

MAIN FEATURES

Encoder series for harsh environments with high mechanical resistance requirements.
Model 90 can be mounted by flanges or fixing clamps; model 115 has a tachometer generator REO-444 type compatible plug with optional centrifugal relay.

- 3 channel encoder (A / B / Z) up to 2048 ppr
- Redundancy encoder with double output and / or double resolutions
- Power supply up to +24 V DC with several electrical interfaces available
- Up to 105 kHz output frequency
- Solid shaft diameter up to 11 mm
- Mounting by synchronous or REO-444 flange
- Model 115R available with centrifugal relay

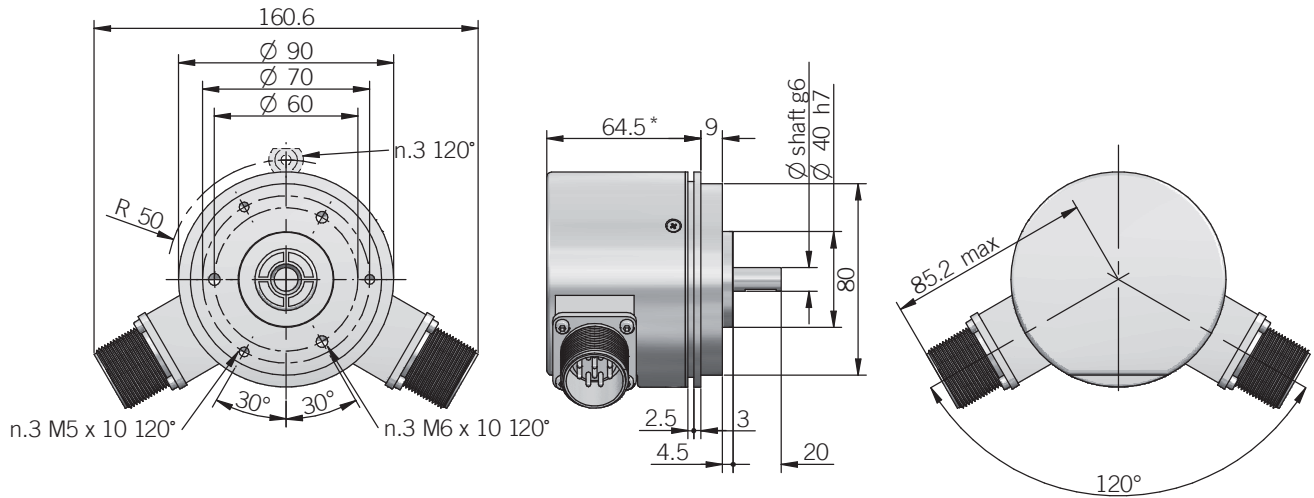


ORDERING CODE	EH	90A	500	S	8/24	P	1000	Z	8/24	P	8	X	6	P	R	.XXX + 2000
SERIES incremental encoder series EH																
MODEL synchronous flange ø 40 mm 90A flange REO-444 115A flange REO-444 with centrifugal relay 115R																
RESOLUTION ppr from 200 to 2048 refer to the available pulses list																
ZERO PULSE without zero pulse S with zero pulse Z																
POWER SUPPLY (with L electrical interface) 5 V DC 5 8 ... 24 V DC 8/24																
ELECTRICAL INTERFACE NPN open collector C push-pull P line driver L																
RESOLUTION																
ZERO PULSE																
POWER SUPPLY																
ELECTRICAL INTERFACE																
SHAFT DIAMETER (mod. 90A) mm 8 (mod. 90A) (3/8") mm 9,52 mm 10 (mod. 115A - 115R) mm 11																
ENCLOSURE RATING IP 54 X (mod. 90) IP 66 S																
MAX ROTATION SPEED (IP 66) 3000 rpm 3 (IP 54) 6000 rpm 6																
OUTPUT TYPE cable (standard length 1,5 m) P preferred cable lengths 2 / 3 / 5 / 10 m, to be added after DIRECTION TYPE (eg. PR5) MIL connector M JIS-C-5432 connector J female connector included, without female please add 162 as variant code																
DIRECTION TYPE axial A radial R																
VARIANT custom version XXX																
RELAY INTERVENTION SPEED (mod. 115R) from 600 to 4300 for other speeds please contact our offices directly																

To be indicated only in the models 90A - 115A for double electronics and double resolution
See examples:

- Double resolution and double electronics: **EH90A1024Z5L-2048Z8/24L10X...**
- Double resolution and same electronics: **EH90A1024-2048Z5L10X...**
- Same resolution and double electronics: **EH90A1024Z5L-Z8/24L10X...**

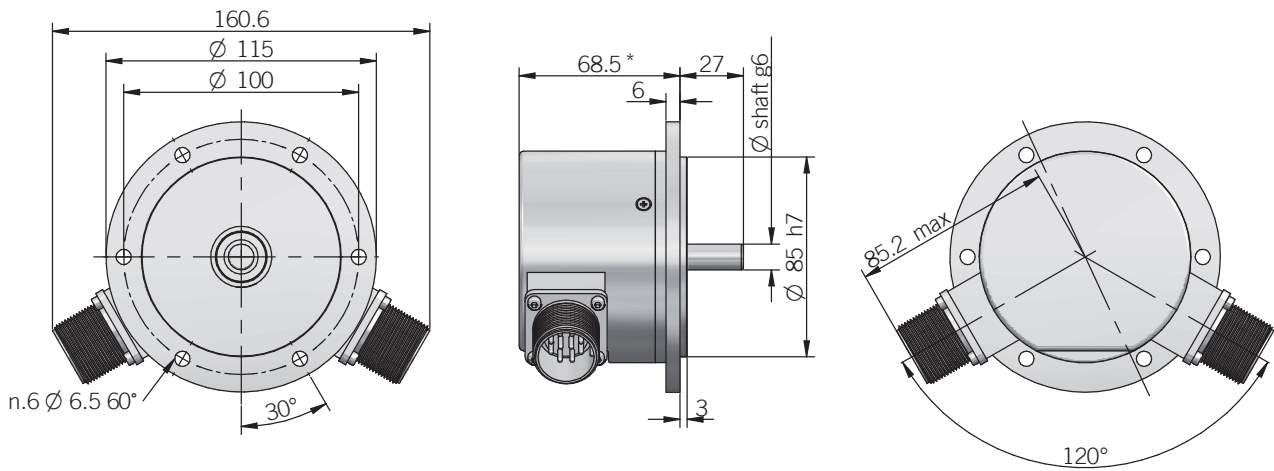
90 A with double output / resolution



fixing clamps not included, please refer to the Accessories

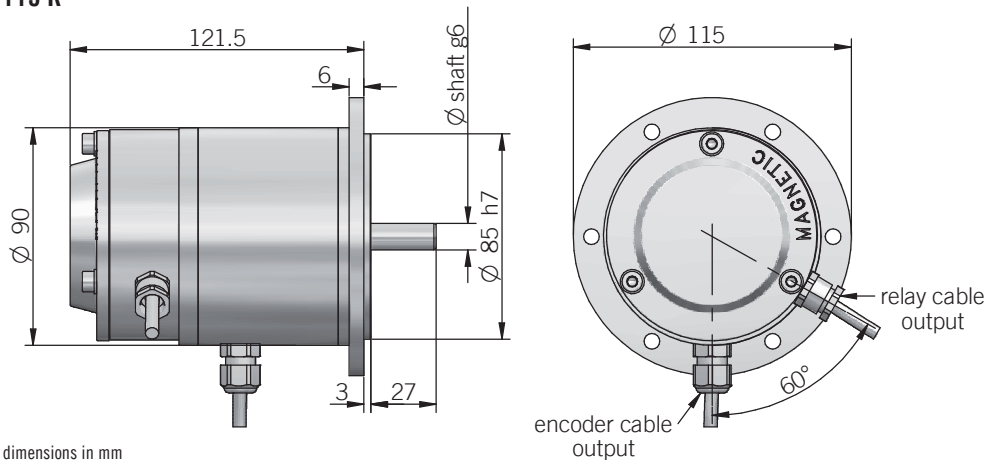
* with double resolution + 3.5mm

115 A with double output / resolution



* with double resolution + 3.5mm

115 R



dimensions in mm

ELECTRICAL SPECIFICATIONS

Resolution	from 200 to 2048 ppr
Power supply¹	5 = 4,5 ... 5,5 V DC 8/24 = 4,5 ... 30 V DC (reverse polarity protection)
Current consumption without load	100 mA max
Max load current	C / P = 50 mA / channel L = 20 mA / channel
Electrical interface²	NPN open collector (AEIC-7273, pull-up max +30 V DC) push-pull / line driver HTL (AEIC-7272) line driver RS-422 (AELT-5000 or equivalent)
Max output frequency	105 kHz
Counting direction	A leads B clockwise (shaft view)
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2015/863/EU directive
UL / CSA	certificate n. E212495

RESOLUTIONS

200 - 250 - 500 - 512 - **1000** - **1024** - **2000** - **2048**

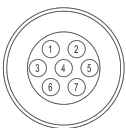
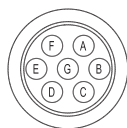
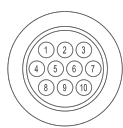
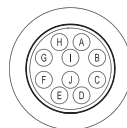
please directly contact our offices for other pulses, preferred resolutions in bold

RELAY CHARACTERISTICS

Intervention speed	from 600 to 4300 rpm
Accuracy	± 3 %
Contact capacity	2 A / 250 V AC 3,3 A / 125 V AC
Type of contact	Normally Closed (NC)

CONNECTIONS

Function	Cable C / P	Cable L	7 pin J C / P	7 pin J L no Zero	7 pin M C / P	7 pin M L / RS no Zero	10 pin J L with Zero	10 pin M L with Zero
+V DC	red	red	6	4	F	D	4 - 5	D - E
0 V	black	black	1	6	A	F	6	F
A+	green	green	3	1	C	A	1	A
A-	/	brown or grey	/	3	/	C	7	G
B+	yellow	yellow	5	2	E	B	2	B
B-	/	orange	/	5	/	E	8	H
Z+	blue	blue	4	/	D	/	3	C
Z-	/	white	/	/	/	/	9	I
≡	shield	shield	7	7	G	G	10	J

J connector (7 pin)
JIS-C-5432 Size 16
solder side view FVM connector (7 pin)
Amphenol MS3102-E-16-S
solder side view FVJ connector (10 pin)
JIS-C-5432 Size 16
solder side view FVM connector (10 pin)
Amphenol MS3102-E-18-1
solder side view FV

MECHANICAL SPECIFICATIONS

Shaft diameter	∅ 8 / 9,52 (3/8") / 10 / 11 mm
Enclosure rating	X = IP 54 (IEC 60529) S = IP 66 (IEC 60529)
Max rotation speed	IP 54 - 6000 rpm IP 66 - 3000 rpm
Max shaft load³	200 N axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	3,5 x 10 ⁻⁶ kgm ² (83 x 10 ⁻⁶ lbft ²)
Starting torque (at +20°C / +68°F)	< 0,02 Nm (2,8 OzIn) IP 54 < 0,06 Nm (8,5 OzIn) IP 66
Bearing stage material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	painted aluminum
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature^{4,5}	-10° ... +60°C (+14° ... +140°F)
Storage temperature⁵	-25° ... +70°C (-13° ... +158°F)
Weight	750 g (26,46 oz) 1050 g (37,04 oz) with relay

¹ as measured at the transducer without cable influences² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section³ maximum load for static usage⁴ measured on the transducer flange⁵ condensation not allowed