Special features

- outstanding linearity up to ±0.05 %
- resolution better than 0.01 mm
- very long life - up to 100 million movements (application dependent)
- compact dimensions
- protection class IP54
- threaded shaft allows customer-defined mechanical interfaces
- cable or connector versions available
- for IP67 version, see TX2 data sheet

This cost effective transducer is characterized by its various mounting options and compact dimensions. Flexible mounting clamps or central mounting allow easy mounting under various conditions.

Typical applications are linear position measurements for process control and display, and the test lab environment.

The use of a ball coupling is recommended for a side load-free guidance.

The electrical connection is provided by an M8 connector or a cable, which exits either radially or axially from the housing.

**Position Transducer with actuating rod potentiometric up to 300 mm, IP54**

**Series TEX**

**Description**

<table>
<thead>
<tr>
<th>Description</th>
<th>TX2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>aluminium, anodized</td>
</tr>
<tr>
<td>Mounting</td>
<td>see drawing</td>
</tr>
<tr>
<td>Actuating rod</td>
<td>stainless steel [1.4305], rotatable, external thread M5</td>
</tr>
<tr>
<td>Bearings</td>
<td>sleeve bearing</td>
</tr>
<tr>
<td>Resistance element</td>
<td>conductive plastic</td>
</tr>
<tr>
<td>Wiper assembly</td>
<td>precious metal multi-finger wiper</td>
</tr>
<tr>
<td>Electrical connections</td>
<td>3-pin round connector M8x1</td>
</tr>
<tr>
<td></td>
<td>3-wire PUR-cable, 3x0.14 mm², shielded, 2 m or 5 m length</td>
</tr>
</tbody>
</table>
Central mounting style

Tightening torque max. 5 Nm
Type designations

<table>
<thead>
<tr>
<th>Type designations</th>
<th>TEX 0010</th>
<th>TEX 0025</th>
<th>TEX 0050</th>
<th>TEX 0075</th>
<th>TEX 0100</th>
<th>TEX 0125</th>
<th>TEX 0150</th>
<th>TEX 0175</th>
<th>TEX 0200</th>
<th>TEX 0250</th>
<th>TEX 0300</th>
</tr>
</thead>
</table>

**Electrical Data**

Defined electrical range 10 25 50 75 100 125 150 175 200 250 300 mm

Electrical range 12 27 52 77 102 130 155 180 205 255 305 mm

Nominal resistance 1 1 2 3 4 5 6 7 8 10 12 kΩ

Resistance tolerance 20 ±%

Independent linearity 0.25 0.2 0.1 0.1 0.1 0.05 0.05 0.05 0.05 0.05 ±%

Repeatability 0.01 mm

Recommended operating wiper current 1 µA

Maximum wiper current 10 mA

Maximum permissible applied voltage 42 V

Effective temperature coefficient of the output-to-applied voltage ratio typical 5 ppm/K

Insulation resistance (500 DC) > 10 MΩ

Dielectric strength (500 VAC, 50 Hz) > 100 µA

**Mechanical Data**

Body length (dimension A) 63 78 103 128 153 194 219 244 269 319 369 ±2 mm

Mechanical stroke (dimension B) 14 29 54 79 104 132 157 182 207 257 307 ±2 mm

Excess length (dimension D) 41 41 41 41 41 38 38 ±2 mm

Weight approx.
cable version TEX-_ _-41_-002-202
connector version TEX-_ _-41_-002-101
additional weight central mounting 10 g

Operating force horizontal < 3.0 (at RT 20° C) N

**Environmental Data**

Temperature range -40 ...+85 °C

Operating humidity range 0 ... 95 (no condensation) % R.H.

Vibration 5...2000 [Hz]

Shock 50 g

Life > 100 x 10^6 typ.

Operating speed 10 m/s max.

Protection class IP54 DIN EN 60529
### Ordering specifications

<table>
<thead>
<tr>
<th>T</th>
<th>E</th>
<th>X</th>
<th>0</th>
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<th>4</th>
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</thead>
</table>

#### Series

- **Mechanical mounting**
  - 1: Fixing clamps
  - 8: Central mounting M10 with collar - up to 0150 mm stroke

- **Mechanical version actuating rod**
  - 1: Transducer with one-side actuating rod - M5 thread

- **Protection class**
  - 4: one-side actuating rod

- **Electrical connection**
  - 101: 3-pin round connector M8x1, radial output
  - 202: NT standard cable 2 m, radial output
  - 302: NT standard cable 5 m, radial output
  - 205: NT standard cable 2 m, axial output
  - 305: NT standard cable 5 m, axial output

- **Electrical version**
  - 002: linearized (standard)

- **Electrical defined range**
  - Standard lengths 0100 up to 300 mm

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### Optional accessories

- **Cable set - PUR cable with straight 3-pin mating connector - M8x1, 3x0.34 mm², IP67, unshielded**
  - 2 m length, EEM-33-64, P/N 005617
  - 5 m length, EEM-33-66, P/N 005619
  - 10 m length, EEM-33-68, P/N 005643.

- **Cable set - PUR cable with 90° angle 3-pin mating connector - M8x1, 3x0.34 mm², IP67, unshielded**
  - 2 m length, EEM-33-65, P/N 005618
  - 5 m length, EEM-33-67, P/N 005620
  - 10 m length, EEM-33-69, P/N 005644.

- **Other cable on request.**

- **Ball coupling Z-301-M5/M5, P/N 058002**

- **Pivot head Z-G01, P/N 056014.**

- **MAP - process control measurement/display device**

- **MUP/MUK signal conditioners ±24 V supply, 0-10 V or 4-20 / 0-20 mA current outputs.**

### Included in delivery

- **Clamp mounting:** 2 clamps incl. 4 cylinder head screws M5x20.

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### Mounting instructions

A ball coupling is recommended for backlash-free and side load-free operation to compensate parallel or angular errors between transducer axis and the direction of movement.

### Important

All values specified in this data sheet for linearity, lifetime and temperature coefficient are only valid for a sensor used as a voltage divider with virtually no load applied to the wiper ($\leq 1 \mu A$).