

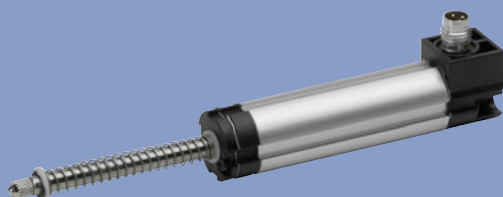
**Position Transducers
 with return spring
 potentiometric
 up to 200 mm, IP 54**

Series TEX



DOCUMENTO OBSOLETO

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Special features

- compact dimensions
- protection class IP54
- Position transducer with return spring
- very long life (depending on application) up to 50 million movements
- resolution better than 0.01 mm
- outstanding linearity up to $\pm 0.05\%$
- variable mechanical customer interfaces
- hardened tip
- cable or M8 connector available

This cost effective linear transducer is characterized by its various mounting options and compact dimensions.

Mounting clamps, bushing mount or flange plates for easy mounting under various conditions.

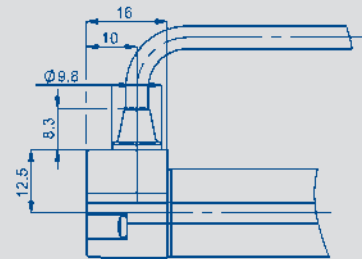
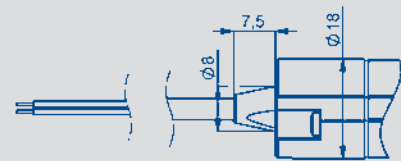
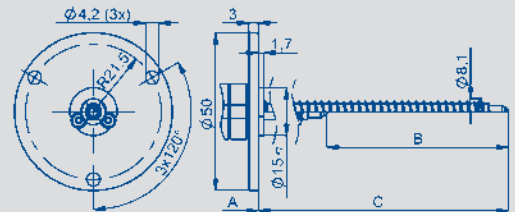
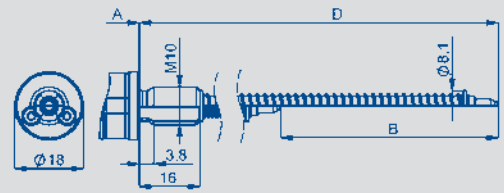
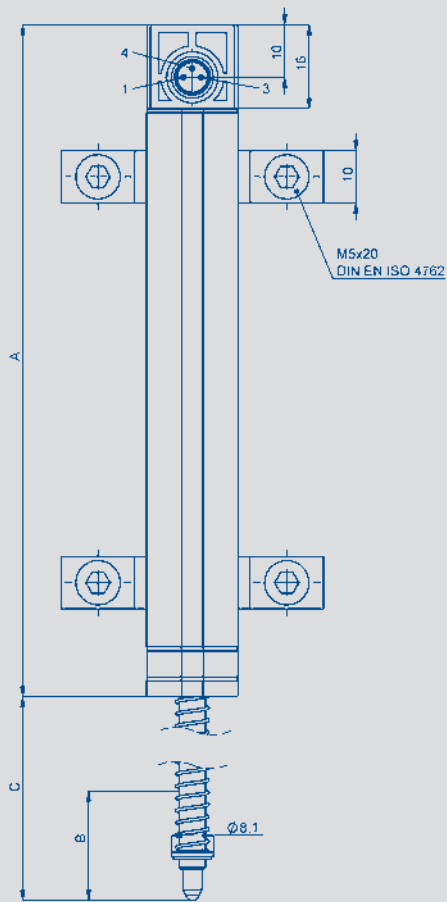
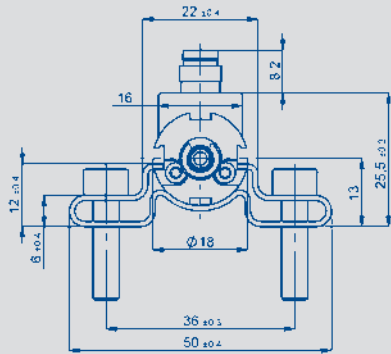
The return spring design allows a direct measurement without connection to the moving part.

The electrical connection is provided by an M8 connector or a radial or axial cable.

For transducers without return spring and pivot head mounting, please see separate data sheets.

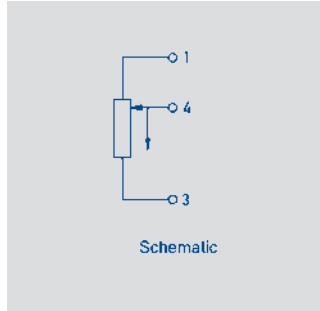
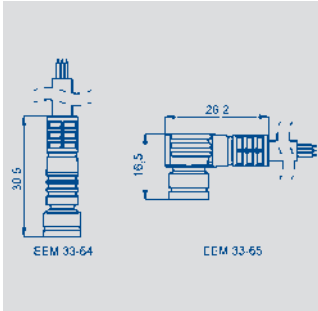
Description

| | |
|------------------------|---|
| Housing | aluminium, anodized |
| Mounting | see drawing |
| Actuating rod | stainless steel, rotatable |
| Bearings | sleeve bearing |
| Resistance element | conductive plastic |
| Wiper assembly | precious metal multi-finger wiper |
| Electrical connections | 3-pin round connector M8x1 3-wire, shielded cable, 2 or 5 m long |



| Type designations | TEX 0010 | TEX 0025 | TEX 0050 | TEX 0075 | TEX 0100 | TEX 0125* | TEX 0150 | TEX 0175* | TEX 0200 | |
|--|--|-------------|-------------|-------------|-------------|--------------|-------------|--------------|-------------|---------------|
| Electrical Data | | | | | | | | | | |
| Defined electrical range | 10 | 25 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | mm |
| Electrical range | 12 | 27 | 52 | 77 | 102 | 130 | 155 | 180 | 205 | mm |
| Nominal resistance | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | kΩ |
| Resistance tolerance | 20 | | | | | | | | | ±% |
| Independent linearity | 0.25 | 0.2 | 0.1 | 0.1 | 0.1 | 0.05 | 0.05 | 0.05 | 0.05 | ±% |
| Repeatability | 0,01 (without side loads) | | | | | | | | | mm |
| Recommended operating wiper current | ≤ 1 | | | | | | | | | μA |
| Max. wiper current in case of malfunction | 10 | | | | | | | | | mA |
| Max. permissible applied voltage | 42 | | | | | | | | | V |
| Effective temperature coefficient of the output-to-applied voltage ratio | typical 5 | | | | | | | | | ppm/K |
| Insulation resistance (500 VDC) | ≥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 | ±2 mm |
| Mechanical stroke (dimension B) | 14 | 29 | 54 | 79 | 104 | 132 | 157 | 182 | 207 | ±2 mm |
| Dimension C | 41 | 56 | 106 | 156 | 201 | 233 | 265 | 298 | 331 | ±2 mm |
| Dimension D | 57 | 72 | 106 | 156 | 201 | 233 | 265 | 298 | 331 | ±2 mm |
| Weight approx. with cable TEX_XXXX_X21_002_202 with conector TEX_XXXX_X21_002_101 additional weight | 80 50 | 85 55 | 95 65 | 105 75 | 115 85 | 155 125 | 165 135 | 175 145 | 185 155 | g g |
| Operating force horizontal | 5.6 (at RT 20° C) | | | | | | | | | ±0,8 N |
| Operating frequency max. in center position (IP40) | 49 | 43 | 35 | 28 | 24 | 21 | 20 | 20 | 20 | Hz |
| in center position (IP65) | 44 | 39 | 32 | 26 | 21 | 18 | 16 | 15 | 15 | Hz |
| Environmental Data | | | | | | | | | | |
| Temperature range | -40 ... +85 | | | | | | | | | °C |
| Operating humidity range | 0...95 (no condensation) | | | | | | | | | % R.H. |
| Vibration | 5...2000 A _{max} = 0,75 a _{max} = 20 | | | | | | | | | Hz mm g |
| Shock | 50 6 | | | | | | | | | g ms |
| Life | > 50 x 10 ⁶ typ. | | | | | | | | | movements |
| Operating speed | 5 | | | | | | | | | m/s max. |
| Protection class | IP54 DIN EN 60529 | | | | | | | | | |

*) = on request



| Output connector Code 101 | Cable Code 202, 205 302, 305 | Connector with cable EEM 33-64, EEM 33-65 |
|------------------------------|------------------------------------|--|
| PIN 1 | BN brown | BN brown |
| PIN 4 | WH white | BK black |
| PIN 3 | GN green | BU blue |

Ordering specifications

TEX | **0150** | **421** | **002** | **202**

Series

Mechanical mounting
1: Clamps
2: Bushing mount M10 up to Ø150 mm
4: Flange plate mounting up to 150 mm on request

Mechanical version actuating rod x2x
2: Transducer with return spring and hardened tip

Protection class
4: one-side actuating rod, IP54

Electrical defined range
Various standard lengths, 0010 up to 0200 mm

Electrical version
002: Independent linearity ±0.05 % bis ±0.25 %

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

Included in delivery

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

Recommended accessories

Connector M8x1, 2 m cable,
EEM 33-64, IP67,
Art.No. 005617;
Angled connector M8x1,
2 m cable, EEM 33-65, IP67,
Art.No. 005618;
Connector with longer cable
length on request.
Process-controlled indicators
MAP... with display, Signal
conditioner MUP.../MUK... for
current supply and standardi-
zed output signals.



Signal conditioner MUP

Mounting instructions

The standard hardened tip
with M2,5 thread can be
replaced with other gauging
tips.

The actuating rod is not
locked against rotation.

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
($I_e \leq 1 \mu A$).