

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

Series TX2



Special features

- compact dimensions
- protection class IP67
- easy to assemble via low-backlash pivot heads with a large angle of freedom (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 $\pm 0.05\%$
- suitable for 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 with metal flanges and double sealed actuating rod offers many fields of applications also under adverse conditions like e.g. dirt, dust and humidity.

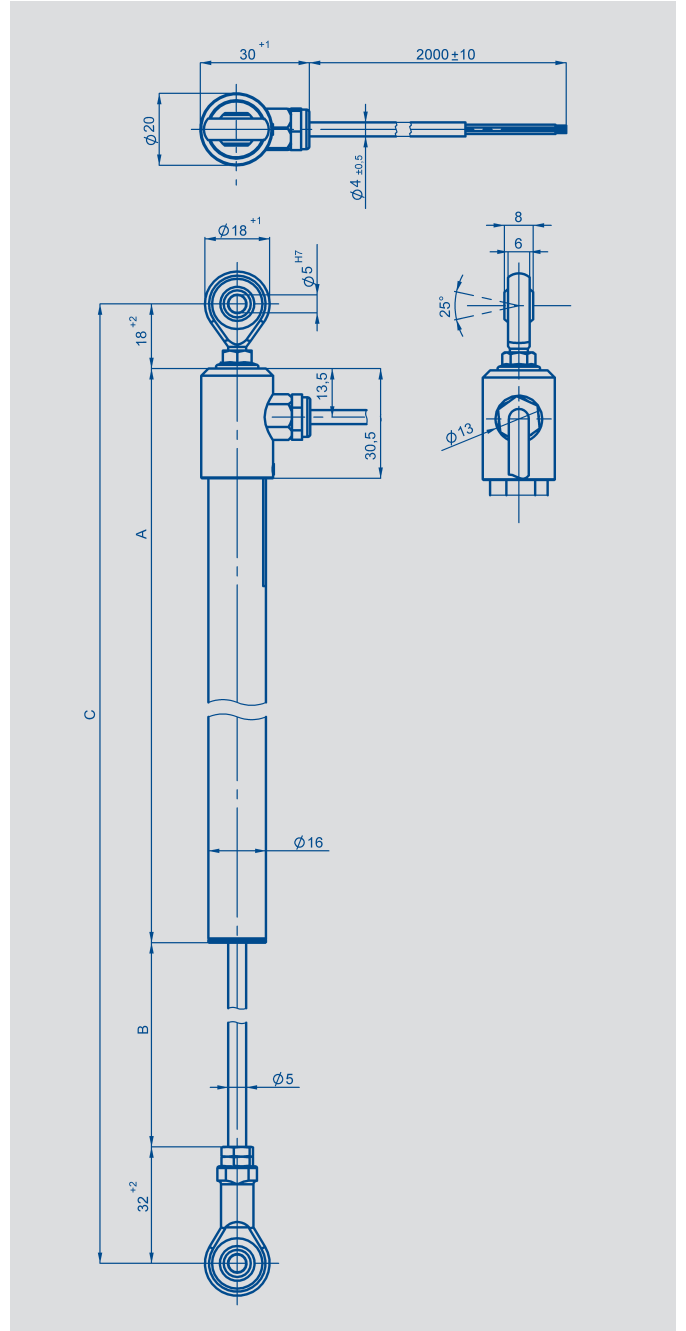
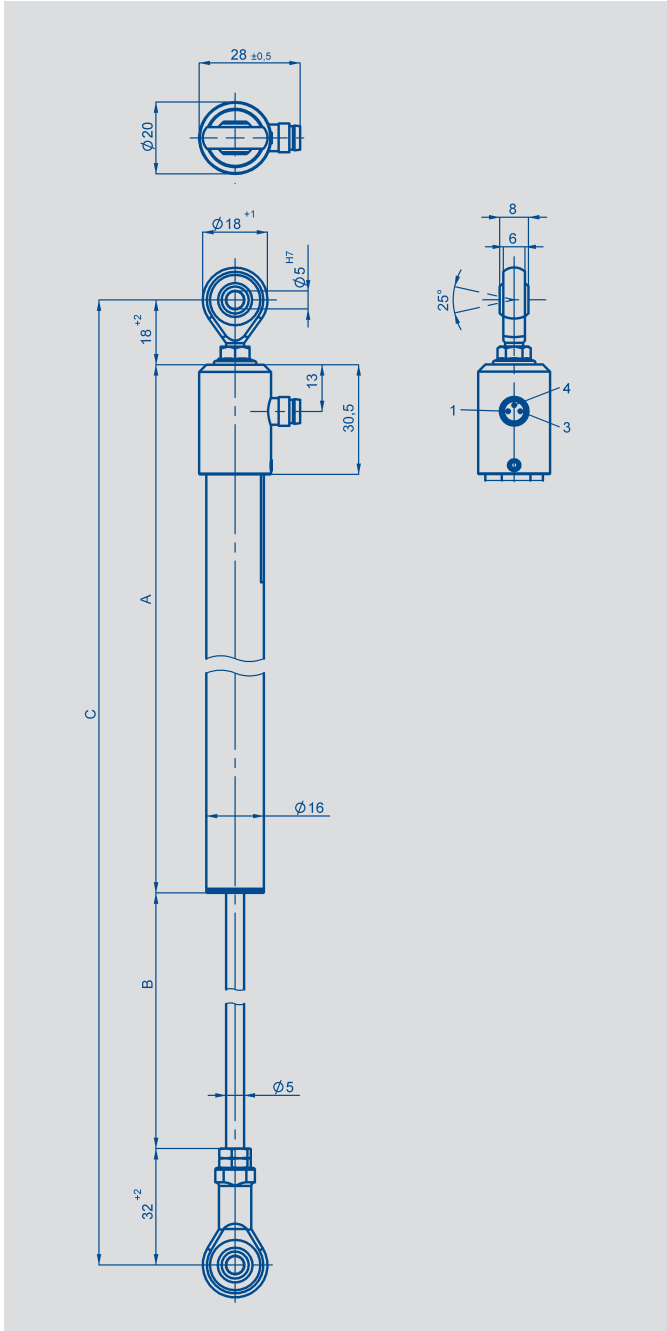
Due to the user-friendly pivot heads this sensor is recommended especially for mobile applications.

The electrical connection can be made via a radial plug connector or a radial cable.

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

Description

Housing	aluminium, anodized
Mounting	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-wire, shielded cable, 2 m long



Type designations	TX2 0025	TX2 0050	TX2 0075	TX2 0100	TX2 0150	TX2 0200	TX2 0250	TX2 0300	
Electrical Data									
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)	≥10								MΩ
Dielectric strength (500 VAC, 50 Hz)	≤100								μA
Mechanical Data									
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, nominal (dimension C)	136	161	186	211	274	324	374	424	mm
Weight approx. with connector (101)	100	110	120	130	150	163	190	205	g
with cable (202)	120	156	160	177	190	225	250	270	g
Operating force horizontal									
vertical	< 5 (at RT 20° C)								N
Environmental Data									
Temperature range	-40 ...+85 connector / -20 ...+100 cable								°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	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

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

Series
 T X 2

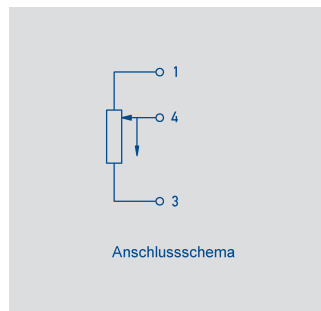
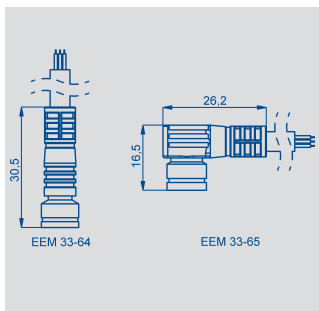
Electrical defined range
 Various standard lengths 0025 up to 0300 mm

Mechanical mounting
 6: Pivot heads

Mechanical version actuating rod x1x
 1: Transducer with one-side rod and thread M5

Protection class
 7: one-side actuating rod, IP67

0 1 5 0 7 1 6 0 0 2 2 0 2



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 stan-
 dardized output signals.



Signal Conditioner MUP

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