

MAIN FEATURES

Thanks to the magnetic technology, the EMI 38 series is suitable for harsh environment applications such as marble and glass working machines, washing systems and generally for industrial automation.

- 3 channel encoder (A / B / Z) up to 2048 ppr
- Power supply up to +28 V DC with several electrical interfaces available
- Cable output, connector available on cable end
- Compact dimensions
- Blind hollow shaft diameter up to 10 mm with shaft fixing by collar clamping
- Sturdy construction due to separated chambers design
- Wide operating temperature -25° ... +100°C (-13° ... +212°F)



ORDERING CODE

EMI 38F 1024 Z 5 L 6 X 6 PR .XXX

SERIES
magnetic incremental encoder series EMI

MODEL
blind hollow shaft with stator coupling 38F
blind hollow shaft with torque pin 38G

RESOLUTION
ppr from 2 to 2048
see table for pulses availability

ZERO PULSE
without zero pulse S
with zero pulse Z

POWER SUPPLY
(with L electrical interface) 5 V DC 5
(with L electrical interface) 8 ... 24 V DC 8/24
5 ... 28 V DC 5/28

ELECTRICAL INTERFACE
push-pull P
line driver L

SHAFT DIAMETER
mm 6
mm 8
(3/8") 9,52 mm 9
mm 10

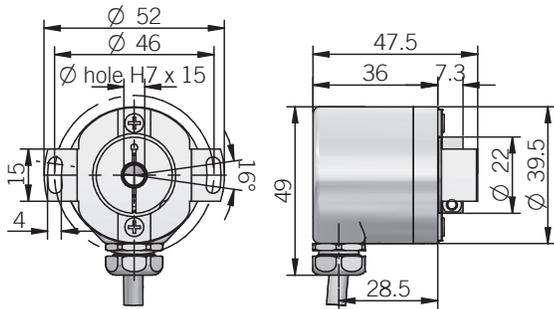
ENCLOSURE RATING
IP 64 X
IP 66 S

MAX ROTATION SPEED
(IP 66) 3000 rpm 3
(IP 64) 6000 rpm 6

OUTPUT TYPE
radial cable (standard length 0,5 m) PR
preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)

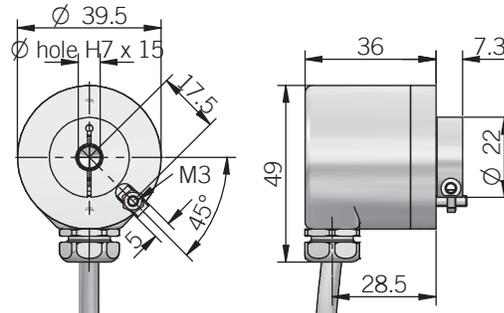
VARIANT
custom version XXX

38 F



dimensions in mm

38 G



torque pin is included, for mounting instruction please refer to product installation notes

ELECTRICAL SPECIFICATIONS

| | |
|---|---|
| Resolution | from 2 to 2048 ppr |
| Power supply | 5 = 4,5 ... 5,5 V DC 5/28 = 4,75 ... 29,4 V DC 8/24 = 7,6 ... 25,2 V DC (reverse polarity protection) |
| Current consumption without load | 80 mA max |
| Max load current | 15 mA / channel |
| Output type* | push-pull / line driver HTL (AEIC-7272) line driver RS-422 (AELT-5000 or equivalent) |
| Max output frequency | 205 kHz |
| Counting direction | A leads B clockwise (shaft view) |
| Accuracy | ± 0,35° typical / ± 0,50° max |
| Electromagnetic compatibility | according to 2014/30/EU directive |
| RoHs | according to 2011/65/EU directive |

* for further details please see OUTPUT LEVELS under TECHNICAL BASICS section

RESOLUTIONS

2 - 4 - 8 - 10 - 16 - 20 - 32 - 40 - 64 - 80 - 100 - 125 - 128 - 200 - 250 - 256 - 400 - 500 - 512 - 1024 - 2048

CONNECTIONS

| Function | Cable P | Cable L |
|----------|---------|---------|
| +V DC | red | red |
| 0 V | black | black |
| Ch. A | green | green |
| Ch. A- | / | brown |
| Ch. B | yellow | yellow |
| Ch. B- | / | orange |
| Ch. Z | blue | blue |
| Ch. Z- | / | white |
| ⊕ | shield | shield |

MECHANICAL SPECIFICATIONS

| | |
|---|---|
| Shaft diameter | ∅ 6* / 8* / 9,52 (3/8") / 10 mm * with supplied adapter shaft |
| Enclosure rating | X = IP 64 (IEC 60529) S = IP 66 (IEC 60529) |
| Max rotation speed | IP 66 - 3000 rpm IP 64 - 6000 rpm |
| Max shaft load | 5 N axial / radial |
| Shock | 50 G, 11 ms (IEC 60068-2-27) |
| Vibration | 10 G, 10 ... 2000 Hz (IEC 60068-2-6) |
| Moment of inertia | 0,25 x 10 ⁻⁶ kgm ² (6 x 10 ⁻⁶ lbf ²) |
| Starting torque (at +20°C / +68°F) | < 0,02 Nm (2,83 Ozin) |
| Bearing stage material | EN-AW 2011 aluminum |
| Shaft material | 1.4305 / AISI 303 stainless steel |
| Housing material | painted aluminum |
| Bearings | 2 ball bearings |
| Bearing lifetime | 10 ⁹ revolutions |
| Operating temperature | -25° ... +100°C (-13° ... +212°F) |
| Storage temperature | -25° ... +85°C (-13° ... +185°F) |
| Fixing torque for collar clamping | 0,6 Nm (85 Ozin) recommended |
| Weight | 150 g (5,29 oz) |