Attenuation [dB/100m] standard	min. NEXT [dB] standard	min. EL FEXT [dB] standard	min. Return Loss [dB] standard
4	5,7	66,3	56	23
10	9,5	59,5	46,4	25
16	11,5	57,1	44,1	25
31,25	15,8	53,1	38	23,3
62,5	22,4	48,4	32,2	20,8
100	29	45,2	27,8	19
200	41,1	40,8	22	17,3
250	46,6	39,3	20,1	17,3
300	51,4	38,2	18,5	17,3
350	55,8	37,1	17,1	17,3
500	67,9	34,8	14	17,3

Mechanical and thermal properties

Minimum bending radius	moved: 15 x cable Ø fixed installation: 8 x cable Ø
Temperature range	moved: -30° C up to +70° C fixed installation: -40° C up to +80° C
Bending cycles and power chain operation parameters	approx. 2.500.000 bending cycles acceleration 3 m/s ² speed 3 m/s
Travel distance	5m
Flammability	flame retardant acc. to IEC 60332-1-2, Vertical-Tray acc. to UL 1685
Oil resistance	acc. to IEC 60811-2-1

General requirements

This cable is conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).

Environmental information

These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).

Creator: KIOS / PDC	Document: DB2170485EN	Page 2 of 2
Released: PESA / PDC	Version: 05	