

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



### Basic features

<b>Additional features 03</b>	Real-time capable
<b>Application</b>	linear/rotary motion
<b>Approval/Conformity</b>	CE UKCA cURus WEEE
<b>Measuring principle</b>	incremental measuring system
<b>Series</b>	S1F

### Electrical data

<b>Current consumption max. at 5 V DC</b>	50 mA
<b>Hysteresis H max.</b>	2 µm
<b>Operating voltage U<sub>b</sub></b>	4.75...5.25 VDC
<b>Overvoltage protection</b>	no
<b>Periods</b>	1 mm
<b>Voltage-proof up to (GND to housing)</b>	500 V DC

### Electrical connection

<b>Bending radius min., fixed cable</b>	7.5 x D
<b>Bending radius min., flexible cable</b>	15 x D
<b>Cable diameter D</b>	4.9...5.2 mm
<b>Cable length L</b>	1 m, drag chain compatible
<b>Conductor cross-section</b>	0.08 mm <sup>2</sup>
<b>Connection</b>	Cable with connector, M12x1- Male, 12-pin, 1 m, PUR
<b>Connection type</b>	Cable with connector, 1 m, PUR
<b>Connection version</b>	axial
<b>Number of conductors</b>	12
<b>Polarity reversal protected</b>	yes
<b>Protection against device mix-ups</b>	yes

Magnetically Coded Sensors  
**BML-S1F1-A62Z-M300-90-KA00,3-S284**  
**Order Code: BML08CF**



**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 3
EN 61000-4-3, RFI	Severity Level 3
EN 61000-4-4, Burst	Severity Level 1
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 4
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)	718 a
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**Interface**

Differential signals	yes
Error signal	no
Interface	Analog Sin/Cos (1 Vpp ± 0,35 V)
Reference signal	without reference signal
Signal sequence	A before B = rising

**Material**

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

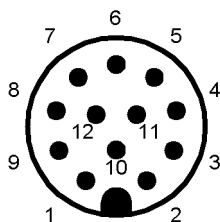
**Mechanical data**

Dimension	12 x 13.1 x 35 mm
Lateral offset (Y)	±0.5 mm
Mounting part	M4 thread
Pitch max.	±1.0 °
Pole width	1 mm
Procedure direction	Lengthwise to tape
Roll max.	±1.0 °
Weight	21 g (excluding cable)
Yaw max. ±	1.0 °

**Range/Distance**

Non-linearity of sensor head, max.	±2 µm
Read distance	0.01...0.35 mm
Repeat accuracy	≤ 1 µm depending on controller
Resolution	(controller-dependent)
Traverse speed max.	10 m/s

**Connector Drawings**



## Wiring Diagrams

Pin	Signal
1	+B (+Cos)
2	-B (-Cos)
3	-A (-Sin)
4	+A (+Sin)
5	NC
6	NC
7	GND

Pin	Signal
8	+5 V DC
9	GND Sense
10	U <sub>B</sub> Sense
11	NC
12	NC
Shield	Housing