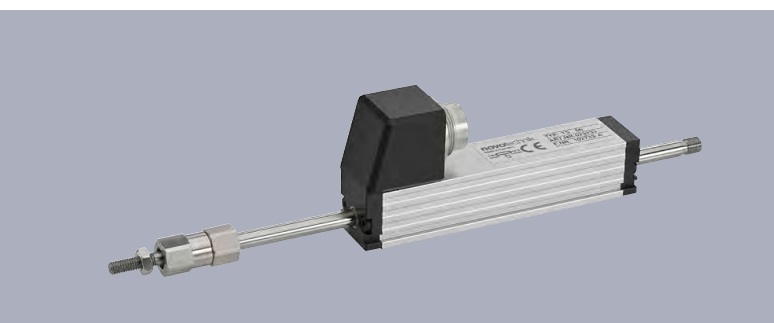
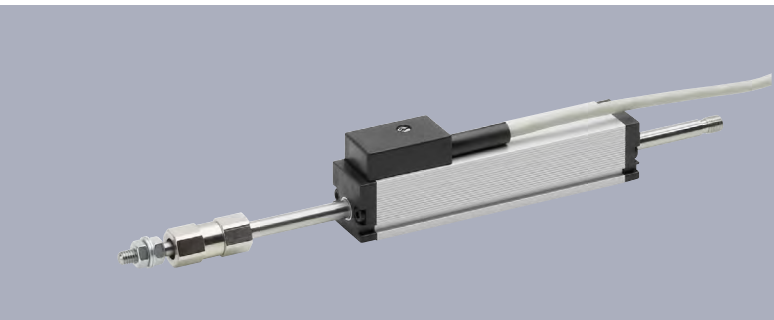


Position Transducer potentiometric up to 150 mm

Series T / TS



Position transducers employing conductive plastic tracks provide direct, accurate measurement of travel in display or control systems.

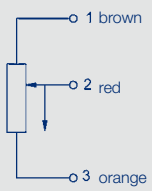
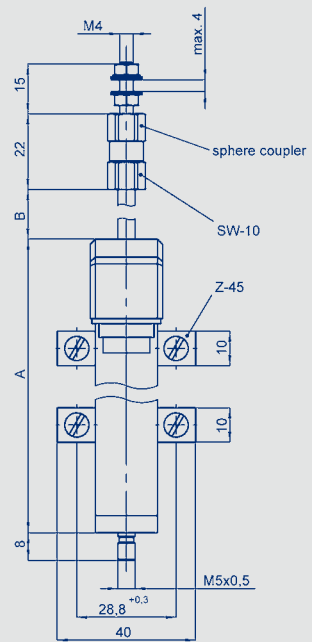
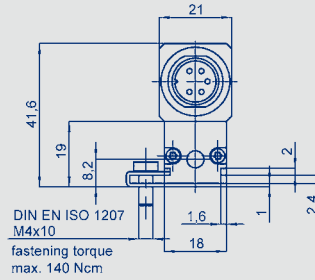
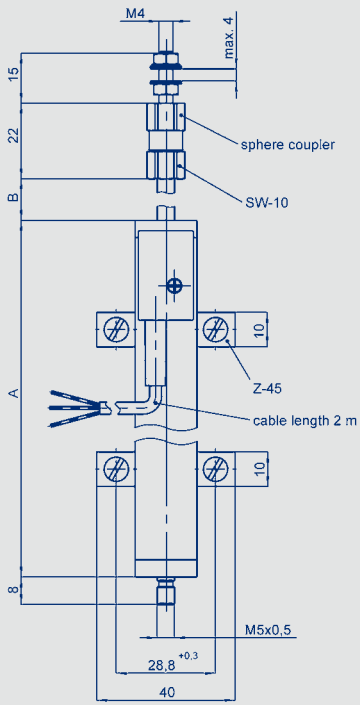
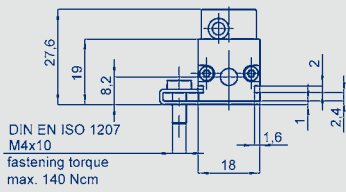
The push rod is supported on both ends by metal glide bearings, allowing high lateral forces on the tip of the rod. The elastomer-damped wiper provides reliable contact when experiencing shock or vibration.

A ball coupling enables backlash-free operation, even with parallel or angular misalignment. The coupling may be fitted to either end of the shaft

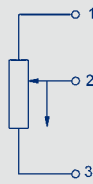
Special features

- long life up to 100 million movements, depending on application
- outstanding linearity - up to $\pm 0.075\%$
- Repeatability to $\pm 0.002\text{ mm}$
- actuating shaft with double-sided support
- special ball-coupling eliminates sideways forces
- high operational speeds - up to 10 m/s
- insensitive to shock and vibration
- T-series with cable or TS-series with connector versions available

Description	
Housing	aluminium, anodized
Mounting	adjustable clamps
Actuating rod	stainless steel AISI 303
Ball coupling	hardened ball, external thread M5 x 0.5, with spring pressure against hardened plate surface
Bearings	both ends in glide bearings
Resistance element	conductive-plastic
Wiper assembly	precious metal multi-finger wiper, elastomer damped
Electrical connections	
Series T	3-wire, PVC-cable, 3 x 0.14 mm ² , shielded, 2 m length
Series TS	5-pin round connector IEC 130-9



Schematic



Schematic

Type designations	T-0025 TS-0025	T-0050 TS-0050	T-0075 TS-0075	T-0100 TS-0100	T-0150 TS-0150	with cable with plug
Electrical Data						
Defined electrical range	25	50	75	100	150	mm
Electrical stroke	27	52	77	102	152	mm
Nominal resistance	1	5	5	5	5	kΩ
Resistance tolerance	20					±%
Independent linearity	0.2	0.15	0.1	0.075	0.075	±%
Repeatability	0.002					mm
Recommended operating wiper current	≤ 1					μA
Maximum wiper current in case of malfunction	10					mA
Maximum 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	88	113	138	188	+1 mm
Mechanical stroke (dimension B)	30	55	80	105	155	±1,5 mm
Weight with cable	140	160	170	190	220	g
with plug	86	107	132	150	190	g
Weight of shaft with coupling	35	43	52	58	74	g
Operating force (horizontal)	≤ 0.30					N
Mobility of ball coupling	±1 mm parallel offset, ±2.5° angular offset					
Maximum permitted torque for mounting screws (with washer)	140					Ncm
Environmental Data						
Temperature range	-30 +100					°C
Vibration	5...2000 Amax = 0.75 amax = 20					Hz mm g
Shock	50 11					g ms
Life	≥ 100x10 ⁶					movements
Protection class	IP40 (DIN EN 60529)					

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 ($i_e \leq 1 \mu\text{A}$).

Included in delivery

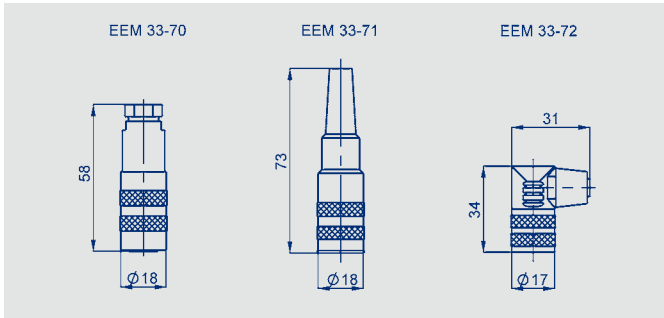
2 mounting clamps Z-45 incl.
4 cylinder screws M4x10;
1 ball coupling.

Optional accessories

4 mounting clamps Z3-31,
P/N 059010.
Straight connector IEC130-9
($5 \times 0.75 \text{ mm}^2$, $\varnothing 4-6 \text{ mm}$);
EEM 33-70, unshielded, IP67;
EEM 33-71, shielded, IP40;
Angled connector IEC130-9;
EEM 33-72, shielded, IP40.

Recommended accessories

MAP - Process monitor /display
MUP/MUK - signal conditioners



Order designations

Type	P/N
T-0025	023202
TS-0025	023232
T-0050	023203
TS-0050	023233
T-0075	023204
TS-0075	023234
T-0100	023205
TS-0100	023235
T-0150	023206
TS-0150	023236

Available on request

Type	P/N	independent linearity
T-0025-.1	023207	$\pm 0,1 \%$
TS-0025-.1	023237	$\pm 0,1 \%$
T-0050-.1	023208	$\pm 0,1 \%$
TS-0050-.1	023238	$\pm 0,1 \%$
T-0050-.05	023209	$\pm 0,05 \%$
TS-0050-.05	023239	$\pm 0,05 \%$
T-0075-.05	023213	$\pm 0,05 \%$
TS-0075-.05	023243	$\pm 0,05 \%$
T-0100-.05	023214	$\pm 0,05 \%$
TS-0100-.05	023244	$\pm 0,05 \%$
T-0150-.05	023215	$\pm 0,05 \%$
TS-0150-.05	023245	$\pm 0,05 \%$