

MAIN FEATURES

Explosion proof encoder for applications within hazardous areas.

- Optical sensor technology (OptoASIC)
- Resolution up to 13 bit (8192 ppr)
- Power supply up +28 V DC with SSI as electrical interface
- Code reset for easy setup
- 10mm solid shaft diameter
- Cable output
- Mounting by synchronous or centering square flange

EX CLASSIFICATION

It has been assured with EC-TYPE Examination Certificate CESI 04 ATEX 082 that the EX 80 comply with essential health and safety requirements according to

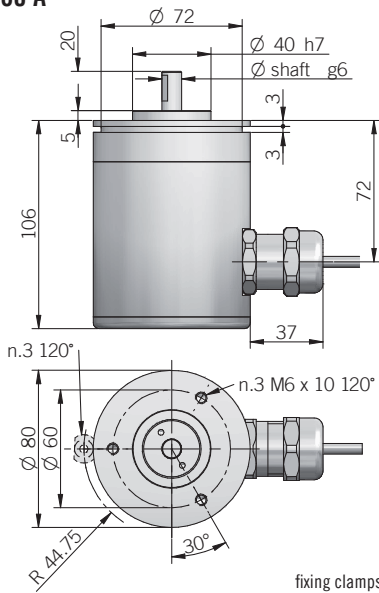
- EN 60079-0:2012+A11:2013
- EN 60079-1:2014
- EN 60079-31:2014

The UE declaration is available on www.eltra.it



| ORDERING CODE | EAX | 80A | 256 | G | 8/28 | S | X | X | 10 | X | 3 | PR | .XXX |
|--|-----|-----|-----|---|------|---|---|---|----|---|---|----|------|
| SERIES singleturn absolute flameproof encoder EAX | | | | | | | | | | | | | |
| MODEL synchronous flange ø 40 mm 80A centering square flange ø 40 mm 80D | | | | | | | | | | | | | |
| RESOLUTION ppr 360 / 720 / 1440 / 2880 / 3600 / 4096 / 8192 please directly contact our offices for other pulses | | | | | | | | | | | | | |
| CODE TYPE binary B gray G (no powers of 2) binary offset code (0-XXX) BC (no powers of 2) gray offset code (0-XXX) GC | | | | | | | | | | | | | |
| POWER SUPPLY 8 ... 28 V DC 8/28 | | | | | | | | | | | | | |
| ELECTRICAL INTERFACE Serial Synchronous Interface - SSI S | | | | | | | | | | | | | |
| LOGIC to be reported X | | | | | | | | | | | | | |
| OPTIONS to be reported if not used X reset ZE | | | | | | | | | | | | | |
| SHAFT DIAMETER mm 10 | | | | | | | | | | | | | |
| ENCLOSURE RATING IP 65 X | | | | | | | | | | | | | |
| MAX ROTATION SPEED 3000 rpm 3 | | | | | | | | | | | | | |
| OUTPUT TYPE radial cable (standard length 1,5 m) PR | | | | | | | | | | | | | |
| VARIANT custom version XXX | | | | | | | | | | | | | |

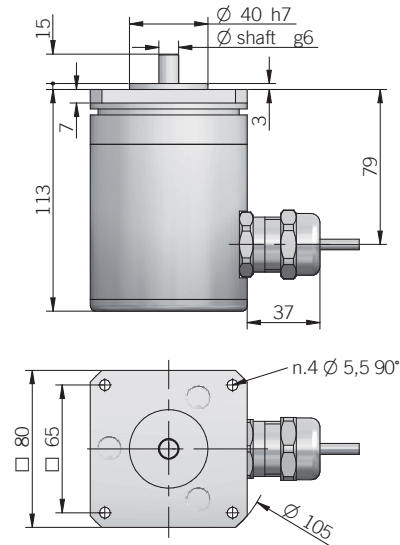
80 A



fixing clamps not included, please refer to Accessories

dimensions in mm

80 D



| ELECTRICAL SPECIFICATIONS | |
|---|---|
| Resolution | from 360 to 8192 ppr |
| Power supply¹ | 7,6 ... 29,4 V DC (reverse polarity protection) |
| Current consumption without load | 100 mA |
| Electrical interface² | RS-422 compatible |
| Auxiliary inputs (U/D - RESET) | active high (+V DC) connect to 0 V if not used / RESET tmin 150 ms |
| Clock frequency | 100 kHz ... 1 MHz |
| SSI monostable time (Tm) | 18 µs |
| SSI pause time (Tp) | > 35 µs |
| SSI frame | (MSB ... LSB) 13 bit data length |
| Counting direction | decreasing clockwise (shaft view) |
| Start-up time | 700 ms |
| Accuracy | ± 1/2 LSB |
| 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 maximum load for static usage

⁴ measured on the transducer flange

⁵ condensation not allowed

| CONNECTIONS | |
|-------------|--------|
| Function | Cable |
| + V DC | red |
| 0 V | grey |
| DATA + | green |
| DATA - | brown |
| CLOCK + | yellow |
| CLOCK - | pink |
| U / D | blue |
| RESET | white |
| ⊥ | shield |

| MECHANICAL SPECIFICATIONS | |
|---|---|
| Shaft diameter | ∅ 10 mm |
| Enclosure rating | IP 65 (IEC 60529) |
| Max rotation speed | 3000 rpm |
| Max shaft load³ | 200 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 | 1,5 x 10 ⁻⁶ kgm ² (36 x 10 ⁻⁶ lbf ²) |
| Starting torque (at +20°C / +68°F) | < 0,06 Nm (8,50 Ozin) |
| Bearing stage material | anodized aluminum |
| Shaft material | 1.4305 / AISI 303 stainless steel |
| Housing material | anodized aluminum |
| Bearings | n.2 ball bearings |
| Bearings life | 10 ⁹ revolutions |
| Operating temperature^{4, 5} | 0° ... +50°C (+32° ... +122°F) |
| Storage temperature⁵ | -15° ... +70°C (+5° ... +158°F) |
| Weight | 1200 g (42,33 oz) |

EPL MARKING

II 2GD
Ex d IIC T6 Gb
Ex tb IIIC T85°C Db
IP 65

II 2GD
 II: group II: different than mines
 2: category 2: high level of protection
 GD: areas containing gas (G) and dust (D)
Ex d IIC T6 Gb
 Ex d: flameproof enclosure for explosive atmospheres with gases, vapours and mists
 IIC: group of gas IIC
 T6: max surface temperature +85°C of the device for atmospheres with gas
 Gb: product with a high level of protection
Ex tb IIIC T85°C Db
 Ex tb: flameproof enclosure safety type
 IIIC: group of dust combustibles IIIC
 T85°C: max surface temperature +85°C of the device in the presence of dust
 Db: product with a high level of protection