

### Main features

Hollow shaft encoder series for industrial applications with high mechanical resistance requirements. These encoders are designed to withstand high radial and axial shaft loads.

- Resolution up to 10000 ppr with zero signal for EL series, up to 1024 ppr for EH series
- Several output types available
- Up to 28 V DC power supply for EL series and up to 24 V DC for EH series
- Up to 300 kHz output frequency for EL series and up to 100 kHz for EH series
- Cable or connector output



### Ordering code

full stop to separate special versions

**EL 63 G 1000 Z 5/28 N 8 X 3 M R . XXX**

incremental encoder series **EL**  
 incremental encoder series **EH**

size **58**  
 size **63**

#### Type of flange

- EH - EL 58 F, EH - EL 63 F model **F**
- EH - EL 58 G, EH - EL 63 G model **G**
- EH - EL 63 P model **P**
- EH - EL 63 PB model **PB**
- EH - EL 63 GB model **GB**
- EH - EL 63 FB model **FB**
- EH - EL 63 PC model **PC**
- EH - EL 63 PBF model **PBF**
- EH - EL 63 PCF model **PCF**

#### Resolution

(EL 58 F / G, EL 63 F / G) ppr from **1** to **10000**  
 (EH - EL 63 FB / GB / P / PB / PBF / PC / PCF) ppr from **1** to **2048**  
 (EH 58 F / G, EH 63 F / G) ppr from **40** to **1024**  
*please directly contact our offices for pulses availability*

#### Zero pulse

without zero pulse **S**  
 with zero pulse **Z**

#### Power supply

(EL series) 5÷28 V DC **5/28**  
 (EH series) 5 V DC **5**  
 (EH series) 8÷24 V DC **8/24**

*line driver available only with power supply 5 V DC or 8÷24 V DC power supply*

**R** radial  
**A** axial (EH - EL 58 F / G, EH - EL 63 F / G)

- P** cable output (standard length 0.3 m)
- M** M connector output (EH - EL 58 F / G, EH - EL 63 F / G)
- J** J connector output (EH - EL 58 F / G, EH - EL 63 F / G)

#### Max. rotation speed

**3** 3000 RPM

#### Enclosure rating

- X** IP54 standard
- S** IP66 optional (EH - EL 58 F / G, EH - EL 63 F / G)

#### Bore diameter

- 8** ø 8 mm
- 9** ø 9.52 mm (3/8") (EH - EL 58)
- 10** ø 10 mm
- 12** ø 12 mm
- 14** ø 14 mm
- 15** ø 15 mm

#### Output type

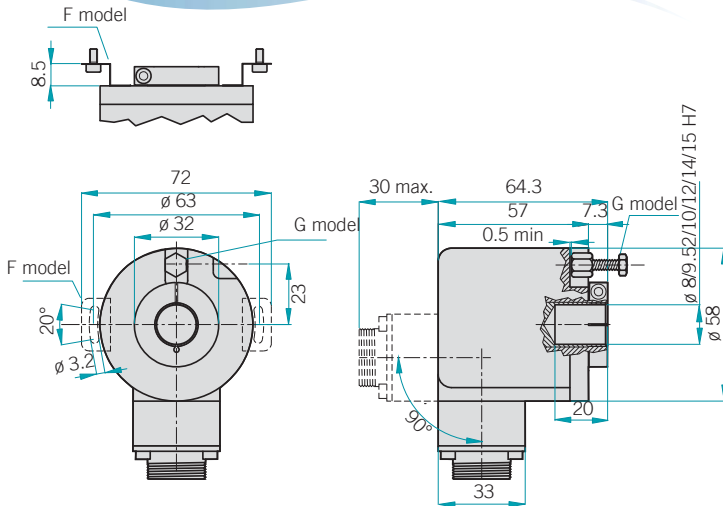
- N** NPN
- C** NPN open collector
- P** push-pull
- L** line driver

*please refer to page 92 for optionals about output types*

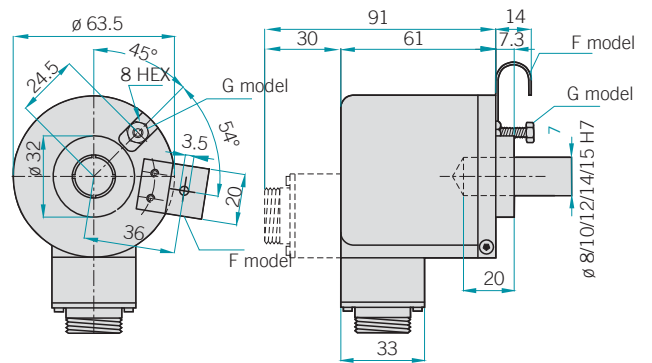
# EH - EL 58 F / G      EH - EL 63 F / G / FB / GB

## BLIND HOLLOW SHAFT ENCODER

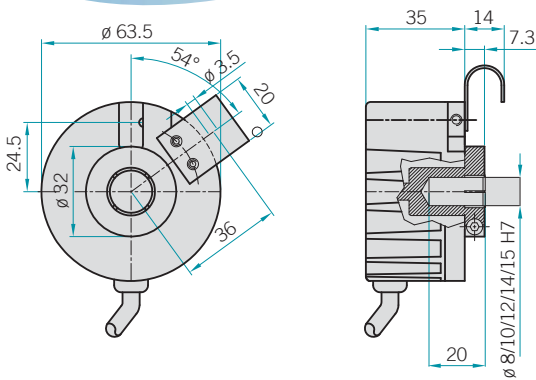
### EH - EL 58 F / G



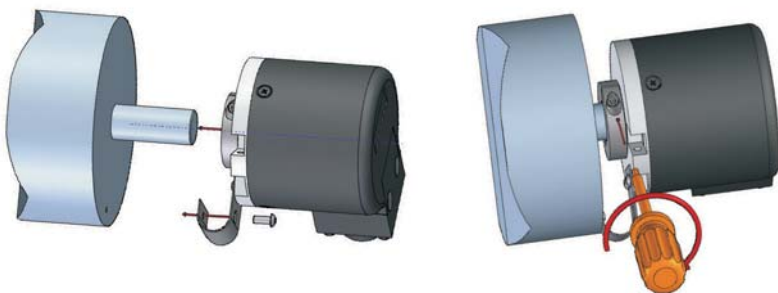
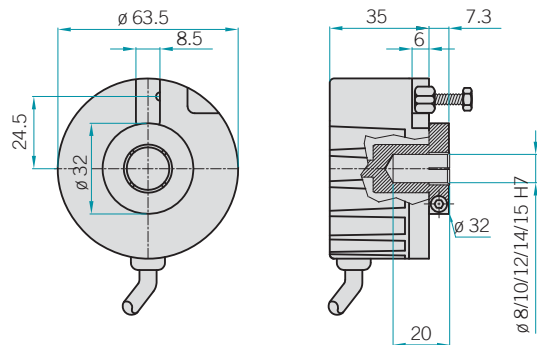
### EH - EL 63 F / G



### EH - EL 63 FB



### EH - EL 63 GB

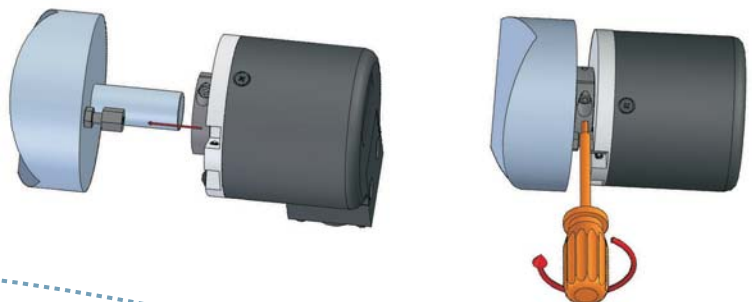


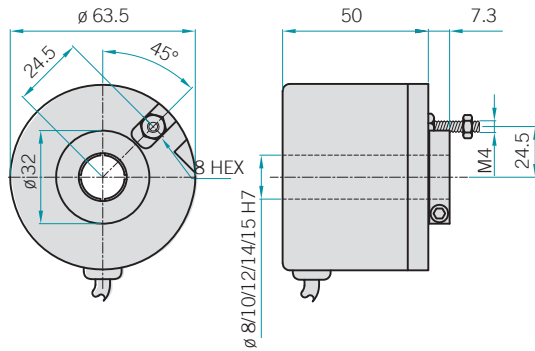
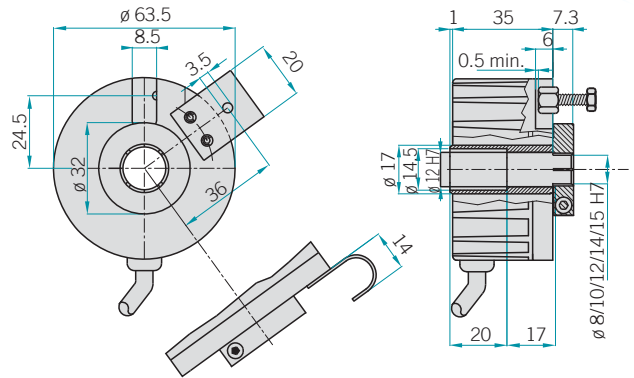
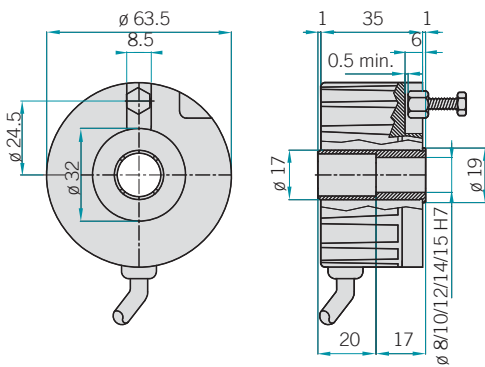
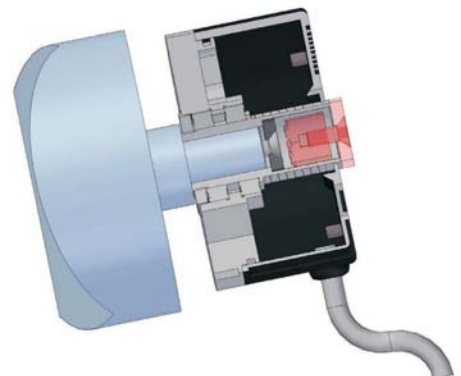
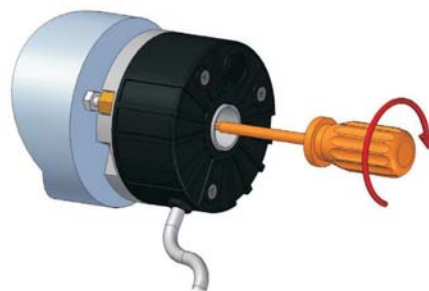
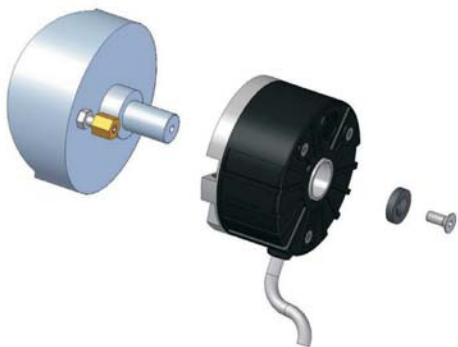
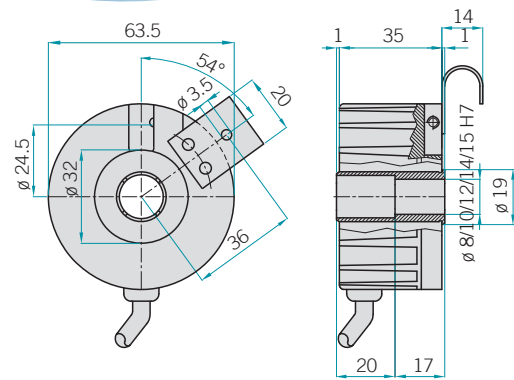
#### HOW TO MOUNT THE EH - EL 63 F

- 1) Couple the encoder shaft with the motor shaft.
- 2) Fix the spring to the motor flange without tightening it.
- 3) Fix the encoder shaft by the metal ring.
- 4) Block the spring.

#### HOW TO MOUNT THE EH - EL 63 G

- 1) Mount the anti-rotation pin on the motor flange.
- 2) Couple the encoder shaft with the motor shaft, making sure the pin is inserted in the front hole (maintaining a minimum distance of 0.5 mm)
- 3) Fix the encoder shaft by the metal ring.



**EH - EL 63 P**

**EH - EL 63 PB / PBF**

**EH - EL 63 PC**

**EH - EL 63 PCF**

**HOW TO MOUNT THE EH - EL 63 P**

- 1) Mount the anti-rotation pin on the motor flange.
- 2) Couple the encoder shaft with the motor shaft, making sure the pin is inserted in the front hole (maintaining a minimum distance of 0.5 mm).
- 3) Fix encoder shaft packed with the motor shaft. Place a washer at the end of the encoder shaft, under the screw that blocks the whole pack.

Hollow shaft incremental encoders

 EH - EL 58 F / G  
 EH - EL 63 F / G / P / PB / GB / FB / PC / PBF / PCF

## Electrical specifications (EL series)

Resolution	from 1 to 10000 ppr (EL 58 F / G, EL 63 F / G) from 1 to 2048 ppr (EL 63 FB / GB / P / PB / PBF / PC / PCF)
Power supply	5÷28 V DC line driver available only with 5 V DC or 8÷24 V DC power supply
Current consumption without load	100 mA max.
Max. load current	50 mA for channel 20 mA for channel (line driver)
Output type	NPN / NPN open collector push-pull / line driver
Max. output frequency	300 kHz
Operating frequency	$F = \frac{\text{RPM} \cdot \text{Resolution}}{60}$

## Electrical specifications (EH series)

Resolution	from 40 to 1024 ppr (EL 58 F / G, EL 63 F / G)
Power supply	5 V DC 8÷24 V DC line driver available only with 5 V DC or 8÷24 V DC power supply
Current consumption without load	100 mA max.
Max. load current	50 mA for channel 20 mA for channel (line driver)
Output types	NPN / NPN open collector push-pull / line driver
Max. output frequency	100 kHz
Operating frequency	$F = \frac{\text{RPM} \cdot \text{Resolution}}{60}$

## Mechanical specifications

Bore diameter	∅ 9.52 mm (EH - EL 58) ∅ 8 / 10 / 12 / 14 / 15 mm
Enclosure rating	IP54 standard IP66 optional (EL 58 F / G, EL 63 F / G)
Max. rotation speed	3000 RPM
Shock	50 G, 11 ms (plastic disc) 20 G, 11 ms (glass disc)
Vibration	10 G, 10÷2000 Hz
Bearing life	10 <sup>9</sup> revolutions
Bearings	2 ball bearings
Shaft material	stainless steel UNI X10CrNiS1809
Body material	aluminium UNI 5076
Housing material	PA66 glass fiber reinforced
Operating temperature	0÷60 °C
Storage temperature	-25÷70 °C
Weight	350 g

