
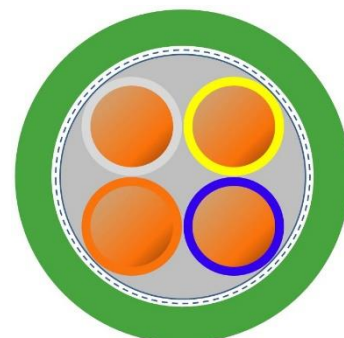


2170893	DATA SHEET	
valid from: 30.03.2021	ETHERLINE® Y FC Cat.5 2x2x22/1 AWG	

Application

Field of use:	Installation cable for generic cabling systems acc. to ISO/IEC 11801 and EN 50173
Performance:	Bandwidth up to 100 MHz acc. to IEC 61156-5 Category 5e and EN 50288-2-1, compliant to the "PROFINET Cabling and Interconnection Technology" guideline
Characteristics:	flame retardant and largely resistant to acids, alkalis and certain oils
Applications:	PROFINET, EtherCAT, EtherNet/IP, Power over Ethernet (IEEE 802.3af), Power over Ethernet Plus (IEEE 802.3at) and many others




Design

Certification	E236660 c(UL)us CMG 75 °C acc. to UL 444 & CSA 22.2 No. 214 E224262 (UL) PLTC acc. to UL 13 E63634 UL AWM Style 21694 60 °C, 600 V acc. to UL 758
Conductor	solid bare copper 22/1 AWG
Insulation	polyolefin core diameter: nom. 1.5 mm
Core identification code	pair 1: white/blue, pair 2: yellow/orange
Stranding	4 cores twisted in star quad construction on top: plastic tape (overlapping)
Inner sheath	PVC outer diameter: nom. 3.9 mm
Screen	plastic laminated aluminium foil (overlapping) on top: braid of tinned copper wires (coverage 85 % ±5 %)
Taping	plastic tape (overlapping)
Outer sheath	PVC green, similar RAL 6018 outer diameter: nom. 6.5 mm (± 0.3 mm)

Electrical properties at 20 °C

Loop resistance	≤ 10,82 Ω/100 m
Insulation resistance	min. 5 GΩxkm
Mutual capacitance	nom. 48 nF/km
Characteristic impedance	nom. 100 Ω acc. to IEC 61156-5
Velocity of propagation	0.67c
Signal propagation time	≤ 530 ns/100 m
Delay skew	≤ 25 ns/100 m
Peak operating voltage	EN: 100 V (not for power purposes)
Test voltage	Ader/Ader: 2000 V Ader/Schirm: 2000 V

Creator: KIOS / PDC	Document: DB2170893EN	Page 1 of 2
Released: ALTE / PDC	Version: 07	

2170893	DATA SHEET	
valid from: 30.03.2021	ETHERLINE® Y FC Cat.5 2x2x22/1 AWG	

Electrical transmission properties at 20°C

The transmission characteristics meet the requirements of the standards EN 50288-2-1 and IEC 61156-5 for category 5e. The normative requirements for the transmission properties are shown in the following table:

f [MHz]		4	10	16	20	31,25	62,5	100
(max.) Attenuation	[dB/100 m]	4	6,3	8	9	11,4	16,5	21,3
(min.) TCL	[dB]	34	30	28	27	25,1	22	20
(min.) EL TCTL	[dB/100 m]	23	15	10,9	9	5,1	—	—
(min.) NEXT	[dB]	56,3	50,3	47,2	45,8	42,9	38,4	35,3
(min.) PS EL FEXT	[dB/100 m]	49	41	36,9	35	31,1	25,1	21
(min.) ACR-F/EL FEXT	[dB/100 m]	52	44	39,9	38	34,1	28,1	24
(min.) Return Loss	[dB]	23	25	25	25	23,6	21,5	20,1

Mechanical and thermal properties

Minimum bending radius	occasional flexing:	15 x outer diameter
	fixed installation:	10 x outer diameter
Temperature range	occasional flexing:	-20 °C up to +60 °C
	fixed installation:	-40 °C up to +80 °C
	UL:	75 °C acc. to UL 13 and UL 444 60 °C acc. to UL 758
Flammability	flame retardant acc. to IEC 60332-1-2 resp. EN 60332-1-2 CSA FT4 acc. to UL 1685 §12 - §19	
UV resistance	SUN RES acc. to UL 13 §29.1	
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).	

Creator: KIOS / PDC	Document: DB2170893EN	Page 2 of 2
Released: ALTE / PDC	Version: 07	