ETMR
MAGNETIC INCREMENTAL KIT ENCODER

Contactless encoder with through hollow shaft up to 28 mm. The compact size (only 11 mm thickness), the high IP grade and resistance to vibrations make this product an excellent solution for heavy-duty applications.

- 2 channel encoder (A/B) up to 4096 ppr
- Power supply up to +28 VDC with several electronic interfaces available
- Up to 350 kHz output frequency
- Cable output, connector available on cable end
- Through hollow shaft diameter up to 28 mm
- Shaft mounting with star-ring
- Wide operating temperature -20° ... +85°C (-4° ... +185°F)

### Specifications

- **SERIES**: magnetic incremental encoder series ETM
- **MODEL**: through hollow ring R
- **RESOLUTION**: ppr from 64 to 4096
  - See table for pulses availability
- **ZERO PULSE**: without zero pulse S
- **POWER SUPPLY**:
  - (with L electronic interface) 5 V DC 5
  - (with L or PC electronic interface) 8 ... 24 V DC 8/24
  - 5 ... 28 V DC 5/28
- **ELECTRONIC INTERFACE**:
  - Push-pull P
  - Push-pull protected (AEIC-7272) PC
  - Line driver L
  - Power supply 5/28 V - output RS-422 RS
- **BORE DIAMETER**:
  - mm 9
  - (3/8") mm 9,52
  - mm 10
  - mm 11
  - mm 14
  - mm 19
  - mm 24
  - mm 28
- **ENCLOSURE RATING**:
  - IP 67 S
- **MAX ROTATION SPEED**:
  - 8000 rpm 8 8
- **OUTPUT TYPE**:
  - Radial cable (standard length 1,5 m) PR
- **VARIANT**:
  - Custom version XXX

#### Ordering Code

<table>
<thead>
<tr>
<th>SERIES</th>
<th>ETM</th>
<th>R</th>
<th>4096</th>
<th>S</th>
<th>5</th>
<th>L</th>
<th>9</th>
<th>S</th>
<th>8</th>
<th>PR</th>
<th>XXX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MODEL</strong></td>
<td>ETM</td>
<td>through hollow ring R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RESOLUTION</strong></td>
<td>ppr from 64 to 4096</td>
<td>See table for pulses availability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ZERO PULSE</strong></td>
<td>without zero pulse S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>POWER SUPPLY</strong></td>
<td>(with L electronic interface) 5 V DC 5</td>
<td>(with L or PC electronic interface) 8 ... 24 V DC 8/24</td>
<td>5 ... 28 V DC 5/28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ELECTRONIC INTERFACE</strong></td>
<td>Push-pull P</td>
<td>Push-pull protected (AEIC-7272) PC</td>
<td>Line driver L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BORE DIAMETER</strong></td>
<td>mm 9</td>
<td>(3/8&quot;) mm 9,52</td>
<td>mm 10</td>
<td>mm 11</td>
<td>mm 14</td>
<td>mm 19</td>
<td>mm 24</td>
<td>mm 28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ENCLOSURE RATING</strong></td>
<td>IP 67 S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAX ROTATION SPEED</strong></td>
<td>8000 rpm 8 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OUTPUT TYPE</strong></td>
<td>Radial cable (standard length 1,5 m) PR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VARIANT</strong></td>
<td>Custom version XXX</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

www.eltra-encoder.eu
tel: +421 552 601 099
e-mail: info@eltra-trade.com
**ETMR**

**ELECTRICAL SPECIFICATIONS**

- **Resolution**
  - from 64 to 4096 ppr (powers of 2)

- **Power supply**
  - 5 = 4,5 ... 5,5 V DC
  - 5/28 = 4,75 ... 29,4 V DC
  - 8/24 = 7,6 ... 25,2 V DC (reverse polarity protection)

- **Power draw without load**
  - 800 mW max

- **Max load current**
  - 20 mA / channel

- **Output type**
  - push-pull / line driver

- **Max output frequency**
  - 350 kHz

- **Linearity error**
  - ± 0,35° typical

- **Counting direction**
  - A leads B counterclockwise

- **Electromagnetic compatibility**
  - IEC 61000-6-2
  - IEC 61000-6-4

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

**MECHANICAL SPECIFICATIONS**

- **Bore diameter**
  - ø 9 / 9,52 (3/8") / 10 / 11 / 14 / 19 / 24 / 28 mm

- **Enclosure rating**
  - IP 67 (IEC 60529)

- **Max rotation speed**
  - 8000 rpm

- **Shock**
  - 50 G, 11 ms (IEC 60068-2-27)

- **Vibration**
  - 20 G, 10 ... 2000 Hz (IEC 60068-2-6)

- **Moment of inertia**
  - 115 x 10^-6 kgm² (27,29 x 10^-4 lbft²)

- **Sensor body material**
  - anodized aluminum
  - 1.4305 / AISI 303 stainless steel

- **Operating temperature**
  - -20° ... +85°C (-4° ... +185°F)

- **Storage temperature**
  - -20° ... +85°C (-4° ... +185°F)

- **Weight**
  - 100 g (3,53 oz)

- **Magnet-actuator mounting tolerances**
  - ± 1 mm (axial)
  - ± 0.1 mm (radial)

**RESOLUTIONS**

- 64* - 128 - 256 - 512 - 1024 - 2048 - 4096

* available with shaft ø 24 / 28 mm, please directly contact our offices for other pulses

**CONNECTIONS**

<table>
<thead>
<tr>
<th>Function</th>
<th>Cable output</th>
<th>Push-pull</th>
<th>Cable output</th>
<th>Line driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>+V DC</td>
<td>red</td>
<td>red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 V</td>
<td>black</td>
<td>black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch. A</td>
<td>green</td>
<td>green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch. A-</td>
<td>/</td>
<td>brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch. B</td>
<td>yellow</td>
<td>yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch. B-</td>
<td>/</td>
<td>orange</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch. Z</td>
<td>blue</td>
<td>blue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch. Z-</td>
<td>/</td>
<td>white</td>
<td></td>
<td></td>
</tr>
<tr>
<td>±</td>
<td>shield</td>
<td>shield</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

dimensions in mm