



E430



E410



RE400

# INCREMENTAL ROTARY ENCODERS Hollow Shaft

- **Incremental rotary encoders with or without zero pulse**
- **Pulses per revolution: 2 to 12500**
- **ABS or aluminium case (series RE)**
- **Several configurations available**

## MECHANICAL VERSIONS

E400/E401	E470/E471	E410/E411	E430/E431
Body Ø: 58 mm	Body Ø: 58 mm	Body Ø: 58 mm	Body Ø: 58 mm
Flange Ø: 53.5 mm	Flange Ø: 72 mm	Flange Ø: 63 mm	Flange Ø: 63 mm
Fixing holes on Ø 30 mm	Fixing holes on Ø 63.5 mm	Hollow shaft for motor fixing with hole Ø 8, 10, 12, 14 or 15 mm	Hollow shaft for motor fixing with hole Ø 8, 10, 12, 14 or 15 mm
Motor fixing through joint with hole Ø 6, 8 or 10 mm	Motor fixing through joint with hole Ø 6, 8 or 10 mm		Fixing by antirotational elastic support

## MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

	E400	E470	E410	E430
• Materials: case shaft	ABS / aluminium (type RE) AISI 303 steel			
• Weight	280 g circa			
• Shaft/joint hole	6, 8, 10 mm		8, 10, 12, 14, 15 mm	
• Revolutions/minute	6000 continuous/10000 temporary			
• Starting torque	≤0,8 Ncm			
• Inertia	≤25 g cm <sup>2</sup>			
• Max load	80 N axial/100 N radial			
• Vibration resistance (10÷2000 Hz)	100 m/sec <sup>2</sup>			
• Shock resistance (11 ms)	50 G			
• Protection degree	IP64			
• Operating temperature	-10 ÷ 70°C			
• Storing temperature	-20 ÷ 80°C			

## ELECTRICAL & OPERATING SPECIFICATIONS

• Pulse code	Incremental
• Pulses per revolution	2 ÷ 12500
• Zero reference pulse	one pulse/revolution
• Output signals	Two square waves 90° ±15° out of phase – Zero pulse width: 90°±15°
• Electronic outputs	push-pull, NPN open collector, 5Vdc or 8/24Vdc line driver signals protected against short circuits
• Supply voltage	5Vdc or 8/24Vdc - protection against polarity reversal
• Absorption	30÷80 mA max
• Max frequency	100/200 KHz
• Connections	Axial or radial cable 3 m long /1 m for line driver output Axial or radial MS connector, 7-pin/10-pin for line driver output*

\*The encoder configuration: zero pulse + line drive output +radial connector outlet can only be supplied with aluminium case (series RE)





## CONNECTIONS

SIGNALS	Push Pull – Open Collector NPN		SIGNALS	Line Driver	Cable colours	10-pin connector	Cable colours
	7-pin connector	Cable colours					
	<i>DIAGRAM 1</i>	<i>DIAGRAM 2</i>		<i>DIAGRAM 3</i>		<i>DIAGRAM 4</i>	
				without 0 pulse		with 0 pulse	
Out 1	A	C	Out 1	A	White	A	White
Out 2	B	E	Out 2	B	Green	B	Green
Out Z	C	D	Out Z			C	Grey
+ Vdc	D	F	+ Vdc	D	Red	D	Red
0V	F	A	+ Vdc			E	Red
Non-connected	E	B	0V	F	Blue	F	Blue
Non-connected	G	G	Out 1	C	Brown	G	Brown
Earth			Out 2	E	Yellow	H	Yellow
			Out Z			I	Pink
			Non-connected	G		J	Shield

## ORDERING INFORMATION

<b>E400</b>	<b>C</b>	<b>1000</b>	<b>8/24</b>	<b>R</b>	<b>6</b>	<b>PP</b>	<b>2</b>
							<b>CONNECTION DIAGRAM</b> 2 – 4
							<b>OUTPUT SIGNALS</b> PP Push-pull OC NPN Open Collector LD Line-driver
							<b>HOLE Ø</b> 6 -8 -10 -12 - 14- 15 mm
							<b>CONNECTIONS POSITIONS</b> A Axial R Radial
							<b>SUPPLY VOLTAGE</b> 8/24 Vdc 5 Vdc
							<b>PPR</b> 2 ÷ 12500
							<b>CONNECTION OUTLET</b> - Connector C Cable

VARIATIONS ADMITTED WITHOUT NOTICE

### TYPE

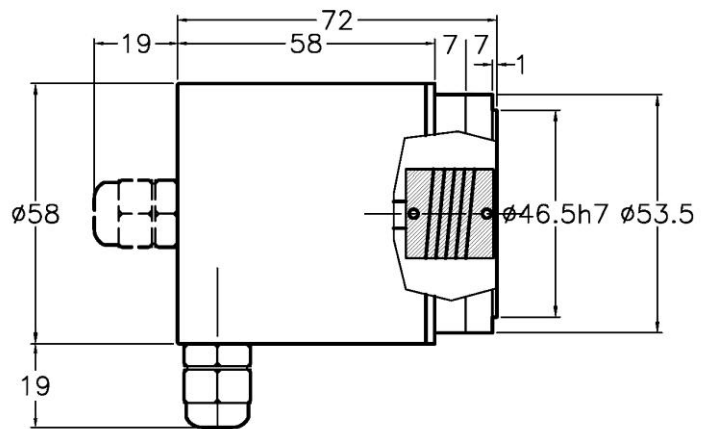
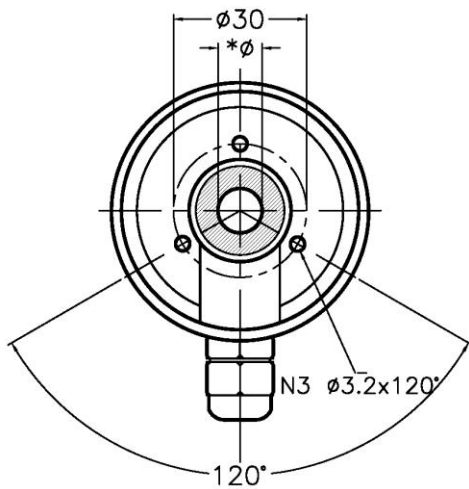
E400 – E470 – E410 – E430 Plastic case, no zero pulse  
 E401 – E471 – E411 – E431 Plastic case & zero pulse  
 RE400 – RE470 – RE410 – RE430 Aluminium case, no zero pulse  
 RE401 – RE471 – RE411 – RE431 Aluminium case & zero pulse

Dimensional drawings available at  
[www.elap.it/eng/incremental-encoders/e400-e410-e430-e470.html](http://www.elap.it/eng/incremental-encoders/e400-e410-e430-e470.html)



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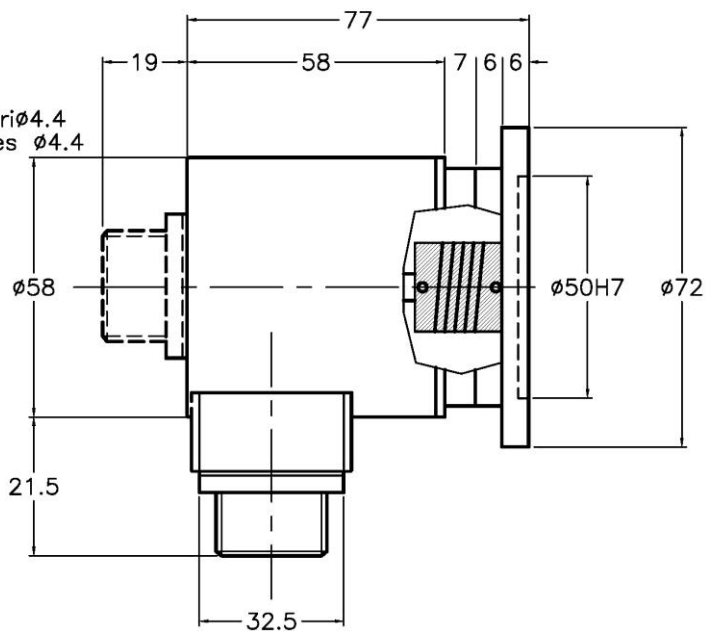
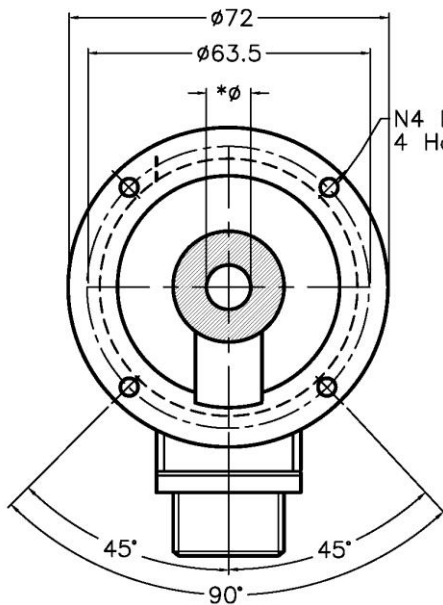
E400 uscita serracavo  
E400 cable outlet



\* FORO GIUNTO DISPONIBILE nei diametri  
6mm-8mm-10mm

\* AVAILABLE JOINT HOLE DIAMETERS  
6mm-8mm-10mm

E470 uscita connettore 7p  
E470 7pin output connector

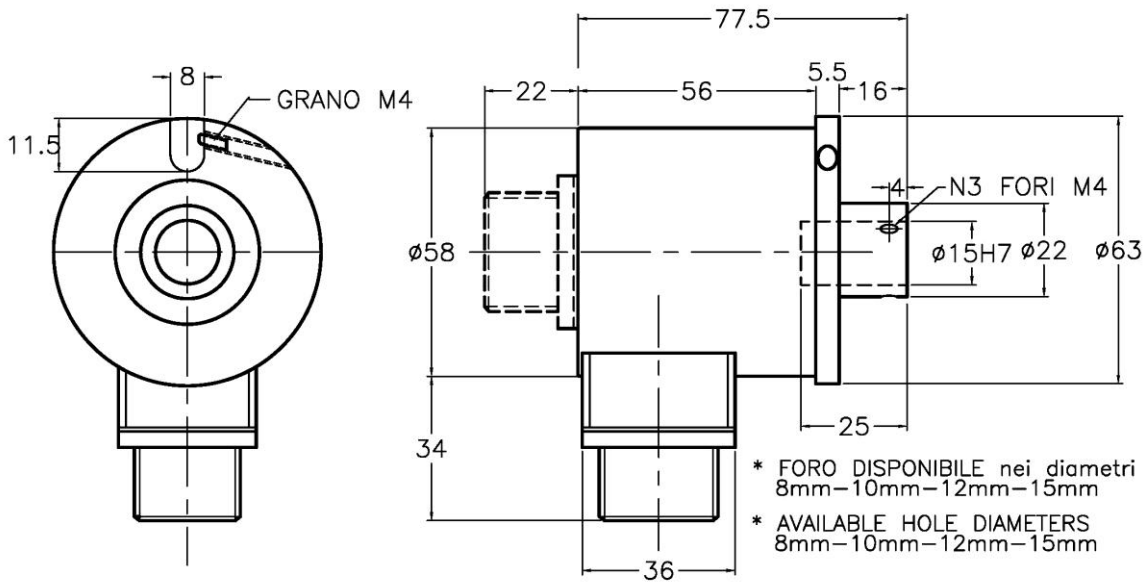


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6mm-8mm-10mm

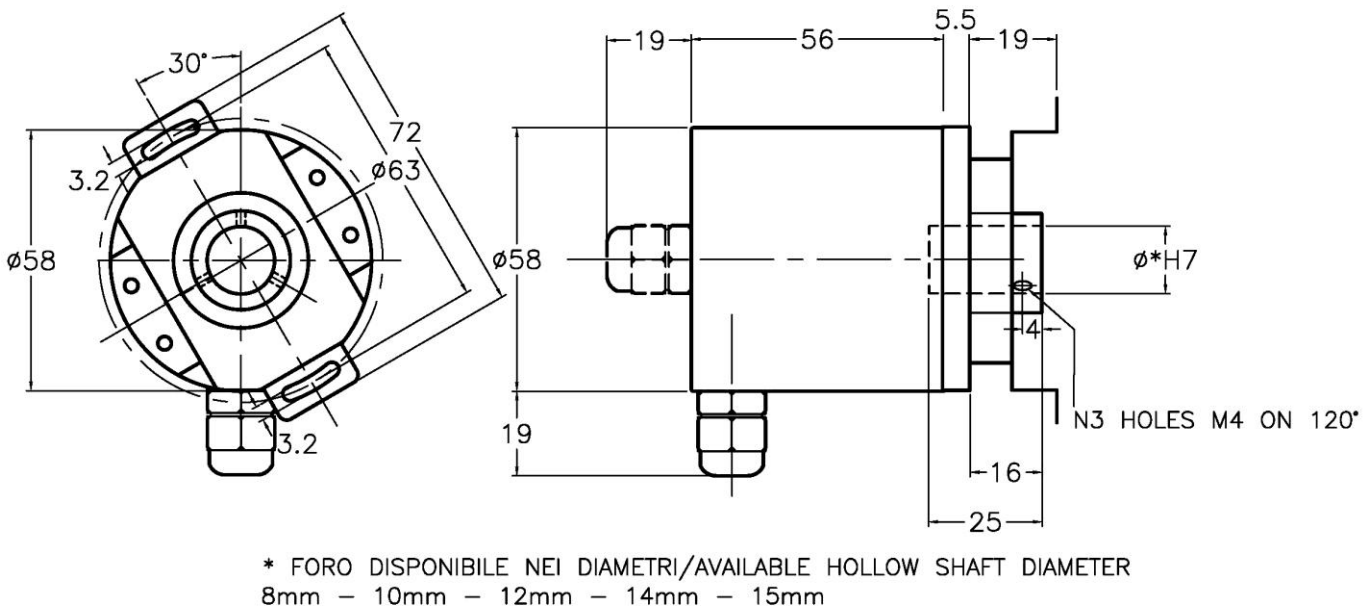
\* AVAILABLE JOINT HOLE DIAMETERS  
6mm-8mm-10mm



E410 uscita connettore 10 poli  
E410 10pin connector outlet



E430 uscita serracavo  
E430 cable outlet



Further dimensional drawings available at  
[www.elap.it/eng/incremental-encoders/e400-e410-e430-e470.html](http://www.elap.it/eng/incremental-encoders/e400-e410-e430-e470.html)

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