
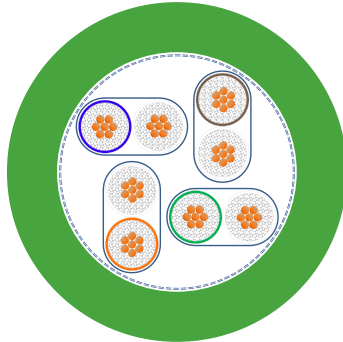


2170934	DATA SHEET	
valid from: 2023-08-11	ETHERLINE® Cat. 7 FLEX 4x2x26/7 AWG	

Application

Field of use:	Flexible Industrial Ethernet cable for generic cable system acc. to ISO/IEC 11801 and EN 50173. Suitable for occasional flexing. Meeting the transmission requirements of IEC 61156-6, Category 7 and EN 50288-4-2.
Performance:	4-pair, overall braid screened, foil screened pair symmetrical cable (S/FTP), having a nominal impedance of 100 Ω, supporting a bandwidth of 10 Gbit/s (e.g. 100BASE-T, 1000BASE-T, 2.5GBASE-T, 5GBASE-T, 10GBASE-T) over up to 60 m.
Characteristics:	flame retardant, halogen free, oil resistant, UV resistant, abrasion resistant, mechanical resistant, largely resistant to acids, alkalis and certain oils
Applications:	EtherCAT, EtherNet/IP and other




Design

Certification	E63634 cRUus AWM Style 21238 AWM I/II A/B 80°C 600V FT2 acc. to UL 758 & CSA C22.2 No.210 EN 13501-6 and EN 50575 Classification of fire behaviour
Conductor	stranded bare copper 26/7 AWG (0.14 mm ²)
Insulation	foam-skin PO (Polyolefine) core diameter: max. 1.05 mm
Core identification code	pair 1: white/blue; pair 2: white/orange; pair 3: white/green; pair 4: white/brown
Stranding	cores twisted to pairs four screened pairs stranded to bundle
Pair screen	plastic laminated aluminium foil
Screen	braid of tinned copper wires (coverage: nom. 70 %)
Outer sheath	TPU (Thermoplastic polyurethane) green, similar RAL 6018 outer diameter: 6.4 mm ± 0.3 mm

Electrical properties at 20 °C

Loop resistance	20 °C:	≤ 28 Ω/100 m
Test voltage	core/core:	2000 V
	core/screen:	2000 V
Rated voltage	UL:	600 V
Maximum operating voltage	IEC/EN:	125 V (not intended to be used in conjunction with low impedance sources, such as utility mains)
Insulation resistance	20 °C:	≥ 5 GΩxkm
Mutual capacitance	1 kHz:	nom. 44 nF/km
Capacitance unbalance	1 kHz:	≤ 1600 pF/km
Transfer impedance	Grade 1 acc. to IEC 61156-6	
	1 MHz:	≤ 15 mΩ/m
	10 MHz:	≤ 10 mΩ/m
	30 MHz:	≤ 30 mΩ/m
	100 MHz:	≤ 100 mΩ/m

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Coupling attenuation	Type I acc. to IEC 61156-6	
	30 MHz:	≥ 85
	100 MHz:	≥ 85
	1000 MHz:	≥ 65
Velocity of propagation	100 MHz:	nom. 0.78 c

Transmission properties at 20°C

The transmission characteristics meet the requirements of IEC 61156-6 for category 7.

Frequency	(max.) Phase delay	(max.) Differential delay	(max.) Attenuation	(min.) TCL Level 1	(min.) EL TCTL Level 1	(min.) NEXT	(min.) PS NEXT	(min.) ACR-F	(min.) PS ACR-F	Char. Impedance	(min.) RL
f [MHz]	[ns/ 100 m]	[ns/ 100 m]	[dB/ 100 m]	[dB]	[dB]	[dB]	[dB]	[dB/ 100 m]	[dB/ 100 m]	[Ohm]	[dB]
4	552.0	25.0	5.6	34.0	23.0	78.0	75.0	78.0	75.0	—	23.0
10	545.4	25.0	8.8	30.0	15.0	78.0	75.0	79.0	76.0	—	25.0
20	542.0	25.0	12.4	27.0	9.0	78.0	75.0	74.5	71.5	—	25.0
62.5	538.6	25.0	22.3	22.0	—	75.5	72.5	67.1	64.1	—	20.7
100	537.6	25.0	28.5	20.0	—	72.4	69.4	64.0	61.0	100 ± 5	19.0
200	536.5	25.0	41.2	17.0	—	67.9	64.9	59.5	56.5	—	16.4
250	536.3	25.0	46.5	16.0	—	66.4	63.4	58.0	55.0	—	15.6
500	535.6	25.0	67.9	—	—	61.9	58.9	53.5	50.5	—	15.6
600	535.5	25.0	75.1	—	—	60.7	57.7	52.3	49.3	—	17.3

Mechanical and thermal properties

Minimum bending radius	fixed installation: 4× outer diameter occasional flexing: 10× outer diameter
Temperature range	fixed installation: -40 °C up to +80 °C occasional flexing: -30 °C up to +50 °C UL: 80 °C
Flammability	flame retardant acc. to ISO 6722-1 and IEC 60332-1-2 resp. EN 60332-1-2 FT2 acc. to UL 1581 §1100
Halogen free	acc. to IEC 60754-1 resp. EN 60754-1
Oil resistance	acc. to EN 50363-10-2
UV resistance	acc. to ISO 4892-2, method A

General requirements

These cables conform to the LV-Directive 2014/35/EU (Low voltage Directive) and the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances). These cables are classified in accordance with the EU-Regulation no. 305/2011 (Construction Products Regulation).

Environmental information

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

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