

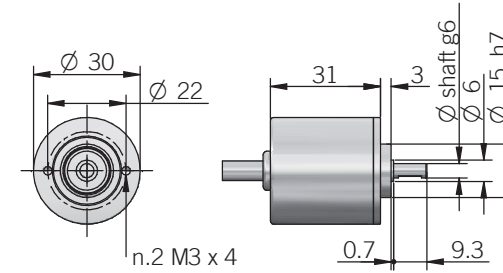
### MAIN FEATURES

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 V DC with several electrical 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

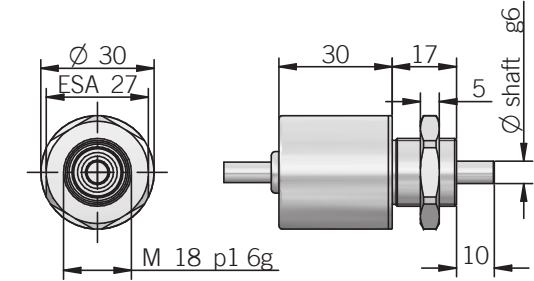


### 30 E (axial output)



recommended mating shaft tolerance H7  
dimensions in mm

### 30 H (axial output)



### ORDERING CODE

EL	30E	50	S	5/28	C	4	X	3	PA	.XXX
<p><b>SERIES</b> incremental encoder series <b>EL</b> incremental encoder series <b>ER</b></p> <p><b>MODEL</b> clamping flange <math>\varnothing 15</math> mm <b>30E</b> M18 threaded flange <b>30H</b></p> <p><b>RESOLUTION</b> ppr from 1 to 2500 refer to the available pulses list</p> <p><b>ZERO PULSE</b> without zero pulse <b>S</b> with zero pulse <b>Z</b></p> <p><b>POWER SUPPLY</b> (with L electrical interface) 5 V DC <b>5</b> 5 ... 28 V DC <b>5/28</b></p> <p><b>ELECTRICAL INTERFACE</b> NPN open collector <b>C</b> push-pull <b>P</b> line driver <b>L</b> power supply 5/28V - output RS-422 <b>RS</b></p> <p><b>SHAFT DIAMETER</b> (mod. E) mm <b>4</b> mm <b>6</b></p> <p><b>ENCLOSURE RATING</b> IP 54 <b>X</b></p> <p><b>MAX ROTATION SPEED</b> 3000 rpm <b>3</b></p> <p><b>OUTPUT TYPE</b> axial cable (standard length 0,5 m) <b>PA</b> radial cable (standard length 0,5 m) <b>PR</b> preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PR5)</p> <p><b>VARIANT</b> custom version <b>XXX</b></p>										

### ELECTRICAL SPECIFICATIONS

<b>Resolution</b>	from 1 to 2500 ppr
<b>Power supply<sup>1</sup></b>	5 = 4,5 ... 5,5 V DC 5/28 = 4,5 ... 30 V DC (reverse polarity protection)
<b>Power draw without load</b>	800 mW max
<b>Max load current</b>	C / P = 50 mA / channel L / RS = 20 mA / channel
<b>Electrical interface<sup>2</sup></b>	NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272) line driver RS-422 (AELT-5000 or equivalent)
<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>	according to 2014/30/EU directive
<b>RoHS</b>	according to 2011/65/EU (01/09/2020) directive
<b>UL / CSA</b>	certificate n. E212495

### CONNECTIONS

Function	Cable C / P	Cable L / RS
+V DC	red	red
0 V	black	black
A+	green	green
A-	/	brown or grey
B+	yellow	yellow
B-	/	orange
Z+	blue	blue
Z-	/	white
≡	shield	shield

### MECHANICAL SPECIFICATIONS

<b>Shaft diameter</b>	$\varnothing 4 / 6$ mm
<b>Enclosure rating</b>	IP 54 (IEC 60529)
<b>Max rotation speed</b>	3000 rpm
<b>Max shaft load<sup>3</sup></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> (1,2 x 10 <sup>-6</sup> lbfm <sup>2</sup> )
<b>Starting torque (at +20°C / +68°F)</b>	< 0,005 Nm (0,71 Ozin)
<b>Bearing stage material</b>	EN-AW 2011 aluminum
<b>Shaft material</b>	1.4305 / AISI 303 stainless steel
<b>Housing material</b>	PAG6 glass fiber reinforced
<b>Bearings</b>	n.2 ball bearings
<b>Bearings life</b>	10 <sup>9</sup> revolutions
<b>Operating temperature<sup>4,5</sup></b>	-10° ... +60°C (+14° ... +140°F) EL series -25° ... +85°C (-13° ... +185°F) ER series
<b>Storage temperature<sup>5</sup></b>	-25° ... +85°C (-13° ... +185°F)
<b>Weight</b>	70 g (2,47 oz)

<sup>1</sup> as measured at the transducer without cable influences

<sup>2</sup> for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section

<sup>3</sup> maximum load for static usage

<sup>4</sup> measured on the transducer flange

<sup>5</sup> condensation not allowed

### 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