

MAIN FEATURES

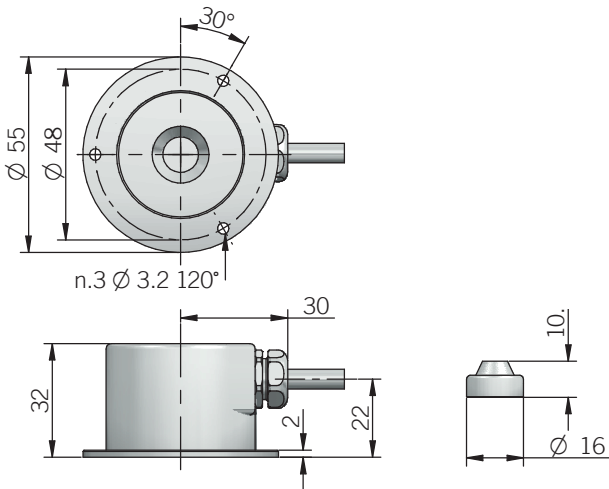
EMI series encoders are suitable for several application fields like electric motors marine industry, iron and steel industry, textile machines, wood-working, paper-working, glass working, marble-working machinery and, more generally, automation and process control fields.

- 3 channel encoder (A / B / Z) with resolution up to 10000 ppr
- Power supply up to +30 V DC with several electrical interfaces available
- Cable or M12 connector output, other connectors 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° ... +100°C (-40° ... +212°F)

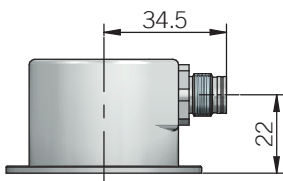


| ORDERING CODE | EMI | 55M | 512 | Z | 5/30 | P | 10 | X | X | M12 | R | .162 | +XXX |
|---|-----|-----|-----|---|------|---|----|---|---|-----|---|------|------|
| SERIES magnetic incremental encoder series EMI | | | | | | | | | | | | | |
| MODEL kit encoder ø 55 mm 55M | | | | | | | | | | | | | |
| RESOLUTION ppr from 1 to 10000 please refer to the preferred resolutions list | | | | | | | | | | | | | |
| ZERO PULSE without zero pulse S with zero pulse Z | | | | | | | | | | | | | |
| POWER SUPPLY (with L electrical interface) 5 V DC 5 5 ... 30 V DC 5/30 | | | | | | | | | | | | | |
| ELECTRICAL INTERFACE NPN open-collector C push-pull P line driver L power supply 5/30 V DC - output RS-422 RS | | | | | | | | | | | | | |
| MAGNET ACTUATOR BORE DIAMETER mm 6 mm 8 (3/8") mm 9,52 mm 10 | | | | | | | | | | | | | |
| ENCLOSURE RATING IP 67 X | | | | | | | | | | | | | |
| OPTION to be reported X | | | | | | | | | | | | | |
| 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 plug connector M12 | | | | | | | | | | | | | |
| DIRECTION TYPE radial R | | | | | | | | | | | | | |
| SOCKET socket not included .162 to be reported only with connector output (eg. M12.162), for socket see Accessories | | | | | | | | | | | | | |
| VARIANT custom version XXX | | | | | | | | | | | | | |

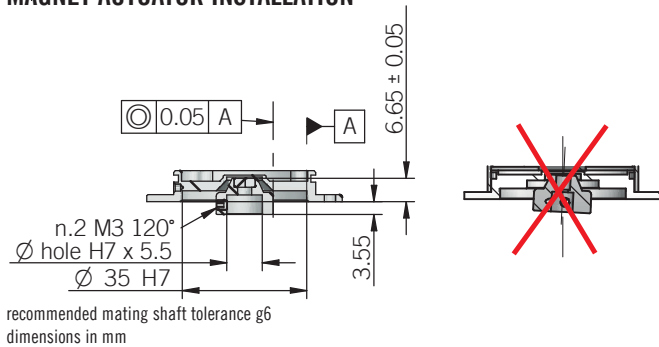
EMI55 M WITH CABLE OUTPUT



DIMENSIONS WITH M12 CONNECTOR



MAGNET ACTUATOR INSTALLATION

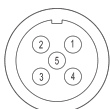


recommended mating shaft tolerance g6
dimensions in mm

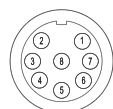
CONNECTIONS

| Function | Cable C / P | Cable L / RS | 5 pin M12 C / 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 | shield | housing | housing |

M12 connector (5 pin)
M12 A coded
front view



M12 connector (8 pin)
M12 A coded
front view



ELECTRICAL SPECIFICATIONS

| | |
|--|---|
| Resolution | from 1 to 10000 ppr |
| Power supply ¹ | 5 = 4,5 ... 5,5 V DC 5/30 = 4,5 ... 30 V DC (reverse polarity protection) |
| Power draw without load typical | 0,4 W |
| Max load current | C / P = 50 mA / channel L / RS = 20 mA / channel |
| Electrical interface ² | NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272 or similar) line driver RS-422 (AELT-5000 or similar) |
| Max output frequency | 800 kHz |
| Counting direction | A leads B clockwise (shaft view) |
| Index signal | 180°e (gated A) |
| Startup time typical | 10 ms |
| Accuracy | < 0,3° at +20°C (+68°F) ± 0,5° in the operating temperature range |
| Hysteresis | 0,70° up to 256 ppr 0,35° from 257 ppr to 10000 ppr |
| Mean time to dangerous failure (MTTF) _d ³ according to EN ISO 13849-1 | 275 years |
| Mission time (Tm) ³ | 20 years |
| Diagnostic coverage (DC) ³ | 0% |
| Cable type | shielded - fixed installation conductors section 0,22 mm ² / AWG 24 bending radius min 60 mm |
| Electromagnetic compatibility | according to 2014/30/EU directive |
| RoHs | according to 2011/65/EU directive |
| UL / CSA | file n. E212495 |

MECHANICAL SPECIFICATIONS

| | |
|--------------------------------------|--|
| Bore diameter (magnet-actuator) | ø 6 / 8 / 9,52 (3/8") / 10 mm |
| Enclosure rating | 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 lbf ²) |
| Flange material | aluminum |
| Housing material | painted aluminum |
| Magnet-actuator material | aluminum |
| Magnet actuator allowable play | ± 0,2 mm (axial) ± 0,1 mm (radial) |
| Operating temperature ^{4,5} | -40° ... +100°C (-40° ... +212°F) -25° ... +85°C (-13° ... +185°F) with M12 connector |
| Storage temperature ⁵ | -25° ... +85°C (-13° ... +185°F) |
| Weight | 150 g (5,29 oz) |

¹ as measured at the transducer without cable influences

² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section

³ this product is not a safety component, for further details refer to TECHNICAL BASICS section

⁴ measured on the transducer flange

⁵ condensation not allowed

PREFERRED RESOLUTIONS

2 - 4 - 5 - 6 - 8 - 10 - 12 - 16 - 20 - 30 - 40 - 50 - 60 - 80 - 90 - 100 - 125 - 128 - 200 - 250 - 256 - 360 - 400 - 500 - 512 - 720 - 1000 - 1024 - 1440 - 2000 - 2048 - 3600 - 4096 - 5000 - 7200 - 10000

please directly contact our offices for other pulses