


2170581	<b>DATA SHEET</b>	
valid from: 17.02.2020	<b>ETHERLINE® HEAT Cat. 6A FL09YBC11Y 4x2x24/7AWG</b>	

## Application

Field of use:	Connecting cable for generic cabling systems acc. to ISO/IEC 11801 and EN 50173
Performance:	Bandwidth up to 500 MHz acc. to IEC 61156-6 Category 6A and EN 50288-10-2
Characteristics:	halogen free, flame retardant, and largely resistant to acids, alkalis and certain oils
Applications:	Profinet with 4 pairs, EtherCAT, EtherNet/IP, Power over Ethernet (IEEE 802.3af), Power over Ethernet Plus (IEEE 802.3at) and many other

## Design




Certification	ECE-R 118: E1*118R03/01*0228*00
Conductor	stranded tinned copper 24/7 AWG
Insulation	foamed PP core Ø: ca. 1.3 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	cores twisted to pairs, covered by plastic laminated aluminium foil pairs stranded together
Screen	pairs individual screened by plastic laminated aluminium foil (overlapping) stranded composite covered by braid of tinned copper wires (coverage ca. 85 %)
Taping	non-woven tape (overlapping)
Outer sheath	PUR yellow, similar RAL 1003 outer Ø: ca. 8.1 mm

## Electrical properties at 20°C

Loop resistance	17.3 Ω/100 m
Insulation resistance	min. 5 GΩxkm
Mutual capacitance	48 nF/km (at 800 Hz)
Characteristic impedance	nom. 100 Ω acc. to IEC 61156-6
Signal transit time	<515 ns/100 m
Peak operating voltage	125 V (not for power purposes)
Test voltage	core/core: 1000 V core/screen: 1000 V

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### Electrical transmission properties at 20°C

The transmission characteristics meet the requirements of the standards EN 50288-10-2 and IEC 61156-6 for category 6A. The normative requirements for the transmission properties are shown in the following table:

f [MHz]		4	10	16	62,5	100	250	500
(max.) Attenuation	[dB/100 m]	5,7	8,9	11,2	22,5	28,7	46,6	67,9
(min.) TCL	[dB]	34	30	28	22	20	16	—
(min.) EL TCTL	[dB/100 m]	23	15	10,9	—	—	—	—
(min.) NEXT	[dB]	66,3	60,3	57,2	48,4	45,3	39,3	34,8
(min.) PS EL FEXT	[dB/100 m]	53	45	40,9	29,1	25	17	11
(min.) ACR-F/EL FEXT	[dB/100 m]	56	48	43,9	32,1	28	20	14
(min.) Return Loss	[dB]	23	25	25	21,5	20,1	17,3	17,3

### Mechanical and thermal properties

Minimum bending radius	fixed:	10x cable Ø
	occasional flexing:	15x cable Ø
Temperature range	fixed:	-40 °C bis +105 °C
	occasional flexing:	-30 °C bis +105 °C
Flammability	flame retardant acc. to ISO 6722-1 and IEC 60332-1-2 resp. EN 60332-1-2	
Halogen free	acc. to VDE 0472-815	
General requirements	These cables are conform to the EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances) and the LV-Directive 2014/35/EU (Low voltage Directive).	
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).	

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