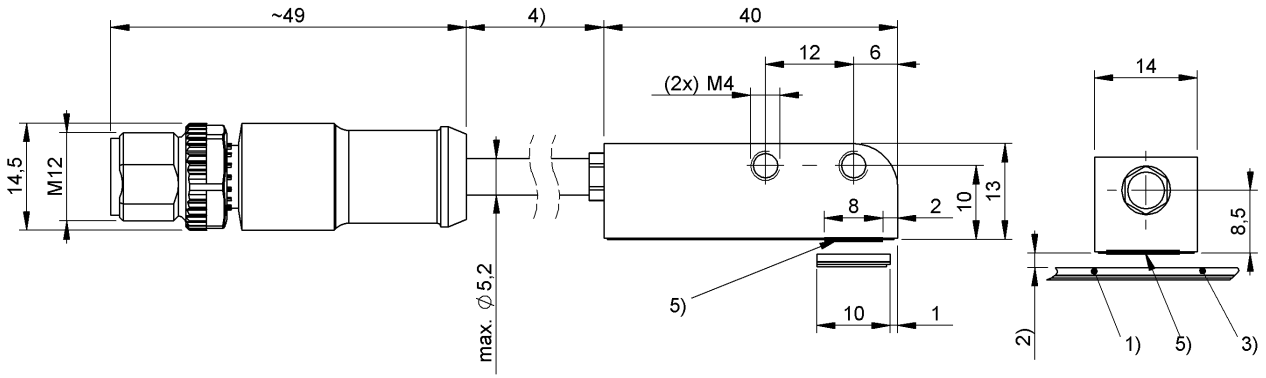
Magnetically Coded Sensors

BML-S1H2-B6QC-M3CA-D0-KA00,3-S284
Order Code: BML03HM



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

Basic features

Additional features 01	Analog, sin/cos
Additional features 03	Real-time capable
Application	linear motion
Approval/Conformity	cURus CE UKCA WEEE
Measuring principle	absolute measuring system
Series	S1H

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	0.3 m, drag chain compatible
Conductor cross-section	0.08 mm²
Connection	Cable with connector, M12x1-Male, 12-pin, 0.3 m, PUR
Connection type	Cable with connector, 0.3 m, PUR
Connection version	axial
Number of conductors	12
Polarity reversal protected	no

Electrical data

BiSS-C data	18x position 1x error bit 1x warnbit 6x CRC
Current consumption max. at 5 V DC	60 mA
Hysteresis H max.	2 µm
Operating voltage Ub	4.75...5.25 VDC
Overvoltage protection	no
Periods	1 mm
Switch-on delay max.	100 ms
Voltage-proof up to (GND to housing)	500 V DC

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Environmental conditions

Altitude max.	2000 m
Ambient temperature	-20...80 °C
Cable temperature, drag chain	-25...85 °C
Cable temperature, fixed routing	-40...85 °C
Cable temperature, flexible routing	-25...85 °C
EN 55016-2-3, Radiation	Industrial areas
EN 60068-2-27, Continuous shock	100 g, 2 ms
EN 60068-2-27, Shock	100 g, 6 ms
EN 60068-2-6, Vibration	12 g, 10…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	-30...85 °C

Functional safety

MTTF (40 °C)	1177 a

Interface

BiSS-C clock frequency	2...10 MHz
Bits, number	26 Bit
Clock	RS422 differential signal
Count direction	rising
Differential signals	yes
Interface	BiSS-C Analog Sin/Cos (1 Vpp ± 0,35 V)
Interface coding	Binary
Preset	configurable via software tool
Real-time signals	Analog, sin/cos
Signal sequence	A before B = rising

Material

Cable flame-resistant	UL94 V0 and IEC 60332/2
Housing material	Aluminium
Material jacket	PUR

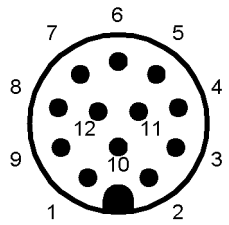
Mechanical data

Dimension	14 x 13 x 40 mm
Lateral offset (Y)	±0.2 mm
Mounting part	M4 thread
Pitch max.	±0.3 °
Pole width	1 mm
Procedure direction	transverse to tape
Roll max.	±0.3 °
Weight	25 g (excluding cable)
Yaw max. ±	0.3 °

Range/Distance

Interpolation factor	1024
Measuring range	256 mm
Non-linearity max.	±7 µm
Non-linearity of sensor head, max.	±2 µm
Read distance	0.01...0.35 mm
Repeat accuracy	≤ 1 µm
Resolution	0.9765625 µm (1000/1024 µm)
Traverse speed max.	7 m/s

Connector Drawings



Wiring Diagrams (Schematic)

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

Pin	
7	GND
8	U_B
9	-A (-SIN)
10	+A (+SIN)
11	GND Sense
12	U_B Sense