



DATA SHEET

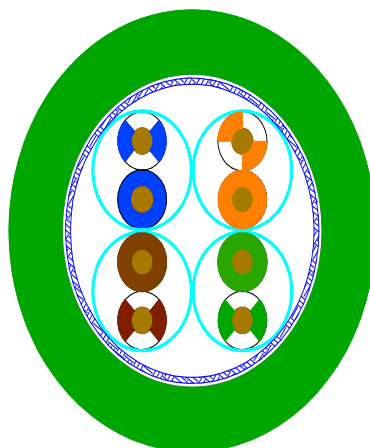
2170464

ETHERLINE[®] Y PiMF * *
4 x 2 x AWG22/1 **CAT.6a**

Valid from:
02.12.2008

Industrial Ethernet CAT. 6a

* * UL/CSA Approved in preparation



Application:

High speed cable for Industrial Ethernet for fixed installations in dry, wet or damp rooms. Cable meets the transmission characteristics for Category 6a of IEC 61156-5 Ed. 2.

Design

Solid bare copper wire \varnothing 0,64 (AWG22/1)	\varnothing 0.64 mm (0.025 in)
Insulation of foamed Polyethylene (PE) with skin	\varnothing 1.52 mm (0.059 in) nom. \varnothing 1.60 mm (0.063 in) max.

Core

2 cores individually screened with aluminium bonded plastic tape and stranded to form the stranded element

Sequence of colours: pair 1: white / blue (WH/BU)-blue (BU),
pair 2: white / orange (WH/OG)-orange (OG)
pair 3: white / green (WH/GN)-green (GN),
pair 4: white / brown (WH/BN)-brown (BN)

Shield braiding of tinned copper wires 0.13 mm diameter (36 AWG)

Coverage approx. 85%

Non woven tape, longitudinally applied \varnothing 6.7 mm (0.264 in)

Jacket

Special compound based on polyvinylchloride (PVC) green (GN)

Wall thickness approx. 1.0 mm

\varnothing 8.7 \pm 0.3 mm
(0.343 \pm 0.012 in)

LAPP KABEL STUTTGART **ETHERLINE[®] Y PiMF CAT. 6a**

4 x 2 x AWG22/1 SHIELDED ROHS ART. 2170464

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Electrical data at 20°C

Loop resistance	≤ 118,2 Ohm/km
Signal run time	≤ 4.7 ns/m
Insulation resistance	≥ 5 GOhm*km
Capacitance at 800 Hz	approx. 45 pF/m
Velocity of propagation	nom. 79%
Characteristic impedance:	
1 - 100 MHz	100 (±15) Ohm
100 - 500 MHz	100 (± 22) Ohm
Operating voltage (peak)	≤ 100V
Test voltage (wire/wire/screen rms 50Hz 1min)	700V

Frequency (MHz)	4	10	16	20	31.25	62.5	100
NEXT (dB) ≥	71,3	65,3	62,2	60,8	57,9	53,4	50,3
Attenuation max. (dB/100m) (dB/100ft)	3,8 (1,16)	6,0 (1,83)	7,6 (2,32)	8,5 (2,59)	10,7 (3,26)	15,5 (4,72)	19,9 (6,07)

Frequency (MHz)	155	200	250	300	500
NEXT (dB) ≥	47,4	45,8	44,3	43,1	39,8
Attenuation max. (dB/100m) (dB/100ft)	25,3 (7,71)	29,1 (8,87)	33,0 (10,1)	36,6 (11,2)	49,2 (15,0)

Other electrical requirements acc. to IEC 61156-5 Ed. 2

Mechanical and thermal characteristics

- Conductor material acc. to DIN EN 13602 Cu-ETP-R460-P
- Screen material acc. to DIN EN 13602 Cu-ETP-A013-C
- Insulating material acc. to DIN EN 50290-2-23 (VDE 0819), table 2/B
- Jacket material acc. to CENELEC HD21, compound type TM1
- Flame retardant acc. to IEC 60332-3
- Stripping of sheath: min. 5 N to max. 40 N at a length of 50 mm

Other characteristics:

RoHS compliant

Permissible temperature range:	-40 °C (-40 °F) up to 80 °C (176 °F)
Min. bending radius allowed:	single 10 x Ø
Weight approx.:	98 kg/km (69 lb/1000 ft)