



## SE/SEB/SEB-Z Incremental rotary encoders

Incremental rotary encoders, monodirectional (SE) or bidirectional (SEB), with (SEB-Z) or without zero pulse.

Accurate and reliable, their stout mechanical features make them fit to applications even in very harsh conditions.



### Mechanical and Environmental Specifications

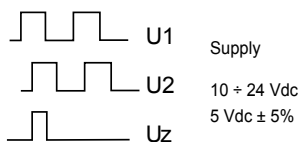
Dimensions	See the drawing
Weight	400 g
Materials: Case shaft	Aluminium + ABS self-extinguishing Stainless steel AISI 303
Shaft diameter	10 mm
Revolutions per minute	6000* continuous - 1000 temporary * Max operating speed with IP65 sealing ring applied on the shaft: 3000 RPM
Starting torque	≤ 0,8 Ncm
Inertia	≤ 25 g cm <sup>2</sup>
Max load	80N axial / 100N radial
Shock resistance (11 ms)	50 G
Protection degree	IP 64 (optional IP65)
Operating temperature	0 ÷ +60°C
Stocking temperature	-20 ÷ 80°C
Mounting fittings	Supporting arm of cast aluminium Measuring wheels development of 200 or 500mm

### Electrical and Operating Specifications

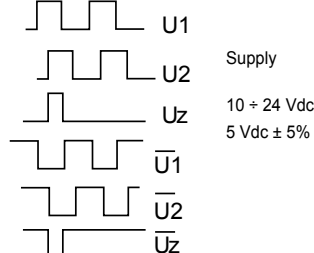
Pulse code	Incremental
Output Signals	SE Square wave SEB/SEB-Zs Two square waves 90°±15° out of phase. Zero pulse 90°±15° wide
Electronic output	Push-pull, open collector NPN, pull-up resistor NPN, line driver Signals protection against short circuits
Supply	10 ÷ 24 Vdc or 5 Vdc ±5%
Current consumption	30 ÷ 80 mA
Connection outlets	Axial cable 3 m long , (1 m for line driver output) Optional: axial connector type MS
Pulses-revolution	2 ÷ 5000
Zero reference pulse	SEB-Z 1 pulse each revolution
Max frequency	100 KHz

### Electronics

Open collector - pull-up resistor - push-pull



Line driver



With connection diagram 3-4-5  
 (type SEB/SEB-Z only): signal 2 lags signal 1 with  
 anti-clockwise rotation (seen from the shaft side)

## Connections

### • Open collector - pull-up resistor - push-pull - scheme 5

A	= Signal 2'
B	= 0 volt
C	= Signal Z (for types SEB-Z only)
D	= +Vdc
E	= signal 1
	*for birectional types only

### Cable outlet

Green	= Signal 2'
White	= Signal 1
Blue	= 0 Volt
Braid	= Shield
Red	= +Vdc
Brown	= signal Z (for types SEB-Z only)
	*for birectional types only

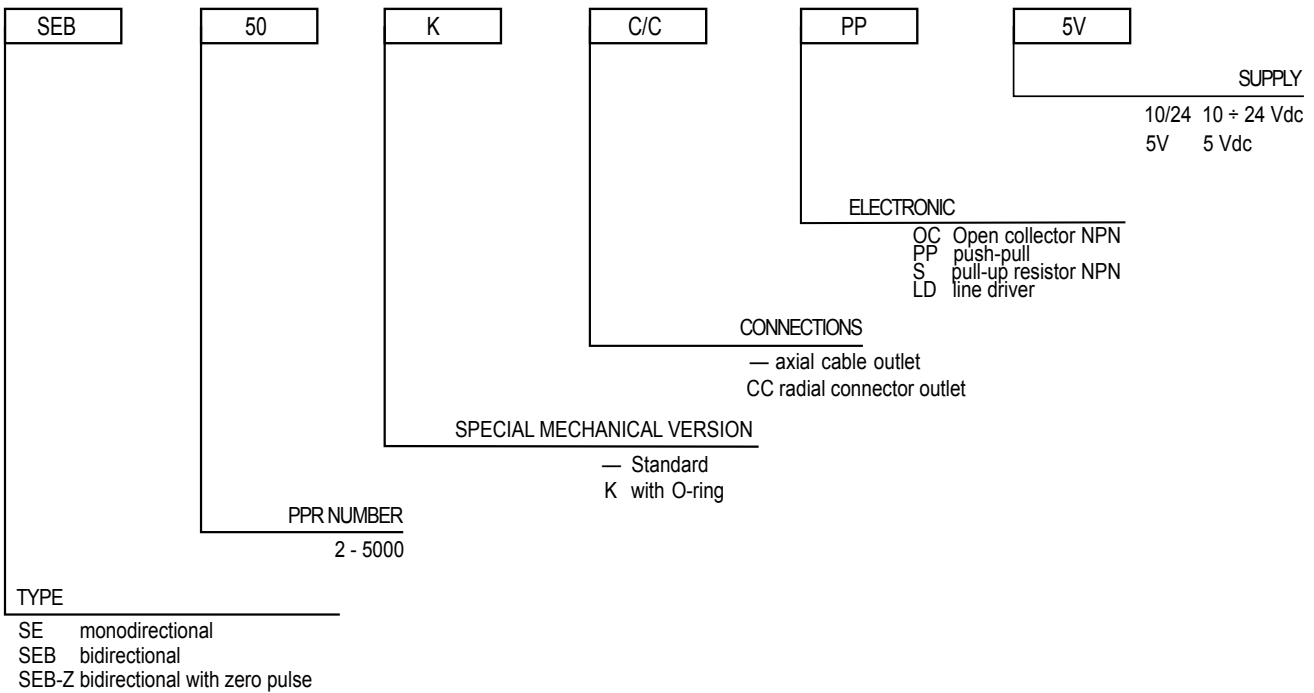
### • Line driver - scheme 3 (w/o zero pulse)

A	= Signal 1
B	= Signal 2
C	= Signal 1
D	= +Vdc
E	= Signal 2
F	= 0V
E	= Non connected

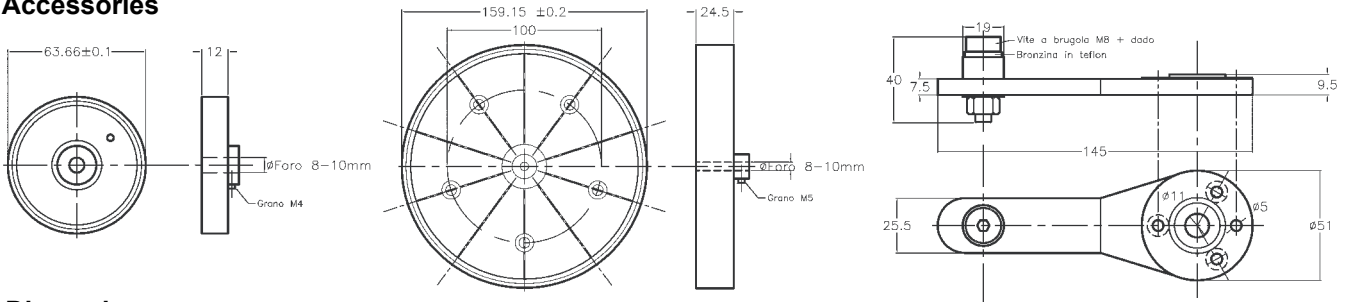
### • Line driver - scheme 4

A	= Signal 1
B	= Signal 2
C	= Signal Z
D	= +Vdc
E	= +Vdc
F	= 0V
G	= Signal 1
H	= Signal 2
I	= Signal 2
J	= Non connected

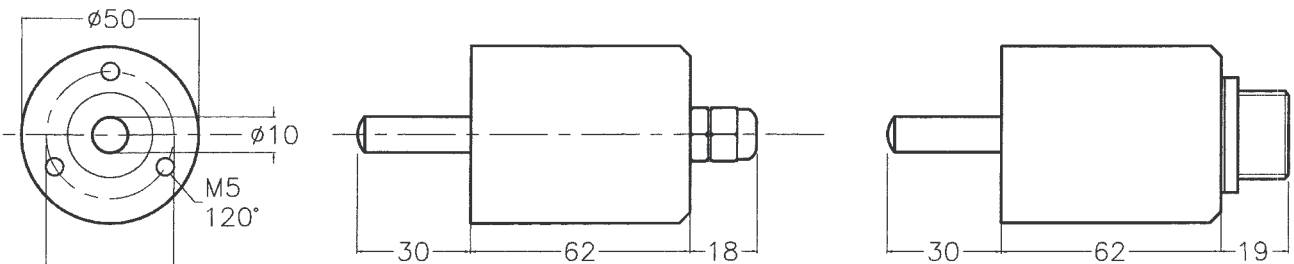
## Ordering information



## Accessories



## Dimensions



variations admitted without notice

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