



Wire draw encoders HighLine

PRF13-A1AM3020



Model Name > PRF13-A1AM3020
Part No. > 1034327



Illustration may differ

At a glance

- Incremental wire draw encoders
- Modular measuring system with a wide selection of interfaces/measuring lengths
- Measuring lengths: 2 m ... 50 m
- Very rugged system (dirt wiper, integrated brushes), highly shock and vibration resistant
- High-quality winding mechanism and wire input
- Interfaces: - TTL/HTL
- High enclosure rating
- Highly resistant to shock and vibrations

Your benefits

- Reliable solution in harsh environments
- Long service life due to rugged industrial housing
- Quick and easy installation without the need for precise linear guidance
- Low integration and maintenance costs
- Customization option reduces inventory costs



Performance

Measurement range:	0 m ... 30 m
Repeatability:	≤ 2 mm ¹⁾
Linearity:	≤ ± 2 mm ²⁾
Hysteresis:	≤ 5 mm ³⁾
Resolution (wire draw + encoder)::	0.2 mm ^{4) 5)}

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

Mechanical data

Mass (including encoder):	6.5 kg
Measuring wire diameter:	0.81 mm
Measuring wire material:	Highly flexible stranded steel 1.4401 stainless steel V4A
Housing material, wire draw mechanism:	Aluminum (anodised), plastic
Spring return force:	15 N ... 20 N ¹⁾
Life of wire draw mechanism:	1 million cycles ²⁾
Actual length of cable extension:	30.2 m
Wire acceleration:	15 m/s ²
Operating speed:	4 m/s

Mounted encoder:	DFS60
Mounted mechanic:	MRA-F130-130D1
Part number mechanic:	6028629
Part number encoder:	-
Mass (measuring wire):	2.6 g/m
Length of wire pulled out per revolution:	332.4 mm ³⁾
Pulses per revolution:	1,662 ⁴⁾

1) These values were measured at an ambient temperature of 25 °C. There may be variations at other temperatures. ^{2) 3) 4)}

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)}
Supply voltage:	4.5 V ... 32 V
Power consumption:	0.7 W
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

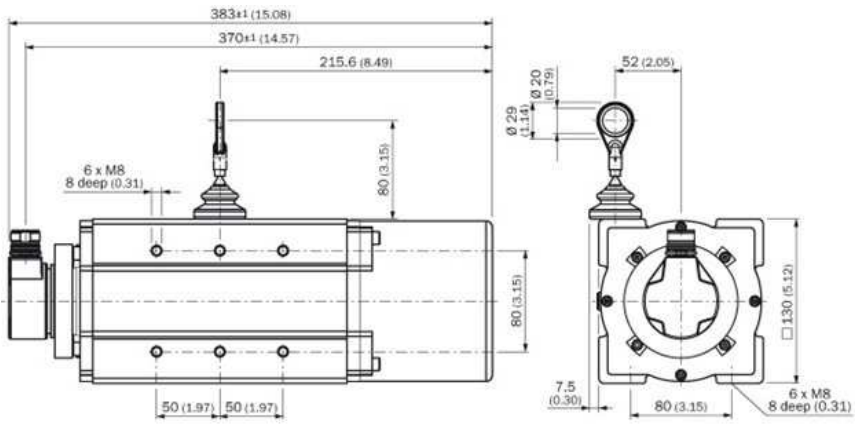
Interfaces

Electrical interface:	4.5 V ... 5.5 V, TTL/RS422
Connection type:	Connector M23, 12-pin, radial
Encoder:	Incremental encoders

Ambient data

EMC:	(according to EN 61000-6-2 and EN 61000-6-3)
Enclosure rating encoder:	IP 67
Enclosure rating mechanic:	IP 64
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)
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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