**EH 90 A - EH 115 A / R**

**SOLID SHAFT INCREMENTAL ENCODER**

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

### Specifications

**ORDERING CODE**

<table>
<thead>
<tr>
<th>SERIES</th>
<th>EH</th>
<th>90A</th>
<th>500</th>
<th>S</th>
<th>8/24</th>
<th>N</th>
<th>Z</th>
<th>8/24</th>
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<th>X</th>
<th>6</th>
<th>P</th>
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<th>XXX + 2000</th>
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<td>Incremental encoder series Eh</td>
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<td>MODEL</td>
<td>synchronous flange ø 40 mm 90A</td>
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<td>RESOLUTION</td>
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<td>ZERO PULSE</td>
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<td>POWER SUPPLY</td>
<td>(with L electronic interface) 5 V DC 8 ... 24 V DC 8/24</td>
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<td>protected push-pull (AEIC-7272) PC line driver</td>
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To be indicated only in the models “A” for double electronics and double resolution. See examples:

**Double resolution and double electronics:** EH90A102425L-2048Z26/24L10X...

**Double resolution and same electronics:** EH90A1024-2048Z26L10X...

**Same resolution and double electronics:** EH90A102425L-28/24L10X...

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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

**MECHANICAL SPECIFICATIONS**

- **Shaft diameter**: ø 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**
  - N / C / P / PC = 50 mA / channel
  - L = 20 mA / channel
- **Vibration**: 10 G, 10 ... 2000 kHz (IEC 60068-2-6)
- **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

**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**
  - 2.5 A / 250 V AC
  - 3.3 A / 125 V AC

**CONNECTIONS**

<table>
<thead>
<tr>
<th>Function</th>
<th>Cable output</th>
<th>Cable output</th>
<th>7 pin J output</th>
<th>7 pin J output</th>
<th>7 pin M output</th>
<th>7 pin M output</th>
<th>10 pin J output</th>
<th>10 pin M output</th>
</tr>
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<tbody>
<tr>
<td>+V DC</td>
<td>red</td>
<td>red</td>
<td>6</td>
<td>4</td>
<td>F</td>
<td>D</td>
<td>4 - 5</td>
<td>D - E</td>
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<tr>
<td>0 V</td>
<td>black</td>
<td>black</td>
<td>1</td>
<td>6</td>
<td>A</td>
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<tr>
<td>Ch. A</td>
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<td>green</td>
<td>3</td>
<td>1</td>
<td>C</td>
<td>A</td>
<td>7</td>
<td>G</td>
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<td>Ch. A-</td>
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<td>3</td>
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<td>C</td>
<td>7</td>
<td>G</td>
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<tr>
<td>Ch. B</td>
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<td>yellow</td>
<td>5</td>
<td>2</td>
<td>E</td>
<td>B</td>
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<td>Ch. B-</td>
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<td>5</td>
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<td>Ch. Z</td>
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<td>10</td>
<td>J</td>
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</tbody>
</table>

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

**ACCESSORIES**

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

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