

Absolute encoders - CANopen

Shaft with clamping or synchro flange
Single turn 9...16 bit,
Multi turn 0...16 bit

FNC AC 36B & 36S Series



Features

- Encoder single - or multiturn /CANopen
- Magnetic or optical sensing
- Single turn resolution up to 21 bit
- Multi turn 0 ...32 bit
- Clamping flange or synchro flange
- Permanent check of code continuity
- Extreme resistance to shock and vibration
- Encoder with electronic reset

Technical data - electrical ratings

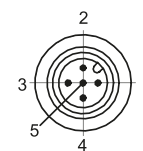
| | |
|-------------------------|---|
| Voltage supply | 8VDC to 30VDC |
| Protection: | Output short circuit protection. Reverse polarity protection (except 5V version) |
| Consumption w/o load | ≤80 mA (24 VDC) |
| Interface | CANopen CiA DSP 301 V4.01, DSP 305 V1.0, DSP 406 V3.1 |
| Resolution (steps/turn) | Magnetic: 14 bit Optic: 21 bit |
| Absolute accuracy | Magnetic: ±0,1° Optic: ±0,01° |
| Sensing method | Magnetic |
| Code | Binary |
| Code sequence | CW default, programmable |
| Programmable parameters | Operating modes Total resolution Scaling Rotation speed monitoring Node ID Baud Rate |
| Note: | All parameters change via microchip interface |
| Interference immunity | DIN EN 61000-6-2 |
| Emitted interference | DIN EN 61000-6-4 |
| Approval | CE |

Technical data - mechanical design

| | |
|-------------------------|---|
| Dimensions (flange) | ø40 mm |
| Shaft loading | ≤40 N axial ≤80 N radial |
| Protection DIN EN 60529 | IP54, IP65 |
| Operating speed | ≤10000 rpm |
| Starting torque | ≤0.001Nm (IP 65) |
| Materials | Housing, Flange : Aluminium Shaft : Stainless steel |
| Shaft diameter: | 6, 8, 10 mm (other diameters on request) |
| Bearings lifetime: | 2x10 ⁹ rev. at 100% of full rated shaft load (minimum) |
| Operating temperature | -40...+90 °C -40 °F ...+180 °F |
| Weight approx. | 350 g |

Terminal assignment

| Connector M12 | | | |
|---------------|---------|---------------------|--|
| Conn. | Signals | Description | |
| Pin 1 | n.c. | – | |
| Pin 2 | +Vs | Supply voltage | |
| Pin 3 | CAN_GND | CAN Ground | |
| Pin 4 | CAN_H | Bus (dominant High) | |
| Pin 5 | CAN_L | Bus (dominant Low) | |



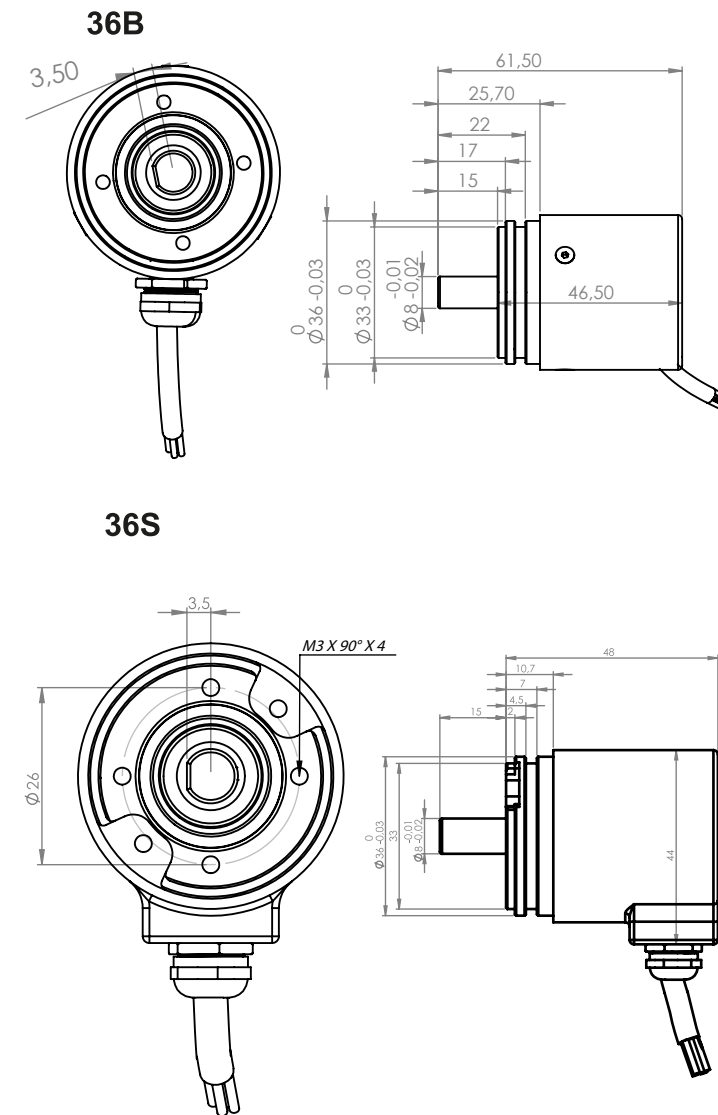
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Mechanical Dimensions



CANopen® features

| | |
|--------------------|--|
| Bus protocol | CANopen |
| Device profile | CANopen - CiA DS 406 |
| Preset | Parameter for setting the encoder to a requested position value assigned to a defined shaft position of the system. The offset of encoder zero point and mechanical zero point is stored in the encoder. |
| Rotating direction | The rotating direction in which there have to be ascending or descending position values can be defined. Default setting: Ascending position values when looking at the flange and rotating the shaft clockwise. |
| Scaling | Parameter defining the steps per turn as well as the total resolution. |
| Diagnosis | The encoder supports the following error warnings: - Position error - Lithium battery voltage (multiturn) |
| Default | 125 kbit/s, Node ID 1 |

Cable

| Core colour | Signals | Description |
|-------------|---------|---------------------|
| white | 0 V | Supply voltage |
| brown | +Vs | Supply voltage |
| green | CAN_H | Bus (dominant High) |
| yellow | CAN_L | Bus (dominant Low) |

Encoder Part Number

FNC **A** **C** **O** **36** **S** **10** **S12** **M12** **30V** - **R4**

- Absolute**
- C: CANopen**
- O: Optical M: Magnetic**
- Housing: 40: 40 mm**
- Flange Type: S: Servo flange B: Clamping flange**
- Shaft diameter: 6, 8, 10**
Other dimensions on request
- S: Single Turn**
up to 21 bit

Electrical Connections:
Cable **R4**: radial 4m **R1C4**: connector after 1m Cable
Connector:
R1212 R2312L R2312R

Supply Voltage:
30V: 8-30V input

Multi turn options: 0, 8, 12, 16