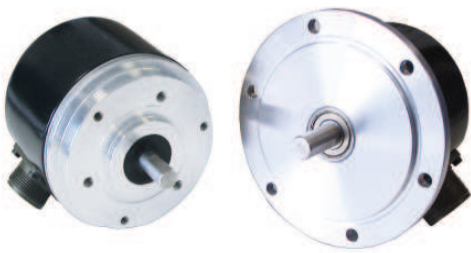


EH 90 A - EH 115 A / R

SOLID SHAFT INCREMENTAL ENCODER



Specifications

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 with double electronics and / or double resolutions
- Power supply up to +24 VDC with several electronic interfaces available
- Up to 100 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 | N | 1000 | Z | 8/24 | N | 8 | X | 6 | P | R | .XXX + 2000 |
|--|----|-----|-----|---|------|---|------|---|------|---|---|---|---|---|---|-------------|
| SERIES incremental encoder series | | | | | | | | | | | | | | | | |
| MODEL synchronous flange ø 40 mm flange REO-444 flange REO-444 with centrifugal relay | | | | | | | | | | | | | | | | |
| RESOLUTION ppr from see table for pulses availability | | | | | | | | | | | | | | | | |
| ZERO PULSE without zero pulse with zero pulse | | | | | | | | | | | | | | | | |
| POWER SUPPLY (with L electronic interface) 5 V DC 8 ... 24 V DC | | | | | | | | | | | | | | | | |
| ELECTRONIC INTERFACE NPN NPN open collector PUSH PULL protected push-pull (AEIC-7272) line driver | | | | | | | | | | | | | | | | |
| RESOLUTION | | | | | | | | | | | | | | | | |
| ZERO PULSE | | | | | | | | | | | | | | | | |
| POWER SUPPLY | | | | | | | | | | | | | | | | |
| ELECTRONIC INTERFACE | | | | | | | | | | | | | | | | |
| SHAFT DIAMETER (mod. 90) mm (mod. 90) 9,52 (3/8") mm mm (mod. 115) mm | | | | | | | | | | | | | | | | |
| ENCLOSURE RATING IP 54 (mod. 90) IP 66 | | | | | | | | | | | | | | | | |
| MAX ROTATION SPEED (IP 66) 3000 rpm (IP 54) 6000 rpm | | | | | | | | | | | | | | | | |
| OUTPUT TYPE cable (standard length 1,5 m) MIL connector JIS-C-5432 connector female connector included, without female please add 162 as variant code | | | | | | | | | | | | | | | | |
| DIRECTION TYPE axial radial | | | | | | | | | | | | | | | | |
| VARIANT custom version | | | | | | | | | | | | | | | | |

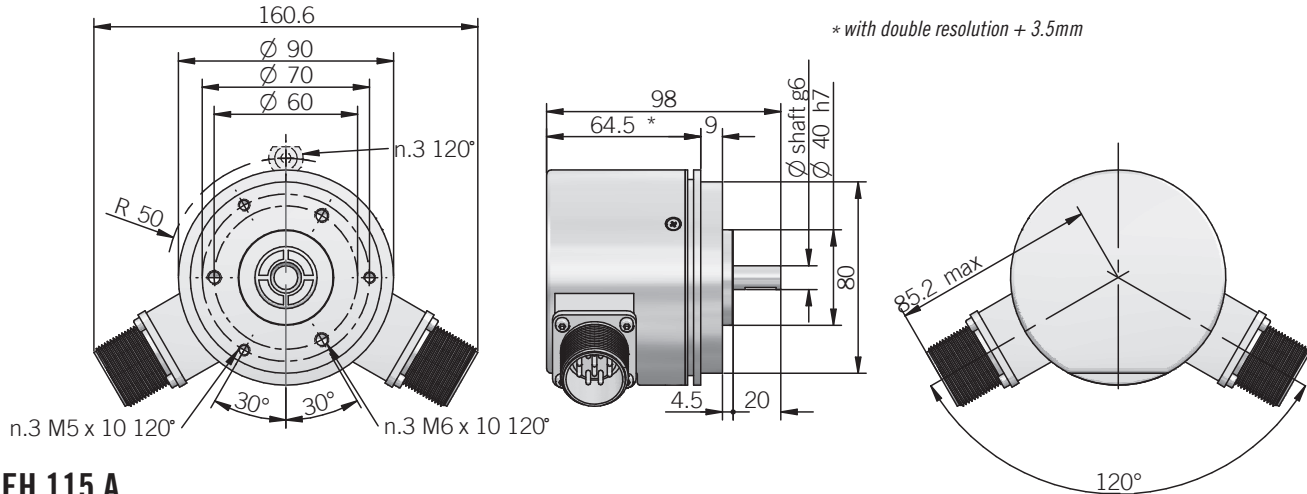
To be indicated only in the models "A" for double electronics and double resolution.
See examples:

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

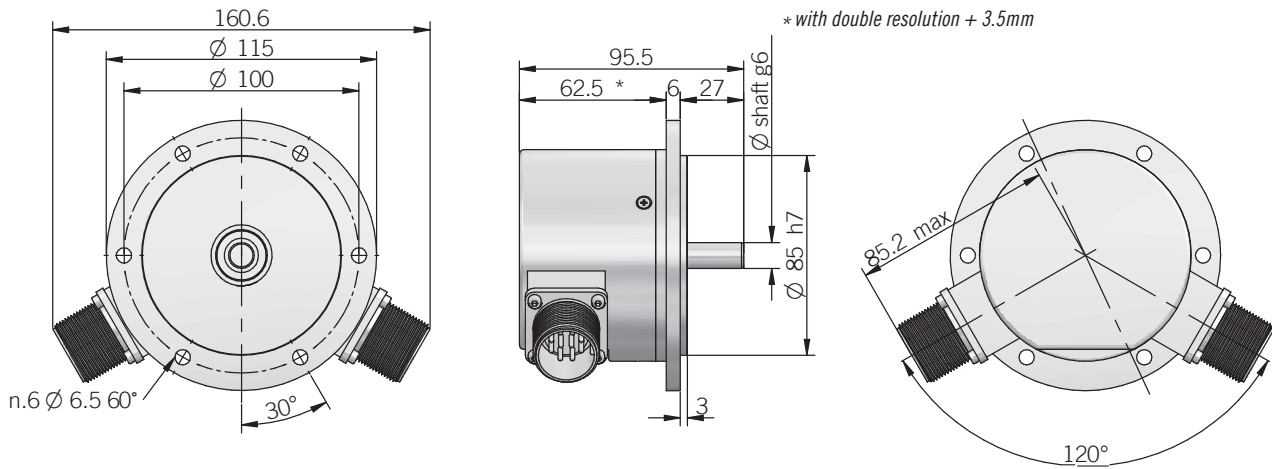
RELAY INTERVENTION SPEED
from 600 to 4300
for other speeds please contact our offices directly

EH 90 A with double electronics / resolutions

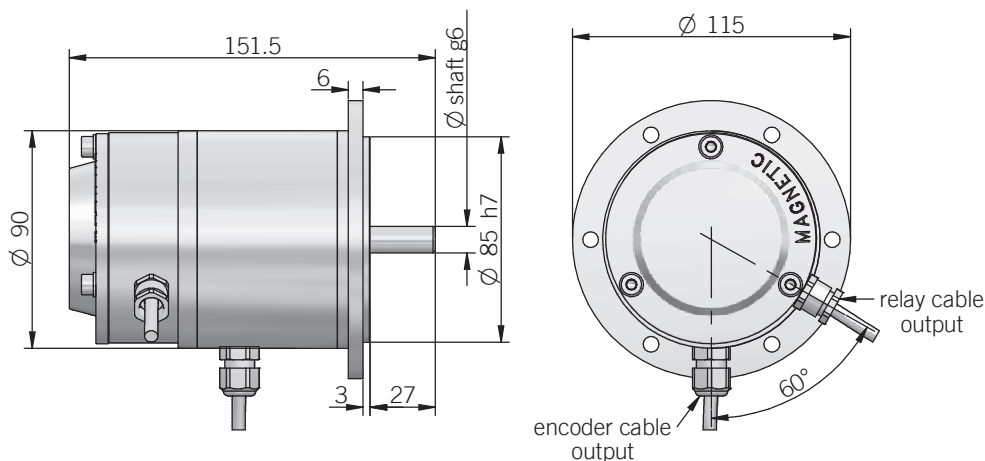
fixing clamps not included



EH 115 A with double electronics / resolutions



EH 115 R with centrifugal relay



ELECTRICAL SPECIFICATIONS

| | |
|---|--|
| Resolution | from 200 to 2048 ppr |
| Power supply | 5 = 4,5 ... 5,5 V DC 8/24 = 7,6 ... 25,2 V DC (reverse polarity protection) |
| Current consumption without load | 100 mA max |
| Max load current | N / C / P / PC = 50 mA / channel L = 20 mA / channel |
| Output type* | NPN / NPN open collector / push-pull / line driver |
| Max output frequency | 100 kHz |
| Counting direction | A leads B clockwise (shaft view) |
| Electromagnetic compatibility | IEC 61000-6-1 IEC 61000-6-3 |

*output levels according to power supply, for further details please see under Technical basics section

RESOLUTIONS

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

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

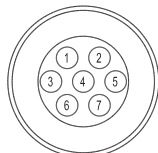
RELAY CHARACTERISTICS

| | |
|---------------------------|------------------------------------|
| Intervention speed | from 600 to 4300 rpm |
| Accuracy | ± 3 % |
| Contact capacity | 2 A / 250 V AC 3,3 A / 125 V AC |

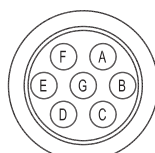
CONNECTIONS

| Function | Cable output | Cable output | 7 pin J output | 7 pin J output | 7 pin M output | 7 pin M output | 10 pin J output | 10 pin M output |
|----------|----------------|--------------|----------------|---------------------|----------------|---------------------|-----------------------|-----------------------|
| | N / C / P / PC | Line driver | N / C / P / PC | Line Driver no Zero | N / C / P / PC | Line Driver no Zero | Line Driver with Zero | 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 |

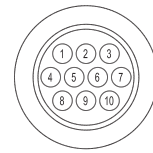
J connector (7 pin)
JIS-C-5432 Size 16
solder side view FV



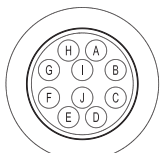
M connector (7 pin)
Amphenol MS3102-E-16-S
solder side view FV



J connector (10 pin)
JIS-C-5432 Size 16
solder side view FV



M 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 | X = 6000 rpm S = 3000 rpm |
| Max shaft load | 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 | $3,5 \times 10^{-6} \text{ kgm}^2$ $< 0,02 \text{ Nm}^2$ (IP 54) |
| Starting torque | $< 0,06 \text{ Nm}$ (IP 66) |
| Body material | EN-AW 2011 aluminum |
| Shaft material | 1.4305 / AISI 303 stainless steel |
| Housing material | painted aluminum |
| Bearings | 2 ball bearings |
| Bearings life | 10 ⁹ revolutions |
| Operating temperature | -10° ... +60°C (+14° ... +140°F) |
| Storage temperature | -25° ... +70°C (-13° ... +158°F) |
| Weight | 750 g (26,46 oz) 1050 g (37,04 oz) with relay |

ACCESSORIES

set n.3 fixing clamps for model 90 A
P/N 94080001

