

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 UKCA 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

| | |
|---------------------------------------------|---------------------------------------------------------------------|
| BISS-C data | 4x null bit 28x position 1x error bit 1x warnbit 6x CRC |
| 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 U_b | 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 |

Magnetically Coded Sensors
BML-S1G0-B7ED-M5EZ-90-S284
Order Code: BML042T



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

| | |
|------------------------|------------------------------------------------|
| BiSS-C clock frequency | 0.1...10 MHz |
| Bits, number | 40 Bit |
| Clock | RS422 differential signal |
| Count direction | rising |
| Differential signals | yes |
| Error signal | yes |
| Interface | BISS-C |
| Interface coding | Binary |
| Preset | configurable via hardware PIN or software tool |

Material

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

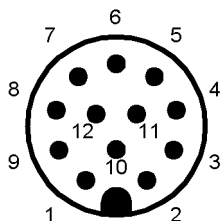
Mechanical data

| | |
|----------------------------|---------------------|
| 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 | 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 | 1 µm |
| Traverse speed max., absolute interface | 5 m/s |

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 |