



# INCREMENTAL ENCODER

**DESIGNED IN ORDER TO CONTROL THE POSITION  
AND THE ANGULAR SPEED OF MOVING MECHANICAL AXES**

Main application field are: wood-working machinery, textile machines, CNC machinery, and so forth.

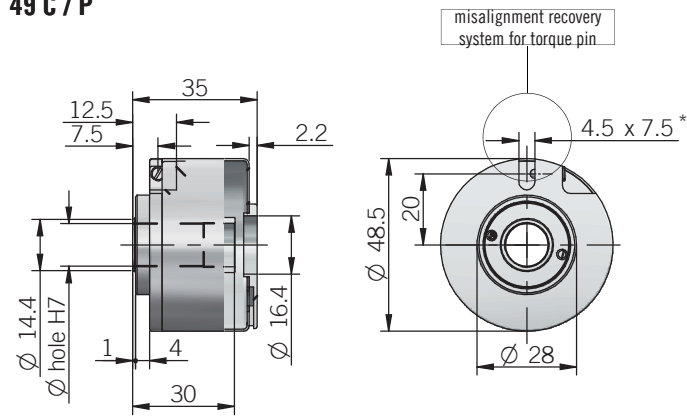
ELTRA brand encoders offers a complete range of encoders with resolution up to 24000 pulses per turn (ppr) with a wide flange choice and several electrical

interfaces. Shaft, blind hollow shaft and through hollow shaft up to a diameter of 60 mm (2.36") are available.





**49 C / P**



\*  $\varnothing$  4 mm torque pin min 0.5 mm from bottom end for size 19 (version 01 or 14) resolver flange please refer to Accessories

dimensions in mm

**ELECTRICAL SPECIFICATIONS**

<b>Incremental resolution</b>	from 100 to 2048 ppr
<b>Power supply<sup>1</sup></b>	4,5 ... 5,5 V DC
<b>Current consumption without load</b>	150 mA max
<b>Max load current</b>	20 mA / channel
<b>Electrical interface for incremental signals<sup>2</sup></b>	line driver RS-422 (AELT-5000 or equivalent)
<b>Electrical interface for Hall phases<sup>2</sup></b>	NPN open collector (pull-up max +30V DC) line driver RS-422 (AELT-5000 or equivalent)
<b>Max output frequency</b>	150 kHz
<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 2015/863/EU directive
<b>UL / CSA</b>	certificate n. E212495

**CONNECTIONS**

Function	Cable
+V DC	red
0 V	black
A+	green
B+	yellow
Z+	blue
A-	brown
B-	orange or pink
Z-	white
U+	grey
V+	violet
W+	grey-pink
U-	red-blue
V-	white-green
W-	brown-green
⊕	shield

**MECHANICAL SPECIFICATIONS**

<b>Bore diameter</b>	$\varnothing$ 6 / 8 / 9,52 (3/8") / 10 / 12 / 12,7 (1/2") mm
<b>Enclosure rating</b>	IP 40 (IEC 60529)
<b>Max rotation speed</b>	6000 rpm
<b>Shock</b>	50 G, 11 ms (IEC 60068-2-27)
<b>Vibration</b>	5 G, 10 ... 500 Hz (IEC 60068-2-6)
<b>Moment of inertia</b>	$2 \times 10^{-6} \text{ kgm}^2$ ( $47 \times 10^{-6} \text{ lbft}^2$ )
<b>Starting torque (at +20°C / +68°F)</b>	< 0,01 Nm (1,42 Ozin)
<b>Bearing stage material</b>	EN-AW 2011 aluminum
<b>Shaft material</b>	1.4305 / AISI 303 stainless steel
<b>Housing material</b>	nickel plated brass
<b>Bearings</b>	n.2 ball bearings
<b>Bearings life</b>	$10^9$ revolutions
<b>Operating temperature<sup>3,4</sup></b>	-20° ... +85 °C (-4° ... +185°F) -10° ... +100°C (+14° ... +212°F) on demand
<b>Storage temperature<sup>4</sup></b>	-25° ... +85°C (-13° ... +185°F)
<b>Weight</b>	150 g (5,29 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> measured on the transducer flange  
<sup>4</sup> condensation not allowed

**RESOLUTIONS**

- 100 4 / 6 poles
- 200 4 / 6 poles
- 500 4 / 6 / 8 poles
- 512 4 / 6 / 8 poles
- 1000 4 / 6 / 8 poles
- 1024 4 / 6 / 8 poles
- 2000 4 / 6 / 8 poles
- 2048 4 / 6 / 8 poles

please directly contact our offices for other pulses

**MAIN FEATURES**

$\varnothing$  50 mm encoder recommended for motor feedback. Suitable for small size motors due to its compact dimensions.

- 3 channel encoder (A / B / Z) up to 1024 ppr
- Highly integrated optical ASIC
- Wide power supply up to +30 V DC
- Through hollow shaft up to 10 mm diameter
- Mounting by coupling flange or stator coupling (front or rear fixing)
- IP 65 as protection grade
- Wide temperature range -40 ... + 100°C



**ORDERING CODE**

EH	50FP	1024	S	5/30	P	6	X	6	PR	.XXX
<p><b>SERIES</b> incremental encoder series EH</p> <p><b>MODEL</b> through hollow shaft with front fixing 50FA through hollow shaft with rear fixing 50FP</p> <p><b>RESOLUTION</b> ppr from 100 to 1024 refer to the available pulses list</p> <p><b>ZERO PULSE</b> without zero pulse S with zero pulse Z</p> <p><b>POWER SUPPLY</b> 5 ... 30 V DC 5/30</p> <p><b>ELECTRICAL INTERFACE</b> push-pull P line driver L power supply 5/30V - output RS-422 RS</p> <p><b>BORE DIAMETER</b> mm 6 mm 8 (3/8") mm 9,52 10 mm 10</p> <p><b>ENCLOSURE RATING</b> IP 65 X</p> <p><b>MAX ROTATION SPEED</b> 6000 rpm 6</p> <p><b>OUTPUT TYPE</b> radial cable (standard length 0,5 m) PR 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 XXX</p>										