

BCG08-K1KM03PP

EcoLine

WIRE DRAW ENCODERS

SICK
Sensor Intelligence.

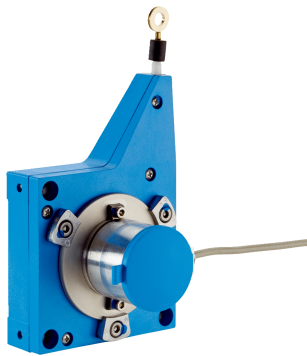


Illustration may differ

Ordering information

Type	Part no.
BCG08-K1KM03PP	6039747

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

Product description

The slim design of the EcoLine family is ideal for applications with limited space. Its modularity makes it suitable for a large selection of measuring lengths, interfaces and encoders. Due to the into the drum integrated spring as well as the adaption without coupling, it is possible to achieve high precision and stability. The special nozzle serves to protect the measuring wire from damage caused by vibration. The intuitive teach-in function provided in analog options also enables easy system integration.

At a glance

- Measured lengths: 1.25 m ... 10 m
- Modular measuring system with a wide selection of interfaces/measuring lengths
- Very small, slim housing (55 mm ... 190 mm) with spring integrated in the measurement drum
- Light yet shock-proof and temperature-resistant plastic housing
- Analog interface with teach-in function at the encoder
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Your benefits

- Space- and cost-saving design thanks to slimline mechanics
- Numerous possible combinations of interfaces and measuring lengths
- Advanced programming options lead to a reduction in the amount of variants, save costs, and reduce storage
- Analog interface speeds up commissioning and cost-effective interface card can be used



Fields of application

- Measuring height and tilt of automated guided systems
- Height measurement in small warehouse systems
- Applications in medical technology (operating tables, MRT)
- Height measurement of scissors lifting platforms
- Height measurement of overhead conveyors in the automotive industry

Detailed technical data

Performance

Measurement range	0 m ... 3 m
Reproducibility	≤ 0.2 mm ¹⁾
Linearity	≤ ± 2 mm ¹⁾
Hysteresis	≤ 0.4 mm ¹⁾
Resolution (wire draw + encoder)	0.06 mm ^{2) 3)}

¹⁾ Value applies to wire draw mechanism.

²⁾ The values shown have been rounded.

³⁾ 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).

Interfaces

Encoder	Absolute encoders
Electrical interface	4 mA ... 20 mA, Analog
Connection type	Cable, 3-wire, radial, 1.5 m
Clock frequency	32 kHz
Set (electronic adjustment)	Over membrane keyboard

Electrical data

Initialization time	≤ 2 ms ¹⁾
Supply voltage	19 V ... 33 V
Power consumption	2 W

¹⁾ Valid positional data can be measured once this time has elapsed.

Mechanical data

Mass (including encoder)	650 g
Mass (mechanics)	250 g
Measuring wire material	Highly flexible stranded steel 1.4401 stainless steel V4A
Weight (measuring wire)	1.2 g/m
Housing material, wire draw mechanism	Plastic, Noryl
Length of wire pulled out per revolution	230 mm
Spring return force	Approx. 5 N ... approx. 6.3 N ¹⁾
Life of wire draw mechanism	Typ. 1 million cycles ²⁾
Actual wire draw length	3.2 m

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

²⁾ A cycle consists of the wire being pulled out and drawn in.

Measuring wire diameter	0.55 mm
Wire acceleration	10 m/s ²
Operating speed	4 m/s
Mounted encoder	ACM36
Part number encoder	6039751
Mounted mechanic	MRA-G080-103D3
Part number mechanic	5322778

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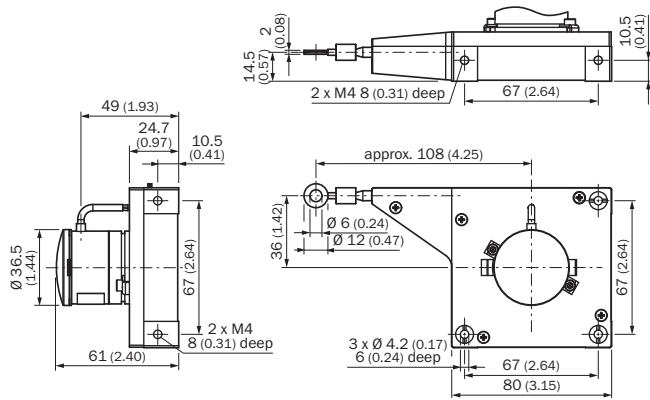
Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating encoder	IP65
Enclosure rating mechanic	IP 50
Resistance to shocks	50 g, 6 ms (according to EN 60068-2-27)
Frequency range of resistance to vibration	4 g, Sinus 5 Hz ... 100 Hz (according to EN 60068-2-6)
Working temperature range (encoder)	-30 °C ... +70 °C
Working temperature range (mechanics)	-30 °C ... +70 °C
Working temperature range (combination)	Defined by the higher minimum and lower maximum value of the operating temperature of the encoder and the mechanism

Classifications

ECl@ss 5.0	27270590
ECl@ss 5.1.4	27270590
ECl@ss 6.0	27270590
ECl@ss 6.2	27270590
ECl@ss 7.0	27270590
ECl@ss 8.0	27270590
ECl@ss 8.1	27270590
ECl@ss 9.0	27270590
ETIM 5.0	EC001486
ETIM 6.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))

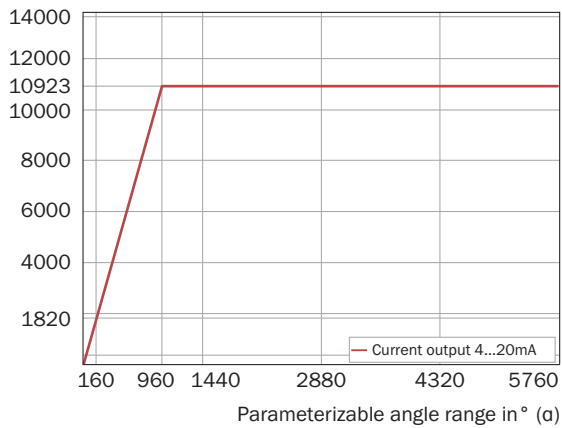


Signal outputs

Multiturn, current output

Multiturn resolution - current

Measuring steps



Caution!
Parameterization range (α) must be at least 160°.



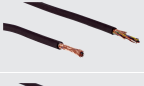
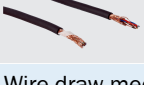

Measuring steps (α ≤ 960°): $\frac{\text{Angle } (\alpha) * 65535 \text{ meas. steps}}{5760^\circ}$

Measuring steps (α > 960°): 10923 measuring steps

Output res. per measuring step: $\frac{16 \text{ mA}}{\text{Measuring steps}}$
(current)

Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: cable Head B: cable Cable: SSI, drag chain use, PUR, halogen-free, shielded	LTG-2308-MWENC	6027529
	Head A: cable Head B: cable Cable: SSI, PUR, shielded	LTG-2411-MW	6027530
	Head A: cable Head B: cable Cable: SSI, drag chain use, PUR, halogen-free, shielded	LTG-2512-MW	6027531
		LTG-2612-MW	6028516
Wire draw mechanism			
	Ecoline wire draw mechanism for 60 series servo flange With 6 mm shaft	MRA-G080-103D3	5322778

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

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