



Wire draw encoders
EcoLine

BCG19-E1BM1099



Model Name > **BCG19-E1BM1099**
Part No. > **1061045**



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

Measurement range:	0 m ... 10 m
Repeatability:	≤ 0.2 mm ¹⁾
Linearity:	≤ ± 2 mm ²⁾
Hysteresis:	≤ 0.4 mm ³⁾
Resolution (wire draw + encoder)::	0.002 mm ^{4) 5)}

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

Mechanical data

Mass (including encoder):	2.1 kg
Mass (mechanics):	1.9 kg
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. 9 N ... ca. 12 N ¹⁾

Life of wire draw mechanism:	1 million cycles ²⁾
Actual length of cable extension:	10.2 m
Wire acceleration:	8 m/s ²
Operating speed:	4 m/s
Mounted encoder:	AFM60 EtherCAT
Mounted mechanic:	MRA-G190-110D3
Part number mechanic:	5326242
Part number encoder:	1059061
Mass (measuring wire):	1.2 g/m
Length of wire pulled out per revolution:	555 mm
Number of steps per revolution:	262,144

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

Electrical data

Initialization time:	Ca. 12 s ¹⁾
Supply voltage:	10 V ... 30 V
Power consumption:	3 W
MTTFd: mean time to dangerous failure::	80 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

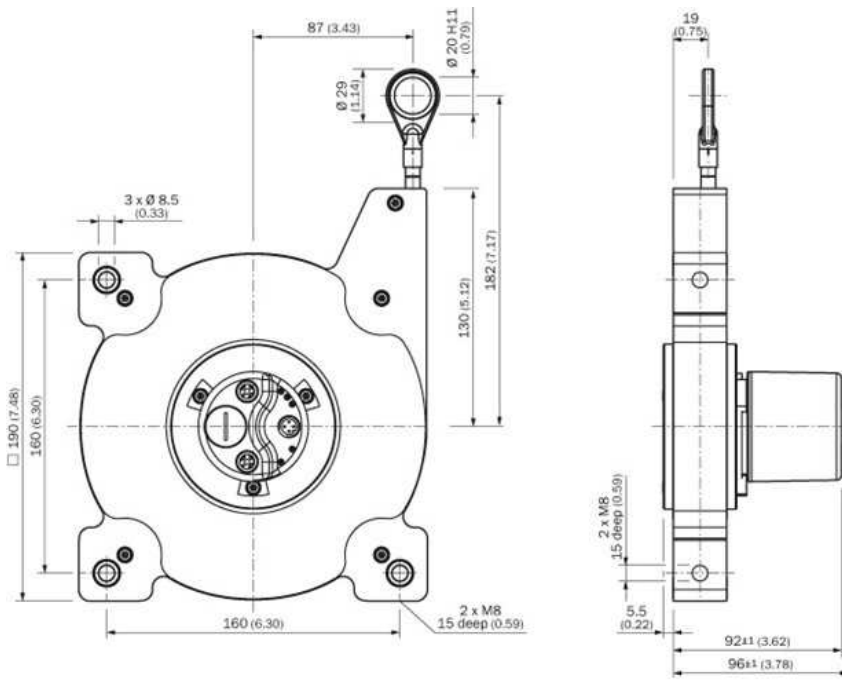
Interfaces

Electrical interface:	EtherCAT®
Connection type:	Connector 3 x M12, 4-pin, axial
Protocol:	EtherCAT, CoE (CiA DS-301)
SET (electronic adjustment):	Via PRESET push button or protocol
Encoder profile:	CiA DS-406
Encoder:	Absolute encoders

Ambient data

EMC:	(according to EN 61000-6-2 and EN 61000-6-3)
Enclosure rating encoder:	IP 67
Enclosure rating mechanic:	IP 50
Resistance to shocks:	100 g, 6 ms (according to EN 60068-2-27)
Resistance to vibration:	30 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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