EAM 36 A SSI
SOLID SHAFT MAGNETIC MULTITURN ABSOLUTE ENCODER

Miniaturized multiturn absolute encoder for limited size applications.

- Magnetic sensor technology without contact (Magnetic ASIC + Energy Harvesting)
- Sturdy construction thanks to separated chambers
- Up to 51 bit as total resolution (12 bit single turn + 39 bit multiturn)
- Power supply up to +30 VDC with SSI as electronic interface
- Code reset for easy setup
- Cable output, connectors available on cable end
- 6 mm diameter solid shaft
- Mounting by fixing flange

### Specifications

- **Series**: Magnetic multiturn absolute encoder series EAM
- **Model**: fixing flange ø 28 mm 36A
- **Multiturn Resolution**: turns from 1 to 39 bit
- **Singleturn Resolution**: from 1 to 12 bit
- **Code Type**: binary B, gray G
- **Power Supply**: 5 V DC 5...30 V DC 5/30
- **Electronic Interface**: Serial Synchronous Interface – SSI
- **Logic**: positive P
- **Options**: to be reported if not used X reset ZE
- **Shaft Diameter**: mm 6
- **Enclosure Rating**: IP 67 cover side / IP 65 shaft side X
- **Max Rotation Speed**: 8000 rpm 8
- **Output Type**: cable (standard length 0,5 m) P
- **Direction Type**: radial R
- **VARIANT**: custom version XXX

### Ordering Code

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<th>EAM</th>
<th>36A 13 / 12</th>
<th>B</th>
<th>5</th>
<th>S</th>
<th>P</th>
<th>X</th>
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<th>8</th>
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[www.eltra-encoder.eu](http://www.eltra-encoder.eu)
EAM 36 A

**ELECTRICAL SPECIFICATIONS**

**Multiturn resolution**
turns from 1 to 39 bit

**Singleturn resolution**
ppr from 1 to 12 bit

**Power supply**
5 V = 4.75 ... 5.25 V DC
8/30 = 7.6 ... 30 V DC (reverse polarity protection)

**Power draw without load**
< 400 mW

**Output type**
RS-422

**Code type**
binary or gray

**Auxiliary inputs (U/D - Reset)**
active high (+Vdc) connect to 0V if not used / Reset tmin 150 ms

**Clock frequency**
100 kHz ... 1 MHz

**SSI monostable time (Tm)**
20 µs

**SSI pause time (Tp)**
> 35 µs

**SSI frame**
Tree format (MSB ... LSB)
up to 12 bit multiturn = length 25 bit (12MT + 12ST + '0')
13 to 14 bit multiturn = length 27 bit (14MT + 12ST + '0')
15 to 19 bit multiturn = length 32 bit (19MT + 12ST + '0')

**Accuracy**
± 0.35° typical

**Counting direction**
decreasing clockwise (shaft view)

**Start-up time**
150 ms

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

**MECHANICAL SPECIFICATIONS**

**Shaft diameter**
Ø 6 mm

**Enclosure rating**
IP 67 cover side / IP 65 shaft side (IEC 60529)

**Rotation speed**
8000 rpm continuous / 10000 rpm max

**Max shaft load**
20 N axial / radial

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

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

**Moment of inertia**
0.001 x 10^-6 kgm²

**Starting torque**
(at +20°C / +68°F)
< 0.01 Nm

**Shaft material**
1.4305 / AISI 303 stainless steel

**Housing material**
AISI 420 stainless steel

**Bearing stage material**
EN-AW 2011 aluminium

**Bearings**
2 ball bearings

**Bearings life**
10⁷ revolutions

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

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

**Weight**
150 g (5.29 oz)

**CONNECTIONS**

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<th>Cable output</th>
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<td>0 Volt</td>
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<td>data +</td>
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<td>clock -</td>
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<tr>
<td>U / D</td>
<td>red / blue</td>
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