BCG05-A1NM0155

EcoLine

WIRE DRAW ENCODERS

SICK
Sensor Intelligence.

BCG05-A1NM0155 | EcoLine
WIRE DRAW ENCODERS

Ordering information

Type	Part no.
BCG05-A1NM0155	1068864

Included in delivery: AHM36A-SDPC013x12 (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

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Measurement range	0 m ... 1.25 m
Encoder	Absolute encoders
Resolution (wire draw + encoder)	0.02 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	SSI
Programmable/configurable	✔

Electrical data

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Connection type	Male connector, M12, 8-pin, universal
Supply voltage	4.5 V DC ... 32 V DC
Power consumption	≤ 1.5 W (without load)
MTTFd: mean time to dangerous failure	230 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

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/s²
Operating speed	6 m/s
Mounted encoder	AHM36 SSI, AHM36A-SDPC013X12, 1068328
Mounted mechanic	MRA-G055-101D4, 5324019

[1] These values were measred 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

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
ECl@ss 10.0	27270613
ECl@ss 11.0	27270503
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))
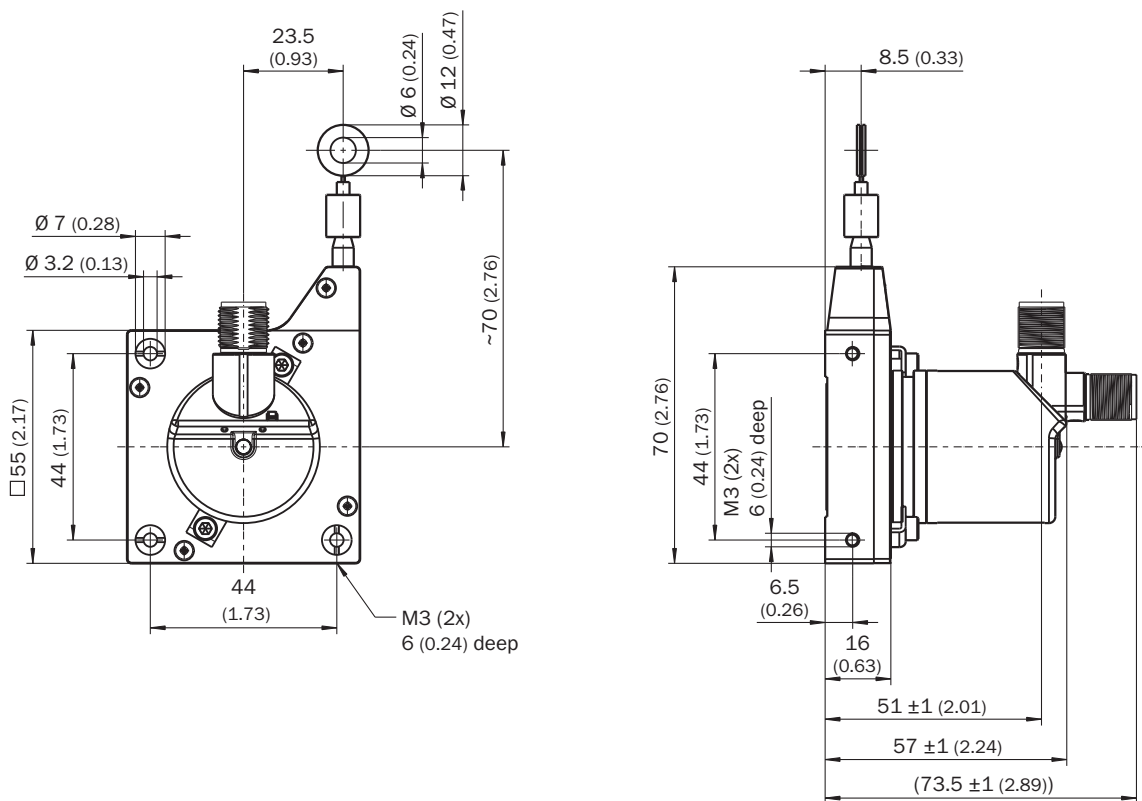
PIN assignment

M12 male connector, 8-pin and cable, 8-wire, SSI/Gray
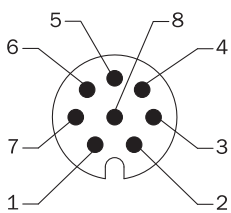
View of M12 male device connector on encoder

PIN	Wire colors (cable connection)	Signal	Explanation
1	Brown	Data -	Interface signals
2	White	Data +	Interface signals
3	Black	V/R	Sequence in direction of rotation
4	Pink	SET	Electronic adjustment Interface signals
5	Yellow	Clock +	Interface signals
6	Purple	Clock -	Interface signals
7	Blue	GND	Ground connection
8	Red	U_S	Operating voltage

PIN	Wire colors (cable connection)	Signal	Explanation
		Screen	Screen connected to housing on encoder side. Connected to ground on control side.

Recommended accessories

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

	Brief description	Type	Part no.
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 M4 x 10	BEF-FA-020-050-007	2073774
Plug connectors and cables			
	Head A: cable Head B: Flying leads Cable: SSI, Incremental, HIPERFACE®, PUR, halogen-free, shielded	LTG-2308-MWENC	6027529
	Head A: cable Head B: Flying leads Cable: SSI, TTL, HTL, PUR, halogen-free, shielded	LTG-2612-MW	6028516
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: PUR, halogen-free, shielded, 2 m	DOL-1208-G02MAC1	6032866
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: PUR, halogen-free, shielded, 5 m	DOL-1208-G05MAC1	6032867
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: PUR, halogen-free, shielded, 10 m	DOL-1208-G10MAC1	6032868
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: PUR, halogen-free, shielded, 20 m	DOL-1208-G20MAC1	6032869
	Head A: female connector, M12, 8-pin, straight Head B: Flying leads Cable: PUR, halogen-free, shielded, 25 m	DOL-1208-G25MAC1	6067859
	Head A: female connector, M12, 8-pin, straight Head B: male connector, D-Sub, 9-pin, straight Cable: SSI, PUR, halogen-free, shielded, 0.5 m Suitable for use with SSI interfaces, not suitable for use with SSI + Incremental interface or SSI + Sin/Cos., programming adapter cable for programming tool PGT-10-Pro and PGT-08-S	DSL-2D08-G0M5AC2	2048439
	Head A: female connector, M12, 8-pin, straight, A-coded Head B: - Cable: Incremental, SSI, shielded	DOS-1208-GA01	6045001
Programming and configuration tools			
	USB programming unit, for programmable SICK encoders AFS60, AFM60, DFS60, VFS60, DFV60 and wire draw encoders with programmable encoders	PGT-08-S	1036616

	Brief description	Type	Part no.
	Programming unit display for programmable SICK DFS60, DFV60, AFS/AFM60, AHS/AHM36 encoders, and wire draw encoder with DFS60, AFS/AFM60 and AHS/AHM36. Compact dimensions, low weight, and intuitive operation.	PGT-10-Pro	1072254
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

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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