



1) not included in scope of delivery, 2) Distance to tape, 3) Tape, 4) Cable length, 5) Active measurement surface, 6) LED function indicator



Basic features

Additional features 01	Real-time capable
Additional features 02	Analog, sin/cos
Application	linear/rotary motion
Approval/Conformity	cURus CE WEEE
Measuring principle	absolute measuring system
Series	SL1

Electrical data

Current consumption max. at 24 V DC	70 mA
Hysteresis H max.	1 µm
Operating voltage U_b	18...30 VDC
Output value	Position in µm
Overvoltage protection	no
Periods	2 mm
Power consumption	≤ 1.4 W (no load)
Switch-on delay max.	100 ms
Voltage-proof up to (GND to housing)	500 V DC

Display/Operation

Error value	0x7FFFFFFC
Function indicator	Green LED LED yellow LED red

Electrical connection

Bending radius min., fixed cable	7.5 x D
Bending radius min., flexible cable	15 x D
Cable diameter D	4.9...5.2 mm
Cable length L	5 m, drag chain compatible
Conductor cross-section	0.08 mm ²
Connection	Cable, 5 m, PUR
Connection type	Cable, 5 m, PUR
Connection version	axial
Number of conductors	12
Polarity reversal protected	yes

Magnetically Coded Sensors
BML SL1-ALZ1-UEZZ-AU1L-KA05
 Order Code: BML0906



Environmental conditions

Altitude max.	2000 m
Ambient temperature	-20...70 °C
Cable temperature, drag chain	-25...85 °C
Cable temperature, flexible routing	-25...85 °C
EN 55016-2-3, Radiation	Industrial areas
EN 60068-2-27, Continuous shock	150 g, 2 ms
EN 60068-2-27, Shock	100 g, 6 ms
EN 60068-2-6, Vibration	20 g, 10...2000 Hz
EN 60068-2-64, Noise	20 g, 5...2000 Hz
EN 61000-4-2, ESD	Severity Level 4
EN 61000-4-3, RFI	Severity Level 3
EN 61000-4-4, Burst	Severity Level 3
EN 61000-4-5, Surge	Severity Level 2
EN 61000-4-6, High-frequency fields	Severity Level 3
EN 61000-4-8 Magnetic fields	Severity Level 5
Ext. magnetic fields max., in operation	1 mT (no effect)
IP rating	IP67
Overall system temperature coefficient	10.5 ppm/K
Relative humidity	≤ 90 %, non-condensing
Storage temperature	-25...85 °C

Material

Cable flame-resistant	UL94 V0 and IEC 60332/2
Housing material	Die-cast zinc, nickel-plated, Chrome-plated
Housing material, surface protection	nickel-plated Chrome-plated
Material jacket	PUR

Mechanical data

Diameter min.	400 mm
Dimension	16 x 18.6 x 54 mm
Lateral offset (Y)	±1.5 mm
Mounting part	Through-hole 4.3 mm
Pitch max.	±0.5 °
Pole width	2 mm
Procedure direction	Lengthwise to tape
Roll max.	±0.5 °
Tangential offset (X) max.	±1 mm
Weight	50 g (excluding cable)
Yaw max. ±	1.0 °

Functional safety

MTTF (40 °C)	149 a
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Interface

Count direction	rising
Cycle time min.	1 ms
Data format	32-bit signed
Differential signals	yes
Error signal	yes
Interface	IO-Link 1.1
Interface coding	Binary
Real-time signals	Analog, sin/cos
Signal sequence	A before B = rising

Range/Distance

Interpolation factor	2000
Measuring range	8190 mm
Non-linearity of sensor head, max.	±5 µm
Optimal read distance	0.4 mm
Read distance	0.01...1.3 mm
Repeat accuracy	≤ 1 µm
Resolution	1 µm
Traverse speed max.	10 m/s

Wiring Diagrams (Schematic)

Color	
WH	+B(+Cos)
BN	-B(-Cos)
GN	NC
YE	NC
GY	C/Q
PK	NC

Color	
BU	L- (0 V)
RD	L+ (18...30 V)
BK	-A(-Sin)
VT	+A(+Sin)
GY-PK	NC
RD-BU	NC