

# Rotary Measuring Technology

## Incremental shaft encoder

### Compact Type 3600



- High-quality miniature model
- High mechanical protection
- Lightweight
- Broad input voltage range (5 V or 10 ... 30 V)
- Highly flexible cable with stands constant flexing from 0 up to 70 °C)
- Low power consumption despite high scanning rate
- Electronic temperature and ageing compensation

- available as explosion proof zone 2 and 22

#### Mechanical characteristics:

Speed:	max. 12000 min <sup>-1</sup>
Rotor moment of inertia:	approx. 0.27 x 10 <sup>-6</sup> kgm <sup>2</sup>
Starting torque:	< 0.007 Nm
Radial load capacity of shaft:	15 N
Axial load capacity of shaft:	10 N
Weight:	approx. 0.1 kg
Protection acc. to EN 60 529:	IP 66
Working temperature:	0° C ... +70 °C <sup>2)</sup>
Operating temperature:	0° C ... +80 °C <sup>2)</sup>
Shaft:	stainless steel g7
Shock resistance acc. to DIN-IEC 68-2-27	1000 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>2)</sup> Non-condensing

#### Pulse rates available at short notice:

15, 50, 60, 90, 100, 180, 200, 250, 300, 314, 360, 400, 500, 600, 625, 635, 720, 900, 1000, 1024, 1080, 1200, 1250, 1500, 1600, 2000, 2500, 3600

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. 55 mA / max. 125 mA
Power consumption (no load) with inverted signals:	typ. 40 mA / max. 100 mA	typ. 80 mA / max. 150
Permissible load/channel:	max. ±10 mA	max. ±30 mA
Pulse frequency:	max. 125 kHz	max. 100 kHz
Signal level high:	min. 2.5 V	min. U <sub>B</sub> = -3 V
Signal level low:	max. 0.5 V	max. 0.5 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:	yes <sup>1)</sup>	no
Conforms to CE requirements acc. to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3		

<sup>1)</sup> Only one channel allowed to be shorted-out:  
 (If U<sub>B</sub> = 5V, short-circuit to channel, 0 V, or +U<sub>B</sub> is permitted)  
 (If U<sub>B</sub> = 10 ... 30 V short-circuit to channel or 0 V is permitted)

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### Terminal assignment

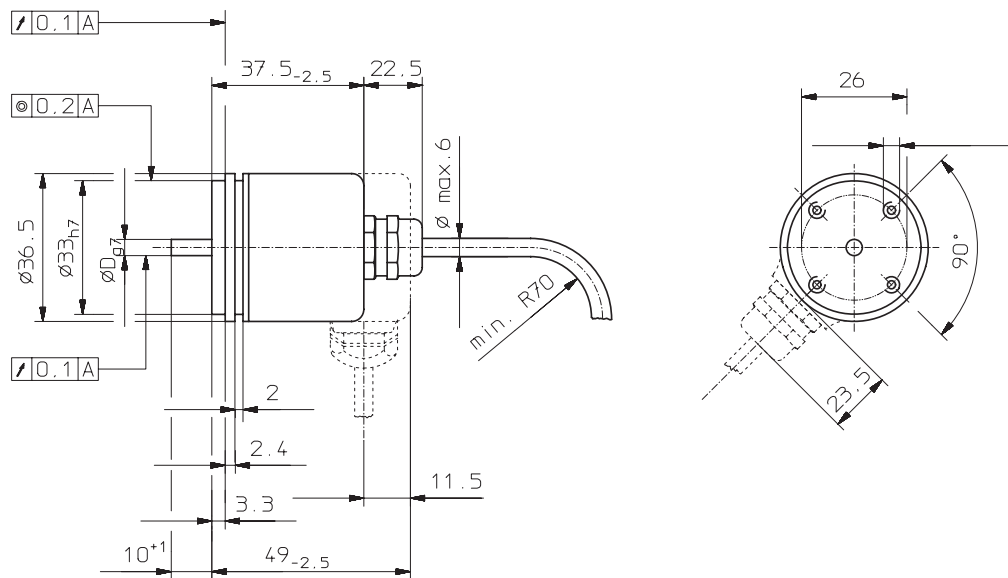
Signal:	0 V	0 V Sensor <sup>1)</sup>	+U <sub>B</sub>	+U <sub>B</sub> Sensor <sup>1)</sup>	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	Shield
Colour:	WH	GY PK	BN	BU RD	GN	YE	GY	PK	BU	RD	BK WH

<sup>1)</sup> 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



### Mounting advice:

The brackets and shafts of the encoder and drive should not both be rigidly coupled together at the same time! We recommend the use of suitable couplings (see Accessories section).

### Order code:

8.3600.XXXX.XXXX

Range	
Bracket	
Shaft (ø x L)	
	1 = 4 x 10 mm
	<b>2 = 6 x 10 mm with flat</b>

Pulse rate  
(e.g. 250 pulses=> 0250)

Type of connection  
1 = Cable axial (1 m PVC-Cable)  
**2 = Cable radial (1 m PVC-Cable)**

Output and voltage supply  
**1 = RS422:**  
**5 V supply voltage**  
2 = RS422:  
10 ... 30 V supply voltage  
**3 = Push-pull with inverted signals**  
**10 ... 30 V supply voltage**

*Preferred types are indicated in **bold***