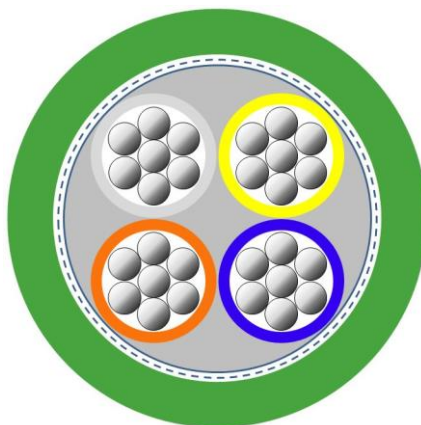


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Application

ETHERLINE® FD P FC 2 x 2 x AWG 22/7 is a highly flexible CATEGORY 5 high speed data cable of halogen free materials for industrial usage. The transmission properties are acc. to the standards EIA/TIA-568, IEC 61156-6, TSB-36 and ISO/IEC 11801 for connections according to class D. The screening ensures a high transmission reliability in areas with a high load of electromagnetic capacity. The PUR jacket is resistant against mineral oils, fats, abrasion and atmospheric UV radiation. 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 CMX acc. to UL 444 and VW-1 acc. to UL 1581
Conductor	tinned copper, fine-wire stranded 7 x ca. 0,25 mm Ø (7/30 AWG), ca. 0.75 mm conductor Ø (22 AWG)
Insulation	PE, ca. 1.5 mm outer Ø
Core identification code	acc. to IEC 60708-1; white, yellow, blue, orange
Stranding	star quad, plastic tape
Inner sheath	halogen free compound FRNC, ca. Ø 3,9 mm
Screen	plastic laminated aluminum foil on top: braid of copper wire, tinned wire 0,10 mm – 0,15 mm, coverage 85 % ± 5 %
Outer sheath	PUR halogen free and flame retardant compound, green RAL 6018, sheath-thickness ca. 0.9 mm, outer Ø: ca. 6.5 mm

Electrical properties at 20°C

Loop resistance	max. 120 Ω/km, acc. to VDE 0812
Insulation resistance	min. 0,5 GΩ xkm
Mutual capacitance	nom. 52 nF/km (at 800 Hz)
Characteristic impedance	100 Ω ± 15 Ω (1MHz up to 100 MHz)
Velocity of propagation	ca. 0,67 c
Signal transit time	<534 ns/100 m
Peak operating voltage	100 V (not for power purposes)
Test voltage	core/core: 700 V core/screening: 700 V

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Electrical transmission properties at 20°C

f [MHz]	Attenuation [dB/100m] standard	NEXT [dB] standard	EL FEXT [dB] standard	Return Loss [dB] standard
1		52	64	64
4	4	44,3	52	52
10	6,4	39,8	44	44
16	8,1	37,6	39,9	39,9
31,25	11,4	34,6	34,1	34,1
62,5	16,5	31,5	28,1	28,1
100	21,4	29,4	24	24

Mechanical and thermal properties

Minimum bending radius	8 x cable Ø
Temperature range	moved: -20° C up to +60° C fixed installation: -30° C up to +70° C
Flammability	flame retardant acc. UL 1581 (VW-1)
Halogen free	halogen free acc. to VDE 0472-815
General requirements	This cable is conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).

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