



BCG05-C1QM0199

EcoLine

WIRE DRAW ENCODERS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|----------------|----------|
| BCG05-C1QM0199 | 1068865 |

Included in delivery: AHM36A-SDCC014x12 (1), MRA-G055-101D4 (1)

Product is supplied fully assembled. See individual components for further technical data

Other models and accessories → www.sick.com/EcoLine

Detailed technical data

Performance

BCG

| | |
|---|--------------------------|
| Measurement range | 0 m ... 1.25 m |
| Encoder | Absolute encoders |
| Resolution (wire draw + encoder) | 0.01 mm ^{1) 2)} |
| Repeatability | ≤ 0.2 mm ³⁾ |
| Linearity | ≤ ± 2 mm ³⁾ |
| Hysteresis | ≤ 0.4 mm ³⁾ |

¹⁾ The values shown have been rounded.

²⁾ Example calculation based on the BCG08 with PROFINET: 230 mm (wire draw length per revolution - see Mechanical data): 262,144 (number of steps per revolution) = 0.001 mm (resolution of wire draw + encoder combination).

³⁾ Value applies to wire draw mechanism.

Interfaces

BCG

| | |
|----------------------------------|---------|
| Communication interface | CANopen |
| Programmable/configurable | ✓ |

Electrical data

BCG

| | |
|--|--|
| Connection type | Male connector, M12, 5-pin, universal |
| Supply voltage | 10 V ... 30 V |
| Power consumption | ≤ 1.5 W (without load) |
| MTTFd: mean time to dangerous failure | 270 years (EN ISO 13849-1) ¹⁾ |

¹⁾ This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

Mechanical data

BCG

| | |
|---|--|
| Weight | 0.2 kg |
| Measuring wire material | Highly flexible stranded steel 1,4401 stainless steel V4A/PA 12-sheathed |
| Weight (measuring wire) | 0.58 g/m |
| Housing material, wire draw mechanism | Plastic, Noryl |
| Spring return force | 1 N ... 1.4 N ¹⁾ |
| Length of wire pulled out per revolution | 150 mm |
| Life of wire draw mechanism | Typ. 1,000,000 cycles ^{2) 3)} |
| Actual wire draw length | 1.45 m |
| Wire acceleration | 10 m/s ² |
| Operating speed | 6 m/s |
| Mounted encoder | AHM36 CANopen, AHM36A-SDCC014x12, 1067977 |
| Mounted mechanic | MRA-G055-101D4, 5324019 |

¹⁾ These values were measured at an ambient temperature of 25 °C. There may be variations at other temperatures.

²⁾ Average values, which depend on the application.

³⁾ The service life depends on the type of load. This is influenced by environmental conditions, the installation location, the measuring range in use, the traversing speed, and acceleration.

Ambient data

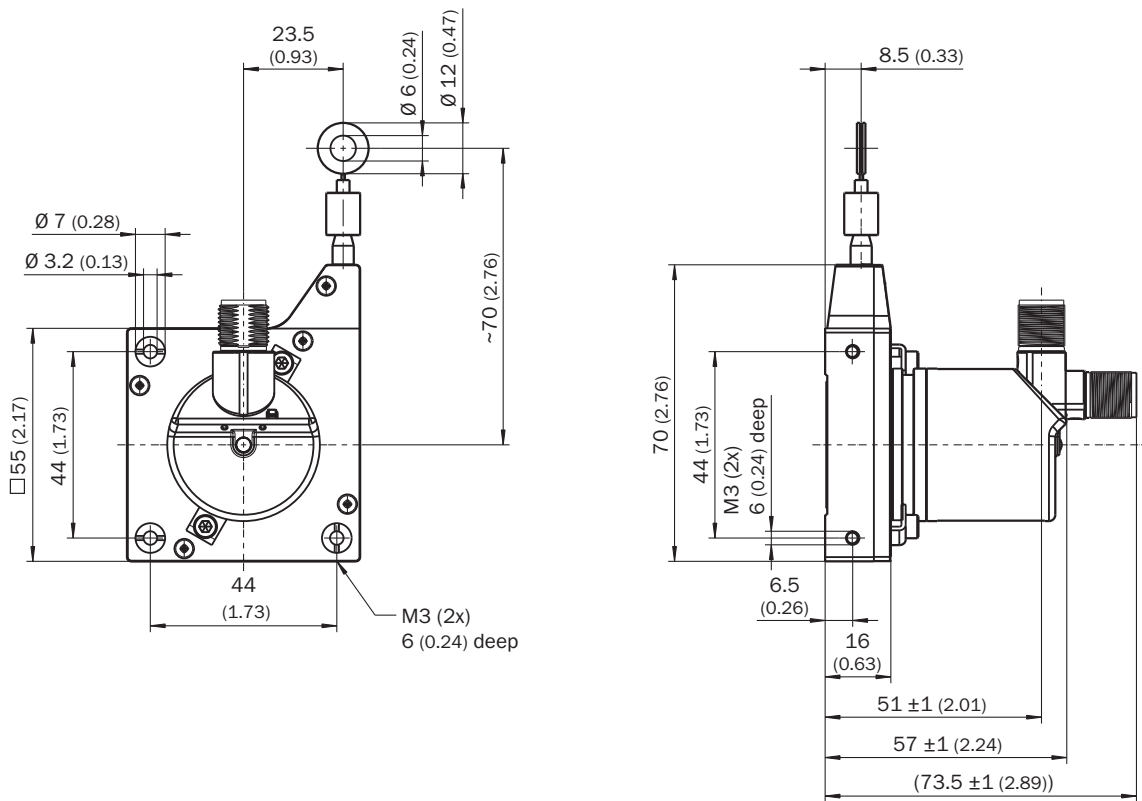
BCG

| | |
|------------------------------------|--|
| EMC | According to EN 61000-6-2 and EN 61000-6-3 |
| Enclosure rating | IP50 |
| Operating temperature range | -30 °C ... +70 °C |

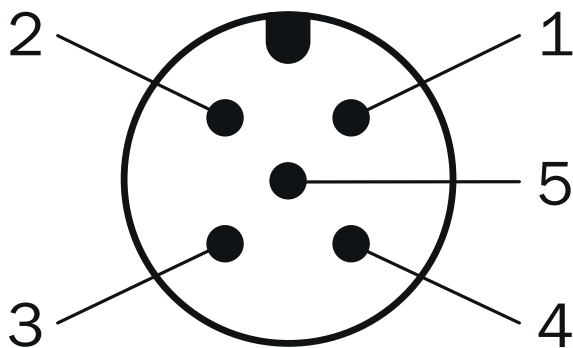
Classifications

| | |
|-----------------------|----------|
| eCI@ss 5.0 | 27270590 |
| eCI@ss 5.1.4 | 27270590 |
| eCI@ss 6.0 | 27270590 |
| eCI@ss 6.2 | 27270590 |
| eCI@ss 7.0 | 27270590 |
| eCI@ss 8.0 | 27270590 |
| eCI@ss 8.1 | 27270590 |
| eCI@ss 9.0 | 27270590 |
| eCI@ss 10.0 | 27270613 |
| eCI@ss 11.0 | 27270503 |
| eCI@ss 12.0 | 27270503 |
| ETIM 5.0 | EC001486 |
| ETIM 6.0 | EC001486 |
| ETIM 7.0 | EC001486 |
| ETIM 8.0 | EC001486 |
| UNSPSC 16.0901 | 41112113 |

Dimensional drawing (Dimensions in mm (inch))



PIN assignment







| PIN | Signal | Wire colors (cable connection) | Function |
|-----|-------------|--------------------------------|--|
| 1 | CAN Shield | White | Screen |
| 2 | VDC | Red | Supply voltage Encoder 10 V DC ... 30 V DC |
| 3 | GND/CAN GND | Blue | 0 V (GND) |
| 4 | CAN high | Black | CAN signal |
| 5 | CAN low | Pink | CAN signal |

| PIN | Signal | Wire colors (cable connection) | Function |
|---------|--------|--------------------------------|----------|
| Housing | - | - | Screen |

Recommended accessories

Other models and accessories → www.sick.com/EcoLine

| | Brief description | Type | Part no. |
|---|--|--------------------|----------|
| Programming and configuration tools | | | |
|  | Hand-held programming device for the programmable SICK AHS/AHM36 CANopen encoders, TMS/TMM61 CANopen inclination sensors, TMS/TMM88 CANopen, TMS/TMM88 Analog, and wire draw encoders with AHS/AHM36 CANopen. Compact dimensions, low weight, and intuitive operation. | PGT-12-Pro | 1076313 |
| Wire draw mechanism | | | |
|  | EcoLine wire draw mechanism for servo flange with 6 mm shaft, measuring range 0 m ... 1.25 m | MRA-G055-101D4 | 5324019 |
| Distributors | | | |
|  | Head A: female connector, M12, 5-pin, A-coded Head B: male connector, M12, 5-pin, A-coded 5-pin | DSC-1205T000025KM0 | 6030664 |
|  | Head A: female connector, M12, 5-pin, straight, A-coded Head B: female connector, M12, 5-pin, straight, A-coded Male connector, M12, 5-pin, straight, A-coded Cable: CAN, Power, 0.5 m | Y-CAN cable | 6027647 |
| Flanges | | | |
|  | Flange adapter for EcoLine wire draw mechanisms, adaption of face mount flange with centering hub 20 mm to 50 mm servo flange, Aluminum, including 3 countersunk screws M3 x 10 | BEF-FA-020-050-007 | 2073774 |
| Plug connectors and cables | | | |
|  | Head A: Flying leads Head B: Flying leads Cable: CANopen, DeviceNet™, shielded Wire shield Al-Pt film, overall shield C-screen tin-plated | LTG-2804-MW | 6028328 |
|  | Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 2 m | YF2A15-020C1BXLEAX | 2106283 |
| | Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 5 m | YF2A15-050C1BXLEAX | 2106284 |
| | Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 10 m | YF2A15-100C1BXLEAX | 2106286 |
|  | Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 2 m | YF2A15-020C1BM2A15 | 2106279 |
| | Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 5 m | YF2A15-050C1BM2A15 | 2106281 |

| | Brief description | Type | Part no. |
|---|---|--------------------|----------|
|  | Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Fieldbus, CANopen, DeviceNet™, PUR, halogen-free, shielded, 10 m | YF2A15-100C1BM2A15 | 2106282 |
|  | Head A: female connector, M12, 5-pin, straight Cable: CANopen, DeviceNet™, shielded | DOS-1205-GA | 6027534 |
|  | Head A: male connector, M12, 5-pin, straight, A-coded Cable: CANopen, DeviceNet™, shielded | STE-1205-GA | 6027533 |
|  | Head A: male connector, M12, 5-pin, straight Cable: CANopen, unshielded | CAN male connector | 6021167 |

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

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