

### Special features

- Contactless measuring principle
- Separate magnet carrier unit for integrated installation into axle-bearings or revolute joints
- Compact housing
- Redundant design for safety relevant applications available
- Extremely rugged construction housing out of sea-water-proof aluminum.
- High resolution
- Available in various versions (see ordering specifications). Customized versions on request



### Electrical data

|  |  |
|--|--|
| <b>Measuring range</b>   | $\pm 35^\circ$ , $\pm 45^\circ$ , $\pm 60^\circ$ , $\pm 90^\circ$ , $\pm 135^\circ$ , $\pm 175^\circ$<br>other measuring ranges on request |
| <b>Signal output range</b>   | 0.25 V ... 4.75 V (2.5 V in center position)   |
| <b>Supply voltage</b>  | +9 VDC ... +34 VDC (nominal +24 VDC)   |
| <b>Current consumption</b>   | 25 mA max  |
| <b>Output current</b>  | $\leq 1$ mA ( $\leq 0.05$ mA for specified accuracy)   |
| <b>Output resistance</b>   | $\leq 100 \Omega$  |
| <b>External voltage on signal output</b>   | $\leq 34$ V  |
| <b>Resolution</b>  | 12 Bit   |
| <b>Repeat accuracy</b>   | $\leq 0.1^\circ$   |
| <b>Linearity</b><br>(für $\pm 35^\circ$ , $\pm 45^\circ$ , $\pm 60^\circ$ , assigned magnet carrier) | $\leq \pm 0.75$ % of measuring range   |
| <b>Linearity</b><br>(all measuring range, without magnet carrier assignment)                         | $\leq \pm 1.2$ % of measuring range  |
| <b>Linearity at 1 mm installation displacement</b>   | $\leq \pm 1$ % of measuring range  |

### Environmental properties

|   |  |
|---|--|
| <b>Protection class (ISO 20653) housing/cable inlet</b> | IP6K6K / IP6K8 (1m;12h) / IP6K9K                                   |
| <b>Protection class (ISO 20653) connector</b>           | dependent from connector type (Standard IP6K7)                     |
| <b>Operating temperature range</b>                      | -30 °C to +80 °C   |
| <b>Storage temperature range</b>                        | -50 °C to +80 °C   |
| <b>Oscillation resistance</b>                           | 10 ... 500 Hz, $A_{MAX} = 15$ mm, $a_{MAX} = 10$ g                 |
| <b>Bump resistance</b>                                  | 50 g / 11 ms   |
| <b>Influence of external magnetic fields</b>            | Deviation 2 % FS<br>with a static magnetic field intensity of 3 mT |



# Safety Angle Transducer Type Series for Integrated Installation 533 6AW

## Mechanical data

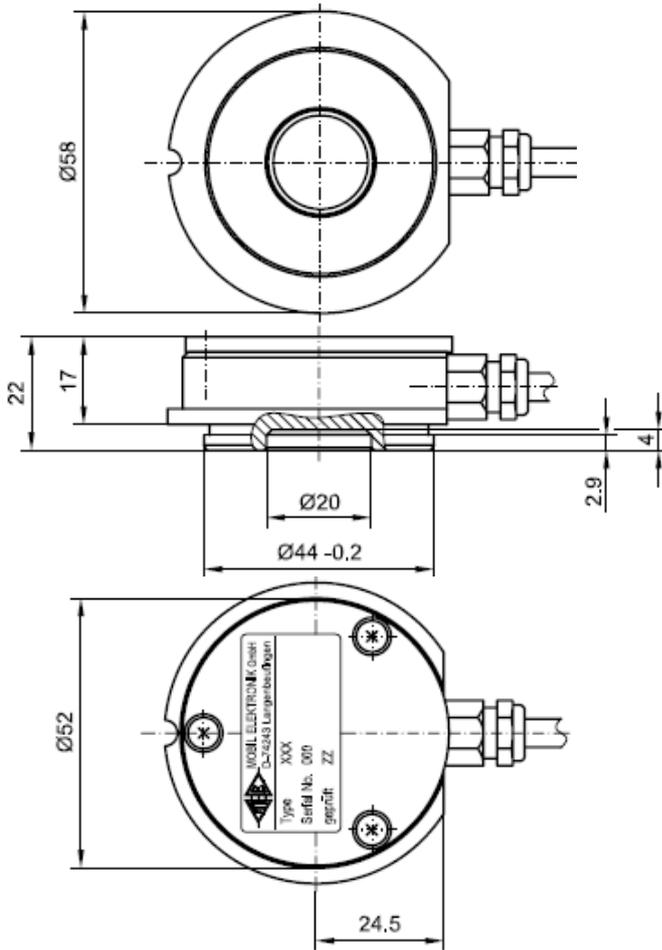
|                                  |                             |  |
|----------------------------------|-----------------------------|--|
| <b>Lifetime</b>                  | wear-free                   |  |
| <b>Mechanical function angle</b> | 360° continuous             |  |
| <b>Corrosion protection</b>      | <b>Magnet carrier unit:</b> | Plastics   |
|                                  | <b>Housing:</b>             | Blue anodized sea-water proof aluminum alloy                       |
| <b>Electrical connection</b>     | PUR cable                   | 4 x 0.34 mm <sup>2</sup> , not shielded,<br>for moving application |
|                                  | Minimum bending radius      | 60 mm  |
|                                  | Temperature range           | -30 °C ... +80 °C  |
|                                  | Cable length                | 0.5 m  |
|                                  | Connector                   | M12x1, 4-pole, male  |

## Ordering specifications

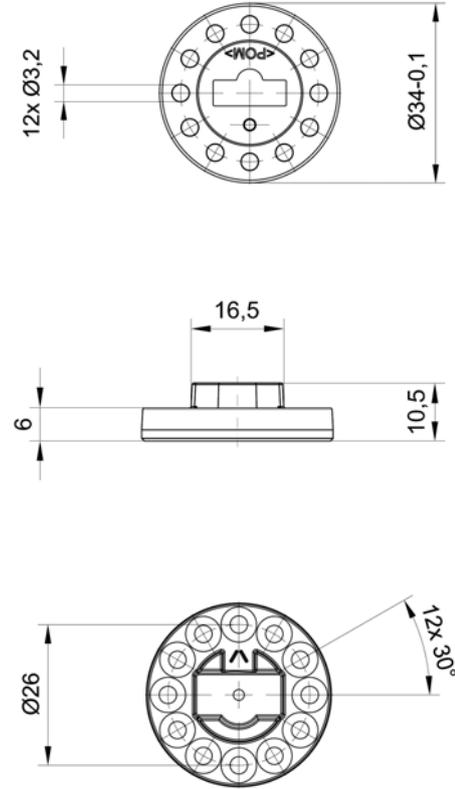
|  |  |            |          |          |          |          |            |
|--|--|------------|----------|----------|----------|----------|------------|
|  |  | <b>533</b> | <b>A</b> | <b>W</b> | <b>-</b> | <b>1</b> | <b>XXX</b> |
| <b>Type</b>                                | output signal                              | single     | 5        |          |          |          |            |
|  | output signal                              | redundant  | 6        |          |          |          |            |
| <b>Measuring range</b>                     | Customized range                           |            | A        |          |          |          |            |
| <b>Mechanical configuration of housing</b> | Customized housing                         |            | W        |          |          |          |            |
| <b>Mechanical construction</b>             | 2-part (with separate magnet carrier unit) |            | 1        |          |          |          |            |
| <b>Consecutive number</b>                  |  |            |          |          |          |          |            |

**Dimensional drawing**

**Sensor**



**Magnet carrier unit**



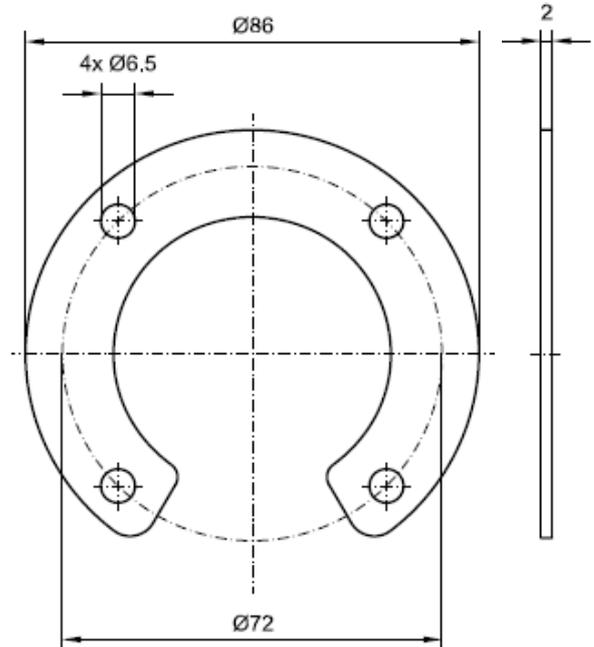
**Assignment of connector M12x1**



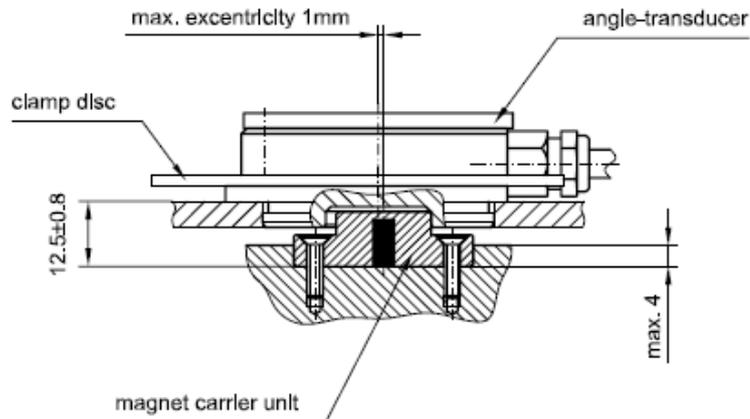
| pin | signal                 |
|-----|------------------------|
| 1   | supply +U <sub>B</sub> |
| 2   | signal output OUT B    |
| 3   | supply 0V              |
| 4   | signal output OUT A    |

**Optional accessory**

**Stainless steel clamping disc for sensor fixing**



**Instruction for installation**



**Instruction on mounting position (electrical center) und sense of rotation**

Viewing the back side of the sensor with fixed magnet carrier unit, a clockwise rotation of the sensor results in an increasing output voltage on OUT A and a decreasing voltage on OUT B.

