



**EL 90 A**  
**EL 115 A**

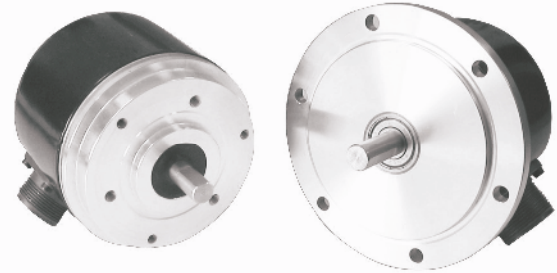
INCREMENTAL ENCODER



**MAIN FEATURES**

Encoder series for critical environments with high mechanical resistance requirements. The 90 model can be mounted by means of flanges or servo-fasteners; the 115 model has a tachometer generator REO-444 type compatible plug.

- Up to 10000 ppr with zero
- 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 for model 90 A



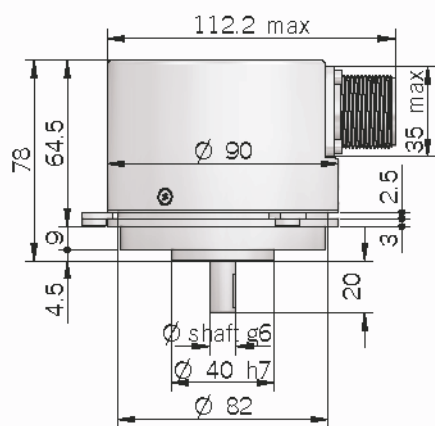
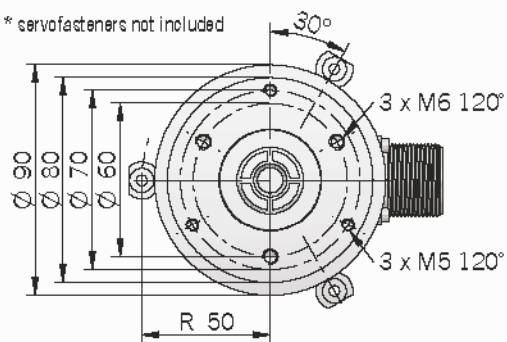
SOLID SHAFT INCREMENTAL ENCODERS

**ORDERING CODE**

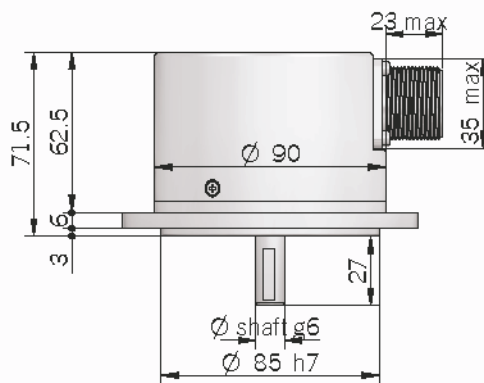
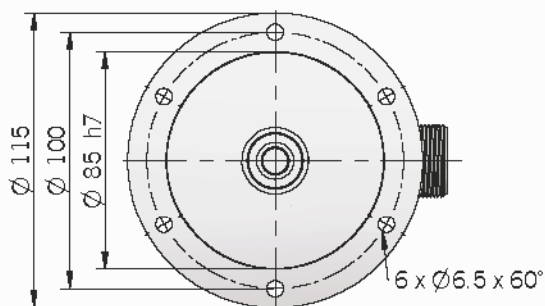
<b>EL</b>	<b>90</b>	<b>A</b>	<b>1000</b>	<b>Z</b>	<b>5/28</b>	<b>N</b>	<b>8</b>	<b>X</b>	<b>6</b>	<b>M</b>	<b>R</b>	<b>.</b>	<b>XXX</b>
<b>SERIES</b> incremental encoder series													<b>VARIANT</b> XXX custom version
<b>EL</b>													<b>DIRECTION TYPE</b> A axial R radial
<b>SIZE</b> mm 90 mm 115													<b>OUTPUT TYPE</b> P cable output (standard length 1,5 m) M M connector output J J connector output
<b>TYPE</b> synchronous flange ø 40 mm (mod. 90) flange REO444 (mod. 115) A													<b>MAX ROTATION SPEED</b> 3 3000 rpm 6 6000 rpm <i>N.B.: 3000 RPM max. with "S" enclosure rating</i>
<b>RESOLUTION</b> ppr from 1 to 10000 <i>N.B.: please directly contact our offices for pulses availability</i>													<b>ENCLOSURE RATING</b> X IP 54 S IP 66 (optional) for model 90 A
<b>ZERO PULSE</b> without zero pulse S with zero pulse Z													<b>SHAFT DIAMETER</b> 8 mm (EL 90) 9 ø 9,52 (3/8") mm (EL 90) 10 mm (EL 90 - EL 115) 11 mm (EL 115)
<b>POWER SUPPLY</b> (available only with L electronic output) 5 V DC 5 (available with L or PC electronic output) 8 ... 24 V DC 8/24 5 ... 28 V DC 5/28													
<b>ELECTRONIC INTERFACE</b> NPN N NPN open collector C													

EL 90 A

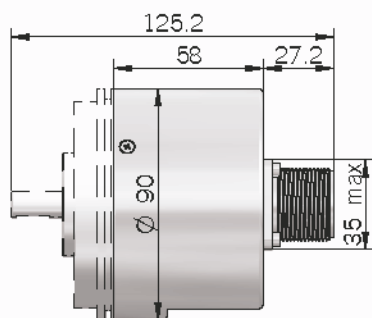
\* servofasteners not included



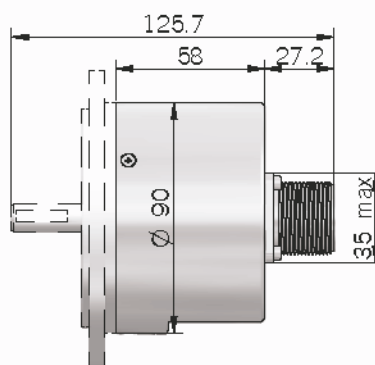
EL 115 A



EL 90  
axial output



EL 115  
axial output



**Electrical specifications**

<b>Resolution</b>	from 1 to 10000 ppr
<b>Power supply</b>	5 V DC $\pm$ 10% 5 ... 28 V DC $\pm$ 5% 8 ... 24 V DC $\pm$ 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

**Mechanical specifications**

<b>Shaft diameter</b>	$\varnothing$ 8 / 9,52 (3/8") / 10 mm (EL 90) $\varnothing$ 10 / 11 mm (EL 115)
<b>Grado di protezione</b>	IP 54 (IEC 60529) IP 66 (optional for EL 90 A) (IEC 60529)
<b>Max rotation speed</b>	3000 rpm 6000 rpm (only with IP 54)
<b>Max shaft load</b>	200 N (20 kgf) axial 200 N (20 kgf) radial
<b>Shock</b>	50 G, 11 ms (plastic disc) (IEC 60068-2-27) 20 G, 11 ms (glass disc) (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>	painted aluminum
<b>Bearings</b>	2 ball bearings
<b>Bearings life</b>	10 <sup>9</sup> revolutions
<b>Operating temperature</b>	-10° ... +60°C
<b>Storage temperature</b>	-25° ... +70°C
<b>Weight</b>	750 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