

Compact absolute multiturn encoder EMM36



Description:

EMM36 series of compact multiturn encoder with outer diameter of only 36 mm, The product uses stable magnetic chip technology, single-turn resolution is 12 bits, the maximum revolution can be achieved 12 bits, a variety of communication interface can be chosen, widely used in logistics, packaging machinery and machinery manufacturing industries.

Features:

- Stable magnetic chip technology can provide multiple communication interfaces.
- Metal casting housing can bear higher radial force and axial force.
- Protection class IP65
- Output cable or connector available for easy maintenance
- Customized -40 °C products for environmental applications

Mechanical parameters

| | | |
|--------------------------------|---------------------------------------|-----------------|
| Shaft diameter(mm) | Φ6f7 | Φ6F7/Φ8F7/Φ10F7 |
| Protection class | IP65 | |
| Max.speed | 6000 rpm | |
| Max.load capacity of shaft | 20 N (axial) | 40 N (radial) |
| Shock resistance | 100 G/6ms | |
| Vibration resistance | 20G 100...2000 Hz | |
| Bearing life | 10 ⁹ revolution | |
| Moment of inertia | 2.5×10 ⁻⁶ kgm ² | |
| Starting torque | <0.01 Nm | |
| Body material | Al-alloy | |
| Housing material | Al-alloy | |
| Operating temperature | -40...+80 °C | |
| Storage temperature | -45...+85 °C | |
| Relative humidity/condensation | 90%, Condensation not permitted | |
| Weight | About 400 g (except cable) | |

Electrical parameters

| | | | |
|-----------------------------|-------------|------------------------|---|
| Output circuit | SSI | Interface | CANopen Profile DSP 406 with additional function |
| Output driver | RS422 | Profile | CAN HIGH-Speed to ISO/DIS 1898, Basic and Full-CAN CAN specification 2.0B |
| Single turn resolution | 12 bits | Code | Binary |
| Revolution | 12 bits | Linearity | ±1/2 LSB (12bits), ±1LSB(13bits) |
| Supply voltage | 10...30 VDC | Baud rate | 20...800 Kbits/s (Pre-factory setting) |
| Power consumption (no load) | Max. 200 mA | Single turn resolution | Max. 16 bits |
| Maximum load current | ±20mA | Revolution | Max. 16 bits |
| Output frequency | Max. 15 KHz | Supply voltage | 10...30 VDC |
| Signal level high | Typ. 3.8 V | Maximum load current | Max.290 mA |
| Signal level low | Max. 0.5 V | Programming Functions | Resolution, preset, counting direction |
| Rise time Tr | Max. 100 ns | | |
| Fall time Tf | Max. 100 ns | | |

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Terminal Assignment

SSI

| Signal | 0V | +U _b | +C | -C | +D | -D | ST | V/R | Shield |
|--------|----|-----------------|----|----|----|----|----|-----|---------|
| Color | WH | BN | GN | YE | GY | PK | BU | RD | ⊥ |
| 8-pin | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Housing |

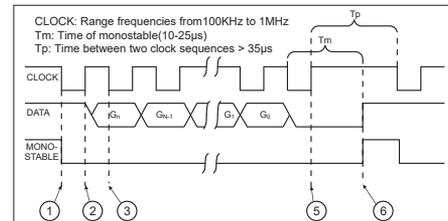
Canopen

| Signal | 0V | +Ub | RESET | CAN_H | CAN_L |
|--------|----|-----|-------|-------|-------|
| Color | WH | BN | BU | GN | GY |
| 5-pin | 3 | 2 | 1 | 4 | 5 |

RESET: Set +24V for 2 seconds, encoder restore factory Settings
 The factory baud rate of the encoder is set to 250K,
 the communication ID is set to NODE ID=32, and the cycle time is 100ms.

CANopen Matching Plug: M125PSF-00XX-W

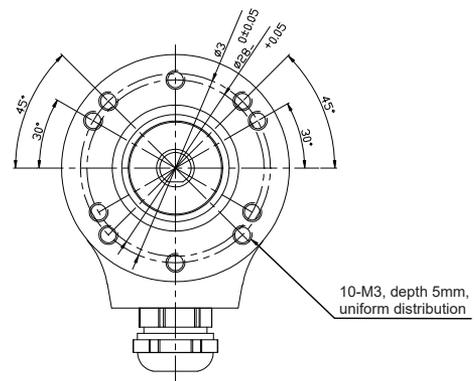
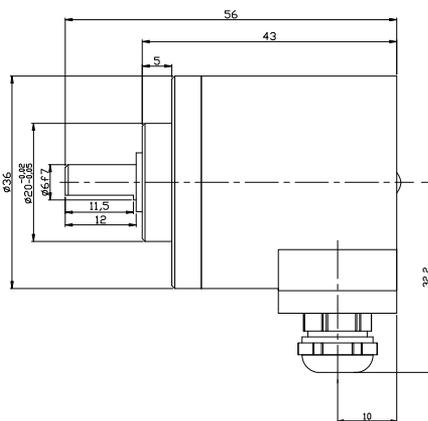
| Signal | 0V | +Ub | RESET | CAN_H | CAN_L |
|--------|----|-----|-------|-------|-------|
| Color | GN | BN | WH | GY | BU |
| 5-pin | 3 | 2 | 1 | 4 | 5 |



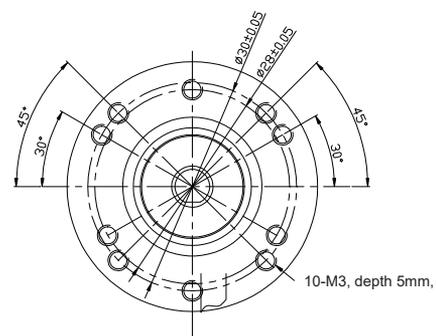
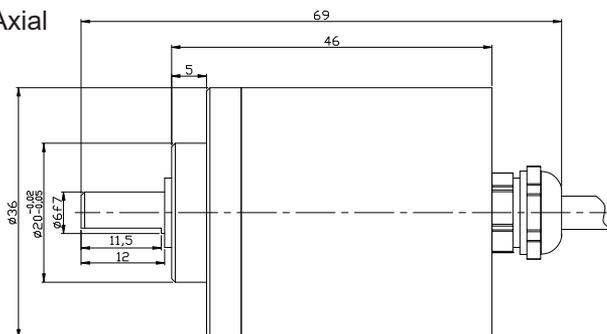
ST: reset input and store the current position value as new zero bit.
 V/R: Up/Down input, this input triggers, when the encoder axis rotates clockwise, the output value decreases.

Dimensions(mm)

36A Radial

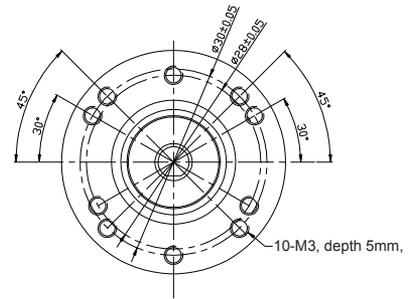
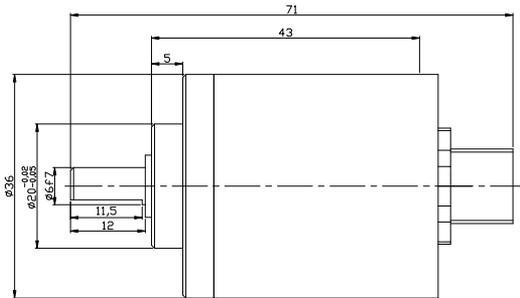


36A Axial

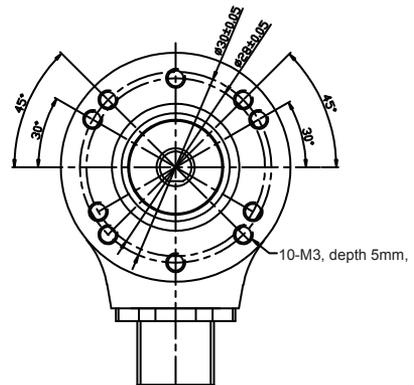
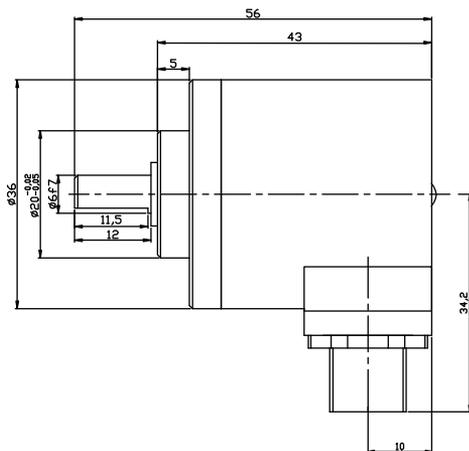


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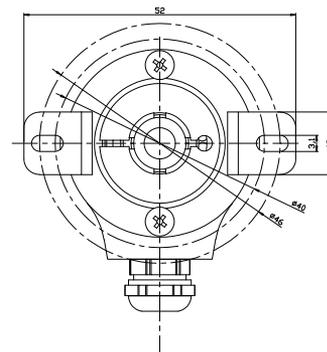
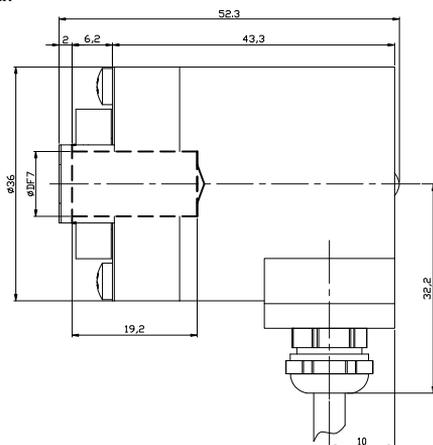
36A M5/M8 Axial



36A M5/M8 Radial

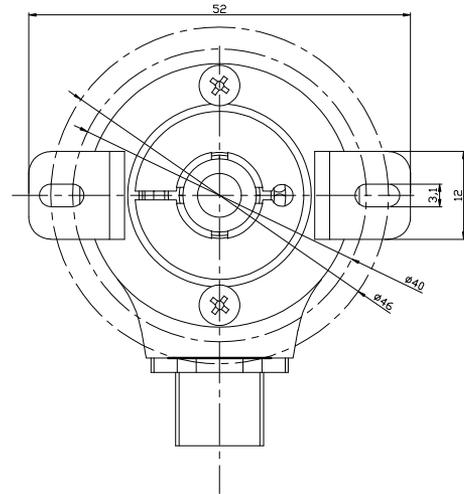
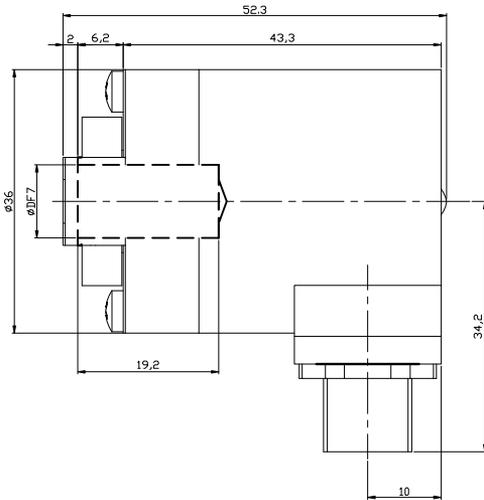


36W Radial

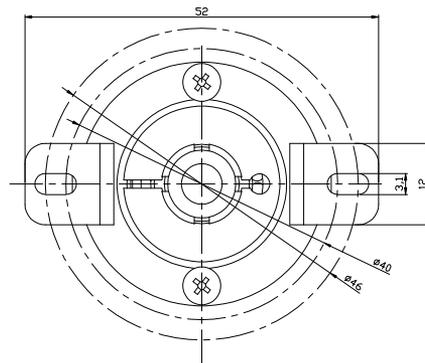
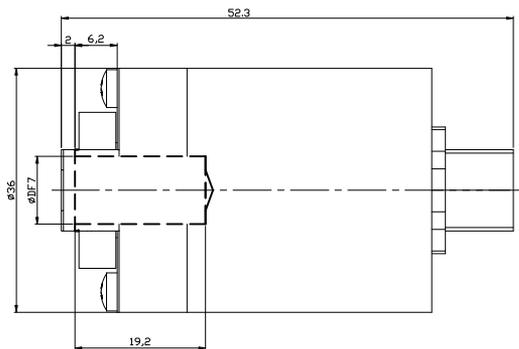


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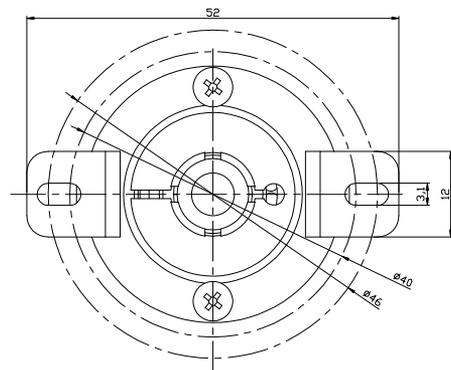
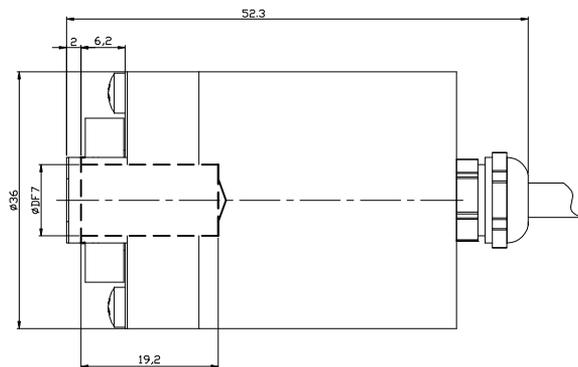
36W M5/M8 Radial



36W M5/M8 Axial



36W Axial



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Order Code

EMM 36 A 6 - G S6 X PC R - 4096/4096 EUND . XXXX

XXXX=special code

EUND: SSI
CAND: CANopen interface protocol

Resolution

Revolution/single turn resolution
Standard 4096/4096

Outlets direction

R=Radial
A=Axial

Types of connection

PC= Direct outlet 0.5 meters
M5=M12 5 pin connector output(CANopen)
M8=M12 8 pin connector output(SSl)

Output logic

X= No definition

Output and supply voltage

S6=SSl 10...30VDC
F6= CANopen 10...30VDC

Output code

G=Gray(SSl)
B=Binary(SSl/CANopen)

Shaft/hollow shaft diameter

Shaft
6=Φ6f7mm
Hollow shaft
6=Φ6F7mm
8=Φ8F7mm
10=Φ10F7mm

Flange type

A= round flange
W= Hollow shaft flange, double-wing spring mounting

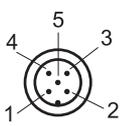
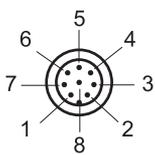
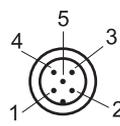
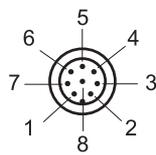
Housing dimension

36=Φ36 mm

Series

EMM= magneto electric multiturn encoder

Top view of pin plug:

| Connector type | 5-pin M12 connector CANopen | 8-pin M12 connector SSI | 5-pin M12 connector CANopen | 8-pin M12 connector SSI |
|-------------------|---|---|--|---|
| Pin plug |  |  |  |  |
| Matched connector | M125PSF-0020-W 5-core pre-molded connector with 2 m PUR cable | M128PSF-0020-W 8-core pre-molded connector with 2 m PUR cable | TMSP125PF Field attachable connector | TMSP128PF Field attachable connector |