

# Rotary Measuring Technology

## Absolute singleturn encoder shaft version

### Standard Type 5852



- Parallel interface
- Highest shock resistance on the market (>2500 m/s<sup>2</sup>, 6 ms acc. to DIN IEC 68-2-27)
- Improved EMC characteristics
- Divisions: up to 2000 Gray-Excess or up to 16384 (14 bits) gray, singleturn
- Ø 58 mm shaft version
- IP 65
- Count direction reversible
- Temperature and ageing compensation

- Short-circuit proof outputs
- Integrativ Technology®  
Patented new type of construction integrates all components; use of an opto-asic and 6-layer multilayer technology now on just a single PCB
- resolution up to 14 bits.
- available as explosion proof zone 2 and 22

#### Mechanical characteristics:

|  |   |
|--|---|
| Speed:                                       | max. 12000 min <sup>-1</sup>                  |
| Rotor moment of inertia:                     | appr. 1,8 x 10 <sup>-6</sup> kgm <sup>2</sup> |
| Starting torque:                             | < 0,01 Nm                                     |
| Radial load capacity of shaft*:              | 80 N  |
| Axial load capacity of shaft*:               | 40 N  |
| Weight:                                      | appr. 0,4 kg                                  |
| Protection acc. to EN 60 529:                | IP 65   |
| Working temperature:                         | -20° C ... +80 °C <sup>1)</sup>               |
| Operating temperature:                       | -20° C ... +85 °C                             |
| Shaft:                                       | stainless steel                               |
| Shock resistance acc. to DIN-IEC 68-2-27     | 2500 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           |

\*See page 21

<sup>1)</sup>70 °C at 14 bits version

#### Divisions and code types available at short notice

360 Gray-Excess  
1000 Gray-Excess  
1440 Gray-Excess  
2000 Gray-Excess  
1024 (10 Bit) Gray  
4096 (12 Bit) Gray  
8192 (13 Bit) Gray  
16384 (14 Bit) Gray

Other divisions and code types on request

#### Electrical characteristics:

|   |                 |                             |
|---|-----------------|-----------------------------|
| Interface type:   | Parallel        | Parallel                    |
| Supply voltage (U <sub>B</sub> ):   | 5 V DC (± 5 %)  | 10 ... 30 V DC              |
| Output driver:  | CMOS-TTL        | Push-pull                   |
| Current consumption type.:  | 40 mA           | 100 mA                      |
| (no load) max.:   | 75 mA           | 159 mA                      |
| Permissible load/channel:   | max. +0,5/-2 mA | max. +/-10 mA               |
| Word change frequency   | 40.000/s        | 40.000/s                    |
| Signal level high:  | min. 3,4 V      | min. U <sub>B</sub> - 2,8 V |
| Signal level low  | max. 0,3 V      | max. 1,8 V                  |
| Rise time t <sub>r</sub> (without cable):                                       | max. 0,2 μs     | max. 1 μs                   |
| Fall time t <sub>f</sub> (without cable):                                       | max. 0,2 μs     | max. 1 μs                   |
| Short circuit proof outputs: <sup>1)</sup>                                      | yes             | yes                         |
| Reverse connection protection at UB:  | no              | yes                         |
| Conforms to CE requirements acc. to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3 |                 |                             |

<sup>1)</sup> When supply voltage correctly applied U<sub>B</sub>

#### Reverse count direction:

(Only at output type 3 and up to 13 bits gray code available)

#### Normal operation:

Rising code values when shaft turning clockwise (cw). Falling code values when shaft turning counterclockwise (ccw)

#### Reverse operation:

Output MSB inverted (pin 16) instead of output MSB (pin 3) connected. Falling code values when shaft turning clockwise (cw). Rising code values when shaft turning counterclockwise (ccw), top view of shaft.

# Rotary Measuring Technology

## Absolute singleturn encoder shaft version

### Standard Type 5852

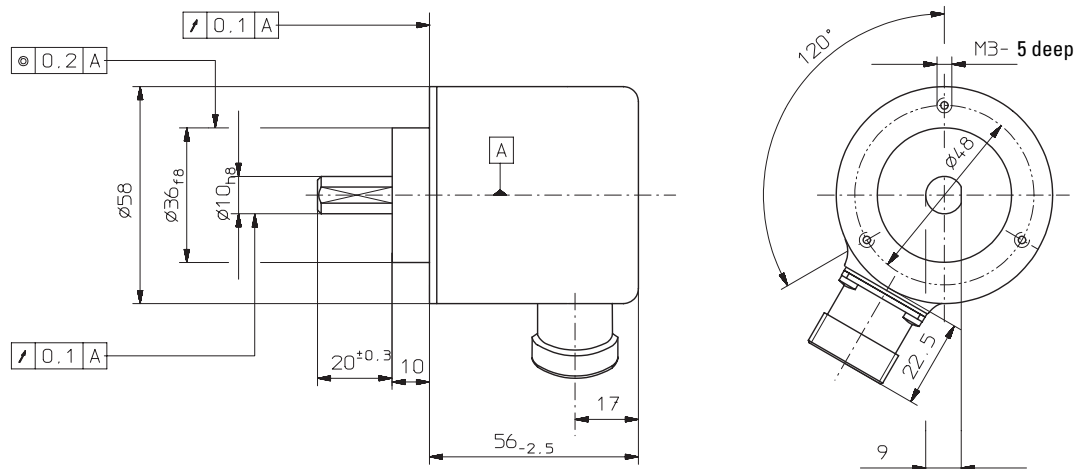
#### Terminal assignment

|       |    |                 |    |    |    |    |    |    |    |    |    |    |    |    |    |      |    |    |  |
|-------|----|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|------|----|----|--|
| Sig.: | 0V | +U <sub>B</sub> | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14/1 |    | ⏏  |  |
| Col.: | WH | BN              | GN | YE | GY | PK | BU | RD | BK | VT | GY | RD | WH | BN | WH | YE   |    |    |  |
| Pin:  | 1  | 2               | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16   | 17 | PH |  |

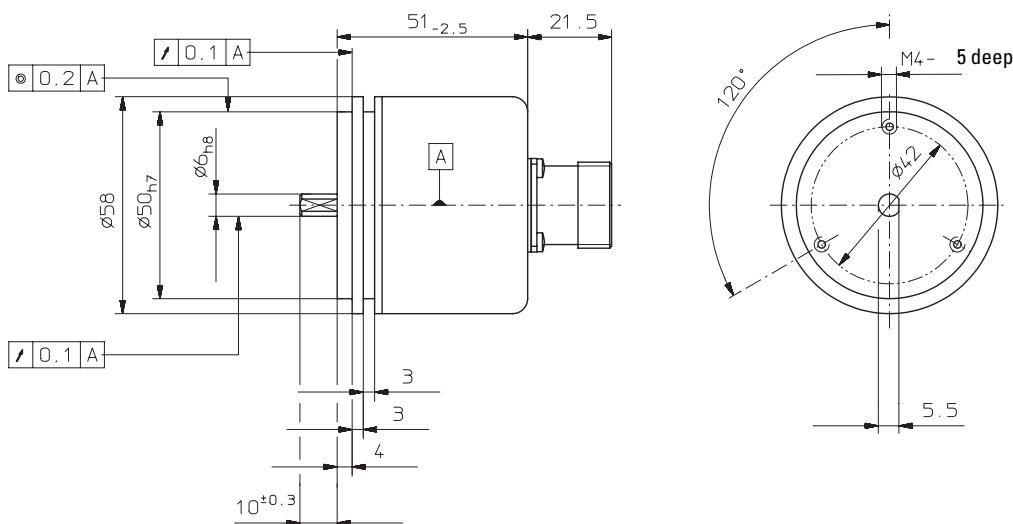
- Signal: 1 = MSB; 2 = MSB-1; 3 = MSB-2 etc.
- T: Only at output type 3 up to 13 bits. MSB to reverse the count direction
- PH: Plug housing
- Insulate unused outputs before initial start-up

#### Dimensions:

##### Clamping flange with shaft $\varnothing 10$



##### Synchronous flange with shaft $\varnothing 6$ mm



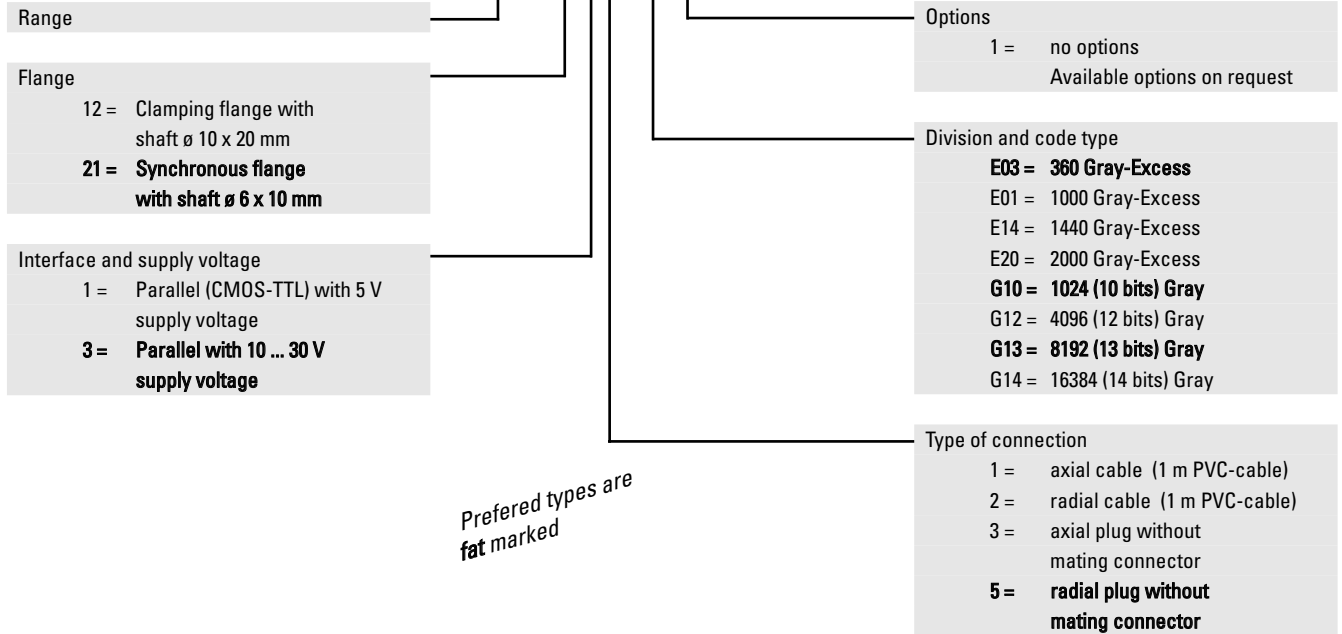
#### Mounting advice:

Do not connect encoder and drive rigidly to one another at shafts and flanges! Always use couplings to prevent shaft overload (see accessories chapter).

### Standard Type 5852

Order code:

8.5852.XXXX.XXXX



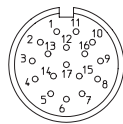
### Accessories

Corresponding mating connector to Type of connection 3 or 5, 17 pin: Art.-No. 8.0000.5042.0000 pin assignment cw

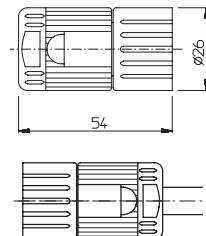
Corresponding mating connector with cable pre-assembled: Art.- No. 8.0000.6101.XXXX (XXXX = length [m])

Set includes Connector typ 8.0000.5012.0000 and cable typ 8.0000.6741.XXXX (Cable PVC18 x 0,14 mm<sup>2</sup>)

PIN allocation:



Dimensions:



### Mounting kit for hollow shaft encoder $\varnothing$ 58 mm:

Various mounting variations can be supplied

Delivery includes:

- 1 x cylindric pin with thread  
Ord.-No. 8.0010.4700.0000
- 1 x mounting bracket  
Art.-no. T.035.009
- Screw M3x5  
Ord.-No. N.630.305
- 1 x long torque support slot  
Ord.-No. T.051.672

Complete set:

Ord.-No. 8.0010.4600.0000

### Stator coupling two wings

– for high dynamic application

Includes:

- 1x coupling two wings
- 2x 2 screws

### Complete as set:

Order-No.: 8.0010.4D00.0000  
(see page 235)

### Tether arm short

Order-No.: 8.0010.4R00.0000  
(see page 238)