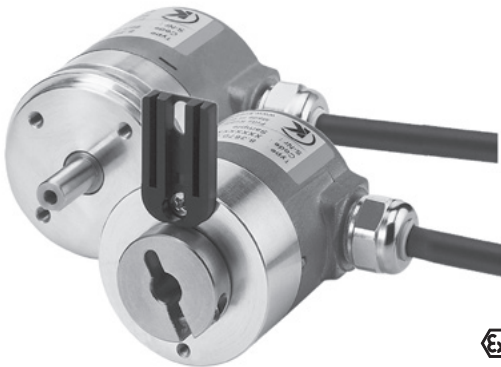


# Absolute Encoders - Singleturn

Compact, magnetic

Sendix 3650 / 3670 (Shaft / Hollow shaft)

SSI



The Sendix 3650 and Sendix 3670 singleturn encoders with SSI interface and magnetic sensor technology boast a resolution of 9 bits.

With a protection rating of up to IP69k, these encoders are resistant to shock and to extreme fluctuations in temperature, making them ideal for use in the most demanding outdoor applications.



Safety-Lock™



High rotational speed



-40° +85°

Temperature



High IP value



High shaft load capacity



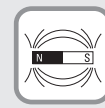
Shock / vibration resistant



Short-circuit proof



Reverse polarity protection



Magnetic sensor



Seawater-resistant version on request

## Safe Use

- Non-contact measurement system offers a long-service life, free of wear
- Rugged die-cast housing and IP protection up to 69K for perfect sealing
- High resistance to shock and vibration for excellent durability

## Compact and powerful

- Outer diameter of only 36 mm
- Hollow shaft version can accommodate a blind hollow shaft of up to 10 mm, which can be fixed individually via a torque stop pin or stator coupling.
- 360° with 9 bit resolution (512 positions)

## Order code Shaft version

8.3650 . 2X22 . B9XX

If for each parameter of an encoder the underlined preferred option is selected, then the delivery time will be 10 working days for a maximum of 10 pieces. Qts. up to 50 pcs. of these types generally have a delivery time of 15 working days.



**a** Flange  
2 = synchro flange

**b** Shaft (ø x L),  
with flat  
3 = ø 6 x 12,5 mm  
5 = ø 6,35 (1/4") x 12,5 mm

**c** Output circuit/  
Power supply  
2 = SSI / 5 ... 30 V DC

**e** Code type and Division  
B9 = 9 bit binary

**g** Option 2 *optional on request*  
1 = IP67 - Ex 2/22  
2 = IP69K - seawater-resistant  
- special cable length

**d** Type of connection  
2 = radial cable (1 m PUR)

**f** Option 1  
1 = count direction cw <sup>1)</sup>  
2 = count direction ccw <sup>1)</sup>

## Order code Hollow shaft

8.3670 . XXX2 . B9XX

If for each parameter of an encoder the underlined preferred option is selected, then the delivery time will be 10 working days for a maximum of 10 pieces. Qts. up to 50 pcs. of these types generally have a delivery time of 15 working days.



**a** Flange  
2 = with torque stop set  
5 = with stator coupling

**b** Hollow shaft  
2 = ø 6 mm  
3 = ø 6.35 mm (1/4")  
4 = ø 8 mm  
6 = ø 10 mm

**c** Output circuit/  
Power supply  
2 = SSI / 5 ... 30 V DC

**e** Code type and Division  
B9 = 9 bit binary

**g** Option 2 *optional on request*  
1 = IP67 - Ex 2/22  
2 = IP69K - seawater-resistant  
- special cable length

**d** Type of connection  
2 = radial cable (1 m PUR)

**f** Option 1  
1 = count direction cw <sup>1)</sup>  
2 = count direction ccw <sup>1)</sup>

## Mounting accessory for shaft encoders

### Coupling

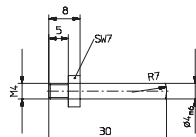
Bellows coupling ø 19 mm for shaft 6 mm

8.0000.1101.0606

## Mounting accessory for hollow shaft encoders

### Cylindrical pin, long

for torque stops



With fixing thread

8.0010.4700.0000

Further accessories can be found in the Accessories section or in the Accessories area of our website at: [www.kuebler.com/accessories](http://www.kuebler.com/accessories).

Additional connectors can be found in the Connection Technology section or in the Connection Technology area of our website at: [www.kuebler.com/connection\\_technology](http://www.kuebler.com/connection_technology).

1) cw = Increasing code values when shaft turning clockwise (cw).  
Top view on shaft

# Absolute Encoders - Singleturn

**Compact, magnetic**      **Sendix 3650 / 3670 (Shaft / Hollow shaft)**      **SSI**

| Mechanical characteristics                           |  |
|--|--|
| <b>Max. speed</b>                                    | 6000 min <sup>-1</sup>   |
| <b>Starting torque</b>                               | < 0.06 Nm  |
| <b>Load capacity of shaft</b>                        | radial 40 N<br>axial 20 N  |
| <b>Weight</b>  | approx. 0.2 kg   |
| <b>Protection EN 60 529/DIN 40050-9</b>              | IP67 / IP69k   |
| <b>EX approval for hazardous areas</b>               | optional Zone 2 and 22   |
| <b>Working temperature range</b>                     | -40°C ... +85°C  |
| <b>Materials</b>                                     | shaft / hollow shaft stainless steel<br>flange aluminium<br>housing zinc die-cast housing<br>cabel PUR |
| <b>Shock resistance acc. EN 60068-2-27</b>           | 5000 m/s <sup>2</sup> , 6 ms   |
| <b>Vibration resistance acc. EN 60068-2-6</b>        | 300 m/s <sup>2</sup> , 10 ... 2000 Hz  |
| <b>Permanent shock resistance acc. EN 60068-2-27</b> | 1000 m/s <sup>2</sup> , 2 ms   |
| <b>Vibration (broad-band random) EN 60068-2-64</b>   | 5 ... 2500 Hz, 100 m/s <sup>2</sup>  |

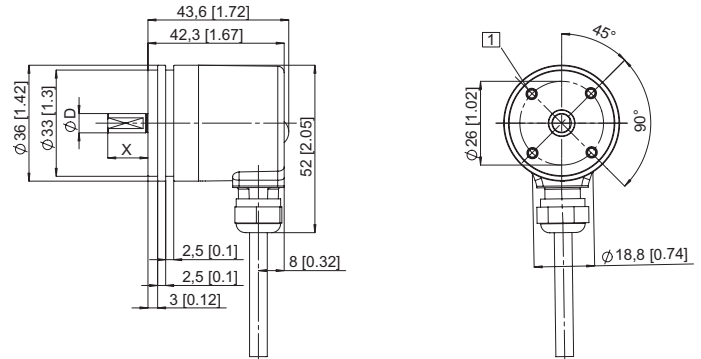
| Electrical characteristics SSI Interface        |   |
|---|---|
| <b>Sensor</b>                                   |   |
| <b>Supply voltage</b>                           | 5 ... 30 V DC <sup>1)</sup>   |
| <b>Current consumption (no load)</b>            | max. 41 mA  |
| <b>Reverse connection of the supply voltage</b> | yes   |
| <b>Measuring range</b>                          | 360°  |
| <b>Resolution</b>                               | 9 bit / Binary (512 steps)  |
| <b>Linearity</b>                                | < 1.0 %   |
| <b>Repeat accuracy (25°C)</b>                   | < 0.2 %   |
| <b>Status LED</b>                               | green reference point display turns ON at 2.1°  |
| <b>RoHS compliant acc. to</b>                   | EU guideline 2002/95/EG   |
| <b>CE compliant acc. to</b>                     | EN 61000-6-2, EN 61000-6-4, EN 61000-6-3, EN 61000-4-8 (behaviour under magnetic influence) |
| <b>SSI interface</b>                            |   |
| <b>SSI clock rate</b>                           | 100 kHz ... 750 kHz   |
| <b>Output driver</b>                            | RS485   |
| <b>Monoflop time typ / max.</b>                 | 16 µs / 20 µs   |
| <b>Short circuit proof outputs</b>              | yes <sup>2)</sup>   |
| <b>Permissible load / channel</b>               | typ. 120 Ohm (acc. to RS485)  |

### Terminal assignment

| Signal       | 0V | +U <sub>B</sub> | 0 V Sens | +U <sub>B</sub> Sens | +T | -T | +D | -D |
|--------------|----|-----------------|----------|----------------------|----|----|----|----|
| Cable colour | WH | BN              | BU       | RD                   | GN | YE | GY | PK |

### Dimensions shaft version

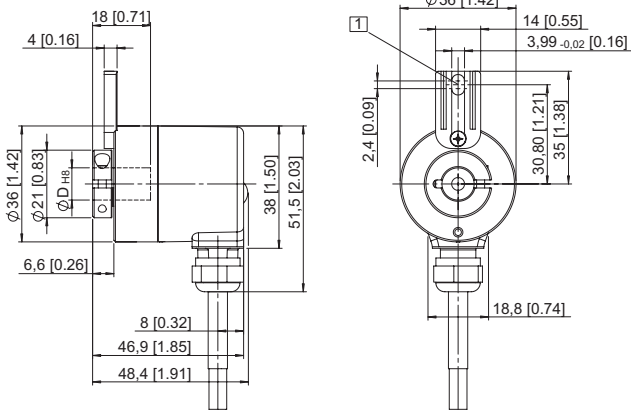
Synchro flange, ø 36 mm



1) M3, 6 [0.24] deep

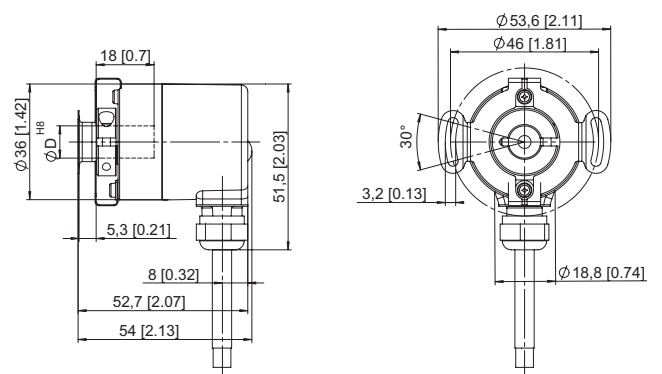
### Dimensions hollow shaft version

with torque stop set, ø 36 mm



1) Torque stop slot, Recommendation: Cylindrical pin DIN7, ø 4 mm

with stator coupling, ø 36 mm



1) The supply voltage at the encoder input must not be less than 4.75 V (5 V - 5%).  
2) Short-circuit proof to 0 V or output, only one channel at a time, when supply voltage is correctly applied.