

MAIN FEATURES

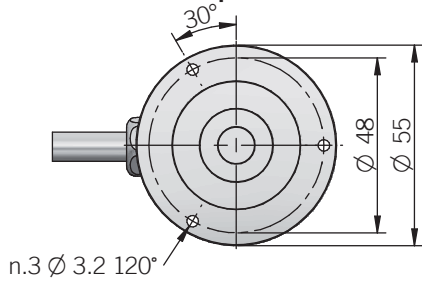
EMI series encoders are suitable for several application fields like electric motors marine industry, iron and steel industry, textile machines, wood-working, paper-working, glass working, marble-working machinery and, more generally, automation and process control fields.

- 3 channel encoder (A / B / Z) up to 2048 ppr
- Power supply up to +28 V DC with several electrical interfaces available
- Cable or M12 connector output, other connector available on cable end
- Compact dimensions
- No wear due to no contact magnetic technology
- Bore shaft diameter up to 10 mm
- IP 67 Enclosure rating
- Wide operating temperature -40° ... +125°C (-40° ... +257°F)

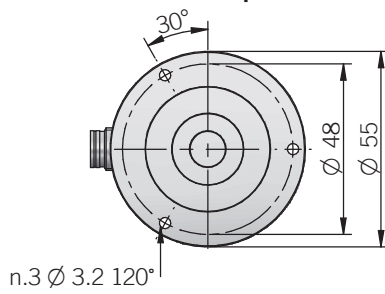


| ORDERING CODE | EMI | 55A | 512 | Z | 5/28 | P | 10 | X | 10 | P | R | .XXX |
|--|-----|-----|-----|---|------|---|----|---|----|---|---|------|
| SERIES magnetic incremental encoder series EMI | | | | | | | | | | | | |
| MODEL fixing holes ø 48 mm 55A for anodized version please directly contact our offices | | | | | | | | | | | | |
| RESOLUTION ppr from 2 to 2048 refer to the available pulses list | | | | | | | | | | | | |
| ZERO PULSE without zero pulse S with zero pulse Z | | | | | | | | | | | | |
| POWER SUPPLY (with L electrical interface) 5 V DC 5 5 ... 28 V DC 5/28 | | | | | | | | | | | | |
| ELECTRICAL INTERFACE push-pull P line driver L power supply 5/28 V - output RS-422 RS | | | | | | | | | | | | |
| MAGNET ACTUATOR BORE DIAMETER mm 6 mm 8 (3/8") mm 9,52 mm 10 | | | | | | | | | | | | |
| ENCLOSURE RATING IP 64 X IP 67 S | | | | | | | | | | | | |
| MAX ROTATION SPEED 10000 rpm 10 | | | | | | | | | | | | |
| OUTPUT TYPE cable (standard length 0,5 m) P preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after DIRECTION TYPE (eg. PR5) M12 connector M12 female connector included, without female please add 162 as variant code | | | | | | | | | | | | |
| DIRECTION TYPE axial A radial R | | | | | | | | | | | | |
| VARIANT custom version XXX | | | | | | | | | | | | |

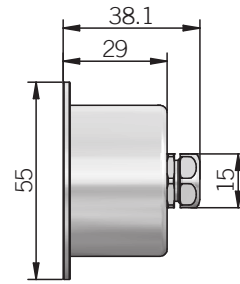
55 A radial cable output



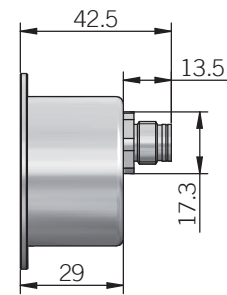
55 A radial M12 output



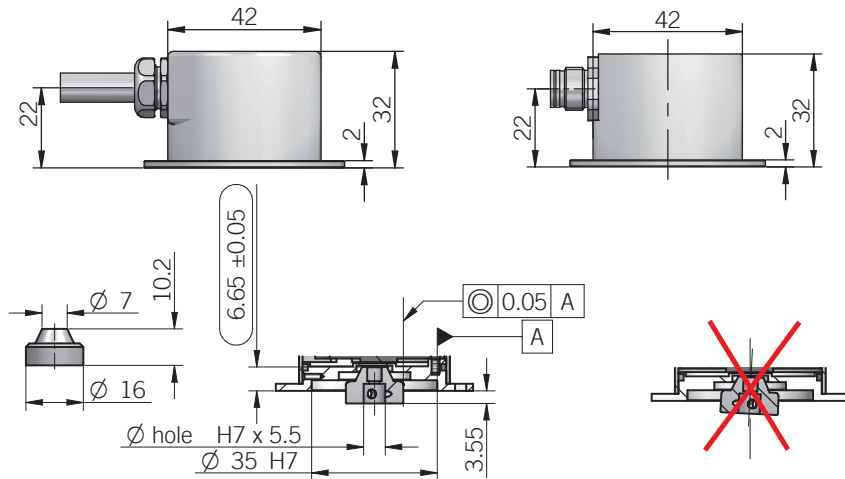
55 A axial cable output



55 A axial M12 output



dimensions in mm



| ELECTRICAL SPECIFICATIONS | |
|---|---|
| Resolution | from 2 to 2048 ppr |
| Power supply¹ | 5 = 4,5 ... 5,5 V DC 5/28 = 4,5 ... 30 V DC (reverse polarity protection) |
| Power draw without load | 800 mW max |
| Max load current | 20 mA / channel |
| Electrical interface² | 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 (flange view) |
| Accuracy | ± 0,35° typical / ± 0,50° max |
| Electromagnetic compatibility | according to 2014/30/EU directive |
| RoHS | according to 2015/863/EU directive |
| UL / CSA | certificate n. E212495 |

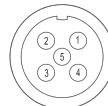
¹ as measured at the transducer without cable influences
² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
³ measured on the transducer flange
⁴ condensation not allowed

| MECHANICAL SPECIFICATIONS | |
|--|---|
| Bore diameter (magnet-actuator) | ∅ 6 / 8 / 9,52 (3/8") / 10 mm |
| Enclosure rating | X = IP 64 (IEC 60529) S = IP 67 (IEC 60529) |
| Max rotation speed | 10000 rpm |
| Shock | 50 G, 11 ms (IEC 60068-2-27) |
| Vibration | 10 G, 10 ... 2000 Hz (IEC 60068-2-6) |
| Moment of inertia (magnet actuator) | 0,1 x 10 ⁻⁶ kgm ² (2,4 x 10 ⁻⁶ lbfm ²) |
| Bearing stage material | EN-AW 2011 aluminum |
| Housing material | painted aluminum |
| Magnet-actuator material | EN-AW 2011 aluminum |
| Operating temperature^{3,4} | -40° ... +125°C (-40° ... +257°F) (with +5 V DC) -40° ... +100°C (-40° ... +212°F) |
| Storage temperature⁴ | -40° ... +125°C (-40° ... +257°F) |
| Weight | 150 g (5,29 oz) |
| Magnet actuator mounting tolerances (to get best electrical performances) | ± 0,2 mm (axial) ± 0,1 mm (radial) |

| CONNECTIONS | | | | |
|-------------|---------|---------------|-------------|------------------|
| Function | Cable P | Cable L / RS | 5 pin M12 P | 8 pin M12 L / RS |
| +V DC | red | red | 2 | 7 |
| 0 V | black | black | 4 | 1 |
| A+ | green | green | 3 | 6 |
| A- | / | brown or grey | / | 5 |
| B+ | yellow | yellow | 1 | 4 |
| B- | / | orange | / | 3 |
| Z+ | blue | blue | 5 | 2 |
| Z- | / | white | / | 8 |
| ⊕ | shield | shield | housing | housing |

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

M12 connector (5 pin)
M12 A coded
solder side view FV



M12 connector (8 pin)
M12 A coded
solder side view FV

