

MAGNETIC CANopen SINGLE-TURN ENCODERS, AXM5S – STAINLESS STEEL 316 - IP69K

- Adapted to food and beverage – pharmaceutical - river – offshore applications,
- Stainless steel encoder (316) with hygienic design,
- Flanges and shaft adapted to the market needs,
- Robustness and excellent resistance to shocks / vibrations,
- Double ball bearings with safety lock system,
- High protection level IP69K,
- Universal electronic circuits from 5 to 30Vdc,
- CANopen interface,
- High performances in temperature -40°C to $+85^{\circ}\text{C}$,
- Magnetic technology, Hall effect contactless,
- Available resolution up to 12 bits per revolution,
- Adapted axial cable gland output.

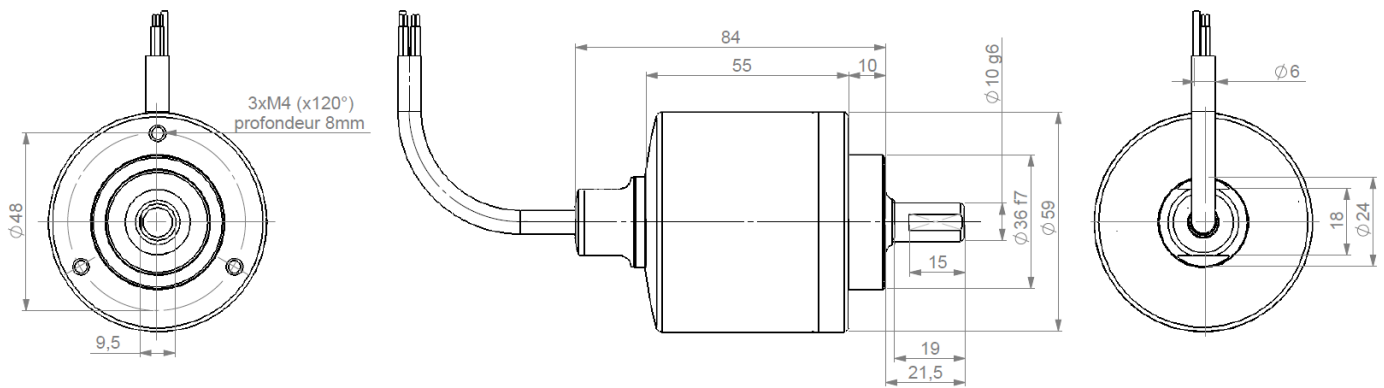


CANopen

DS 301 V4.02

DS 406 V3.1

AXM5S10 DIMENSIONS



MECHANICAL CHARACTERISTICS

| | | | |
|---------------------------------|--|--------------------------|---|
| Material | Shaft: Stainless steel 316 | Shaft inertia | $\leq 1,2 \cdot 10^{-6} \text{ kg.m}^2$ |
| | Cover: Stainless steel 316 | Torque | $\leq 90 \cdot 10^{-3} \text{ N.m}$ |
| | Body: Stainless steel 316 | Shocks (EN60068-2-27) | $\leq 2000 \text{ m.s}^{-2}$ (during 6 ms) |
| Bearings | Double ball bearings | Vibrations (EN60068-2-6) | $\leq 200 \text{ m.s}^{-2}$ (55 ... 2 000 Hz) |
| Maximal loads | Axial : 250 N | Encoder weight (approx.) | 0,600 kg |
| | Radial : 500 N | Protection(EN 60529) | IP 69K |
| Theoretical mechanical lifetime | 10 ⁹ turns ($F_{\text{axial}} / F_{\text{radial}}$) 50 N / 100 N : 12 250 N / 500 N : 0,5 | EMC | EN 61000-6-4, EN 61000-6-2 |
| Permissible max. speed | 4 000 min ⁻¹ | Isolation | 500 Veff |
| Continuous max. speed | 3 000 min ⁻¹ | Operating temperature | - 40... + 85 °C (T° encoder) |
| | | Storage temperature | - 40... + 85 °C |

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ELECTRICAL DATA

| | | | |
|--------------------------|-------------------------|---------------|---------|
| Power supply | 5-30Vdc | Repeatability | ± 0.1 % |
| Consumption without load | < 40mA (at 24Vdc) | Introduction | < 1s |
| Resolution | 4096 (2 ¹²) | Refresh rate | < 400µs |
| Accuracy | ± 0.3 % | | |

PROGRAMMABLE PARAMETERS

Resolution: defines the resolution per revolution (0 à 4 096).

Transmission speed : programmable from 10kbaud (1 000m) to 1 Mbaud (25 m) ; value per default : 20 Kbaud.

Address : defines the software address of the encoder on the bus (1 à 127, Value per default : id = 1).

Direction : defines the direction of count of the encoder.

RAX : define the value of the current position (stationary shaft).

Codes : high and low limits.

COMMUNICATION MODES

Encoder configuration : Reading/Writing of the encoder objects dictionary (SDO mode).

3 modes are available to interrogate the encoder position/speed :

CYCLIC mode : the encoder transmits its position in an asynchronous manner. The frequency of the transmission is defined by the programmable cyclic timer register from 0 to 65 535 ms,

SYNCHRO mode : the encoder transmits its position on a synchronous demand by the master.

POOLING mode (Answer to a RTR signal) : the encoder only answers to a request.

CONNECTION

| Type | Cable | Green – Grey GN - GY | Blue – Red BU - RD | Yellow – Pink YE - PK | Brown BN | White WH | Green – Grey GN - GY |
|------|-----------------------|-------------------------|-----------------------|--------------------------|-------------|-------------|-------------------------|
| BX | 8230/020 PVC Cable | CAN LOW | CAN GND | CAN HIGH | 0V | + 5/30Vdc | CAN LOW |

Nota : Refer to the bus standards for the maximal derivation length.

ORDERING REFERENCE (Contact the factory for special versions, ex : stainless steel version, connections...)

| Range | Shaft Ø | Mechanics | Supply | Output | Code | Resolution | Cable | Orientation |
|--|-------------------|--|------------------------|----------------------|--------------------|--|---------------------------------|---|
| AXM5S Magnetic – stainless steel 58mm encoder | 10 10mm | AA 316 stainless steel IP69K Hygienic design | P 5 to 30Vdc | BB CANopen | B Binary | 12 4096 points per revolution (2 ¹²) | BX 8230/020 PVC cable | Example A020 Axial Cable 2m |
| Ex:AXM5S | 10 / | AA / | P | BB | B // | 12 // | BX | A050 |

Made in France