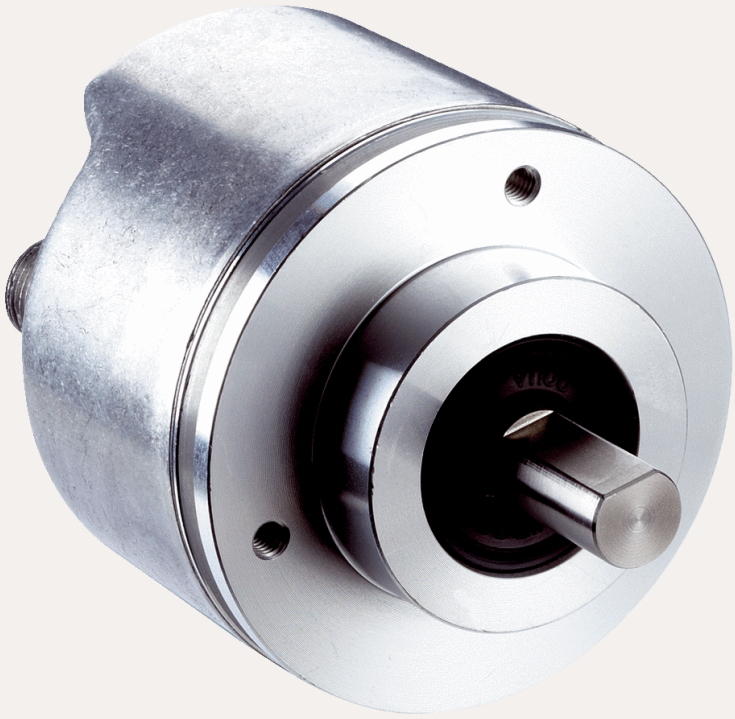
SICK.COM



DATA SHEET

A3M60B-S4PB013x13

A3M60
Absolute encoders

SICK Sensor Intelligence



Illustration may differ

ABSOLUTE ENCODERS

A3M60B-S4PB013x13

ORDERING INFORMATION

Type	part no.
A3M60B-S4PB013x13	1038826

Further device versions and accessories at www.sick.com/A3M60

DETAILED TECHNICAL DATA

SAFETY-RELATED PARAMETERS

$MTTF_D$ (mean time to dangerous failure)	60 years (EN ISO 13849-1) [1]

[1] 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.

PERFORMANCE

Number of steps per revolution (max. resolution)	8,192 (13 bit)
Number of revolutions	8,192 (13 bit)
Max. resolution (number of steps per revolution x number of revolutions)	13 bit x 13 bit (8,192 x 8,192)
Error limits G	0.5° (at room temperature) [1]
Repeatability standard deviation σ_r	0.25° (at room temperature) [2]

[1] In accordance with DIN ISO 1319-1, position of the upper and lower error limit depends on the installation situation, specified value refers to a symmetrical position, i.e. deviation in upper and lower direction is the same.

[2] In accordance with DIN ISO 55350-13; 68.3% of the measured values are inside the specified area.

INTERFACES

Communication interface	PROFIBUS DP
Communication Interface detail	DPV0
Data transmission rate (baud rate)	≤ 12 MBaud
Initialization time	Approx. 1 s
Parameterising data	Number of steps per revolution Number of revolutions PRESET Counting direction
Bus termination	DIP switch

ELECTRONICS

Connection type	Male connector, 2x, M12, 5-pin, axial Female connector, 1x, M12, 5-pin, axial
Supply voltage	10 ... 32 V
Power consumption	≤ 1.5 W
Reverse polarity protection	✓

MECHANICS

Mechanical design	Solid shaft, face mount flange
Shaft diameter	10 mm
Shaft length	19 mm
Characteristics of the shaft	With flat
Weight	0.28 kg
Shaft material	Stainless steel
Flange material	Aluminum
Housing material	Aluminum
Start up torque	1 Ncm (+20 °C)
Operating torque	0.8 Ncm (+20 °C)
Permissible shaft loading	80 N (radial) 40 N (axial)
Operating speed	≤ 9,000 min^{-1} [1]
Bearing lifetime	3.0 x 10^9 revolutions
Angular acceleration	≤ 500,000 rad/s^2

[1] Self warming 30 K at maximum operating speed.

AMBIENT DATA

EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP65, shaft side (IEC 60529) IP67, housing side (IEC 60529) [1]
Permissible relative humidity	95 % (Condensation not permitted)
Operating temperature range	–10 °C ... +70 °C [2]
Storage temperature range	–40 °C ... +100 °C
Resistance to shocks	80 g, 6 ms (EN 60068-2-27)
Resistance to vibration	30 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)

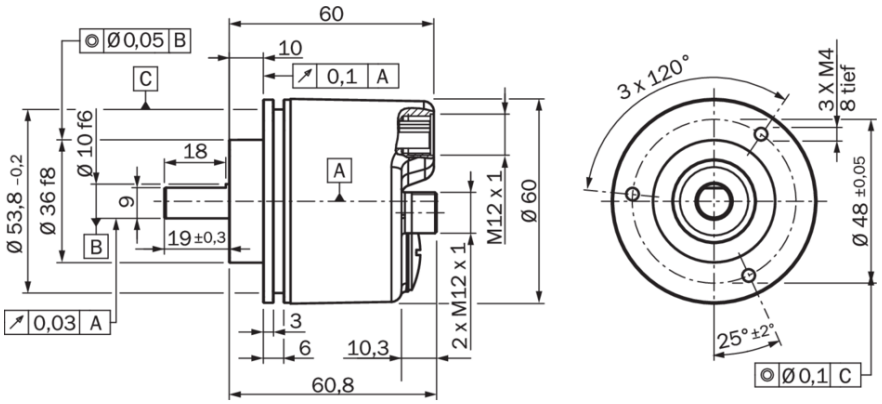
[1] With mating connector fitted.

[2] After self-heating has occurred. At temperatures below 0 °C, the device must be permanently energized.

CERTIFICATES

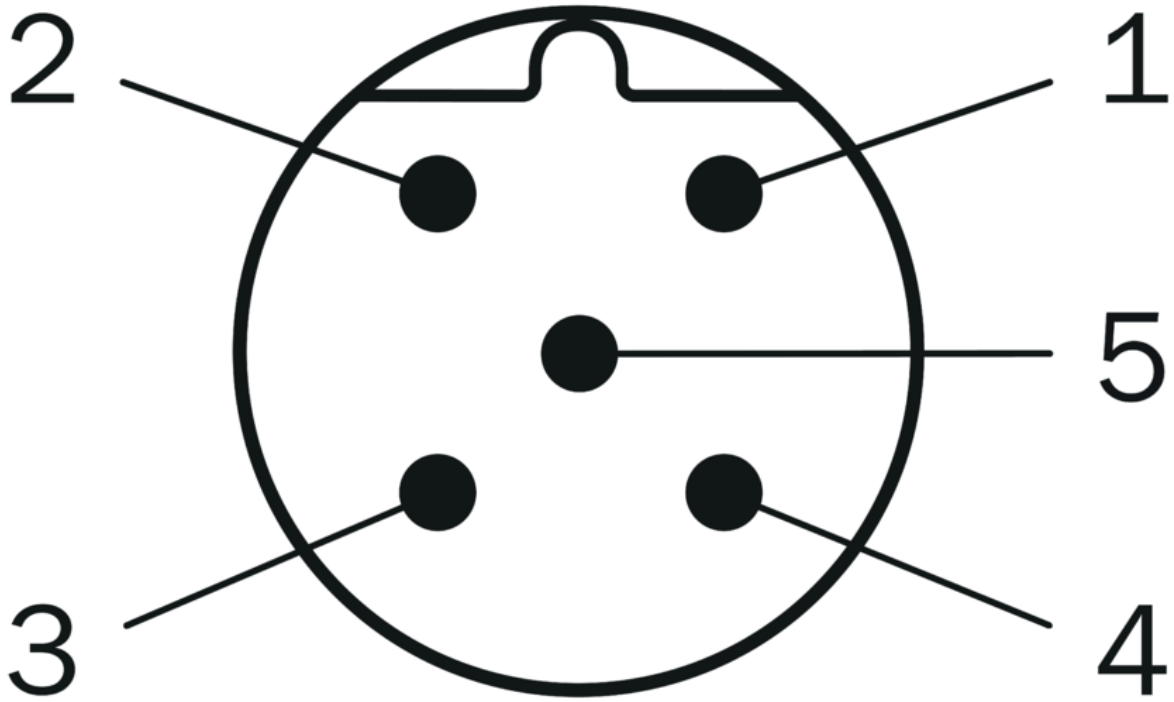
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING



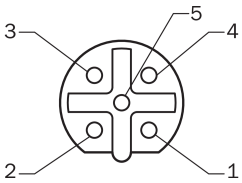
Dimensions in mm (inch)

ANSCHLUSSBELEGUNG



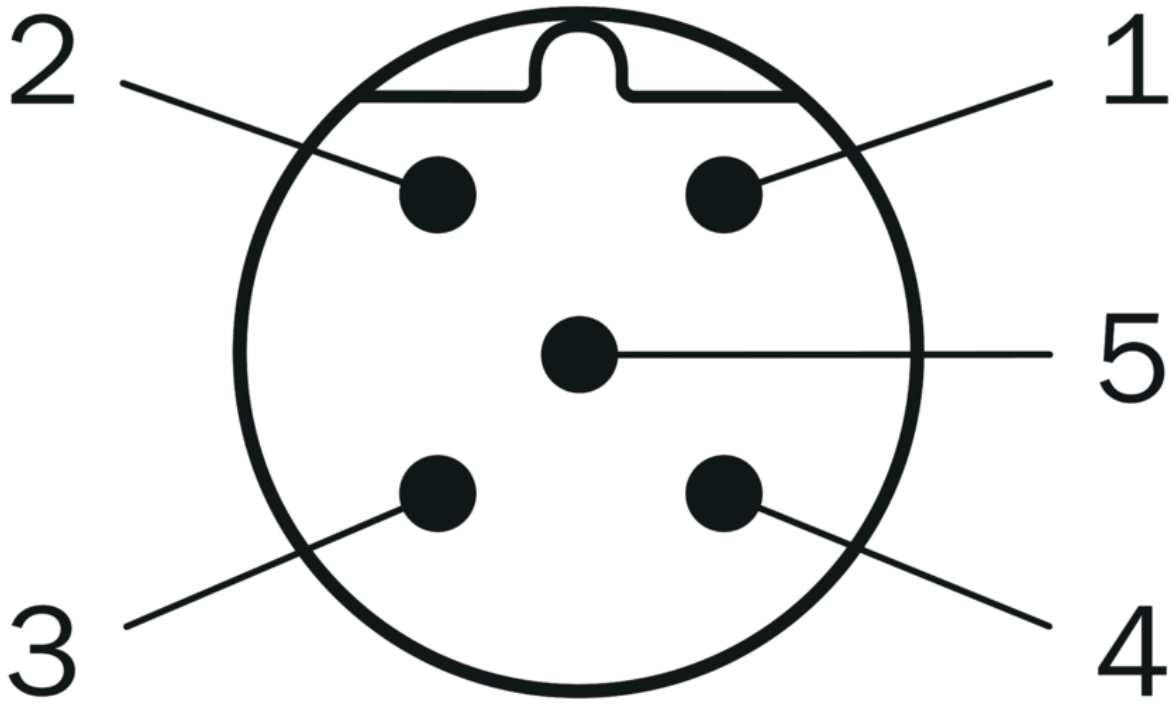
PIN	PROFIBUS IN	PROFIBUS OUT	Supply voltage
1	Not assigned	+5 V2P5[1)]	Operating voltage
2	PROFIBUSDataA	PROFIBUSDataA	Not assigned
3	Not assigned	0 V (2M)[1)]	Ground (0 V)
4	PROFIBUSDataB	PROFIBUSDataB	Not assigned
5	Shielding	Shielding	Not assigned
[1)] External connection to the bus	–	–	–

ANSCHLUSSBELEGUNG



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ANSCHLUSSBELEGUNG



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[1] External connection to the bus	-	-	-

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1038826

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

SICK

Sensor Intelligence