

# Rotary Measuring Technology

## Incremental hollow shaft encoder

### High resolution Type ENI 58HA



- Only 42 mm clearance needed
- Very easy mounting. The encoder is mounted directly on the drive shaft without couplings. This saves up to 30 % cost and 60 % clearance compared to shaft versions
- Resolution up to 36000 ppr (internally interpolated)
- Many variations
- Temperature and ageing compensation
- Short-circuit proof outputs
- Reverse connection protection for voltage supply
- RS 422 or push-pull output
- IP 66
- Alarm output (optional)
- available as explosion proof zone 2 and 22

#### Mechanical characteristics:

Speed without sealing:	max. 12000 min <sup>-1</sup>
Speed with sealing <sup>1)</sup> :	max. 6000 min <sup>-1</sup>
Rotor moment of inertia:	approx. 6 x 10 <sup>-6</sup> kg m <sup>2</sup>
Starting torque without sealing:	< 0.01 Nm
Starting torque with sealing:	< 0.05 Nm
Weight:	approx. 0.4 kg
Protection acc. to EN 60 529 without sealing:	IP 40
Protection acc. to EN 60 529 with sealing:	IP 66
Working temperature without sealing:	-20 °C ... +85 °C <sup>2)3)</sup>
Working temperature with sealing:	-20 °C ... +80 °C <sup>2)3)</sup>
Operating temperature without sealing:	-20 °C ... +90 °C <sup>2)4)</sup>
Operating temperature with sealing:	-20 °C ... +85 °C <sup>2)4)</sup>
Shaft:	stainless steel, H7
Shock resistance acc. to DIN-IEC 68-2-27	2000 m/s <sup>2</sup> , 6 ms
Vibration resistance acc. to DIN-IEC 68-2-6:	100 m/s <sup>2</sup> , 10...2000 Hz

<sup>1)</sup> For continuous operation max. 3000 min<sup>-1</sup> ventilated

<sup>2)</sup> Non-condensing

<sup>3)</sup> 70 °C with Cable

<sup>4)</sup> 80 °C with Cable

#### Pulse rates available at short notice:

7200, 8000, 8192, 9000, 10000, 18000, 20000, 24000, 25000, 36000

Other pulse rates on request

#### Electrical characteristics:

Output circuit:	RS 422 (TTL-compatible)	Push-pull
Supply voltage:	5 V (±5 %) or 10 ... 30 V DC	10 ... 30 V DC
Power consumption (no load) without inverted signal:	not available	typ. 90 mA / max. 135 mA
Power consumption (no load) with inverted signals:	typ. 70 mA / max. 120 mA	typ. 115 mA / max. 160 mA
Permissible load/channel:	max. ±20 mA	max. ±30 mA
Pulse frequency:	max. 800 kHz	max. 600 kHz
Signal level high:	min. 2.5 V	min. U <sub>B</sub> – 2.5 V
Signal level low:	max. 0.5 V	max. 2.0 V
Rise time t <sub>r</sub>	max. 200 ns	max. 1 μs
Fall time t <sub>f</sub>	max. 200 ns	max. 1 μs
Short circuit proof outputs: <sup>1)</sup>	yes <sup>2)</sup>	yes
Reverse connection protection at U <sub>B</sub> :	5 V: no; 10 ... 30 V: yes	yes

Conforms to CE requirements acc. to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3

<sup>1)</sup> If supply voltage correctly applied

<sup>2)</sup> Only one channel allowed to be shorted-out:

(If U<sub>B</sub>=5 V, short-circuit to channel, 0 V, or +U<sub>B</sub> is permitted)

(If U<sub>B</sub>=5-30 V, short-circuit to channel or 0 V is permitted)



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Order code:

ENI 58HA.XXXX.XXXXX

Range

Bracket

- 1 = Bracket for through shaft
- 2 = Bracket for blind hole shaft\*
- 3 = Bracket for through shaft and stator coupling**
- 4 = Bracket for blind hole shaft\* and stator coupling

\*length of drive shaft ≤ 30 mm

Shaft

- 1 = ø 6 mm without sealing
- 2 = ø 6 mm with sealing**
- 3 = ø 8 mm without sealing
- 4 = ø 8 mm with sealing
- 5 = ø 10 mm without sealing
- 6 = ø 10 mm with sealing**
- 7 = ø 12 mm without sealing
- 8 = ø 12 mm with sealing**

further on request

Pulse rate

(e.g. 36000 pulses=> 36000)

Type of connection

- 1 = Cable radial (1 m PVC-cable)
- 2 = radial 12 pin plug without mating connector**

Output circuit and voltage display

- 1 = RS 422 (with inverted signal)  
5 V supply voltage**
- 2 = Push-pull (without inverted signal)  
10 ... 30 V supply voltage
- 3 = Push-pull (with inverted signal)  
10 ... 30 V supply voltage**
- 4 = RS 422 (with inverted signal)  
10 ... 30 V supply voltage