



## Absolute encoders ATM60 CANopen

ATM60-CAH13X13



**Model Name** > **ATM60-CAH13X13**  
**Part No.** > **1030026**



*Illustration may differ*

#### At a glance

- Extremely rugged, tried-and-tested absolute multiturn encoder with a resolution of up to 26 bits
- Mechanical interface: face mount, servo flange, blind hollow shaft, adapter accessories
- Zero-set and preset functions via hardware/software
- No battery
- Electrical interface: CAN specification 2.0B, electrically isolated; DS 301, V4.01, DSP 406, V2.0, Class 2
- Electronically adjustable, configurable resolution
- Network status info via duo LED
- Magnetic scanning

#### Your benefits

- Fewer variants are required since one freely programmable encoder offers all singleturn and multiturn resolutions
- Easy setup due to electrical connection adapters (1 to 3x PG, 2x M12)
- Less maintenance and a long service life reduce overall costs
- Application flexibility due to easily interchangeable collets for the blind hollow shaft
- Quick commissioning using the zero set/preset function either at the press of the button on the device or via software
- Increased productivity due to highly reliable shock and vibration resistance
- Worldwide availability and service ensure quick and reliable customer service



#### Performance

Max. number of steps per revolution:	8,192
Max. number of revolutions:	8,192
Resolution power:	8,192 x 8,192
Resolution:	13 bit x 13 bit
Error limits:	± 0.25 °
Repeatability (Ta not constant):	0.1 °
Measuring step:	0.043 °
Initialization time:	1,250 ms <sup>1)</sup>

<sup>1)</sup> Valid positional data can be read once this time has elapsed

## Mechanical data

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Mechanical interface:	Blind hollow shaft
Shaft diameter:	6 mm 8 mm 10 mm 12 mm 14 mm 15 mm 1/4 " 3/8 " <sup>1)</sup> 1/2 " <sup>1)</sup>
Mass:	0.59 kg
Moment of inertia of the rotor:	55 gcm <sup>2</sup>
Bearing lifetime:	3.6 x 10 <sup>9</sup> revolutions
Max. angular acceleration:	500,000 rad/s <sup>2</sup>
Permissible movement axial static/dynamic:	± 0.5 mm, ± 0.2 mm
Permissible movement radial static/dynamic:	± 0.3 mm, ± 0.1 mm
Shaft material:	Stainless steel
Flange material:	Aluminum
Housing material:	Die-cast aluminum
Start up torque with shaft seal:	1.2 Ncm
Operating torque with shaft seal:	0.8 Ncm

<sup>1)</sup> Collets for 6, 8, 10, 12, 14 mm and 1/4 ", 3/8 " and 1/2 " as accessories, separate order item. For 15 mm shaft diameter collet is not needed.

## Electrical data

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Operating voltage range:	10 V ... 32 V
Power consumption max.:	2 W
MTTFd: mean time to dangerous failure:	150 a (EN ISO 13849-1) <sup>1)</sup>

<sup>1)</sup> 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.

## Interfaces

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Electrical interface:	Bus adaptor with cable screw fixings or connector <sup>1)</sup>
SET (electronic adjustment):	Via PRESET push button or protocol
Bus:	CANopen
Bus interface:	ISO-DIS 11898 <sup>2)</sup> <sup>3)</sup>
Data protocol:	Communication Profile DS 301 V4.0, Device Profile DSP 406 V 2.0
Address setting:	0 ... 63, DIP-switches or protocol
Data transmission rate (baud rate):	1 MBaud, 125 kBaud, 20 kBaud, 250 kBaud, 50 kBaud, 500 kBaud, DIP-switches or protocol/10 kBaud
Status information:	2-colours LED for CAN controller status
Bus termination:	DIP switch

<sup>1)</sup> Please order the CANbus adaptor separately <sup>2)</sup> CAN High Speed <sup>3)</sup> CAN Specification 2.0 B

## Ambient data

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EMC:	(according to EN 61000-6-2 and EN 61000-6-3)
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Enclosure rating:

IP 43 (according to IEC 60529), without shaft seal, on encoder flange not sealed, IP 66 (according to IEC 60529), without shaft seal, on encoder flange sealed, IP 67 (according to IEC 60529), with shaft seal

Permissible relative humidity:

98 %

Working temperature range:

-20 °C ... 85 °C

Storage temperature range:

-40 °C ... 125 °C, without package

Resistance to shocks:

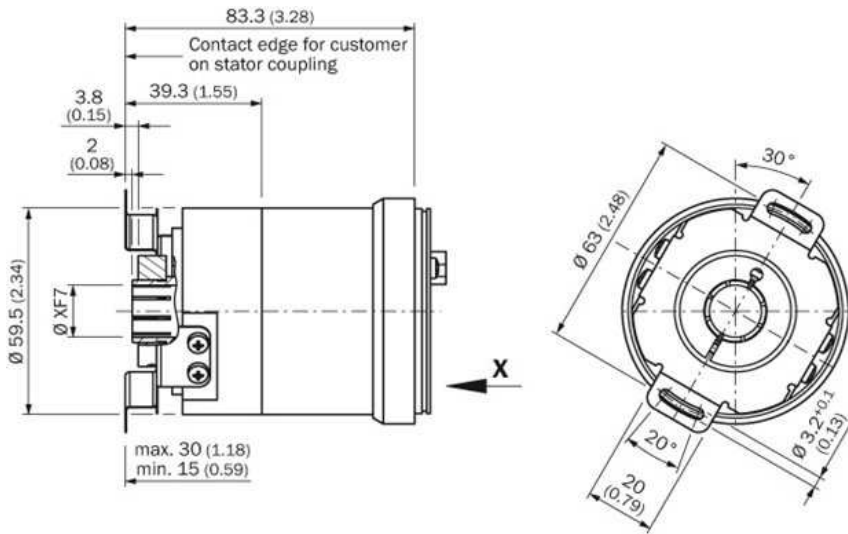
100 g (according to EN 60068-2-27)

Resistance to vibration:

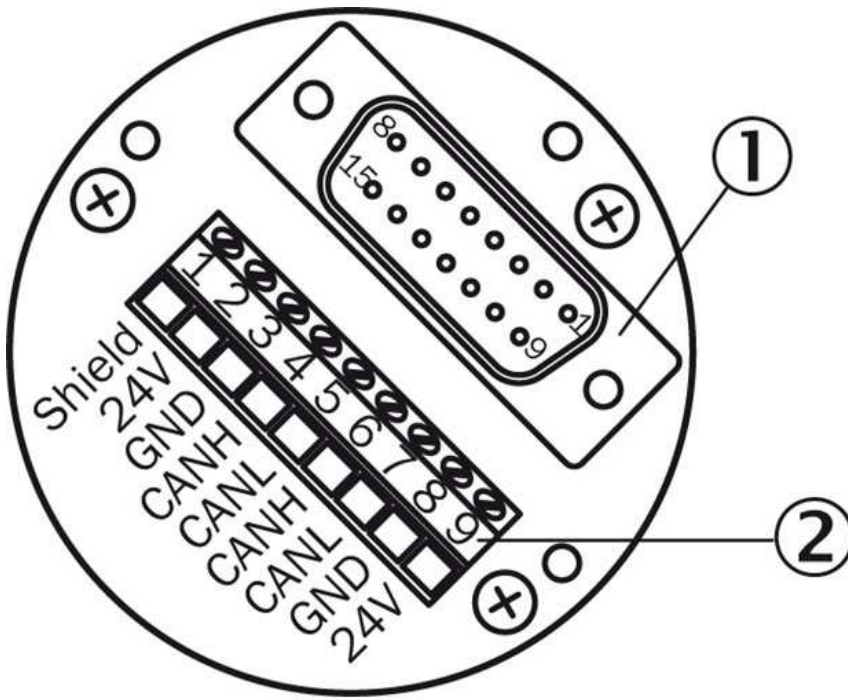
20 g, 10 Hz ... 2,000 Hz (according to EN 60068-2-6)

<sup>1)</sup> With mating connector fitted

## Dimensional drawing



PIN assignment



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