



# ENAPART



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### 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**

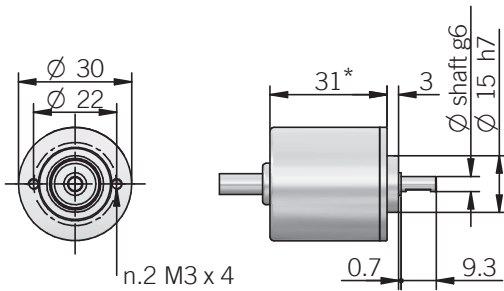
**ENCLOSURE RATING**  
IP 54 **X**

**MAX ROTATION SPEED**  
3000 rpm **3**

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

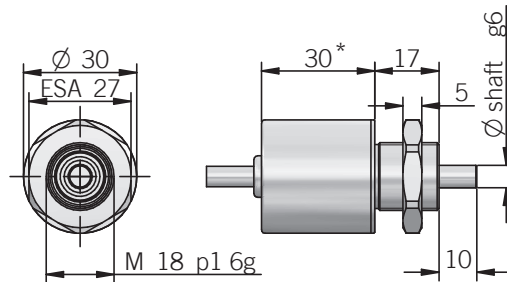
**VARIANT**  
custom version **XXX**

## EL - ER 30 E (axial output)



dimensions in mm

## EL - ER 30 H (axial output)



\* radial output + 2,3

## ELECTRICAL SPECIFICATIONS

<b>Resolution</b>	from 1 to 2500 ppr
<b>Power supply</b>	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)
<b>Power draw without load</b>	800 mW
<b>Max load current</b>	N / C / P / PC = 50 mA / channel L / RS = 20 mA / channel
<b>Output type*</b>	NPN / NPN open collector / push-pull / line driver
<b>Max output frequency</b>	100 kHz EL series 220 kHz ER series
<b>Counting direction</b>	A leads B clockwise (shaft view)
<b>Electromagnetic compatibility</b>	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

<b>Shaft diameter</b>	∅ 4 / 6 mm
<b>Enclosure rating</b>	IP 54 (IEC 60529)
<b>Max rotation speed</b>	3000 rpm
<b>Max shaft load</b>	5 N axial / radial
<b>Shock</b>	50 G, 11 ms (IEC 60068-2-27)
<b>Vibration</b>	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
<b>Moment of inertia</b>	0,05 x 10 <sup>-6</sup> kgm <sup>2</sup>
<b>Starting torque (at +20°C / +68°F)</b>	< 0,005 Nm
<b>Body material</b>	EN-AW 2011 aluminum
<b>Shaft material</b>	1.4305 / AISI 303 stainless steel
<b>Housing material</b>	PA66 glass fiber reinforced
<b>Bearings</b>	2 ball bearings
<b>Bearings life</b>	10 <sup>9</sup> revolutions
<b>Operating temperature</b>	-10° ... +60°C (+14° ... +140°F) EL series -25° ... +85°C (-13° ... +185°F) ER series
<b>Storage temperature</b>	-25° ... +85°C (-13° ... +185°F)
<b>Weight</b>	70 g (2,47 oz)