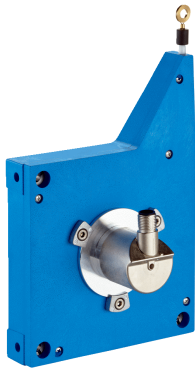


# BCG13-C1QM0543

EcoLine

WIRE DRAW ENCODERS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
BCG13-C1QM0543	1068869

**Included in delivery:** BEF-FA-020-050-007 (1), AHM36A-S3CC014x12 (1), MRA-G130-105D3 (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

<b>Measurement range</b>	0 m ... 5 m
<b>Encoder</b>	Absolute encoders
<b>Resolution (wire draw + encoder)</b>	0.02 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

<b>Communication interface</b>	CANopen
<b>Programmable/configurable</b>	✓

#### Electrical data

<b>Connection type</b>	Male connector, M12, 5-pin, universal
<b>Supply voltage</b>	10 V ... 30 V
<b>Power consumption</b>	≤ 1.5 W (without load)
<b>MTTFd: mean time to dangerous failure</b>	270 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

<b>Weight</b>	0.92 kg
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<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.

<b>Measuring wire material</b>	Highly flexible stranded steel 1,4401 stainless steel V4A
<b>Measuring wire diameter</b>	0.55 mm
<b>Weight (measuring wire)</b>	1.2 g/m
<b>Housing material, wire draw mechanism</b>	Plastic, Noryl
<b>Spring return force</b>	4.5 N ... 7 N <sup>1)</sup>
<b>Length of wire pulled out per revolution</b>	385 mm
<b>Life of wire draw mechanism</b>	Typ. 1,000,000 cycles <sup>2) 3)</sup>
<b>Actual wire draw length</b>	5.2 m
<b>Wire acceleration</b>	4 m/s <sup>2</sup>
<b>Operating speed</b>	3 m/s
<b>Mounted encoder</b>	AHM36 CANopen, AHM36A-S3CC014x12, 1065999
<b>Mounted mechanic</b>	MRA-G130-105D3, 5322779

<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.

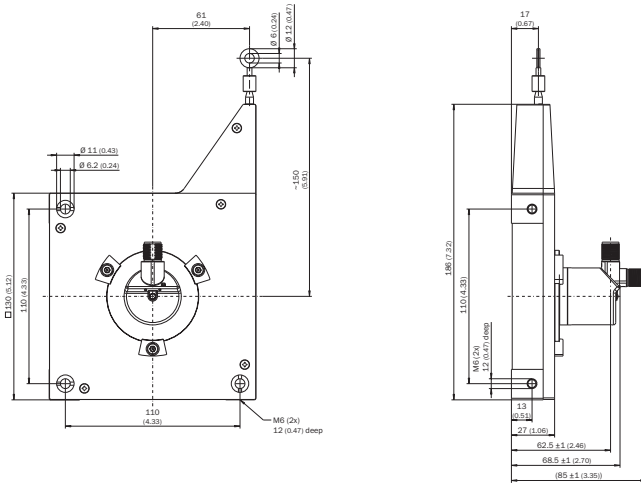
#### Ambient data

<b>EMC</b>	According to EN 61000-6-2 and EN 61000-6-3
<b>Enclosure rating</b>	IP50, mounted mechanic IP66, Encoder (IEC 60529) IP67, Encoder (IEC 60529)
<b>Operating temperature range</b>	-30 °C ... +70 °C

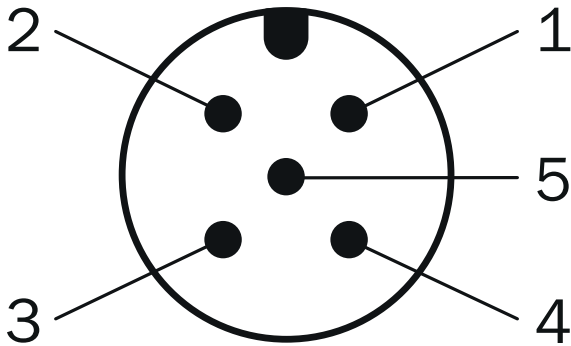
#### Classifications

<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




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
Housing	-	-	Screen

Recommended accessories

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

	Brief description	Type	Part no.
<b>Programming and configuration tools</b>			
	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
<b>Wire draw mechanism</b>			
	EcoLine wire draw mechanism for servo flange with 6 mm shaft, measuring range 0 m ... 5 m	MRA-G130-105D3	5322779
<b>Distributors</b>			
	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
<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 M3 x 10	BEF-FA-020-050-007	2073774
<b>Plug connectors and cables</b>			
	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
	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

	Brief description	Type	Part no.
	Head A: male connector, M12, 5-pin, straight Cable: CANopen, unshielded	CAN male connector	6021167

## 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:

Contacts and other locations –[www.sick.com](http://www.sick.com)