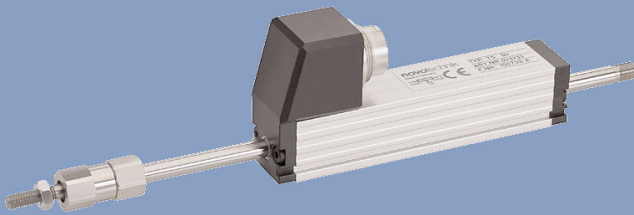
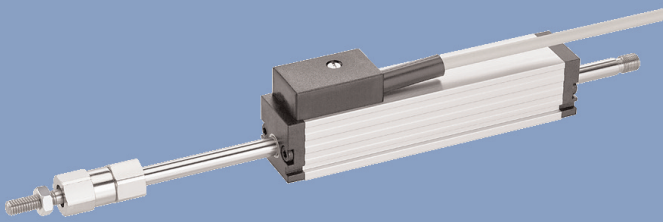


Position Transducers
potentiometric
up to 150 mm

Series T, TS



Special features

- long life up to 100 Mio. movements, depending on application
- outstanding linearity up to $\pm 0.075\%$
- double-sided supported actuating rod
- pre-assembled ball coupling
- high operational speeds up to 10 m/s
- insensitive to shock and vibration
- cable or connector version available

Position transducers with resistive and collector track made from conductive plastic for direct, accurate measurement of travel in display- or feedback applications.

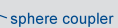
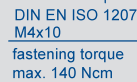
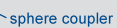
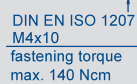
The push rod is supported on both ends by metal glide bearings, allowing high lateral forces on the tip of the rod. The robustness and the compact housing design make this series a reliable solution for the industrial environment.

A ball coupling enables a backlash- and shear force free operation even with perpendicular or angular misalignment

between the transducer axis and the direction of movement.

An elastomer-damped, independent spring-loaded multi-finger wiper ensures a reliable contact also at high adjustment speed, shock and vibration.

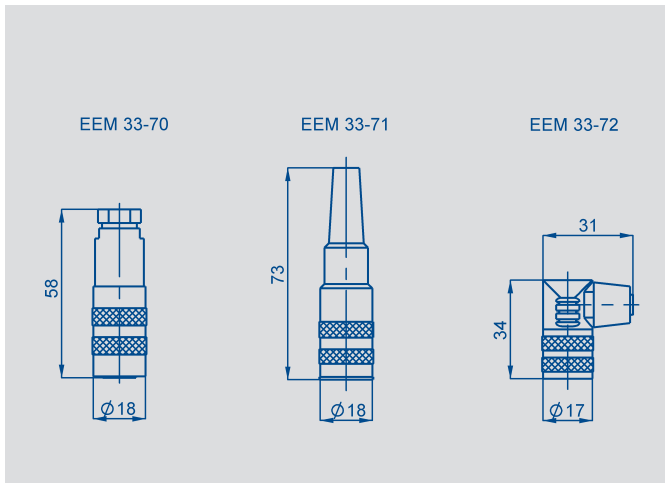
Description	
Housing	aluminium, anodized
Mounting	adjustable clamps
Actuating rod	stainless steel AISI 303
Ball coupling	hardened ball, external thread M5 x 0.5, with spring pressure on carbide plate
Bearings	both ends in glide bearings
Resistance element	conductive-plastic
Wiper assembly	precious metal 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



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 eletrical 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
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)	63	88	113	138	188	+1 mm
Mechanical stroke (dimension B)	30	55	80	105	155	±1,5 mm
Weight with cable with plug	140	160	170	190	220	g
	86	107	132	150	190	g
Weight of actuator 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 fixing screws (with washer)	140					Ncm
Environmental Data						
Temperature range	-30... +100		°C			
Vibration	5... 2000 A _{max} = 0.75 a _{max} = 20		Hz mm g			
Shock	50 11		g ms			
Life	>100 x 10 ⁶		movements			
Protection class	IP 40 (DIN EN 60529)					

Novotechnik
Messwertaufnehmer OHG
Postfach 4220
73745 Ostfildern (Ruit)
Horbstraße 12
73760 Ostfildern (Ruit)
Tel. +49 711 44 89-0
Fax +49 711 44 89-150
info@novotechnik.de
www.novotechnik.de

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Art.-Nr.: 062 723
Subject to changes
Printed in Germany



Order designations	
Type	Art.no.
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

Order designations		
Type	Art.-No.	independent linearity
T-0025-.1	023207	±0,1 %
TS-0025-.1	023237	±0,1 %
T-0050-.1	023208	±0,1 %
TS-0050-.1	023238	±0,1 %
T-0050-.05	023209	±0,05 %
TS-0050-.05	023239	±0,05 %
T-0075-.05	023213	±0,05 %
TS-0075-.05	023243	±0,05 %
T-0100-.05	023214	±0,05 %
TS-0100-.05	023244	±0,05 %
T-0150-.05	023215	±0,05 %
TS-0150-.05	023245	±0,05 %

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

Included in delivery

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

Optional accessories

4 mounting clamps Z3-31,
Art.No. 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

Process-controlled indicators
MAP... with display,



Signal conditioner MUP...
/MUK ... with supply voltage
24 V and standard output
signals.