

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

TX2 Series



**Special features**

- compact dimensions
- protection class 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 50 million movements
- resolution better than 0.01 mm
- outstanding linearity up to  $\pm 0.05\%$
- usable under harsh environmental conditions (humidity, oil, dust)
- cable or plug connection optional

High protection class and very compact dimensions characterize this inexpensive transducer

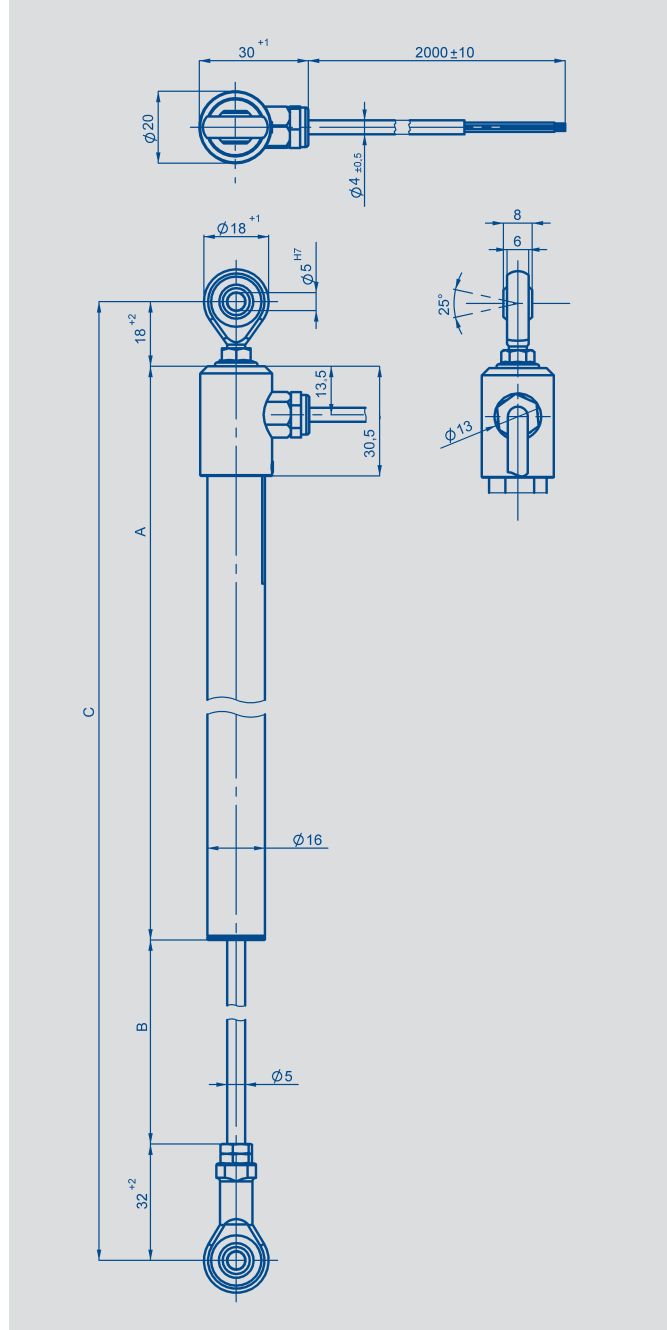
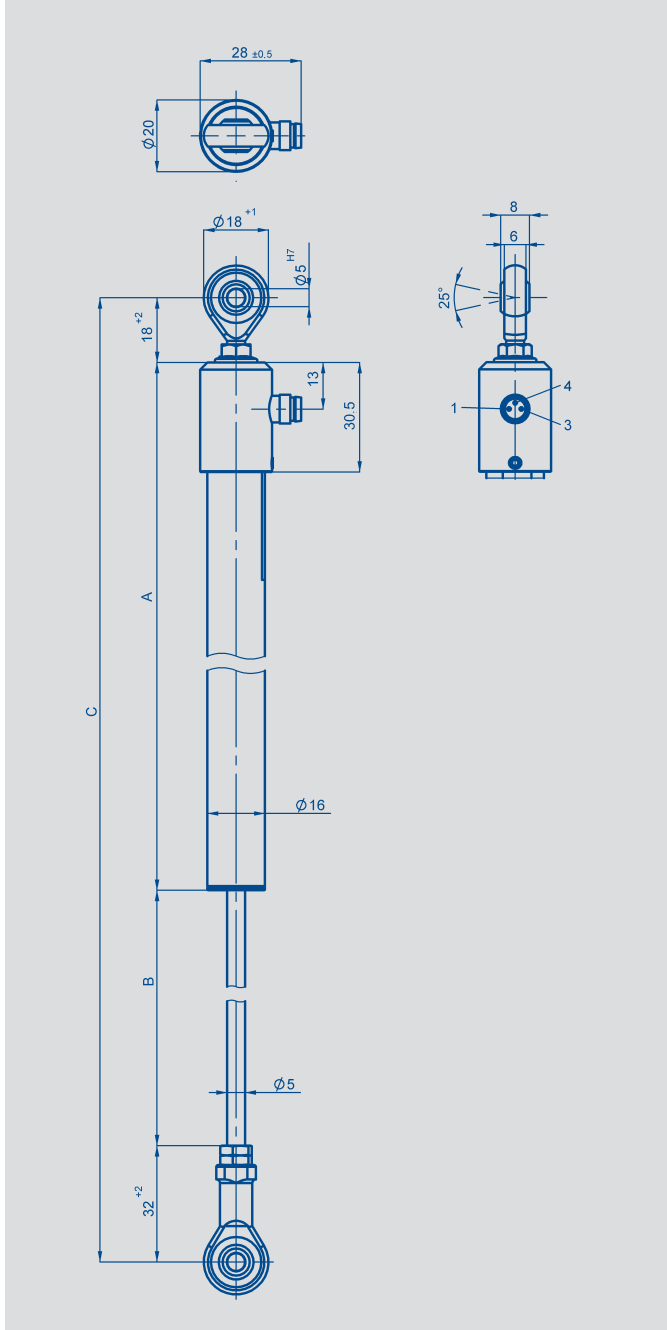
The heavy-duty design together with metal flanges and double sealed actuating rod make the TX2 Series an ideal choice for applications used in adverse environments with dirt, dust and humidity.

Users with mobile applications can especially benefit from the TX2 Series' pivot-head mounting.

The electrical connection is made by radial plug connector or radial cable.

For transducers with and without restoring spring and mounting clamp, central thread or flange plates see separate data sheets on TEX Sensor Series.

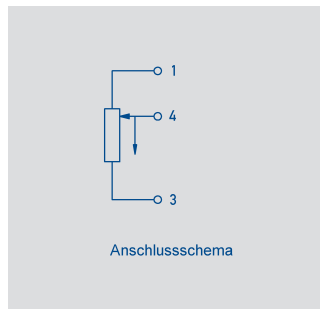
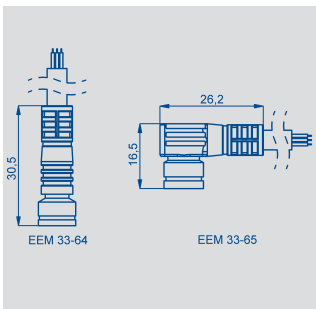
Description	
Housing	aluminium, anodized
Fixings	see drawing
Actuating rod	stainless steel, rotatable
Bearings	sintered bronze bush
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper
Electrical connections	3-pin round connector M8x1 3-pin cable, shielded 2 m long



Type designations	TX2 0025	TX2 0050	TX2 0075	TX2 0100	TX2 0150	TX2 0200	TX2 0250	TX2 0300	
<b>Electrical Data</b>									
Defined electrical range	25	50	75	100	150	200	250	300	mm
Electrical range	27	52	77	102	155	205	255	305	mm
Nominal resistance	1	2	3	4	6	8	10	12	kΩ
Resistance tolerance	20								±%
Independent linearity	0.2	0.1	0.1	0.1	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
<b>Mechanical Data</b>									
Body length (dimension A)	88	111	136	161	224	274	324	374	±2 mm
Mechanical stroke (dimension B)	30	55	80	105	158	208	258	308	±2 mm
Min. distance between pivot heads (dimension C)	136	161	186	211	274	324	374	424	±2 mm
Weight approx.									
Operating force horizontal									
vertical	< 5 (at RT 20° C)								N
<b>Environmental Data</b>									
Temperature range	-40 ...+85 connector / -20 ...+100 cable								°C
Vibration	5...2000 A <sub>max</sub> = 0.75 a <sub>max</sub> = 20								Hz mm g
Shock	50 6								g ms
Life	> 50 x 10 <sup>6</sup> typ.								movements
Operating speed	5								m/s max.
Protection class	IP67 DIN EN 60529 (use connector with IP67 or higher) The protection class IP67 was determined at new condition under the following terms (DIN EN 60529): 1 m water depth, duration 0.5 h Abrasion of rod sealing depends on application and cycles. Please pay attention to the instruction manual before starting up.								

## Ordering specifications

<b>T</b>	<b>X</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>2</b>
Series			Electrical defined range Various standard lengths 0025 up to 0300 mm				Mechanical mounting 6: Pivot heads			Electrical version 002: Independent linearity $\pm 0.05\%$ up to $\pm 0.2\%$			Electrical connection 101: 3-pin round connector M8x1, radial output 202: NT standard cable 2 m, radial output		
Mechanical version actuating rod x1x 1: Transducer with one-side rod and thread M5							Protection class 7: one-side actuating rod, IP67								



Output connector Code 101	Cable Code 202	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

### 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 24 V and 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 ( $I_e = 1 \mu A$ ).