

MAIN FEATURES

Miniaturized \varnothing 30 mm encoder series for application in small devices.
Recommended when a minimal size is required even providing excellent performances.

- 3 channel encoder (A / B / Z) up to 2500 ppr
- Power supply up to +28 VDC with several electronic interfaces available
- Up to 220 kHz output frequency
- Cable output, connectors available on cable end
- Solid shaft diameter up to 6 mm
- Mounting by clamping or threaded flange



ORDERING CODE

EL 30E 50 S 5/28 N 4 X 3 PA .XXX

SERIES
incremental encoder series **EL**
incremental encoder series **ER**

MODEL
clamping flange \varnothing 15 mm **30E**
M18 threaded flange **30H**

RESOLUTION
ppr from **1** to **2500**
see table for pulses availability

ZERO PULSE
without zero pulse **S**
with zero pulse **Z**

POWER SUPPLY
(with L electronic interface) 5 V DC **5**
(with L or PC electronic interface) 8 ... 24 V DC **8/24**
5 ... 28 V DC **5/28**

ELECTRONIC INTERFACE
NPN **N**
NPN open collector **C**
push-pull **P**
push-pull protected (AEIC-7272) **PC**
line driver **L**
power supply 5/28V - output RS-422 **RS**

SHAFT DIAMETER
(mod. E) mm **4**
mm **6**

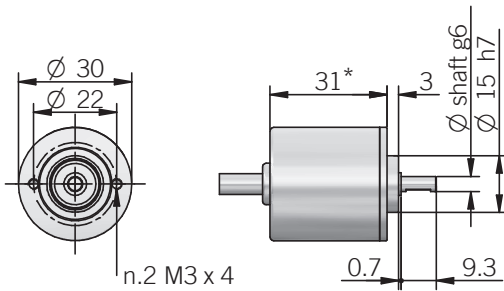
ENCLOSURE RATING
IP 54 **X**

MAX ROTATION SPEED
3000 rpm **3**

OUTPUT TYPE
axial cable (standard length 0,5 m) **PA**
radial cable (standard length 0,5 m) **PR**

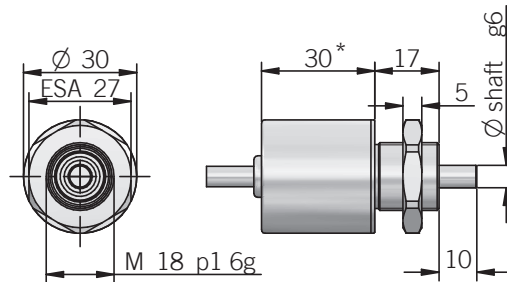
VARIANT
custom version **XXX**

EL - ER 30 E (axial output)



dimensions in mm

EL - ER 30 H (axial output)



* radial output + 2,3

ELECTRICAL SPECIFICATIONS

| | |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Resolution | from 1 to 2500 ppr |
| Power supply | 5 = 4,5 ... 5,5 V DC 5/28 = 4,75 ... 28,6 V DC 8/24 = 7,6 ... 25,2 V DC (reverse polarity protection) |
| Power draw without load | 800 mW |
| Max load current | N / C / P / PC = 50 mA / channel L / RS = 20 mA / channel |
| Output type* | NPN / NPN open collector / push-pull / line driver |
| Max output frequency | 100 kHz EL series 220 kHz ER series |
| Counting direction | A leads B clockwise (shaft view) |
| Electromagnetic compatibility | IEC 61000-6-2 IEC 61000-6-4 |

*output levels according to power supply, for further details please see under Technical basics section

EL SERIES RESOLUTIONS

1 - 10 - 20 - 25 - 50 - 60 - 64 - 150

ER SERIES RESOLUTIONS

100 - 128 - 200 - 250 - 256 - 300 - 360 - 400 - 500 - 512 - 600 - 625 - 720 - 800 - 1000 - 1024 - 1200 - 1250 - 1440 - 1600 - 2000 - 2048 - 2500

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

CONNECTIONS

| Function | Cable output N / C / P / PC | Cable output Line driver |
|----------|--------------------------------|-----------------------------|
| +V DC | red | red |
| 0 V | black | black |
| Ch. A | green | green |
| Ch. A- | / | brown |
| Ch. B | yellow | yellow |
| Ch. B- | / | orange |
| Ch. Z | blue | blue |
| Ch. Z- | / | white |
| ⊥ | shield | shield |

MECHANICAL SPECIFICATIONS

| | |
|-----------------------------------------------|------------------------------------------------------------------------------------------|
| Shaft diameter | Ø 4 / 6 mm |
| Enclosure rating | IP 54 (IEC 60529) |
| Max rotation speed | 3000 rpm |
| Max shaft load | 5 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 | 0,05 x 10 ⁻⁶ kgm ² |
| Starting torque (at +20°C / +68°F) | < 0,005 Nm |
| Body material | EN-AW 2011 aluminum |
| Shaft material | 1.4305 / AISI 303 stainless steel |
| Housing material | PA66 glass fiber reinforced |
| Bearings | 2 ball bearings |
| Bearings life | 10 ⁹ revolutions |
| Operating temperature | -10° ... +60°C (+14° ... +140°F) EL series -25° ... +85°C (-13° ... +185°F) ER series |
| Storage temperature | -25° ... +85°C (-13° ... +185°F) |
| Weight | 70 g (2,47 oz) |