

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 EAX 80 is compliant with essential health and safety requirements according to

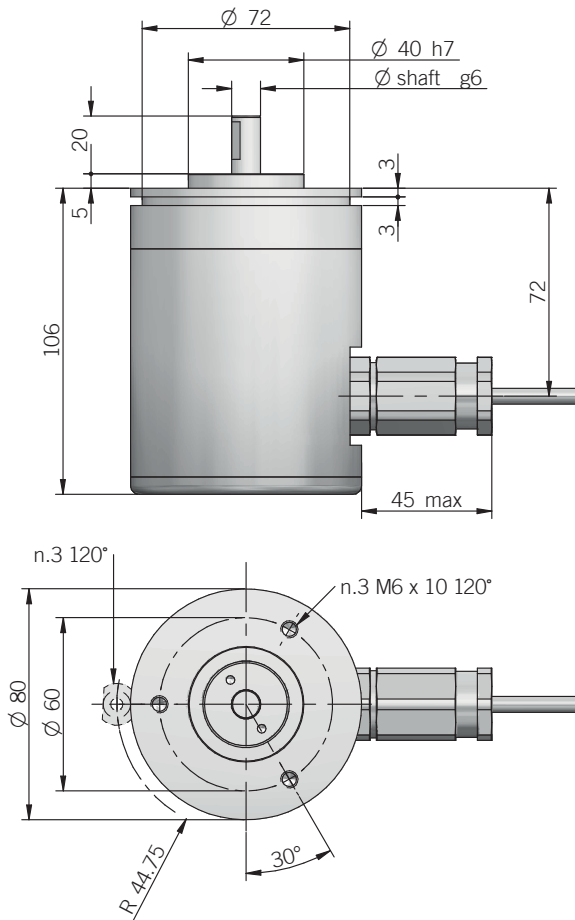
- EN IEC 60079-0:2018
- EN 60079-1:2014
- EN 60079-31:2014

The UE declaration is available on www.eltra.it



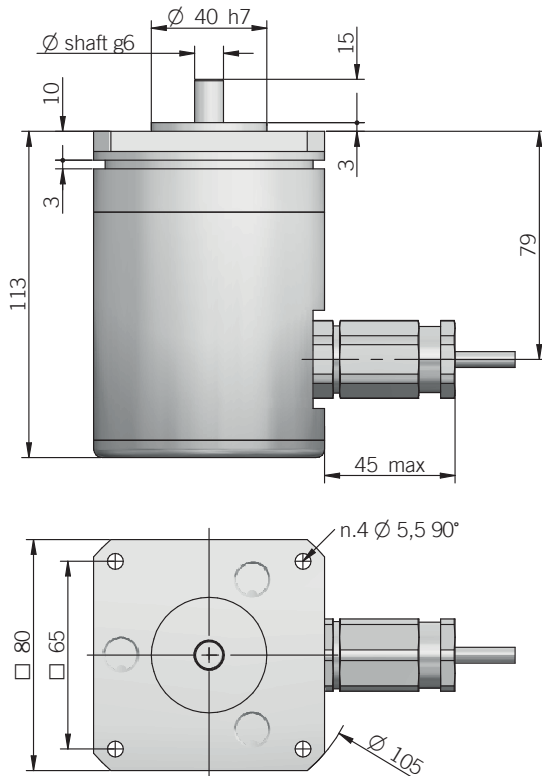
ORDERING CODE	EAX	80A	256	G	8/28	S	X	X	10	X	3	PR	.XXX
<p>SERIES singleturn absolute flameproof encoder EAX</p> <p>MODEL synchronous flange ø 40 mm 80A centering square flange ø 40 mm 80D</p> <p>RESOLUTION ppr 360 / 720 / 1440 / 2880 / 3600 / 4096 / 8192 please directly contact our offices for other pulses</p> <p>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</p> <p>POWER SUPPLY 8 ... 28 V DC 8/28</p> <p>ELECTRICAL INTERFACE Serial Synchronous Interface - SSI S</p> <p>LOGIC to be reported X</p> <p>OPTIONS to be reported if not used X reset with external input ZE</p> <p>SHAFT DIAMETER mm 10</p> <p>ENCLOSURE RATING IP 65 X</p> <p>MAX ROTATION SPEED 3000 rpm 3</p> <p>OUTPUT TYPE radial cable (standard length 1,5 m) PR preferred cable lengths 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PDR5)</p> <p>VARIANT custom version XXX</p>													

80A



fixing clamps not included, please refer to the Accessories

80D



recommended mating shaft tolerance H7
dimensions in mm

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
Mean time to dangerous failure (MTTF)³ according to EN ISO 13849-1	54 years
Mission time (Tm)³	20 years
Diagnostic coverage (DC)³	0%
Cable type	shielded - fixed or flexible installation conductors section min 0,14 mm ² / AWG 26 bending radius min 35 mm (fixed) / min 60 mm (flexible)
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	file n. E212495

MECHANICAL SPECIFICATIONS

Shaft diameter	∅ 10 mm
Enclosure rating	IP 65 (IEC 60529)
Max rotation speed	3000 rpm
Max shaft load⁴	200 N (45 lbs) 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	stainless steel
Housing material	anodized aluminum
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature^{5,6}	0° ... +50°C (+32° ... +122°F)
Storage temperature⁶	-15° ... +70°C (+5° ... +158°F)
Weight	1200 g (42,33 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 maximum load for static usage

⁵ measured on the transducer flange

⁶ condensation not allowed

EPL MARKING



II 2GD
Ex db 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 db IIC T6 Gb

Ex db: 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

CONNECTIONS

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

