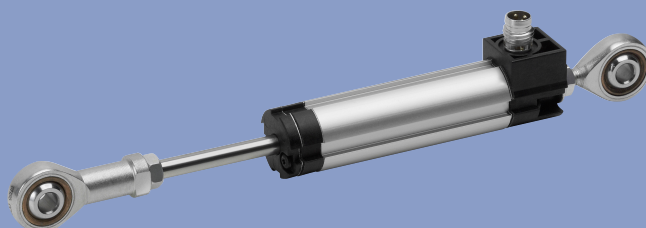


Position Transducers Pivot head Mounting potentiometric up to 300 mm, IP 67

Series TEX



Special features

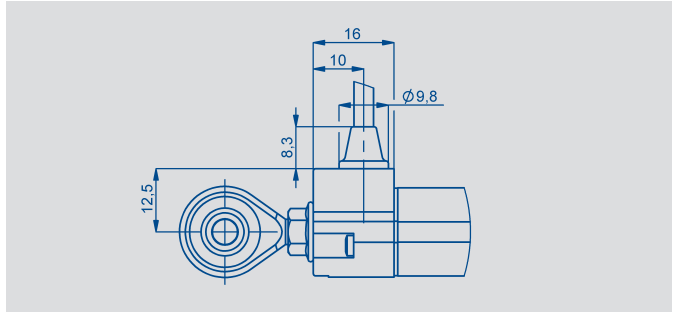
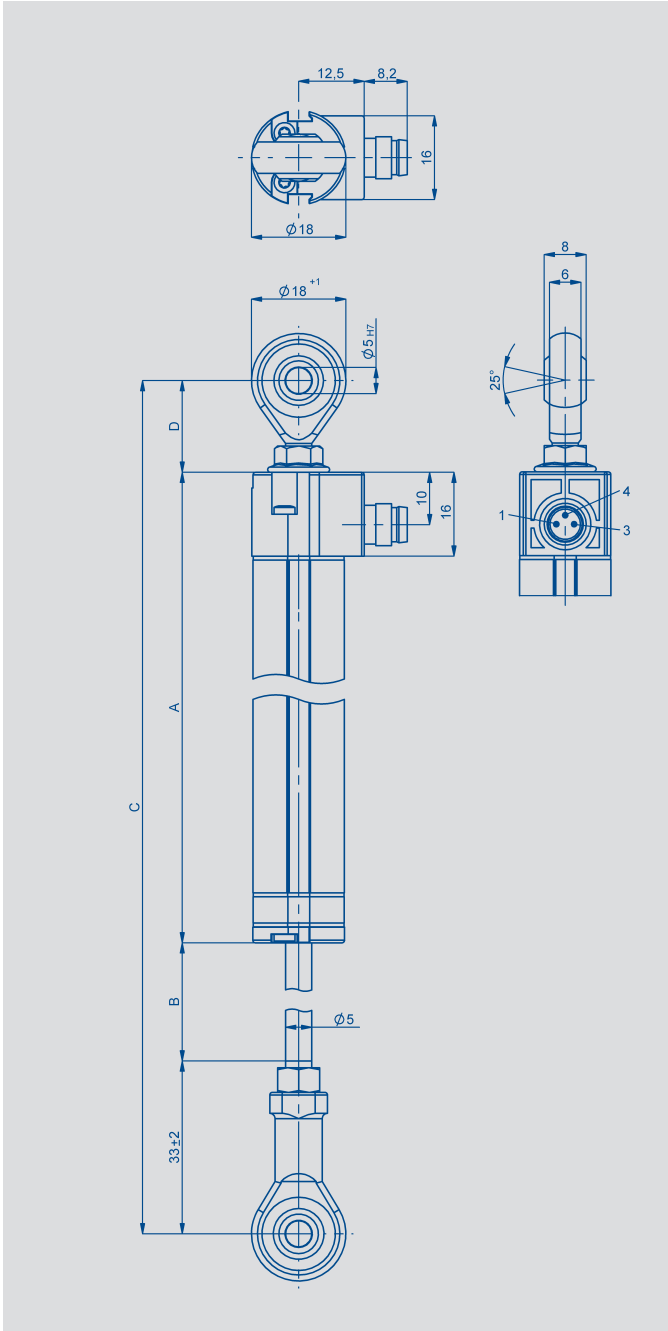
- compact dimensions
- protection class up to IP67
- mountable over back-lash free pivot heads with a large angle of free movement (up to $\pm 12,5^\circ$)
 - very long life (depending on application) up to 100 million movements
- resolution better than 0.01 mm
- outstanding linearity up to $\pm 0.05\%$
- variable mechanical customer interfaces
- usable under harsh environmental conditions (humidity, oil, dust)
- cable or plug connection optional

Highest protection class and very compact dimensions characterize this inexpensive transducer.

Due to the user-friendly pivot heads this sensor is recommended especially for mobile applications. Alternatively a shortened version with optimized distance of the pivot heads is also available. The electrical connection is made by radial plug connector or radial or axial cable.

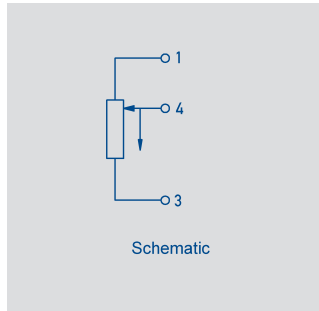
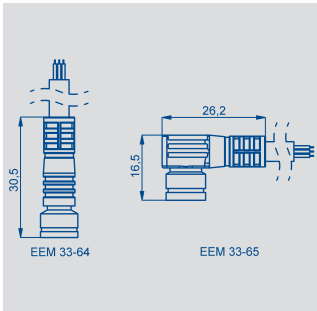
Transducers with and without restoring spring and mounting clamp, central thread or flange plates see separate data sheets.

| Description | |
|------------------------|--|
| Housing | aluminium, anodized |
| Fixings | 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-pin cable, shielded 2 m long |



| Type designations | TEX 0010* | TEX 0025 | TEX 0050 | TEX 0075* | TEX 0100 | TEX 0125* | TEX 0150 | TEX 0175* | TEX 0200 | TEX 0250 | TEX 0300 | |
|--|---|-------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|-------------|-------------|------------------------|
| 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 | 0.05 | ±% |
| Repeatability | 0.01 | | | | | | | | | | | 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 ration | typical 5 | | | | | | | | | | | ppm/K |
| Insulation resistance (500 VDC, 1 bar, 2 s) | ≥10 | | | | | | | | | | | MΩ |
| Dielectric strength (50 Hz, 2 s, 1 bar, 500 VAC) | ≤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 |
| Min. distance between pivot heads (dimension C), version X15 (dimension D = 17,5 mm) | 113.5 | 128.5 | 153.5 | 178.5 | 203.5 | 244.5 | 269.5 | 294.5 | 319.5 | 369.5 | 419.5 | ±2 mm |
| Min. distance between pivot heads* (dimension C), version X13 (dimension D = 24,5 mm) | 120.5 | 135.5 | 160.5 | 185.5 | 210.5 | 251.5 | 276.5 | 301.5 | 326.5 | 376.5 | 426.5 | ±2 mm |
| Weight | | | | | | | | | | | | g |
| Operating force horizontal | ≤ 0.5 (IP40), ≤ 3.0 (IP 67) | | | | | | | | | | | N |
| vertical | n/a | | | | | | | | | | | N |
| Environmental Data | | | | | | | | | | | | |
| Temperature range | -40 ...+85 (-40...+100 on request) | | | | | | | | | | | °C |
| Vibration | 5...2000 A _{max} = 0.75 a _{max} = 20 | | | | | | | | | | | Hz mm g |
| Shock | 50 6 | | | | | | | | | | | g ms |
| Life | > 100 x 10 ⁶ typ. (IP40, IP54) > 50 x 10 ⁶ typ. (IP67) | | | | | | | | | | | movements movements |
| Operating speed | 10 (IP40, IP54) respectively 5 (IP67) | | | | | | | | | | | m/s max. |
| Protection class | up to IP67 DIN 40500 / IEC 529 | | | | | | | | | | | |

*) = on request



| Output connector Code 101 | Cable Code 202, 205 | 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

Electrical version

002: Independent linearity $\pm 0.05\%$ bis $\pm 0.25\%$

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

T E X 0 1 5 0 4 1 5 0 0 2 2 0 2

Series

Mechanical mounting

3: Pivot heads on request
 5: Pivot heads (short version)

Mechanical version actuating rod x1x

1: Transducer with one-side rod and thread M5

Protection class

3: one-side actuating rod, IP40 on request
 4: one-side actuating rod, IP54
 5: one-side actuating rod, IP67

Electrical defined range

Standard: 0010 up to 0300 mm, various standard lengths

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 standardized output signals.

Important

All the values given in this data sheet for linearity, lifetime and temperature coefficient in the voltage dividing mode are quoted for the device operating with the wiper voltage driving on operational amplifier working as a voltage follower, where virtually no load is applied to the wiper ($I_e \leq 1 \mu A$).