

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 comply with essential health and safety requirements according to

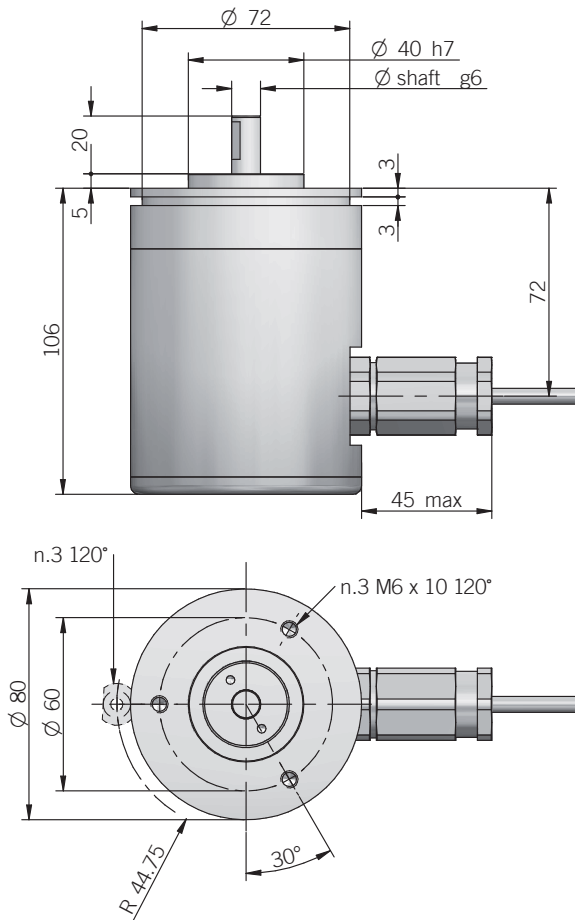
- EN IEC 60079-0:2018
- EN 60079-1:2014
- EN 60079-31:2014

The UE declaration is available on www.eltra.it



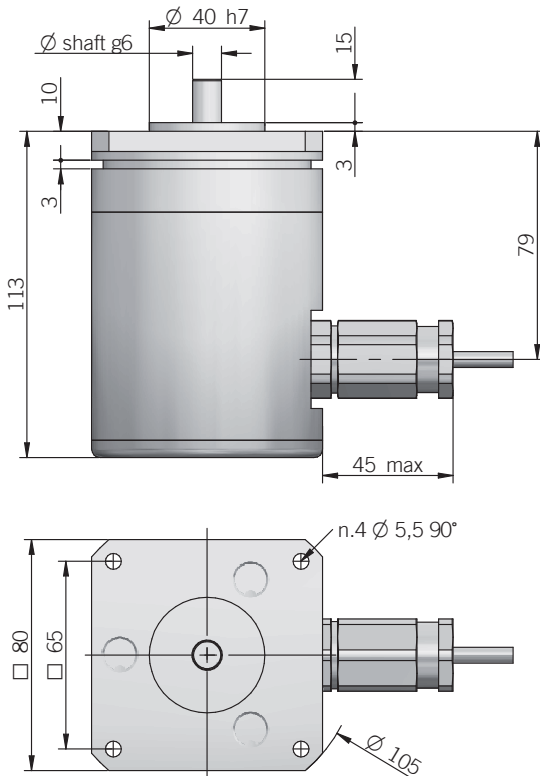
ORDERING CODE	EAX	80A	256	G	8/28	S	X	X	10	X	3	PR	.XXX
SERIES singleturn absolute flameproof encoder	EAX												
MODEL synchronous flange ø 40 mm centering square flange ø 40 mm	80A	80D											
RESOLUTION ppr please directly contact our offices for other pulses	360 / 720 / 1440 / 2880 / 3600 / 4096 / 8192												
CODE TYPE binary gray (no powers of 2) binary offset code (0-XXX) (no powers of 2) gray offset code (0-XXX)	B G BC 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 reset with external input	X ZE												
SHAFT DIAMETER mm	10												
ENCLOSURE RATING IP	65												
MAX ROTATION SPEED rpm	3												
OUTPUT TYPE radial cable (standard length 1,5 m) preferred cable lengths 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PDR5)	PR												
VARIANT custom version	XXX												

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_d)³ according to EN ISO 13849-1	54 years
Mission time (Tm)³	20 years
Diagnostic coverage (DC)³	0%
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	file n. E212495

MECHANICAL SPECIFICATIONS

Shaft diameter	ø 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	1.4305 / AISI 303 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

