



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



Basic features

| | |
|-------------------------------|------------------------------|
| Additional features 03 | Real-time capable |
| Application | linear/rotary motion |
| Approval/Conformity | cURus CE UKCA WEEE |
| Measuring principle | incremental measuring system |
| Series | S2C |

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 | 10 m, drag chain compatible |
| Conductor cross-section | 0.08 mm ² |
| Connection | Cable, 10 m, PUR |
| Connection type | Cable, 10 m, PUR |
| Connection version | axial |
| Number of conductors | 12 |
| Polarity reversal protected | yes |

Electrical data

| | |
|--|-------------|
| Current consumption max. at 24 V DC | 80 mA |
| Operating voltage Ub | 10...30 VDC |
| Overvoltage protection | no |
| Switch-on delay max. | 500 ms |

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 2 |
| 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 4 |
| Ext. magnetic fields max., in operation | 1 mT (no effect) |
| IP rating | IP67 |
| Overall system temperature coefficient | 10.5 ppm/K |
| Relative humidity | ≤ 90 %, non-condensing |
| Storage temperature | -30...85 °C |

Functional safety

| | |
|---------------------|-------|
| MTTF (40 °C) | 692 a |
|---------------------|-------|

Magnetically Coded Sensors
BML-S2C0-Q53K-M600-K0-KA10
Order Code: BML0796

BALLUFF

Interface

| | |
|----------------------|--------------------------|
| Differential signals | no |
| Error signal | no |
| Interface | Digital A/B (HTL) |
| Reference signal | without reference signal |
| Signal sequence | A before B = rising |

Material

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

Mechanical data

| | |
|---------------------|------------------------|
| Dimension | 10 x 25 x 35 mm |
| Lateral offset (Y) | ±4 mm |
| Mounting part | Through-hole 3.5 mm |
| Pitch max. | ±1.0 ° |
| Pole width | 10 mm |
| Procedure direction | Lengthwise to tape |
| Roll max. | ±3.0 ° |
| Weight | 11 g (excluding cable) |
| Yaw max. ± | 3.0 ° |

Range/Distance

| | |
|----------------------|----------------------------------|
| Edge separation min. | 4 µs |
| Interpolation factor | 200 |
| Non-linearity max. | ±400 µm (z=1...5 mm, y=±2 mm) |
| Non-linearity typ. | ±550 µm (z=0.01...6.5mm, y=±4mm) |
| Read distance | 0.01...6.5 mm |
| Repeat accuracy | ≤ 50 µm |
| Resolution | 50 µm (edge separation A/B) |
| Traverse speed max. | 9.52 m/s |

Wiring Diagrams

| Colour | | Colour | |
|--------|----|--------|----------------------|
| WH | +A | BU | GND |
| BN | NC | RD | U _B |
| GN | +B | BK | GND Sense |
| YE | NC | VT | U _B Sense |
| GY | NC | GYPK | NC |
| PK | NC | RDBU | NC |