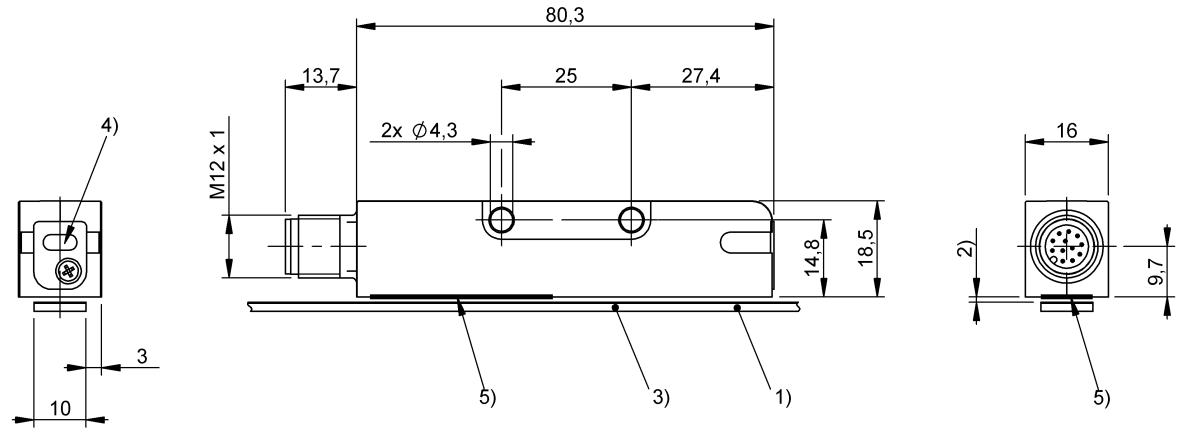
Magnetically Coded Sensors

BML-S1G0-S71D-M5EZ-90-S284
Order Code: BML07N2



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

Basic features

Application	linear/rotary motion
Approval/Conformity	cURus CE EAC WEEE
Measuring principle	absolute measuring system
Series	S1G

Display/Operation

Function indicator	Green LED LED yellow LED red

Electrical connection

Connection	Connector, M12x1-Male, 12-pin
Connection version	axial
Polarity reversal protected	no

Electrical data

Current consumption max. at 24 V DC	70 mA
Current consumption max. at 5 V DC	220 mA
Hysteresis H max.	2 µm
Operating voltage Ub	4.75...5.25 VDC/10...28 VDC
Overvoltage protection	no
Power consumption	≤ 1.5 W (no load)
Switch-on delay max.	1000 ms
Voltage-proof up to (GND to housing)	500 V DC

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Environmental conditions

Altitude max.	2000 m
Ambient temperature	-20...70 °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 IEC 60529 (connector)	IP67
Overall system temperature coefficient	10.5 ppm/K
Relative humidity	≤ 90 %, non-condensing
Storage temperature	-25...85 °C

Functional safety

MTTF (40 °C)	93 a

Interface

Bits, number	24 Bit
Clock	RS422 differential signal
Count direction	rising
Differential signals	yes
Error signal	yes
Interface coding	Gray
Preset	configurable via hardware PIN or software tool
SSI clock frequency max.	900 kHz
SSI clock frequency min.	70 kHz
SSI data	1x error bit 1x null bit 22x position

Material

Housing material	Die-cast zinc, nickel plated, Chrome-plated
Housing material, surface protection	nickel-plated Chrome-plated

Mechanical data

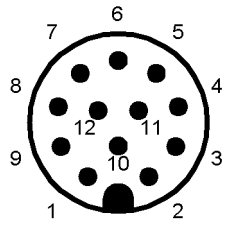
Diameter min.	243 mm
Dimension	16 x 18.5 x 80.3 mm
Lateral offset (Y)	±0.5 mm
Mounting part	Through-hole 4.3 mm
Pitch max.	±0.5 °
Pole width	2 mm
Procedure direction	Lengthwise to tape
Roll max.	±0.5 °
Tangential offset (X) max.	±0.5 mm
Weight	78 g
Yaw max. ±	0.2 °

Range/Distance

Interpolation factor	2000
Measuring range	2 m
Non-linearity of sensor head, max.	±2 µm
Optimal read distance	0.4 mm
Read distance	0.01...0.8 mm
Repeat accuracy	≤ 1 µm
Resolution	1 µm
Traverse speed max., absolute interface	5 m/s

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Connector Drawings



Wiring Diagrams

Pin	Signal
1	NC
2	NC
3	+Clk
4	-Clk
5	-DATA
6	+DATA

Pin	Signal
7	GND
8	V DC
9	NC
10	NC
11	PRESET
12	NC
Shield	Shield