



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/SEBZ-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/SEBZ-Z	SEB-M/SEBZ-M
• Materials: housing 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	IP65 – optional IP66*	
• Operating temperature	-10 ÷ 70°C	
• Stocking temperature	-20 ÷ 80°C	

\*Max operating speed with IP66 sealing ring applied on the shaft: 3000 rpm

### 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 or 5/30 Vdc signals protected against short circuits
• Supply voltage	5/30 Vdc protection against polarity reversal
• Absorption	30÷80 mA max
• Max. frequency	100 KHz/200 KHz for ppr>1250
• 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

### CONNECTIONS

Push Pull – NPN	Open Collector	Line Driver	Line Driver	Line Driver	Line Driver	Line Driver	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 (SEB-Z/SEBZ-M)	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

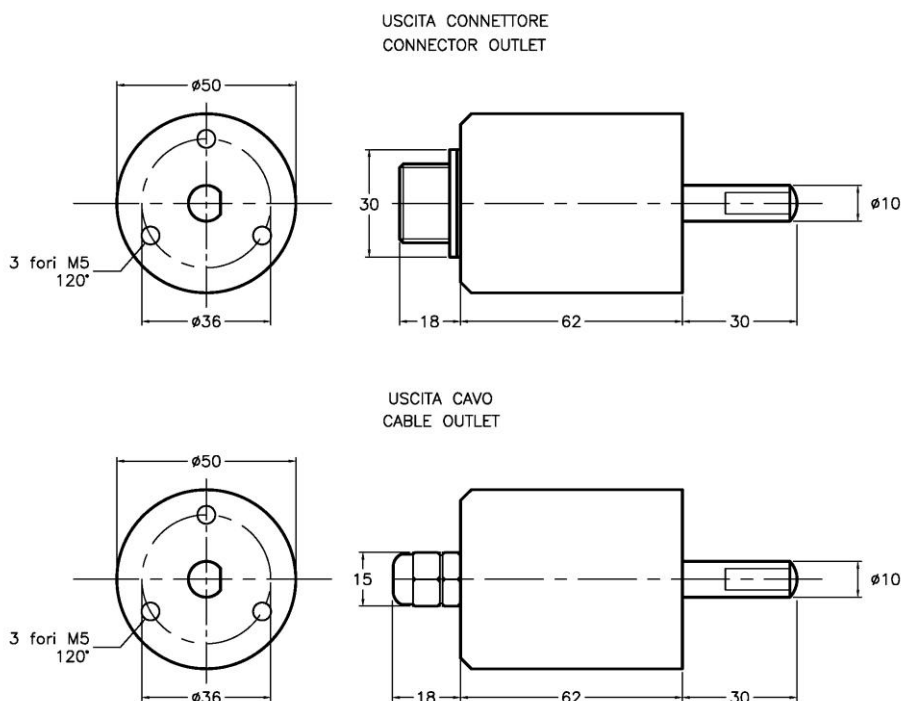


## ORDERING INFORMATION

<b>SEB</b>	<b>100</b>	<b>C</b>	<b>5/30</b>	<b>PP</b>
				<b>OUTPUT SIGNALS</b> PP Push-pull OC Open Collector NPN LD Line-driver
				<b>SUPPLY VOLTAGE</b> 5/30 Vdc
				<b>CONNECTION TYPE</b> C Connector A Cable
				<b>PULSES/REVOLUTION</b> 2-12500 8-2048 series SEBM/SEBZ-M
<b>TYPE</b>				
<b>SEB</b> Bidirectional, without zero pulse, 2÷12500 ppr				
<b>SEB-Z</b> Bidirectional, with zero pulse, 2÷12500 ppr				
<b>SEB-M</b> Magnetic, bidirectional, without zero pulse, 8÷2048 ppr				
<b>SEBZ-M</b> Magnetic, bidirectional, with zero pulse, 8÷2048 ppr				

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

## DIMENSIONS



Ref. M1465V

ELAP RESERVES THE RIGHT TO UPGRADE THE PRODUCT WITHOUT NOTICE

## REFERENCES

Further information at:

<https://www.elap.it/incremental-encoders/encoder-seb-seb-z/>



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