

MAIN FEATURES

Standard encoder series for industrial environments with high mechanical resistance requirements. These encoders are designed to withstand high radial and axial shaft loads and they can be mounted by means of flanges or servofasteners. Specifically designed for direct mounting on motors or speedometer dynamos. Our integrated elastic coupling allows radial and axial slack compensation.

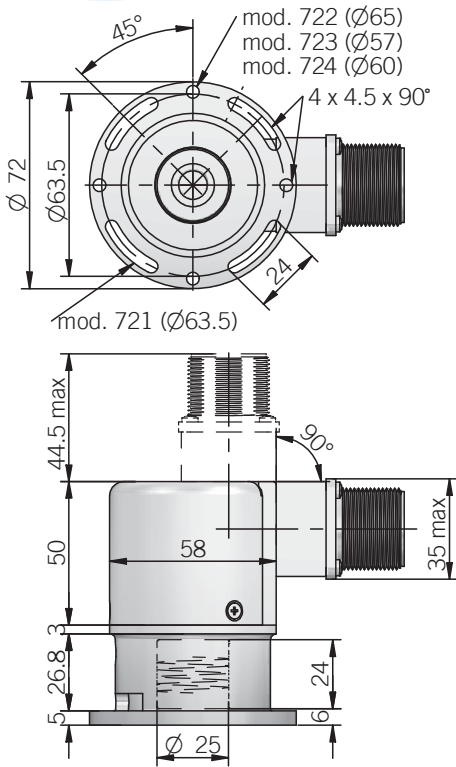
- Up to 25000 ppr with zero signal
- Several output types available
- Up to 28 V DC power supply
- Up to 300 kHz output frequency
- Cable or connector output
- Several flanges available
- Up to 6000 RPM rotation speed
- Up to IP 66 sealing



ORDERING CODE

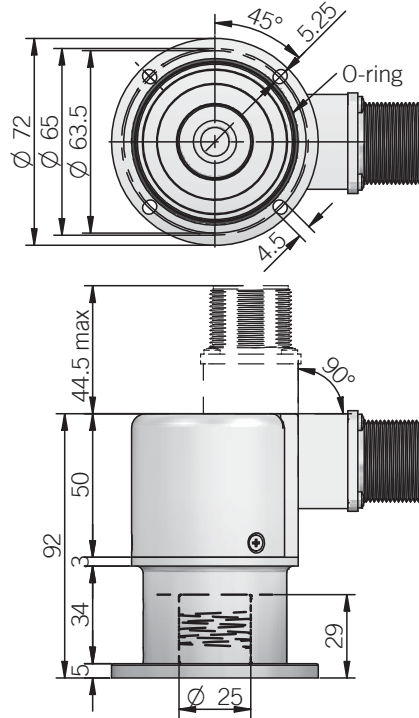
EL	72	1	A	M*	1000	Z	5/28	N	10	X	6	M	R	.	XXX
SERIES incremental encoder series EL	SIZE mm 72	DISTANCE BETWEEN HOLES ON FL ANGE ∅ 63,5 mm 1 ∅ 65 mm 2 ∅ 57 mm 3 ∅ 60 mm 4	TYPE A B	METAL COVER M <i>* add for metal cover</i>	RESOLUTION ppr from 1 to 25000 <i>N.B.: please directly contact our offices for pulses availability</i>	ZERO PULSE without zero pulse S with zero pulse Z	POWER SUPPLY (available only with L electronic output) 5 V DC 5 (available only with L or PC electronic output) 8 ... 24 V DC 8/24 (available only with EL series) 5 ... 28 V DC 5/28	VARIANT XXX custom version	DIRECTION TYPE A axial R radial	OUTPUT TYPE P cable output (standard length 1,5 m) M M connector output J J connector output	MAX ROTATION SPEED 3 3000 rpm 6 6000 rpm <i>N.B.: 3000 RPM max. with "S" enclosure rating</i>	ENCLOSURE RATING X IP 54 S IP 66 (optional)	SHAFT DIAMETER 6 mm 8 mm 10 mm	ELECTRONIC INTERFACE N NPN C NPN open collector P push-pull PC protected push-pull (AEIC-7272) L line driver	

EL 72 A



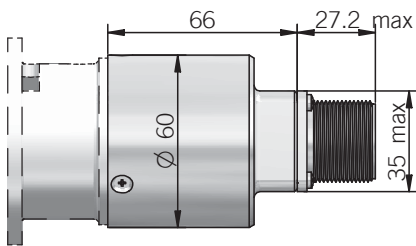
Dimensions with metal cover axial output

**EL 72 A
IP 66 version**

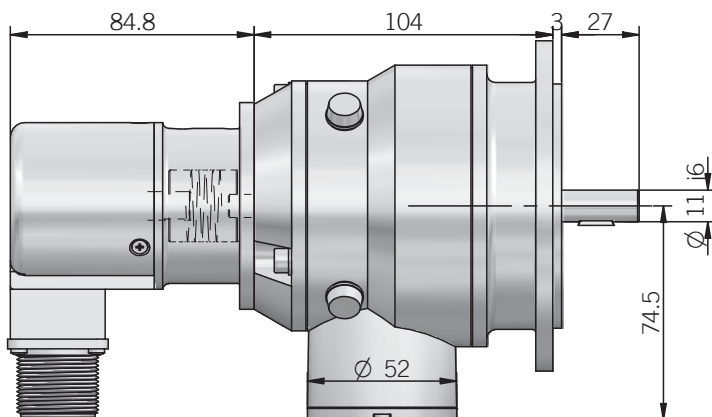
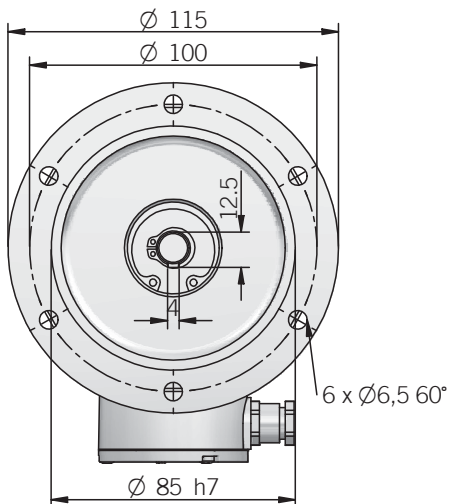
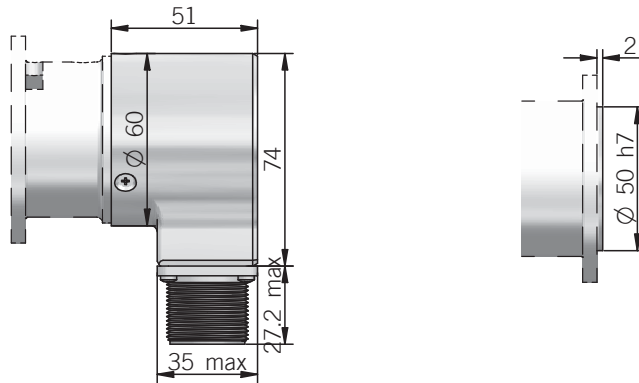


Dimensions with metal cover radial output

**Flange version
EL 72 B**



Application with speedometer dynamo



Electrical specifications

Resolution	from 1 to 25000 ppr
Power supply	5 V DC \pm 10% 5 ... 28 V DC \pm 5% 8 ... 24 V DC \pm 5% (reverse polarity protection)
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
Counting direction	A leads B clockwise (shaft view)
Electromagnetic compatibility	IEC 61000-6-2 IEC 61000-6-4

Mechanical specifications

Shaft diameter	\varnothing 6 / 8 / 10 mm
Enclosure rating	IP 54 (IEC 60529) IP 66 (optional) (IEC 60529)
Max rotation speed	3000 rpm 6000 rpm (only with IP 54)
Max shaft load	200 N (20 kp)
Shock	50 G, 11 ms up to 2500 ppr (IEC 60068-2-27) 20 G, 11 ms from 3000 ppr (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Body material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	PA 66 glass fiber reinforced / painted aluminum
Bearings	2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature	-10° ... +60°C
Storage temperature	-25° ... +70°C
Weight	400 g
Accessories	Precision elastic couplings G25A6/10 - G25A8/10 - G25A/10

Technical specifications for DYNAMO 60V / 1000 rpm or 20V / 1000 rpm

Peak to peak ripple	\leq 1%	
Effective value ripple	\leq 0,4%	
Linearity error	\leq 0,2%	
Reversibility error	\pm 0,1%	
Voltage tolerance	\pm 3%	
Voltage variation with temperature	-0,02% for °C	
Insulation class	B	
N. of poles	4	
N. of slots	33	
N. of laminas	33	
Field excitation by magnets	ALNICO	
Winding	60V / 1000 rpm	20V / 1000 rpm
Nom. voltage at 1000 rpm	60 V	20 V
Load - free voltage at 1000 rpm	61,2 V	20,3 v
Max current admitted	70 mA	200 mA
Nom. current	5 mA	10 mA
Max speed	5000 rpm	6000 rpm
Armature resistance at 25°C	240 Ω	26 Ω
Electric time constant	0,7 ms	0,7 ms
Protection class	IP 55	
Weight	2,35 Kg	
Inertia	2 Kg cm ²	

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
\perp	shield	shield	7	7	G	G	10	J