



# EH-EL90A/115 A-R INCREMENTAL ENCODER



## Incremental encoder

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

- Up to 10.000 ppr with zero for EL series, up to 1024 ppr for EH series.
- Several output types available.  
Up to 28 Vdc input voltage for EL series and up to 24 Vdc for EH series.
- Up to 300 kHz frequency response for EL series and up to 100 kHz for EH series
- Output cable with connector.
- Several flanges available
- Up to 6.000 rpm speed rotation
- Up to IP66 sealing model 90A



## Ordering code

Full stop to separate special versions

EL 90 A 1000 Z 5/28 N 1000 Z 5/28 N 8 X 6 M R . XXX

incremental encoder series **EL**  
incremental encoder series **EH**

body dimension **90**  
body dimension **115**

### Type of flange

mod.EH-EL 90A / 115A **A**  
only mod.EH / EL115R **R**

### Resolution

from **1** to **10000** PPR for series EL  
from **40** to **1024** PPR for series EH  
*Please, directly contact our offices for pulses availability*

### Zero pulse

without zero pulse **S**  
with zero pulse **Z**

### Input voltage

input voltage EL **5 ÷ 28**  
input voltage EH **5 / 8 ÷ 24**

*LINE DRIVER available only with input voltage 5 Vdc or 8 ÷ 24 Vdc*

### Output types

NPN **N**  
NPN OPEN COLLECTOR **C**  
PUSH PULL **P**  
LINE DRIVER **L**

*For options about output types please refer to incremental output section*

**R** radial  
**A** axial

**P** cable output (standard length 1,5 m)  
**M** connector MS3106E 16S-1S or 18-1S  
**J** connector JMS1607 F or 1610 F

### R.P.M.

**3** 3000  
**6** 6000

*Enclosure rating S 3000 turn*

### Enclosure rating

**X** standard IP54  
**S** optional IP66 for mod 90 A

### Shaft diameter

**8** ø 8 g6 mm EH-EL90  
**9** ø 9,52 g6 mm (3/8") EH-EL90  
**10** ø 10 g6 mm EH-EL90 / 115  
**11** ø 11 g6 mm EH-EL115

### Output types

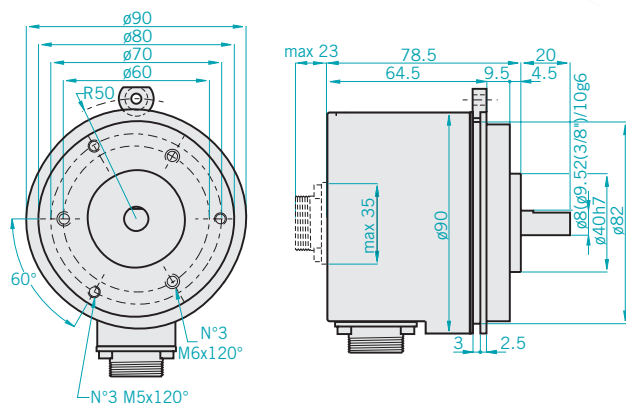
### Input voltage

### Zero pulse

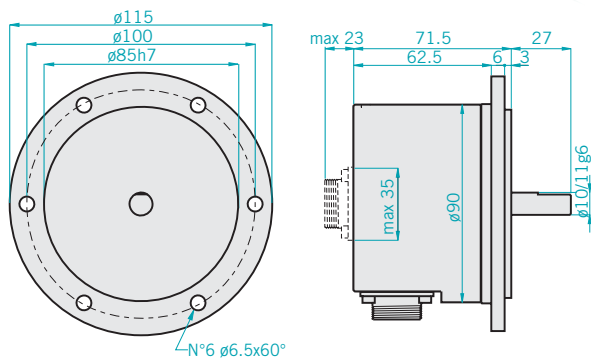
### Resolution

*To be indicated only on models with double electronics  
for more information please contact our offices*

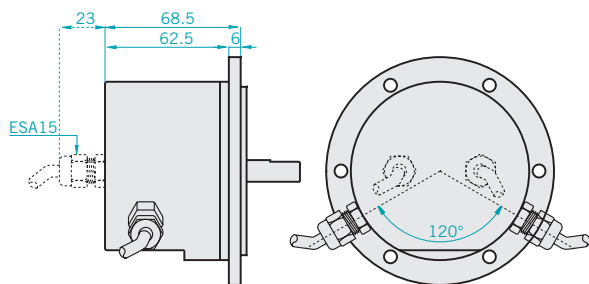
## EH-EL 90 A



## EH-EL 115 A

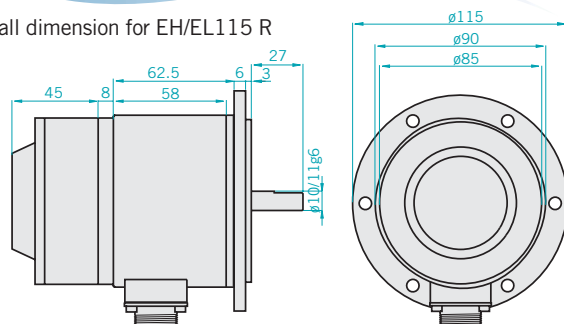


## EH-EL 90 A/115 A with double electronic



## EH-EL 115 R with centrifugal relè

Overall dimension for EH/EL115 R



### EL series electrical specifications

|                                          |                                                                          |
|------------------------------------------|--------------------------------------------------------------------------|
| <b>Resolution</b>                        | From 1 to 10000 PPR                                                      |
| <b>Input voltage</b>                     | 5 ÷ 28 Vdc<br>LINE DRIVER only available with input voltage 5 / 8÷24 Vdc |
| <b>Input current with no output load</b> | 100 mA Max                                                               |
| <b>Source and sink current</b>           | 50 mA for channel<br>20 mA for channel LINE DRIVER                       |
| <b>Output types</b>                      | NPN / NPN OPEN COLLECTOR /<br>PUSH PULL / LINE DRIVER                    |
| <b>Frequency response</b>                | 300 KHz Max<br>$F = \frac{RPM \times Resolution}{60}$                    |

### EH series electrical specifications

|                                          |                                                       |
|------------------------------------------|-------------------------------------------------------|
| <b>Resolution</b>                        | From 40 to 1024 PPR                                   |
| <b>Input voltage</b>                     | 5 Vdc / 8 ÷ 24 Vdc                                    |
| <b>Input current with no output load</b> | 100 mA Max                                            |
| <b>Source and sink current</b>           | 50 mA for channel<br>20 mA for channel LINE DRIVER    |
| <b>Output types</b>                      | NPN / NPN OPEN COLLECTOR /<br>PUSH PULL / LINE DRIVER |
| <b>Frequency response</b>                | 100 KHz Max<br>$F = \frac{RPM \times Resolution}{60}$ |

### Mechanical specifications

|                              |                                                                                                           |                     |
|------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------|
| <b>Shaft diameter</b>        | $\varnothing 8 / \varnothing 9.52(3/8) / \varnothing 10$ mm g6<br>$\varnothing 10 / \varnothing 11$ mm g6 | EH-EL90<br>EH-EL115 |
| <b>Enclosure rating</b>      | IP54 standard<br>IP66 optional mod. 90 A                                                                  |                     |
| <b>Shaft speed</b>           | 3000 RPM<br>6000 RPM<br>3000 RPM MAX with "S" rating                                                      |                     |
| <b>Max shaft load</b>        | 200N (20 Kp) axial<br>200N (20 Kp) radial                                                                 |                     |
| <b>Shock</b>                 | 50 G for 11 msec (with plastic disc)<br>20 G for 11 msec (with glass disc)                                |                     |
| <b>Vibrations</b>            | 10G 10 ÷ 2000 Hz                                                                                          |                     |
| <b>Bearings life</b>         | 10 <sup>9</sup> revolu-                                                                                   |                     |
| <b>Bearings</b>              | n° 2 Ball bearings                                                                                        |                     |
| <b>Shaft material</b>        | Stainless steel AISI303                                                                                   |                     |
| <b>Body material</b>         | Aluminium D11S - UNI                                                                                      |                     |
| <b>Housing material</b>      | Painted aluminium                                                                                         |                     |
| <b>Operating temperature</b> | 0° ÷ +60°C                                                                                                |                     |
| <b>Storage temperature</b>   | -25° ÷ +70°C                                                                                              |                     |
| <b>Weight</b>                | 750 g                                                                                                     |                     |



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