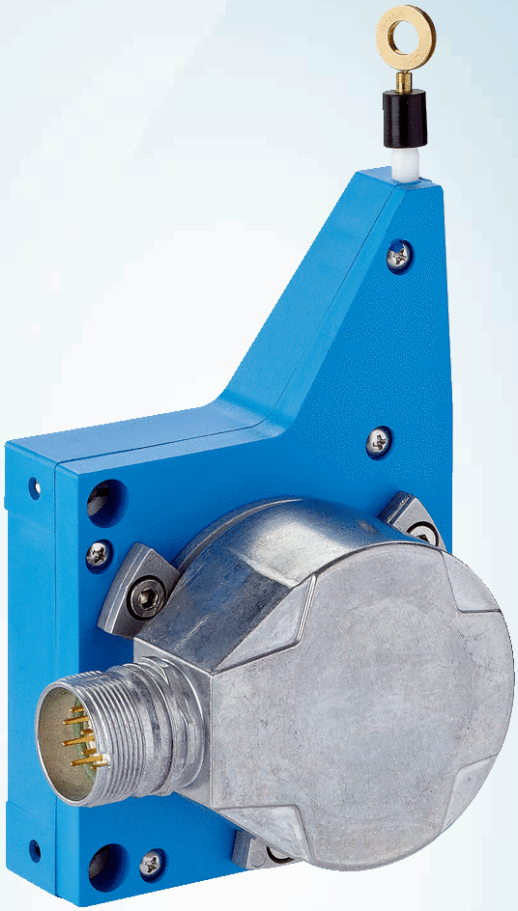
Online data sheet



PFG08-P1AM03PP

EcoLine

WIRE DRAW ENCODERS

SICK
Sensor Intelligence.

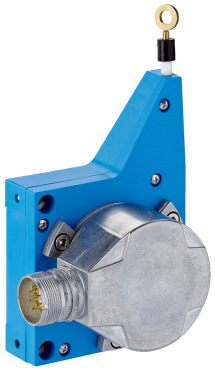


Illustration may differ

Ordering information

Type	Part no.
PFG08-P1AM03PP	1075495

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

Detailed technical data

Performance

Measurement range	0 m ... 3 m
Repeatability	≤ 0.3 mm [1) 2)]
Linearity	≤ ± 2 mm [1) 3)]
Hysteresis	≤ 1.2 mm [1) 4)]
Resolution (wire draw + encoder)	0.014 mm [5) 6)]

1) Value applies to wire draw mechanism.

2) Reproducibility, repetition accuracy, or even repeatability is defined as the maximum scatter from consecutive positioning operations from a single direction to a point, carried out under identical conditions.

3) The accuracy of wire draw encoders is primarily described by the linearity. This indicates the maximum deviation for the measurement of a defined measuring path. In contrast to repeatability, this relates to the measuring range covered and not to a positioning point.

4) The hysteresis is defined as the maximum scatter from consecutive positioning operations from different directions to a point, carried out under identical conditions.

5) The values shown have been rounded.

6) Example calculation based on the PFG08 with HTL Push Pull: 230 mm (wire draw length per revolution - see Mechanical data): 16,384 (pulses per revolution) = 0.014 mm (resolution of wire draw + encoder combination)

Interfaces

Encoder	Incremental encoders
Electrical interface	4.5 V ... 32 V, TTL/HTL programmable
Connection type	Male connector, radial

Electrical data

Maximum output frequency	≤ 800 kHz
Reference signal, position	90°, electronically, gated with A and B / Sinus and Cosinus
Reference signal, number	1, electronically, gated with A and B / Sinus and Cosinus
Initialization time	≤ 32 ms, 30 ms, with mechanical zero pulse width [1) 1)]

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.

Supply voltage	4.5 V ... 32 V
Power consumption	0.7 W
MTTFd: mean time to dangerous failure	300 years [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.

Mechanical data

Mass (including encoder)	550 g
Mass (mechanics)	250 g
Measuring wire material	Highly flexible stranded steel 1.4401 stainless steel V4A
Mass (measuring wire)	1.2 g/m
Housing material, wire draw mechanism	Plastic, Noryl
Length of wire pulled out per revolution	230 mm
Spring return force	5 N ... 6.3 N [1)]
Life of wire draw mechanism	1 million cycles [2)]
Actual wire draw length	3.2 m
Measuring wire diameter	0.55 mm
Wire acceleration	10 m/s²
Operating speed	4 m/s
Mounted encoder	DFS60
Pulses per revolution	65,536
Part number encoder	1036760
Mounted mechanic	MRA-G080-103D3
Part number mechanic	5322778

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

[2)] A cycle consists of the wire being pulled out and drawn in.

Ambient data

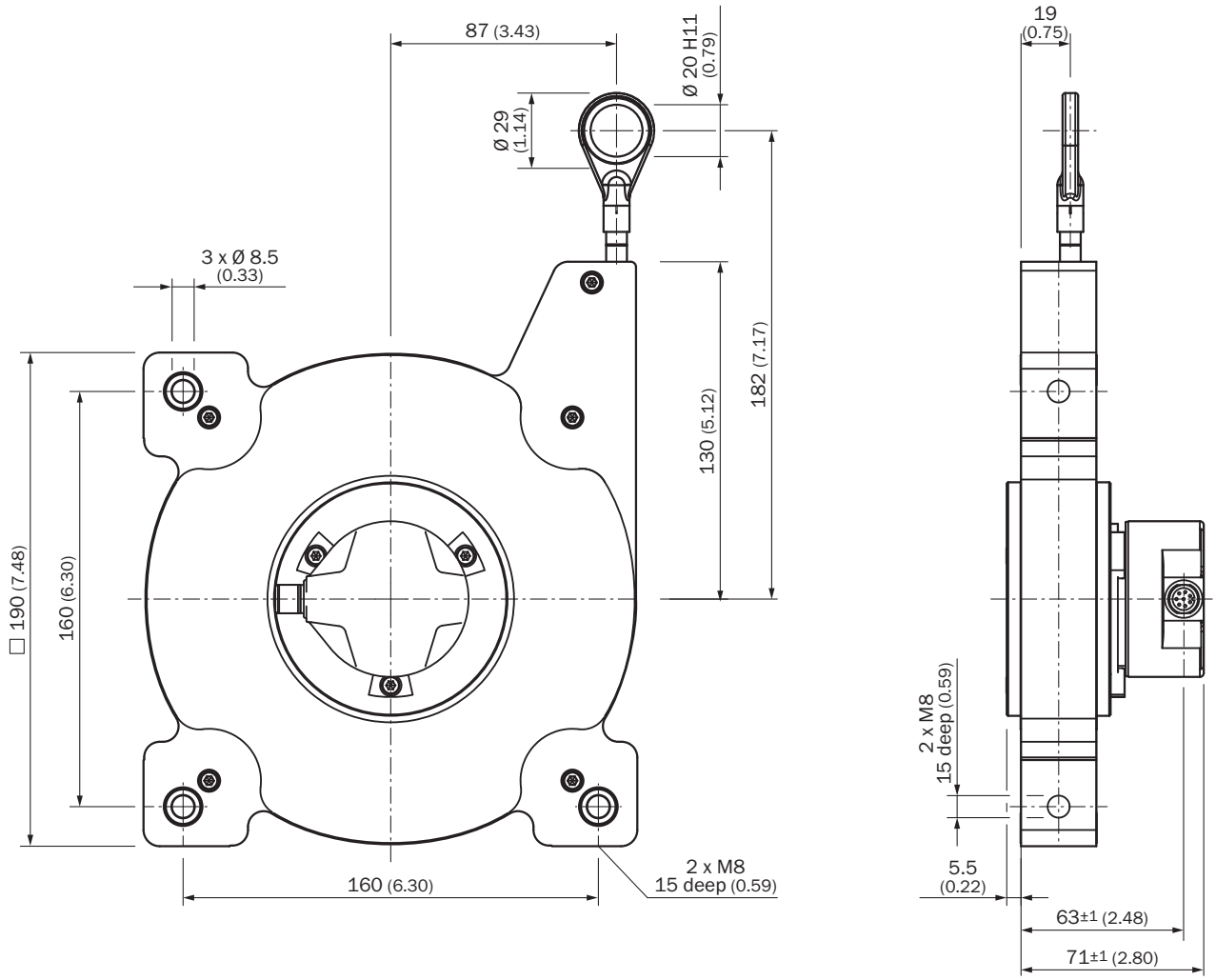
EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating encoder	IP 67
Enclosure rating mechanic	IP 50
Resistance to shocks	60 g, 6 ms (DIN EN 60 068-2-27)
Resistance to vibration	20 g, 10 Hz ... 2,000 kHz (EN 60068-2-6)
Working temperature range (encoder)	–40 °C ... +100 °C
Working temperature range (mechanics)	–30 °C ... +70 °C
Working temperature range (combination)	Defined by the higher minimum and lower maximum value of the operating temperature of the encoder and the mechanism
Relative humidity/condensation	90 % (condensation of the optical scanning not permitted)

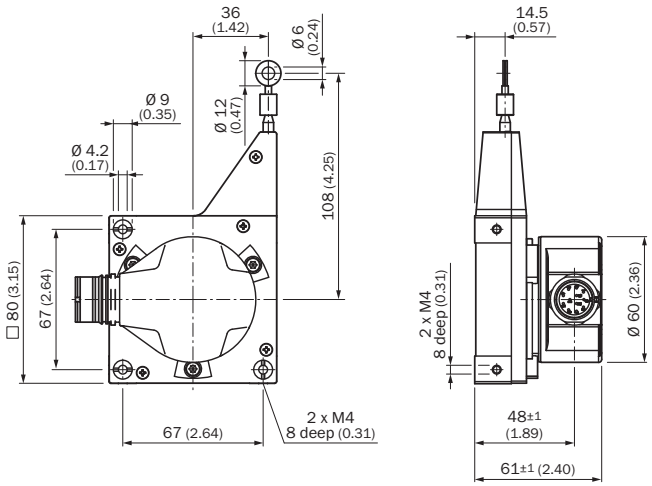
Classifications

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
ETIM 5.0	EC001486
ETIM 6.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))





Recommended accessories

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

	Brief description	Type	Part no.
Other mounting accessories			
	Spare joint ball for insertion in wire end ring	Joint protection for wire rope BTF/PRF/MRA	5318683
Programming and configuration tools			
	Display Programming Tool for programmable SICK encoders DFS60, DFV60, AFS/AFM60, AHS/AHM36 and wire draw encoders with DFS60, AFS/AFM60 and AHS/AHM36. Compact dimensions, low weight and intuitive to use.	PGT-10-Pro	1072254

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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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