



SEB with supporting arm & wheel



SEB



SEB

# INCREMENTAL ROTARY ENCODERS

## Series SEB

- Incremental rotary encoders with or without zero pulse
- Pulses per revolution: 2 to 12500
- ABS housing
- Optical version (SEB/SEBZ) – Magnetic version (SEBM/SEBZ-M)

### MECHANICAL VERSIONS

#### SEB/SEBM

Body Ø: 50 mm  
 Shaft Ø 10 mm  
 Cable or connector outlet in axial position  
 ABS housing

**SEB/SEB-Z:** Optical encoder, bidirectional with or without zero pulse  
 Number of pulses/revolution: 2 to 12500

**SEBM/SEBZ-M:** Magnetic encoder, bidirectional with or without zero pulse  
 Number of pulses/revolution: 8 to 2048

### MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

	SEB/SEB-Z	SEB-M/SEBZ-M
• Materials: case shaft		ABS Steel AISI 303
• Weight		100 g ca.
• Shaft Ø		10 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
• Stocking temperature		-20 ÷ 80°C

### ELECTRICAL & OPERATING SPECIFICATIONS

• Pulse code	Incremental
• Pulses/revolution	2 to 12500 series <b>SEBM/SEBZ-M:</b> 8 to 2048
• Zero pulse	One pulse/revolution (SEBZ-SEBM-Z)
• Output signals	Two square waves 90° ±15° out of phase – Zero pulse width: 90°±15°
• Electronic output	push-pull, open collector NPN, line driver 5Vdc o 8/24Vdc signals protected against short circuits
• Supply voltage	5Vdc ro 8/24Vdc series <b>SEBM/SEBZ-M:</b> 5/24 Vdc protection against polarity reversal
• Absorption	30÷80 mA max
• Max. frequency	100 KHz
• Connections	Axial cable 3 m long/ 1 m for line driver output MS 5-pin axial connector/ 7-pin connector for line driver output equipped with flying part

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

The encoder with 0 pulse and line driver output can only be supplied with cable outlet



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SEB con braccio e ruota



SEB



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## CONNECTIONS

Push Pull – NPN Open Collector			Line Driver				
SIGNALS	5-pin connector	Cable colours	SIGNALS	7-pin connector	Cable colours	SIGNALS	Cable colours
Out 1	E	White	without 0 pulse	A	White	with 0 pulse	White
Out 2	A	Green	Out 1	B	Green	Out 1	Green
Out Z	C	Brown	Out 2	D	Red	Out Z	Grey
+ Vdc	D	Red	+ Vdc	F	Blue	+ Vdc	Red
0V	B	Blue	0V	C	Brown	0V	Blue
		Shield	Out 1	E	Yellow	Out 1	Brown
			Out 2	G		Out 2	Yellow
			Non connected			Out Z	Pink
							Shield

## ORDERING INFORMATION

<b>SEB</b>	<b>100</b>	<b>C</b>	<b>8/24</b>	<b>PP</b>
<p><b>OUTPUT SIGNALS</b>            PP Push-pull            OC Open Collector NPN            LD Line-driver</p> <p><b>SUPPLY VOLTAGE</b>            8/24 Vdc            5 Vdc            5/24 Vdc series SEBM/SEBZ-M</p> <p><b>CONNECTION TYPE</b>            C Connector            A Cable</p> <p><b>PULSES/REVOLUTION</b>            2-12500            8-2048 series SEBM/SEBZ-M</p>				

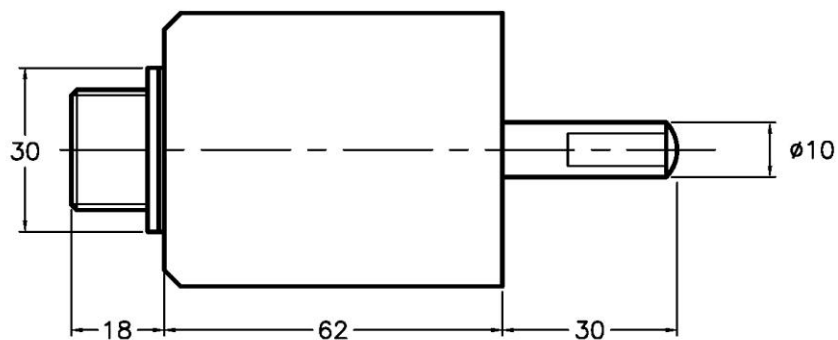
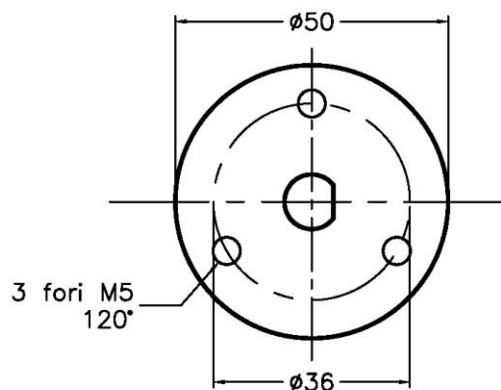
- TYPE**
- SEB** Bidirectional, without zero pulse, 2÷12500 ppr
  - SEB-Z** Bidirectional, with zero pulse, 2÷12500 ppr
  - SEB-M** Magnetic, bidirectional, without zero pulse, 8÷2048 ppr
  - SEBZ-M** Magnetic, bidirectional, with zero pulse, 8÷2048 ppr

VARIATIONS ADMITTED WITHOUT NOTICE

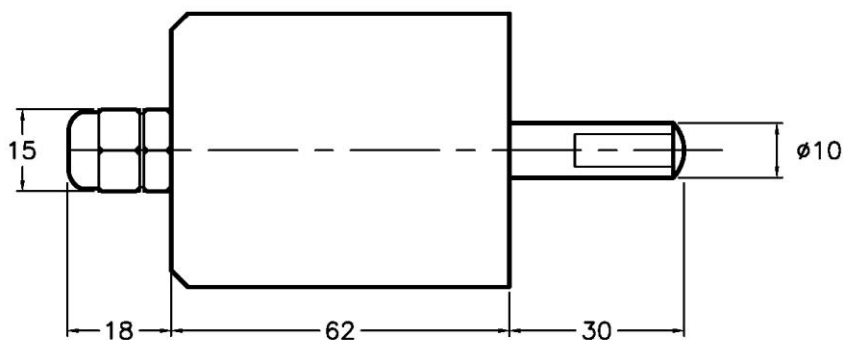
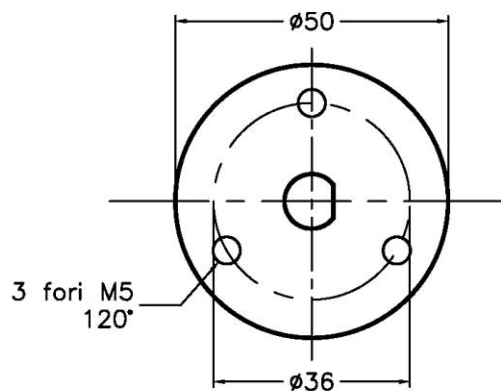
Dimensional drawings available at:  
<http://www.elap.it/eng/incremental-encoders/encoder-seb.html>



USCITA CONNETTORE  
CONNECTOR OUTLET



USCITA CAVO  
CABLE OUTLET



Further dimensional drawings available at  
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