EH - EF 80 C / P / K
BLIND / THROUGH HOLLOW SHAFT
INCREMENTAL ENCODER

ORDERING CODE

<table>
<thead>
<tr>
<th>SERIES</th>
<th>EF</th>
<th>80C</th>
<th>6</th>
<th>L</th>
<th>500</th>
<th>S</th>
<th>5</th>
<th>L</th>
<th>8</th>
<th>X</th>
<th>3</th>
<th>PR</th>
<th>XXX</th>
</tr>
</thead>
</table>

**MODELS**
- Blind hollow shaft 80C
- Through hollow shaft 80P
- Blind hollow shaft with rear fixing 80K

**MOD. EF - MOTOR POLES**
- 4 poles (2 poles pair) 4
- 6 poles (3 poles pair) 6
- 8 poles (4 poles pair) 8

**MOD. EF - ELECTRONIC INTERFACE FOR COMMUTATION SIGNALS**
- NPN open collector C
- Line driver RS-422 L

**RESOLUTION**
ppr from 200 to 2048
see table for pulses availability

**ZERO PULSE**
- without zero pulse S
- with zero pulse Z

**POWER SUPPLY**
- 5 V DC (mod. EH, with L or PC electronic interface)
- 8 ... 24 V DC (8/24)
- 28 V DC (with L electronic interface) 5 V DC 5
- 28 V DC (mod. EH) 5 ... 28 V DC 5/28

**ELECTRONIC INTERFACE**
- NPN open collector C
- Push-pull P
- Line driver L
- Power supply 5/28V - output RS-422 RS

**BORE DIAMETER**
- mm 8
- mm 10
- mm 14
- mm 15

**ENCLOSURE RATING**
- IP 54 X

**MAX ROTATION SPEED**
- 3000 rpm 3
- 6000 rpm 6

**OUTPUT TYPE**
- Radial cable (standard length 0.3 m) PR

**VARIANT**
- Custom version XXX

**SPECIFICATIONS**

- Ø 80 mm encoder series recommended in feedback control systems on AC servomotors. They include a traditional incremental encoder and commutation signals (Hall effect phases).
- Easy mechanical mounting
- Small dimensions
- Wide range of resolutions available
- High temperature resistance

**EL series**
- Basic version with 3 channels incremental outputs. Several output types available

**EF series**
- 6 channels encoder with optical generation of “Hall effect phases” (commutation signals)
- Signal transmission by bit parallel bus

---

www.eltra-trade.com

tel: +421 552 601 099
e-mail: info@eltra-trade.com
**ELECTRICAL SPECIFICATIONS**

- **Resolution**: from 200 to 2048 ppr
- **Power supply**:
  - $5 = 4.5 \ldots 5.5$ V DC
  - $5/28 = 4.75 \ldots 29.4$ V DC (EH series)
  - $8/24 = 7.6 \ldots 25.2$ V DC (reverse polarity protection EH series)
- **Current consumption without load**:
  - $100$ mA max (EH series)
  - $200$ mA max (EF series)
- **Max load current**: $20$ mA / channel
- **Output type (EH series)**: NPN / NPN open collector / push-pull / line driver
- **Output type for incremental signals (EF series)**: line driver RS-422
- **Output type for Hall phases**: NPN open collector (pullup max +30V DC) line driver RS-422
- **Max output frequency**: $105$ kHz
- **Counting direction**: A leads B clockwise (shaft view)
- **Electromagnetic compatibility**:
  - IEC 61000-6-2
  - IEC 61000-6-4

**MECHANICAL SPECIFICATIONS**

- **Bore diameter**: ø 8 / 10 / 14 / 15 mm
- **Enclosure rating**: IP 54 (IEC 60529)
- **Max rotation speed**:
  - 3000 rpm (mod.P)
  - 6000 rpm (mod.C / K)
- **Shock**: 50 G, 11 ms (IEC 60068-2-27)
- **Vibration**:
  - 20 G, 10 ... 2000 Hz (IEC 60068-2-6)
  - Moment of inertia: $4 \times 10^{-6}$ kgm²
  - Starting torque (at +20°C / +68°F): < 0.04 Nm
  - Body material: PA66 glass fiber reinforced
  - Material: 1.4305 / AISI 303 stainless steel
  - Housing material: PA66 glass fiber reinforced
  - Bearings: 2 ball bearings
  - Bearings life: 10⁶ revolutions
- **Operating temperature**: -20° ... +85°C (-4° ... +185°F)
- **Storage temperature**: -25° ... +85°C (-13° ... +185°F)
- **Fixing torque for grub screws**: max 0.75 Nm

**RESOLUTIONS**

- 200 6 poles
- 250 6 poles
- 500 4 / 6 / 8 poles
- 1000 4 / 6 poles
- 2000 6 poles
- 2048 6 poles

**CONNECTIONS**

- **EH cable output N / C / P**: +V DC = red, B = black, Ch. A = green, Ch. B = yellow, Ch. Z = blue, Ch. A- = brown, Ch. B- = orange, Ch. Z- = white, Ch. U = gray, Ch. V = violet, Ch. U- = gray-pink, Ch. W = white-green, Ch. W- = brown-green
- **EF cable output Line driver**: +V DC = red, 0 V = black, Ch. A = green, Ch. B = yellow, Ch. Z = blue, Ch. U = gray, Ch. V = violet, Ch. U- = gray-pink, Ch. W = white-green, Ch. W- = brown-green

**ACCESSORIES**

- **Antirotation pin**
  - Description: Antirotation pin
  - P/N: 23240008
  - Thread: M5
  - HEX: 7

**Connect dimensions in mm**

www.eltra-trade.com  

tel: +421 552 601 099  
e-mail: info@eltra-trade.com