



Wire draw encoders EcoLine

PFG19-E1CM1029



Model Name > PFG19-E1CM1029
Part No. > 1061023



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 resolution, output voltage, and measuring range
- Light yet shock-proof and temperature-resistant plastic housing (Noryl)
- Space-saving and cost-effective design

Your benefits

- Easy, cost-efficient integration thanks to incremental interface
- Suitable for tight installation spaces as a result of its slim, compact design
- High precision resulting from the elimination of a coupling between the encoder and mechanism
- Wide range of applications thanks to numerous encoders, interfaces, and measuring lengths
- 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 ... 10 m
Repeatability:	$\pm 0.03 \%$ ¹⁾
Linearity:	$\pm 0.05 \%$ ²⁾
Hysteresis:	$\pm 0.04 \%$ ³⁾
Resolution:	0.034 mm

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

Mechanical data

Mass (including encoder):	2.2 kg
Mass (mechanics):	1.9 kg
Measuring wire diameter:	0.55 mm
Housing material, wire draw mechanism:	Plastic, Noryl
Drum extent:	555 mm
Spring return force:	9 N ... 12 N ¹⁾
Life of wire draw mechanism:	1 million cycles
Actual length of cable extension:	10.2 m

Wire acceleration:	8 m/s ²
Operating speed:	4 m/s
Mounted encoder:	DFS60
Mounted mechanic:	MRA-G190-110D3
Part number mechanic:	5326242
Part number encoder:	1037616

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

Electrical data

Maximum output frequency:	600 kHz
Reference signal, position:	Electronically, gated with A and B
Reference signal, number:	1, electronically, gated with A and B
Maximum load current:	30 mA
Initialization time::	≤ 32 ms, with mechanical zero pulse width ≤ 30 ms ^{1) 2)}
MTTFd: mean time to dangerous failure::	300 a ^{3) 4)}

^{1) 2)} Valid positional data can be read once this time has elapsed. ³⁾ 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. ⁴⁾ The value applies to the mounted encoder

Interfaces

Electrical interface:	HTL/Push pull
Connection type:	Connector M12, 8-pin, radial

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:	60 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)
Working temperature range:	-30 °C ... 70 °C
Relative humidity/Condensation:	90 % (condensation of the optical scanning not permitted)

The technical drawing illustrates the dimensions for the M8000-10000 series motor assembly. It includes three main views:

- Front View (Top Left):** Shows a square base plate with rounded corners. The overall width is 190 mm (7.48 inches) and the height is 160 mm (6.30 inches). There are four mounting holes at the corners, each with a diameter of 8.5 mm (0.33 inches). A central circular feature has a diameter of 130 mm (5.12 inches). The distance between the centers of opposite corner holes is 160 mm (6.30 inches).
- Side View (Bottom Right):** Shows the profile of the motor assembly. The total height is 182 mm (7.17 inches). The base plate thickness is 19 mm (0.75 inches). The motor housing has a maximum diameter of Ø 20 H11 (0.79 inches) and a length of 130 mm (5.12 inches). The mounting flange has a diameter of Ø 29 (1.14 inches).
- Detail View (Bottom Center):** Shows a close-up of the mounting flange. It features two M8 screws, each with a depth of 15 mm (0.59 inches). The flange has a diameter of 63 ± 1 mm (2.48 inches) and a total width of 71 ± 1 mm (2.80 inches).

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