

### MAIN FEATURES

Standard  $\varnothing$  63 encoder series for industrial applications with high mechanical resistance requirements. These encoders are designed to support high radial and axial shaft load and they can be mounted by means of flanges or servo-fasteners.

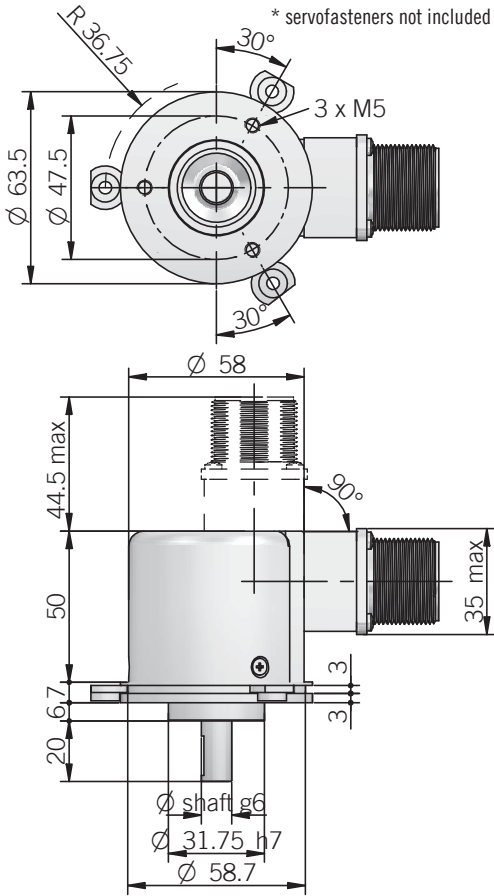
- Up to 25000 ppr with zero signal
- Several output types available
- Up to 28 V DC power supply
- Up to 300 kHz output frequency
- Cable or connector output
- Several flanges available
- Up to 6000 RPM rotation speed
- Up to IP 66 sealing



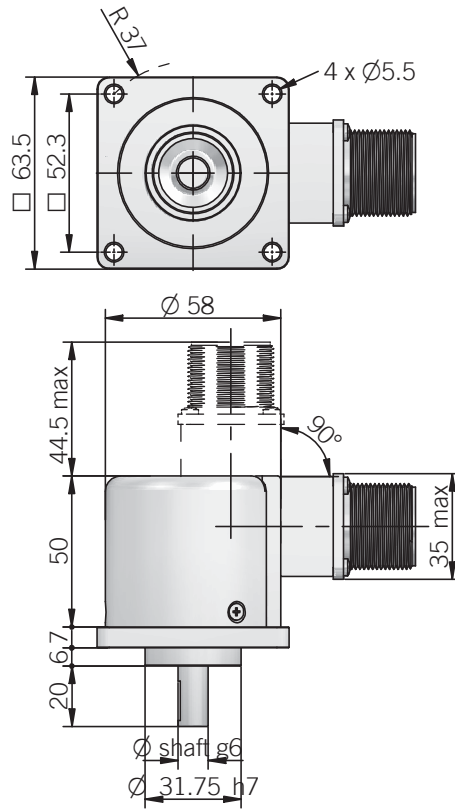
### ORDERING CODE

<b>ER</b>	<b>63</b>	<b>A</b>	<b>M*</b>	<b>1000</b>	<b>Z</b>	<b>5/28</b>	<b>P</b>	<b>6</b>	<b>X</b>	<b>6</b>	<b>M</b>	<b>R</b>	<b>.</b>	<b>XXX</b>
<b>SERIES</b> incremental encoder series <b>EL</b> incremental encoder series <b>ER</b>	<b>SIZE</b> mm <b>63</b>	<b>TYPE</b> synchronous flange $\varnothing$ 31.75 mm <b>A</b> centering square flange $\varnothing$ 31.75 mm <b>D</b> centering square flange $\varnothing$ 50 mm <b>E</b>	<b>METAL COVER</b> <b>M</b> <i>* add for metal cover</i>	<b>RESOLUTION</b> ppr from <b>1</b> to <b>25000</b> <i>N.B.: please see resolution table or directly contact our offices for pulses availability</i>	<b>ZERO PULSE</b> without zero pulse <b>S</b> with zero pulse <b>Z</b>	<b>POWER SUPPLY</b> (available only with L electronic output) 5 V DC <b>5</b> (available only with L or PC electronic output) 8 ... 24 V DC <b>8/24</b> 5 ... 28 V DC <b>5/28</b>	<b>VARIANT</b> <b>XXX</b> custom version	<b>DIRECTION TYPE</b> <b>A</b> axial <b>R</b> radial	<b>OUTPUT TYPE</b> <b>P</b> cable output (standard length 1,5 m) <b>M</b> M connector output <b>J</b> J connector output	<b>MAX ROTATION SPEED</b> <b>3</b> 3000 rpm <b>6</b> 6000 rpm <i>N.B.: 3000 RPM max with S enclosure rating</i>	<b>ENCLOSURE RATING</b> <b>X</b> IP 54 <b>S</b> IP 66	<b>SHAFT DIAMETER</b> <b>8</b> mm <b>9</b> $\varnothing$ 9,52 (3/8") mm <b>10</b> mm	<b>ELECTRONIC INTERFACE</b> <b>N</b> NPN <b>C</b> NPN open collector <b>P</b> push-pull <b>PC</b> protected push-pull (AEIC-7272) <b>L</b> line driver	

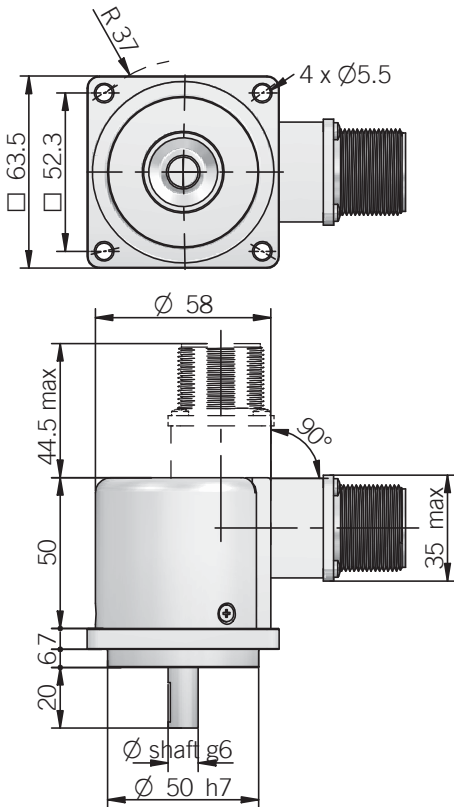
**EL - ER 63 A**



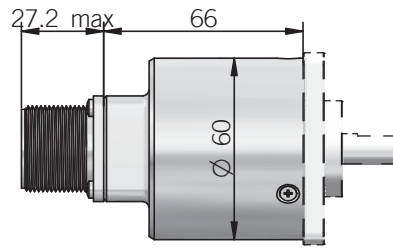
**EL - ER 63 D**



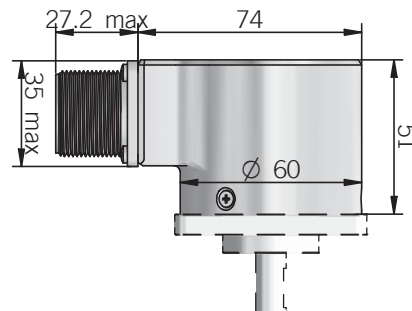
**EL - ER 63 E**



**Dimensions with metal cover axial output**



**Dimensions with metal cover radial output**



### Electrical specifications

<b>Resolution</b>	from 1 to 25000 ppr
<b>Power supply</b>	5 V DC ± 10% 5 ... 28 V DC ± 5% 8 ... 24 V DC ± 5% (reverse polarity protection)
<b>Power draw without load</b>	800 mW
<b>Max load current</b>	50 mA for channel 20 mA for channel (line driver)
<b>Output type</b>	NPN NPN open collector push-pull line driver
<b>Max output frequency</b>	300 kHz
<b>Counting direction</b>	A leads B clockwise (shaft view)
<b>Electromagnetic compatibility</b>	IEC 61000-6-2 IEC 61000-6-4

### ER series resolutions

100 - 120 - 128 - 150 - 200 - 240 - 250 - 256 - 300 - 360 - 400 - 480  
- 500 - 512 - 600 - 625 - 720 - 750 - 800 - 900 - 1000 - 1024 - 1200 - 1250  
- 1440 - 1500 - 1600 - 1800 - 2000 - 2048 - 2500

### EL series resolutions

1 - 2 - 4 - 5 - 10 - 15 - 16 - 20 - 25 - 30 - 32 - 40 - 50 - 60 - 70 - 80 - 90  
- 160 - 180 - 350 - 450 - 660 - 700 - 3000 - 3600 - 4000 - 4096 - 5000  
- 6000 - 7200 - 7500 - 8000 - 8192 - 9000 - 10000 - 10240 - 12000  
- 14400 - 15000 - 16000 - 16384 - 18000 - 20000 - 20480 - 25000

### Mechanical specifications

<b>Shaft diameter</b>	∅ 8 / 9,52 (3/8") / 10 mm
<b>Enclosure rating</b>	IP 54 (IEC 60529) IP 66 (IEC 60529)
<b>Max rotation speed</b>	3000 rpm 6000 rpm (only with IP 54)
<b>Max shaft load</b>	200 N (20 kgf)
<b>Shock</b>	50 G, 11 ms up to 2500 ppr (IEC 60068-2-27) 20 G, 11 ms from 3000 ppr (IEC 60068-2-27)
<b>Vibration</b>	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
<b>Body material</b>	EN-AW 2011 aluminum
<b>Shaft material</b>	1.4305 / AISI 303 stainless steel
<b>Housing material</b>	PA 66 glass fiber reinforced / painted aluminum
<b>Bearings</b>	2 ball bearings
<b>Bearings life</b>	10 <sup>9</sup> revolutions
<b>Operating temperature</b>	-10° ... +60°C EL series -20° ... +70°C ER series
<b>Storage temperature</b>	-25° ... +70°C
<b>Weight</b>	350 g

### Connections

Function	N / C / P cable output	Line driver cable output	Output J7 N / C / P	Output J7 Line Driver without Zero	Output M7 N / C / P	Output M7 Line Driver without Zero	Output J10 Line Driver with Zero	Output M10 Line Driver with Zero
+V DC	red	red	6	4	F	D	4 - 5	D - E
0 V	black	black	1	6	A	F	6	F
Ch. A	green	green	3	1	C	A	1	A
Ch. A-	/	brown	/	3	/	C	7	G
Ch. B	yellow	yellow	5	2	E	B	2	B
Ch. B-	/	orange	/	5	/	E	8	H
Ch. Z	blue	blue	4	/	D	/	3	C
Ch. Z-	/	white	/	/	/	/	9	I
⊕	shield	shield	7	7	G	G	10	J