

# BCG08-A1AM0318

EcoLine

WIRE DRAW ENCODERS

**SICK**  
Sensor Intelligence.

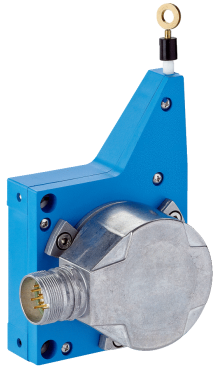


Illustration may differ



### Ordering information

Type	Part no.
BCG08-A1AM0318	1061025

**Included in delivery:** MRA-G080-103D3 (1), AFM60E-S1AA004096 (1)

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

Other models and accessories → [www.sick.com/EcoLine](http://www.sick.com/EcoLine)

### Detailed technical data

#### Performance

BCG

<b>Measurement range</b>	0 m ... 3 m
<b>Encoder</b>	Absolute encoders
<b>Resolution (wire draw + encoder)</b>	0.06 mm <sup>1) 2)</sup>
<b>Repeatability</b>	≤ 0.2 mm <sup>3)</sup>
<b>Linearity</b>	≤ ± 2 mm <sup>3)</sup>
<b>Hysteresis</b>	≤ 0.4 mm <sup>3)</sup>

<sup>1)</sup> The values shown have been rounded.

<sup>2)</sup> 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).

<sup>3)</sup> Value applies to wire draw mechanism.

#### Interfaces

BCG

<b>Communication interface</b>	SSI
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#### Electrical data

BCG

<b>Connection type</b>	Male connector, M23, 12-pin, radial
<b>Supply voltage</b>	4.5 V DC ... 32 V DC
<b>Power consumption</b>	≤ 0.7 W (without load)
<b>MTTFd: mean time to dangerous failure</b>	250 years (EN ISO 13849-1) <sup>1)</sup>

<sup>1)</sup> 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

<b>Weight</b>	0.55 kg
<b>Measuring wire material</b>	Highly flexible stranded steel 1,4401 stainless steel V4A
<b>Weight (measuring wire)</b>	1.2 g/m
<b>Housing material, wire draw mechanism</b>	Plastic, Noryl
<b>Spring return force</b>	3.3 N ... 4.4 N <sup>1)</sup>
<b>Length of wire pulled out per revolution</b>	230 mm
<b>Life of wire draw mechanism</b>	Typ. 1,000,000 cycles <sup>2) 3)</sup>
<b>Actual wire draw length</b>	3.2 m
<b>Wire acceleration</b>	10 m/s <sup>2</sup>
<b>Operating speed</b>	6 m/s
<b>Mounted encoder</b>	AFM60 SSI, AFM60E-S1AA004096, 1037438
<b>Mounted mechanic</b>	MRA-G080-103D3, 5322778

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

<sup>2)</sup> Average values, which depend on the application.

<sup>3)</sup> 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

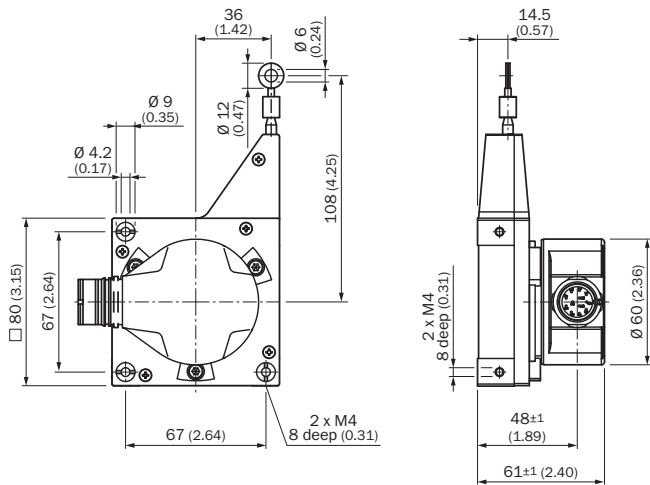
<b>EMC</b>	According to EN 61000-6-2 and EN 61000-6-3 <sup>1)</sup>
<b>Enclosure rating</b>	IP50
<b>Operating temperature range</b>	0 °C ... +70 °C

<sup>1)</sup> EMC according to the standards quoted is achieved if shielded cables are used.

## Classifications

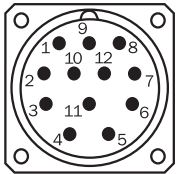
<b>ECl@ss 5.0</b>	27270590
<b>ECl@ss 5.1.4</b>	27270590
<b>ECl@ss 6.0</b>	27270590
<b>ECl@ss 6.2</b>	27270590
<b>ECl@ss 7.0</b>	27270590
<b>ECl@ss 8.0</b>	27270590
<b>ECl@ss 8.1</b>	27270590
<b>ECl@ss 9.0</b>	27270590
<b>ECl@ss 10.0</b>	27270613
<b>ECl@ss 11.0</b>	27270503
<b>ECl@ss 12.0</b>	27270503
<b>ETIM 5.0</b>	EC001486
<b>ETIM 6.0</b>	EC001486
<b>ETIM 7.0</b>	EC001486
<b>ETIM 8.0</b>	EC001486
<b>UNSPSC 16.0901</b>	41112113

### Dimensional drawing (Dimensions in mm (inch))



### PIN assignment

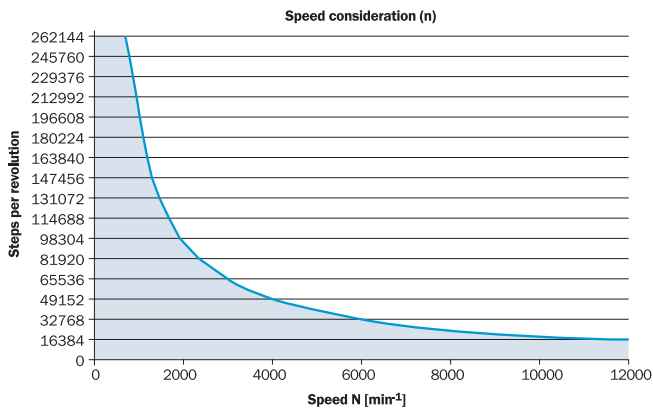
M23 male connector, 12-pin, SSI/Gray



View of M23 male device connector on encoder

PIN	Signal	Explanation
1	GND	Ground connection
2	Data +	Interface signals
3	Clock +	Interface signals
4	N.C.	Not assigned
5	N.C.	Not assigned
6	N.C.	Not assigned
7	N.C.	Not assigned
8	U <sub>S</sub>	Operating voltage
9	SET	Electronic adjustment
10	Data -	Interface signals
11	Clock -	Interface signals
12	V/R	Sequence in direction of rotation
	Screen	Screen connected to housing on encoder side. Connected to ground on control side.



## Diagrams





The maximum speed is also dependent on the shaft type.

## Recommended accessories

Other models and accessories → [www.sick.com/EcoLine](http://www.sick.com/EcoLine)

	Brief description	Type	Part no.
<b>Wire draw mechanism</b>			
	EcoLine wire draw mechanism for servo flange with 6 mm shaft, measuring range 0 m ... 3 m	MRA-G080-103D3	5322778
<b>Flanges</b>			
	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 M4 x 10	BEF-FA-020-050-007	2073774
<b>Plug connectors and cables</b>			
	Head A: cable Head B: Flying leads Cable: SSI, Incremental, HIPERFACE®, PUR, halogen-free, shielded	LTG-2308-MWENC	6027529
	Head A: female connector, M23, 12-pin, straight Head B: Flying leads Cable: SSI, PUR, halogen-free, shielded, 3 m	DOL-2308-G03MAA6	2048597
	Head A: female connector, M23, 12-pin, straight Head B: Flying leads Cable: SSI, PUR, halogen-free, shielded, 5 m	DOL-2308-G05MAA6	2048598
	Head A: female connector, M23, 12-pin, straight Head B: Flying leads Cable: SSI, PUR, halogen-free, shielded, 0.5 m	DOL-2308-G0M5AA6	2048595
	Head A: female connector, M23, 12-pin, straight Head B: Flying leads Cable: SSI, PUR, halogen-free, shielded, 10 m	DOL-2308-G10MAA6	2048599
	Head A: female connector, M23, 12-pin, straight Head B: Flying leads Cable: SSI, PUR, halogen-free, shielded, 1.5 m	DOL-2308-G1M5AA6	2048596

	Brief description	Type	Part no.
	Head A: female connector, M23, 9-pin, straight Cable: HIPERFACE <sup>®</sup> , SSI, Incremental, shielded	DOS-2309-G	6028533
	Head A: female connector, M23, 12-pin, straight Cable: HIPERFACE <sup>®</sup> , SSI, Incremental, shielded	DOS-2312-G	6027538
	Head A: female connector, M23, 12-pin, angled Cable: HIPERFACE <sup>®</sup> , SSI, Incremental, shielded	DOS-2312-G02	2077057
		DOS-2312-W01	2072580

## 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.”

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