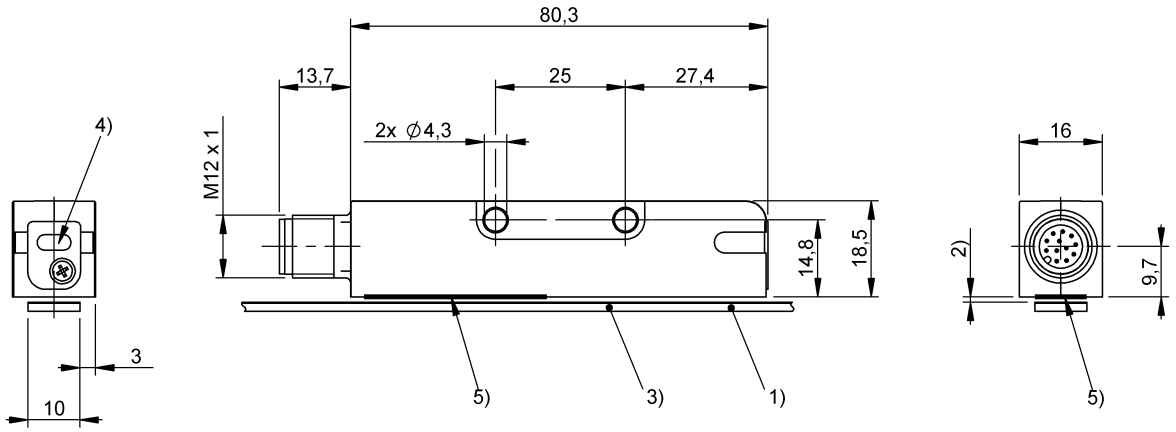
Magnetically Coded Sensors

BML-S1G0-S7EC-M5EA-D0-S284
Order Code: BML04PF



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

Basic features

Additional features 01	Real-time capable
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
Periods	2 mm
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)	90 a

Interface

Bits, number	32 Bit
Clock	RS422 differential signal
Count direction	rising
Differential signals	yes
Error signal	yes
Interface	SSI Analog Sin/Cos (1 Vpp)
Interface coding	Binary
Preset	configurable via hardware PIN or software tool
Real-time signals	Analog, sin/cos
SSI clock frequency max.	1.3 MHz
SSI clock frequency min.	70 kHz
SSI data	1x error bit 3x null bit 28x position
Signal sequence	A before B = rising

Material

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

Mechanical data

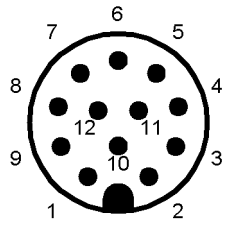
Diameter min.	243 mm
Dimension	16 x 18.5 x 80.3 mm
Lateral offset (Y)	±0.5 mm
Mounting part	Through-hole 4.3 mm
Pitch max.	±0.5 °
Pole width	2 mm
Procedure direction	Lengthwise to tape
Roll max.	±0.5 °
Tangential offset (X) max.	±0.5 mm
Weight	78 g
Yaw max. ±	0.2 °

Range/Distance

Interpolation factor	2048
Measuring range	48 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	0.9765625 µm (1000/1024 µm)
Traverse speed max., absolute interface	10 m/s
Traverse speed max., incremental interface	10 m/s

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Connector Drawings



Wiring Diagrams

Pin	Signal
1	+B (+Cos)
2	-B (-Cos)
3	+Clk
4	-Clk
5	-DATA
6	+DATA

Pin	Signal
7	GND
8	V DC
9	-A (-Sin)
10	+A (+Sin)
11	PRESET
12	NC
Shield	Shield