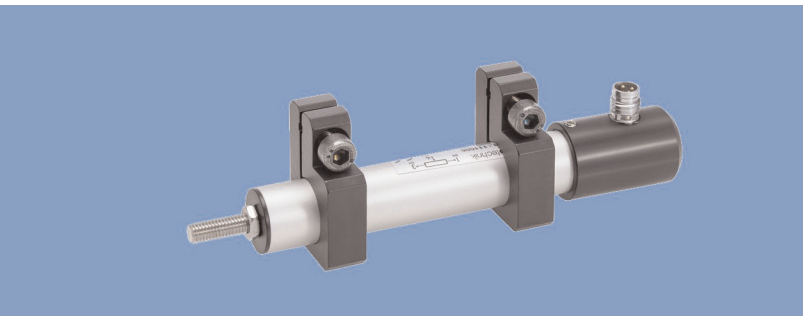
novotechnik
Siedle Gruppe

Position Transducers with mounting clamps potentiometric up to 300 mm, IP67

Series TX2



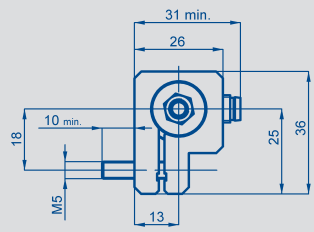
Special features
- compact dimensions Ø 16 mm
- protection class IP67
- very long life (depending on application) up to 50 million movements
- resolution better than 0.01 mm
- outstanding linearity up to ±0.05 %
- suitable for harsh environmental conditions (humidity, oil, dust)
- cable or connector version available

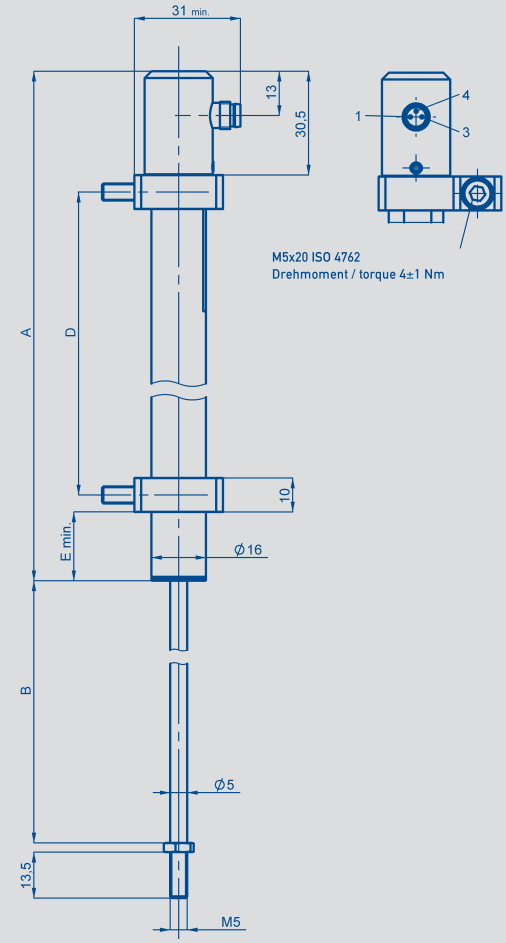
High protection class and very compact dimensions characterize this cost effective transducer.
The heavy-duty design with metal flanges and double sealed actuating rod allows a variety of applications even under adverse conditions like e.g. dirt, dust and humidity.

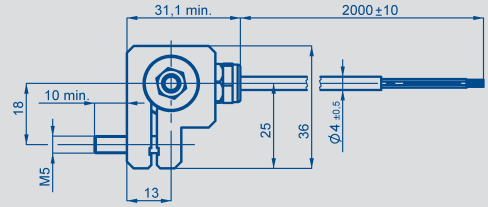
The adjustable fixing via mounting clamps makes a variable and simple mounting of the sensor possible, particularly for industrial applications.
The electrical connection can be made via a radial plug connector or a radial cable.

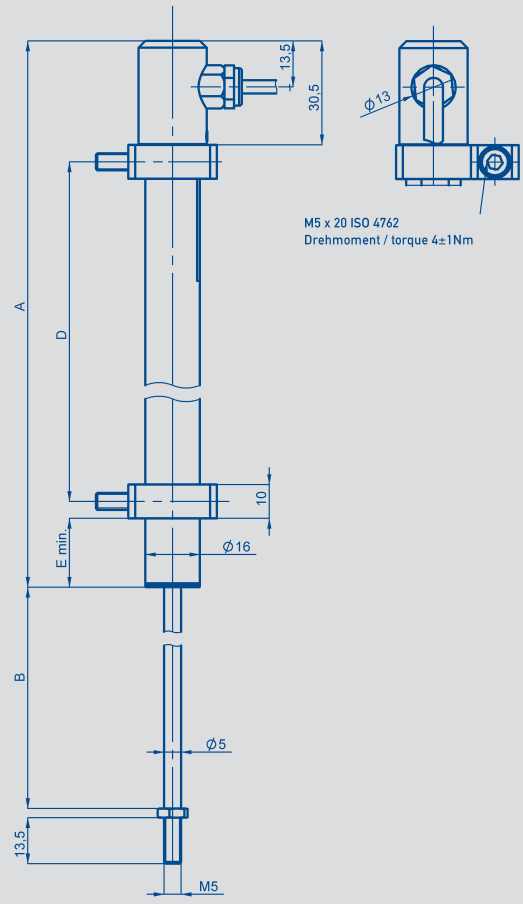
For transducers with or without return spring and mounting clamp, bushing mount or flange plates, please see separate data sheets TEX.

Description	
Housing	aluminium, anodized
Mounting	see drawing
Actuating rod	stainless steel (1.4305), rotatable, external thread M5
Bearings	sintered bronze bush
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper
Electrical connections	3-pin round connector M8x1 4-wire PUR-cable, 4x0.14 mm^2, shielded, 2 m length


31 min.
26
10 min.
18
25
36
M5
13


31 min.
13
30,5
1
4
3
M5x20 ISO 4762
Drehmoment / torque 4±1 Nm
A
D
10
E min.
Ø16
B
Ø5
13,5
M5


31,1 min.
2000±10
10 min.
18
25
36
Ø4 ±0,5
M5
13


13,5
30,5
Ø13
M5 x 20 ISO 4762
Drehmoment / torque 4±1Nm
A
D
10
E min.
Ø16
B
Ø5
13,5
M5

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 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)	86	111	136	161	224	274	324	374	±1 mm
Mechanical stroke (dimension B)	30	55	80	105	158	208	258	308	±1 mm
Recommended mounting clamp distance (dimension D)	30	50	70	90	140	190	240	290	mm
E min. (dimension E)	15	20	25	25	35	35	35	35	mm
Weight approx. with connector (101) with cable (202)	 100 120	 110 156	 120 160	 130 177	 150 190	 163 225	 190 250	 205 270	 g g
Operating force horizontal vertical	 < 5 (at RT 20° C)								 N
Tearing force	max. 15 (*)								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 as fabricated 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.								

*) Depending on the environmental temperature and standstill time, the necessary force for the initial operating of the push rod can increase.

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Subject to change.

Ordering specifications

T	X	2	-	0	1	5	0	-	7	1	7	-	0	0	2	-	2	0	2

Series

Electrical defined range
Lengths 0025 up to 0300 mm

Protection class
7: one-side actuating rod, IP67

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

Mechanical mounting
7: Mounting clamp

Electrical version
002: linerarized

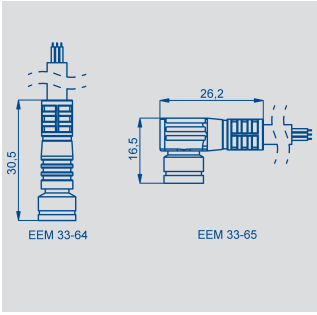
Electrical connection
101: 3-pin round connector M8x1, radial output
202: NT standard cable 2 m, radial output

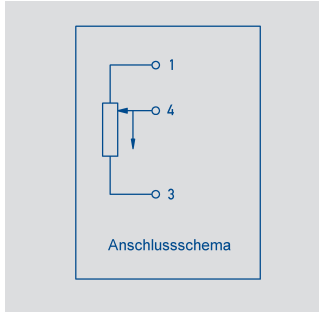
Mounting Instructions

A ball coupling is recommended for backlash-free and side load-free operation to compensate misalignment between transducer axis and the moving part.

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 ($I_e \leq 1$ µA).





Output connector Code 101	Cable Code 202	Connector with cable EEM 33-64 / -66 / -68 / -65 / -67 / -69
PIN 1	BN brown	BN brown
PIN 4	WH white	BK black
PIN 3	GN green	BU blue

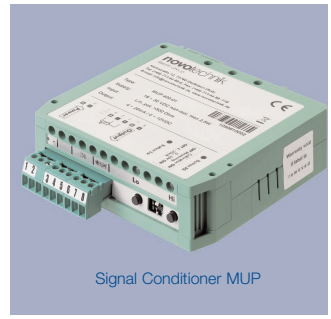
Optional accessories

PUR-cable with 3-pin female connector M8x1, 3x0.34 mm^2, 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.

PUR-cable with 3-pin angled female connector M8x1, 3x0.34 mm^2, 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.

Process-controlled indicators MAP... with display, Signal conditioner MUP.../ MUK... for current supply and standardized output signals.


Signal Conditioner MUP

Included in delivery

2 mounting clamps incl. 2 head cap screws M5x20