


# Rotary Measuring Technology

## Incremental hollow shaft encoder

### Standard Type ENI 58L



- 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.
- Preferred model features; limited variations at economic pricing
- Temperature and ageing compensation
- Short-circuit proof outputs
- Resolution up to 5000 ppr
- Protection up to IP 66
-  available as explosion proof zone 2 and 22

#### Mechanical characteristics:

Speed <sup>1)</sup> :	max. 6000 min <sup>-1</sup>
Rotor moment of inertia:	approx. 6 x 10 <sup>-6</sup> kgm <sup>2</sup>
Starting torque:	< 0.05 Nm
Weight:	approx. 0.4 kg
Protection acc. to EN 60 529:	IP 65
Working temperature:	-20° C ... +70 °C <sup>2)</sup>
Operating temperature:	-20° C ... +70 °C <sup>2)</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

#### Pulse rates available at short notice:

10, 20, 25, 30, 50, 60, 100, 120, 125, 127, 150, 180, 200, 216, 240, 250, 254, 256, 300, 314, 360, 375, 400, 500, 512, 600, 625, 720, 745, 750, 762, 800, 900, 927, 1000, 1024, 1250, 1270, 1400, 1500, 1800, 2000, 2048, 2250, 2400, 2500, 3000, 3600, 4000, 4096, 5000

Other pulse rates on request

#### Electrical characteristics RS 422 :

Output circuit:	RS 422 (TTL-compatible)	Push-pull	Push-pull
Supply voltage:	5 V (±5%)	10 ... 30 V DC	5 ... 30 V DC
Power consumption (no load) without inverted signal:	—	typ. 55 mA / max. 125 mA	typ. 55 mA / max. 125 mA
Power consumption (no load) with inverted signals:	typ. 70 mA / max. 90 mA	—	—
Permissible load/channel:	max. ±20 mA	max. ±30 mA	max. ±30 mA
Pulse frequency:	max. 300 kHz	max. 300 kHz	max. 300 kHz
Signal level high:	min. 2.5 V	min. U <sub>B</sub> -2.5 V	min. U <sub>B</sub> -1.5 V
Signal level low:	max. 0.5 V	max. 2.0 V	max. 2.0 V
Rise time t <sub>r</sub>	max. 200 ns	max. 1 μs	max. 1 μs
Fall time t <sub>f</sub>	max. 200 ns	max. 1 μs	max. 1 μs
Short circuit proof outputs: <sup>1)</sup>	yes <sup>2)</sup>	yes	yes
Reverse connection protection at UB:	no	yes	no
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 UB=5 V, short-circuit to channel, 0 V, or +UB is permitted)

### Standard Type ENI 58L

#### Terminal assignment

Sig.:	0 V	0 V Sens <sup>2)</sup>	+U <sub>B</sub>	+U <sub>B</sub> Sens <sup>2)</sup>	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	
Col.:	WH	GY PK	BN	BU RD	GN	YE	GY	PK	BU	RD	

1) PH = Shield is attached to connector housing

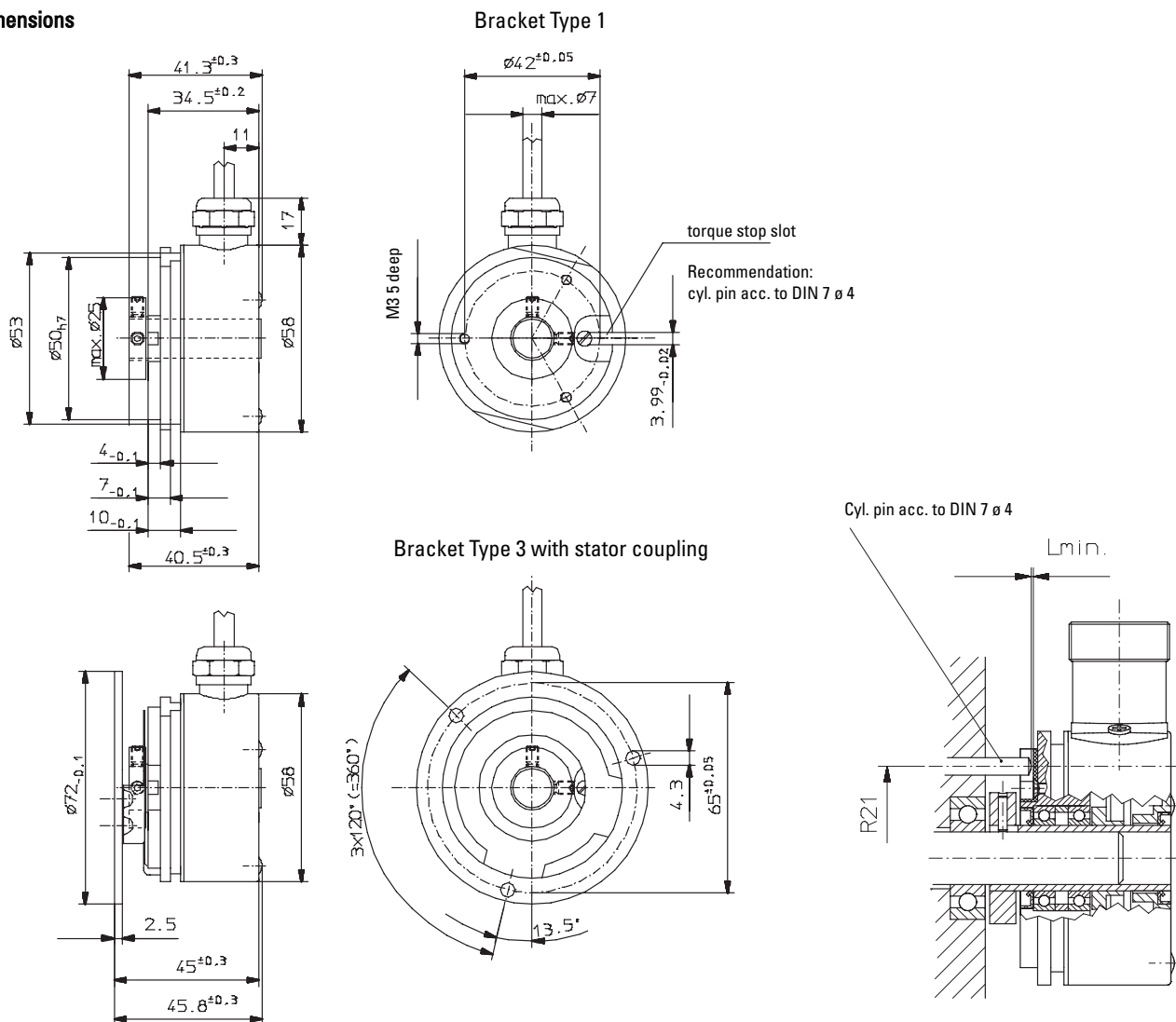
2) Sensor cables are connected to the supply voltage internally and if long feeder cables are involved can be used for adjusting or controlling the voltage at the encoder

If sensor cables are not in use, they have to be insulated or 0 V Sensor has to be connected to 0 V and U<sub>B</sub>Sensor has to be connected to U<sub>B</sub>.

Using RS 422 outputs and long cable distances, a wave impedance has to be applied at each cable end.

**Insulate unused outputs before initial startup.**

#### Dimensions



Note: minimum insertion depth 1.5 x D<sub>hollow shaft</sub>

#### Mounting advice:

- 1) The brackets and shafts of the encoder and drive should not both be rigidly coupled together at the same time
- 2) When mounting a hollow shaft encoder, we recommend using a torque stop pin or a stator coupling.
- 3) When mounting the encoder ensure that the dimension Lmin. is larger than the maximum axial play of the drive. Otherwise there is a danger that the device could mechanically seize up.

### Standard Type ENI 58L

Order code:

ENI 58L.XXXX.XXXX

