


2170608	DATA SHEET	
valid from: 16.11.2020	ETHERLINE® PN Cat.7 Y FLEX A 4x2x 23/7 AWG	

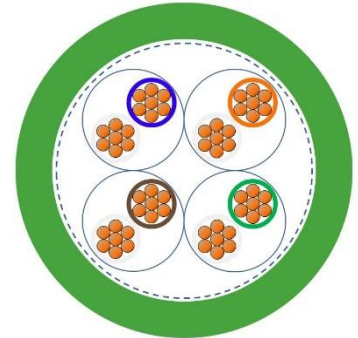
Application

ETHERLINE® PN CAT.7 Y FLEX A (bandwidth up to 600 MHz), has a performance for the cabling class “F” and a maximum transfer rate (IEEE 802.3) of 10 GBit/s to 100m. The electrical parameter of the cable with a nominal impedance of 100 Ω and excellent shielding properties (pair and total screen) are normatively specified to IEC 61156-5.

It is provided for industrial secondary and tertiary cable according to EN 50173-3 ISO/IEC 24702. Other applications are Profinet with 4 Pairs, EtherCAT, EtherNet/IP, Power over Ethernet (IEEE's 802.3af) and Power over Ethernet Plus (802.3at).

The product is flame retardant has a moderate oil resistant and comes in rough industrial environments for use.

It is suitable for fixed installation and serves to wiring of machines, tools , devices , appliances and control cabinets.




Design

Certification	c(UL)us CMG 75°C acc. to UL 444 and CSA C22.2 No. 214-17 (UL) CL3 ST-1 acc. to UL 13 RU AWM Style 21695 80°C, 600 V acc. to UL 758
Conductor	stranded bare copper 23/7 AWG
Insulation	foamed polyolefin core diameter: ca. 1.53 mm
Core identification code	pair 1: white(-blue)/blue, pair 2: white(-orange)/orange, pair 3: white(-green)/green, pair 4: white(-brown)/brown
Stranding	2 cores stranded to pair, 4 pairs stranded together
Pair screen	plastic laminated aluminium foil (overlapping)
Screen	braid of tinned copper wires (coverage 85 % ±5 %)
Outer sheath	PVC green, similar RAL 6018 outer diameter: 8.7 mm (± 0.3 mm)

Electrical properties at 20°C

Loop resistance	max. 13.84 Ω/100 m
Insulation resistance	min. 5 GΩxkm
Mutual capacitance	nom. 44 nF/km
Characteristic impedance	nom. 100 Ω acc. to IEC 61156-6
Velocity of propagation	0.75c
Signal propagation time	≤ 470 ns/100 m
Delay skew	≤ 25 ns/100 m
Operating voltage (max.)	EN: 125 V (not for power purposes)
Rated voltage	UL: 300 V acc. to UL 444 and UL 13 600 V acc. to UL 758
Test voltage	core/core: 2000 V core/screen: 2000 V

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Electrical transmission properties at 20°C

The transmission characteristics meet the requirements of the standards EN 50288-4-2 and IEC 61156-6 for category 7. The normative requirements for the transmission properties are shown in the following table:

f [MHz]		4	10	20	62,5	100	200	250	500	600
(max.) Attenuation	[dB/100 m]	5,5	8,5	21,1	21,7	27,8	40,1	45,3	66,2	73,3
(min.) TCL	[dB]	34	30	27	22	20	17	16	13	12,2
(min.) EL TCTL	[dB/100 m]	23	15	9	—	—	—	—	—	—
(min.) NEXT	[dB]	80	80	80	75,5	72,4	67,9	66,5	61,9	60,8
(min.) PS EL FEXT	[dB/100 m]	77	71	65	55,1	51	45	43	37	35,4
(min.) ACR-F/EL FEXT	[dB/100 m]	80	74	68	58,1	54	48	46	40	38,4
(min.) Return Loss	[dB]	23	25	25	21,5	20,1	18	17,3	17,3	17,3

Mechanical and thermal properties

Minimum bending radius	fixed installation: 4x outer diameter occasional flexing: 8x outer diameter
Temperature range	fixed installation: -30 °C up to +80 °C occasional flexing: -5 °C up to +50 °C c(UL)us CMG: +75 °C UL CL3 ST-1: +75 °C RU AWM: +80 °C
Flammability	flame retardant acc. to IEC 60332-1-2 resp. EN 60332-1-2 FT4 acc. to UL 2556 §12 - §19 HFT/FT2 acc. to UL 2556 §9.1 and UL 1581 §1100
Smoke density	ST-1 acc. to UL 13 §28.4
UV resistance	SUN RES acc. to UL 13 §29.1
Oil resistance	acc. to EN 50290-2-22
General requirements	This cable is conform to EU-Directive 2014/35/EU (Low Voltage Directive) and to 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).

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