



RE520



E540



E510

# INCREMENTAL ROTARY ENCODERS

## Round Flange

- **Incremental rotary encoders with or without zero pulse**
- **Pulses per revolution: 2 to 36000**
- **ABS or aluminium case (series RE - REV)**
- **Several configurations available**

MECHANICAL VERSIONS			
E520/E521	E540/541	E510/511	RE530/531
Body Ø: 58 mm	Body Ø: 58 mm	Body Ø: 58 mm	Body Ø: 58 mm
Flange Ø: 58 mm	Flange Ø: 58 mm	Flange Ø: 58 mm	Flange: RE0444
Servo coupling	Centering mask Ø 36 mm	Servo coupling	Shaft Ø 11 mm
Centering mask Ø 50 mm	Shaft Ø 6, 8, 9.52, 10 mm	Centering mask Ø 31,75 mm	Aluminium
Shaft Ø 6, 8, 9.52, 10 mm		Shaft Ø 6, 8, 9.52, 10 mm	

Encoder series **E**: **ABS plastic case**  
Encoder series **RE**: **Aluminium**

Encoder series **REV**: **aluminium case, glass disk, PPR range: 1000 ÷ 36000**

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS			
	E520	E540 E510	RE530
• Materials: case shaft	ABS / aluminium ( <b>RE/REV</b> ) AISI 303 steel		
• Weight	280 g ca / series <b>RE/REV</b> 400 g ca		
• Shaft Ø	6, 8, 9.52, 10 mm		11 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 / optional IP65 with sealing ring*		
• Operating temperature	-10 ÷ 70°C		
• Stacking temperature	-20 ÷ 80°C		

ELECTRICAL & OPERATING SPECIFICATIONS	
• Pulse code	Incremental
• Pulses per revolution	2 ÷ 12500 series <b>REV</b> : 1000 ÷ 36000
• 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*

\*Max operating speed with IP65 sealing ring applied on the shaft: 3000 rpm

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





RE530



RE520



E520

## CONNECTIONS

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

## ORDERING INFORMATION

<b>E520</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>SHAFT Ø</b> 6 - 8 - 9.52 - 10 RE530: 11 mm
							<b>CONNECTIONS POSITIONS</b> A Axial R Radial
							<b>SUPPLY VOLTAGE</b> 8/24 Vdc 5 Vdc
							<b>PPR</b> 2 ÷ 12500 series E/RE 1000 ÷ 36000 series REV
							<b>CONNECTION OUTLET</b> - Connector C Cable
							<b>TYPE</b> E520 – E540 – E510 Plastic case, no zero pulse, 2÷12500 ppr E521 – E541 – E511 – E431 Plastic case, zero pulse, 2÷12500 ppr RE520 – RE540 – RE510 – RE530 Aluminium case, no zero pulse, 2÷12500 ppr RE521 – RE541 – RE511 – RE531 Aluminium case, zero pulse, 2÷12500 pp REV520 – REV540 – REV510 – REV530 Aluminium case, no zero pulse, 1000÷36000 ppr REV521 – REV541 – REV511 – REV531 Aluminium case, zero pulse, 1000÷36000 ppr

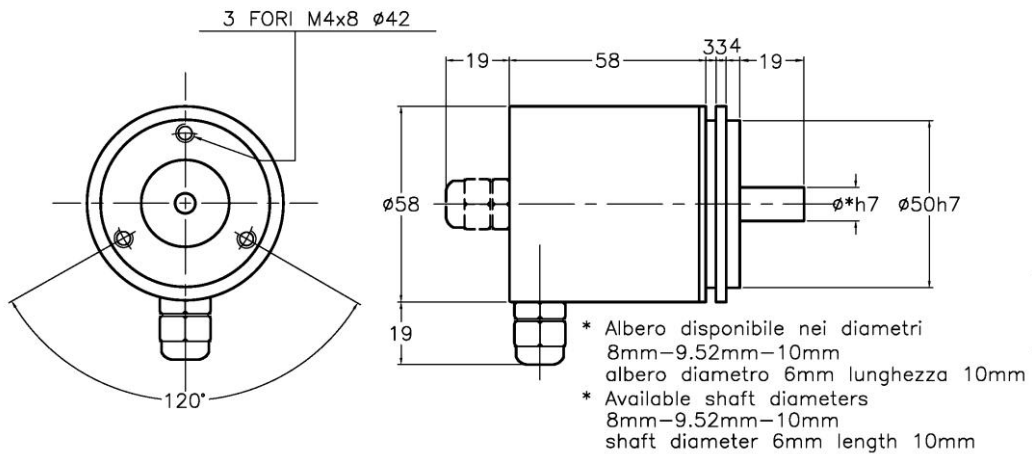
VARIATIONS ADMITTED WITHOUT NOTICE

Dimensional drawings available at  
[www.elap.it/eng/incremental-encoders/encoder-e520.html](http://www.elap.it/eng/incremental-encoders/encoder-e520.html)

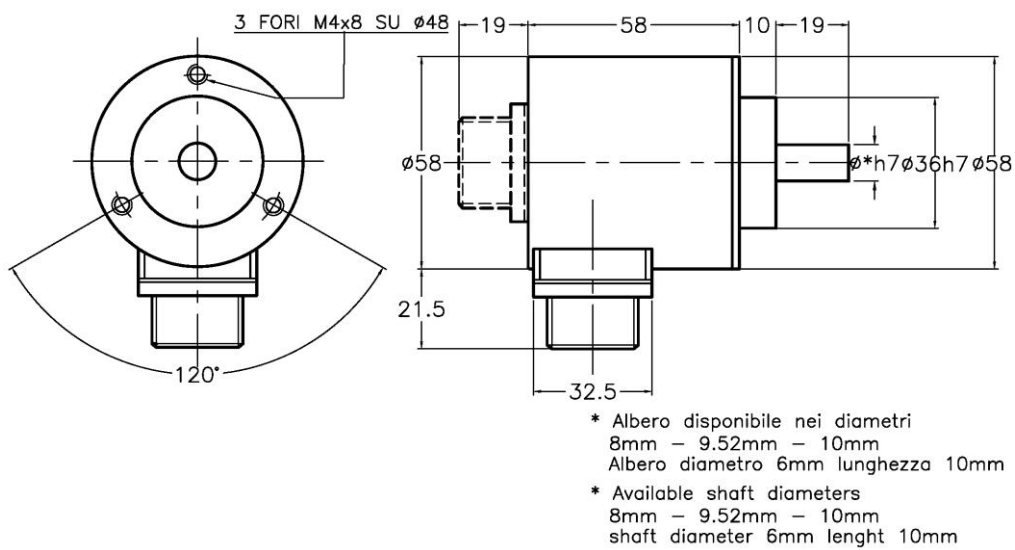


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E520 uscita serracavo  
E520 cable outlet

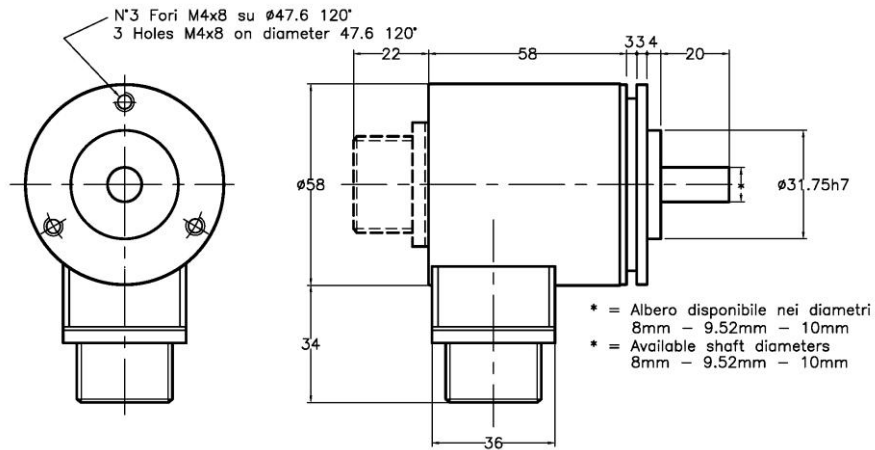


E540 uscita connettore 7p  
E540 7pin outut connector

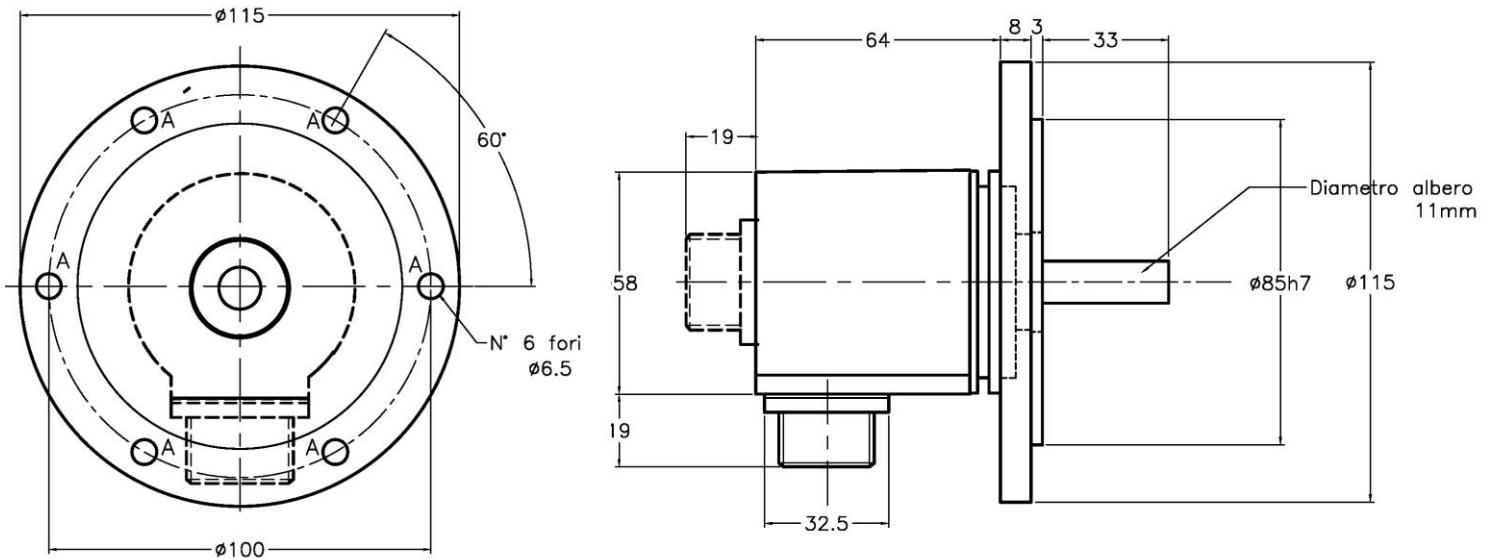


## DIMENSIONS

E510 uscita connettore 10p  
E510 10pin ouput connector



RE530 uscita connettore 7p  
RE530 7 pin output connector



Further dimensional drawings available at  
[www.elap.it/eng/incremental-encoders/encoder-e520.html](http://www.elap.it/eng/incremental-encoders/encoder-e520.html)

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