

MAIN FEATURES

∅ 50 mm encoder recommended for motor feedback. Suitable for small size motors due to its compact dimensions.

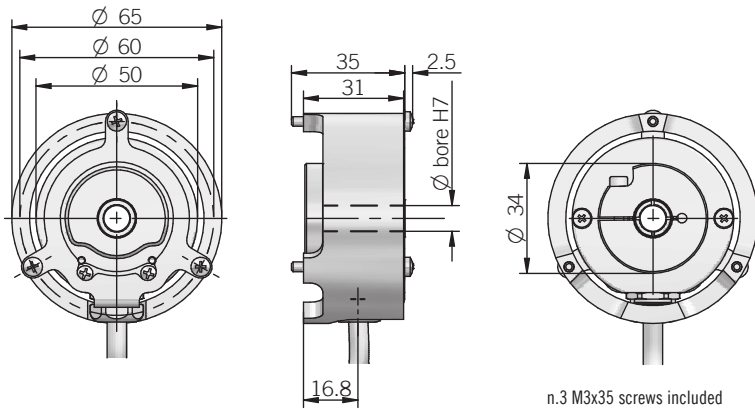
- 3 channel encoder (A / B / Z) up to 1024 ppr
- Highly integrated optical ASIC
- Wide power supply up to +30 V DC
- Through hollow shaft up to 10 mm diameter
- Mounting by coupling flange or stator coupling (front or rear fixing)
- IP 65 as protection grade
- Wide temperature range -40 ... + 100°C



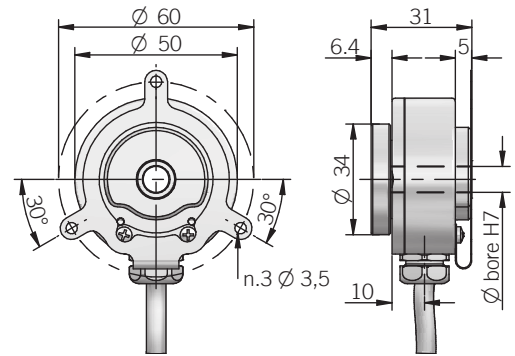
ORDERING CODE **EH 50FP 1024 S 5/30 P 6 X 6 PR .XXX**

| | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|
| SERIES incremental encoder series EH | | | | | | | | | | | | |
| MODEL through hollow shaft with front fixing 50FA through hollow shaft with rear fixing 50FP | | | | | | | | | | | | |
| RESOLUTION ppr from 100 to 1024 refer to the available pulses list | | | | | | | | | | | | |
| ZERO PULSE without zero pulse S with zero pulse Z | | | | | | | | | | | | |
| POWER SUPPLY 5 ... 30 V DC 5/30 | | | | | | | | | | | | |
| ELECTRICAL INTERFACE push-pull P line driver L power supply 5/30 V DC - output RS-422 RS | | | | | | | | | | | | |
| BORE DIAMETER mm 6 mm 8 (3/8") mm 9,52 10 mm 10 | | | | | | | | | | | | |
| ENCLOSURE RATING IP 65 X | | | | | | | | | | | | |
| MAX ROTATION SPEED 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 | | | | | | | | | | | | |

50FA



50FP



recommended mating shaft tolerance g6
dimensions in mm

| ELECTRICAL SPECIFICATIONS | |
|---|---|
| Resolution | from 100 to 1024 ppr |
| Power supply¹ | 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 or similar) line driver RS-422 (AELT-5000 or similar) |
| Max output frequency | 105 kHz |
| Counting direction | A leads B clockwise (shaft view) |
| Index signal | 90°e (gated A&B) |
| Mean time to dangerous failure (MTTF_d)³ according to EN ISO 13849-1 | 54 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 | ø 6 / 8 / 9,52 (3/8") / 10 mm |
| Enclosure rating | IP 65 (IEC 60529) |
| Max rotation speed | 6000 rpm |
| Shock | 50 G, 11 ms (IEC 60068-2-27) |
| Vibration | 10 G, 10 ... 2000 Hz (IEC 60068-2-6) |
| Moment of inertia | 0,5 x 10 ⁻⁶ kgm ² (12 x 10 ⁻⁶ lbf ²) |
| Starting torque (at +20°C / +68°F) | < 0,01 Nm (1,42 Ozin) |
| Shaft material | stainless steel |
| Housing material | aluminum |
| Bearings | n.2 ball bearings |
| Bearings life | 10 ⁹ revolutions |
| Operating temperature^{4,5} | -40° ... +100 °C (-40° ... +212°F) |
| Storage temperature⁵ | -40° ... +100 °C (-40° ... +212°F) |
| Weight | 150 g (5,29 oz) mod.FP 200 g (7,05 oz) mod.FA |

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

| CONNECTIONS | | |
|-------------|---------|---------------|
| Function | Cable P | Cable L / RS |
| +V DC | red | red |
| 0 V | black | black |
| A+ | green | green |
| A- | / | brown or grey |
| B+ | yellow | yellow |
| B- | / | orange |
| Z+ | blue | blue |
| Z- | / | white |
| ⊖ | shield | shield |

| RESOLUTIONS |
|--|
| 100 - 200 - 256 - 360 - 400 - 500 - 1000 - 1024 |

please directly contact our offices for other pulses, preferred resolutions in bold