Application

UNITRONIC® Li2YCY PiMF with individual screening of the pairs (PiMF: Pair in Metal Foil) are particularly suitable for wiring data systems and controls in large industrial plants, for the transmission of sensitive signals and high bit rates for enhanced requirements in near-end cross-talk attenuation and high electrical interference in the circuits. They can be used for measurement value transmission and serial 2-wire interfaces.
Cables of this type are intended for occasional flexible use, and for fixed installation in dry or damp interiors.

Design

Design	Design based on standard VDE 0812 and EN 50288-7
Certification	EN 13501-6 and EN 50575 Classification of fire behaviour (article/dimension range see www.lappkabel.com/cpr)
Conductor	7-wire strands of bare copper wires
Insulation	PE compound acc. to EN 50290-2-23
Core identification code	acc. to DIN 47100
Cable assembly	Pairs: cores twisted to pairs, wrapping with aluminium laminated plastic foil metal side inside, with copper drain wire inside, wrapping with plastic foil, Overall design: screened pairs (PiMF) are stranded in layers, wrapping with plastic foil
Screen	braid of tinned or bare copper, coverage 85 % (nominal value)
Outer sheath	PVC compound TM52 acc. to EN 50290-2-22 colour: grey (similar RAL 7032)

Electrical properties at 20 °C

Loop resistance	max. 186.0 Ω/km (0.22 mm²) max. 115.0 Ω/km (0.34 mm²) max. 78.4 Ω/km (0.5 mm²)
Specific volume resistivity	> 5 G Ω x km
Mutual capacitance	max. 70 nF/km (0.22 mm²) max. 70 nF/km (0.34 mm²) max. 75 nF/km (0.5 mm²) C/C at 800 Hz
Inductance	approx. 0.4 mH/km
Characteristic impedance	approx. 80 Ω (0.22 mm²) approx. 85 Ω (0.34 mm²) approx. 75 Ω (0.5 mm²) at ≥ 1 MHz
Attenuation	at 100 kHz approx. 1.0 dB/100 m (0.22 mm²) approx. 0.9 dB/100 m (0.34 mm²) approx. 0.8 dB/100 m (0.5 mm²) at 1 MHz approx. 4.0 dB/100 m (0.22 mm²) approx. 3.7 dB/100 m (0.34 mm²) approx. 3.4 dB/100 m (0.5 mm²)
Near-end cross-talk	min. 70 dB (up to 1 MHz)
Velocity of propagation	nom. 0.66 c
Maximum operating voltage	250 V (not intended to be used in conjunction with low impedance sources, such as power grids)
Test voltage	C/C: 2000 V C/S: 1000 V S/S: 500 V

Mechanical and thermal properties

Minimum bending radius	occasional flexing: 20 x outer diameter fixed installation: 10 x outer diameter

Temperature range	occasional flexing: -5 °C up to +70 °C fixed installation: -40 °C up to +80 °C
Flammability	flame retardant acc. to IEC 60332-1-2 resp. EN 60332-1-2
General requirements	These cables are 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). A part of these cables (see www.lappkabel.com/cpr) are classified acc. to the EU-Regulation no. 305/2011 (CPR).
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).