



Wire draw encoders
EcoLine

BCG13-A1NM0521



Model Name > [BCG13-A1NM0521](#)
Part No. > [1068868](#)



Illustration may differ

At a glance

- Measuring lengths of 1.25 m, 3 m, 5 m, and 10 m.
- Very small dimension (55 ... 190 mm)
- Modular system: encoder type, measuring length, and interface can be selected
- Programmable encoders: Resolution, interface and measuring range
- Light yet shock-proof and temperature-resistant plastic housing (Noryl)
- Space-saving and cost-effective design
- Analog interface with pushbutton teach at the encoder

Your benefits

- Easy to install thanks to pushbutton teach
- Suitable for tight installation spaces as a result of slim, compact design
- High precision due to the elimination of the coupling between the encoder and mechanism
- Wide range of applications thanks to the numerous encoders, interfaces, and measuring lengths
- The absolute analog output allows for the use of a cost-effective interface card
- Options for customization, such as programmability, reduce storage and downtime costs
- Greater vibration resistance thanks to the integration of the spring in the measuring drum



Performance

Measuring range:	0 m ... 5 m
Repeatability:	≤ 0.2 mm ¹⁾
Linearity:	≤ ± 2 mm ²⁾
Hysteresis:	≤ 0.4 mm ³⁾
Resolution (wire draw + encoder)::	0.05 mm ^{4) 5)}

^{1) 2) 3)} Value refers to wire draw mechanism ^{4) 5)}

Mechanical data

Mass (including encoder):	920 g
Mass (mechanics):	800 g
Measuring wire diameter:	0.55 mm
Measuring wire material:	Highly flexible stranded steel 1.4401 stainless steel V4A
Housing material, wire draw mechanism:	Plastic, Noryl
Spring return force:	Ca. 4.5 N ... ca. 7 N ¹⁾

Life of wire draw mechanism:	1 million cycles ²⁾
Actual length of cable extension:	5.2 m
Wire acceleration:	4 m/s ²
Operating speed:	4 m/s
Mounted encoder:	AHM36 SSI
Mounted mechanic:	MRA-G130-105D3
Part number mechanic:	5322779
Part number encoder:	1068330
Mass (measuring wire):	1.2 g/m
Length of wire pulled out per revolution:	385 mm
Number of steps per revolution:	8,192

¹⁾ These values were measured at an ambient temperature of 25 °C. There may be variations at other temperatures. ²⁾

Electrical data

Initialization time:	50 ms ¹⁾
Supply voltage:	4.5 V ... 32 V
Code type:	Gray, binary
Power consumption:	1.5 W
MTTFd: mean time to dangerous failure::	270 a ²⁾ ³⁾

¹⁾ Valid positional data can be read once this time has elapsed. ²⁾ 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. ³⁾ The value applies to the mounted encoder

Interfaces

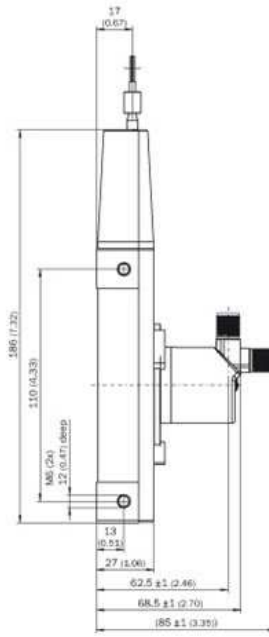
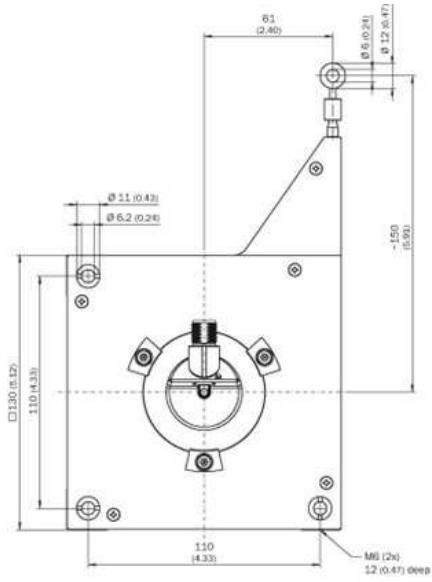
Electrical interface:	SSI
Electrical connection:	Universal ¹⁾
Clock frequency:	2 MHz
SET (electronic adjustment):	H-active (L = 0 - 3 V, H = 4,0 - Us V)
Interface signals:	Clock +, Clock -, Data +, Data-
Encoder:	Absolute encoders

¹⁾

Ambient data

EMC:	(according to EN 61000-6-2 and EN 61000-6-3)
Enclosure rating encoder:	IP 66/IP 67 (according to IEC 60529), housing side, IP 66/IP 67 (according to IEC 60529), shaft side
Enclosure rating mechanic:	IP 50
Resistance to shocks:	100 g, 6 ms (according to EN 60068-2-27)
Resistance to vibration:	20 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)
Relative humidity/Condensation:	90 % (condensation of the optical scanning not permitted)
Working temperature range (encoder):	-30 °C ... +70 °C
Working temperature range (mechanics):	-30 °C ... +70 °C
Working temperature range (combination):	Wird definiert durch den höheren minimalen und niedrigeren maximalen Wert des Arbeitstemperaturbereichs von Encoder und Mechanik

Dimensional drawing



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