


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

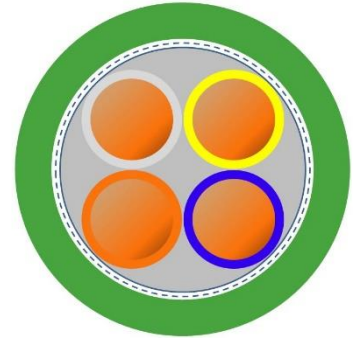
### Application

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  $\leq 10,82 \Omega / 100 \text{ m}$

Insulation resistance min. 5 G $\Omega$ km

Mutual capacitance nom. 48 nF/km

Characteristic impedance nom. 100  $\Omega$  acc. to IEC 61156-5

Velocity of propagation 0.67c


Signal propagation time  $\leq 530 \text{ ns} / 100 \text{ m}$

Delay skew  $\leq 25 \text{ ns} / 100 \text{ m}$

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	

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### 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	