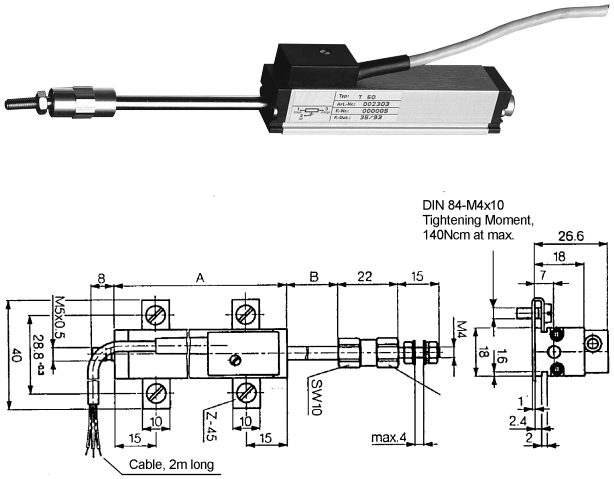
Displacement Sensor, Potentiometric FWA xxx T



- Displacement transducers are suitable for direct, accurate measurement of displacements in automatic control and metrology.
- The pickup of the displacement is performed by using a pull rod with a universal joint. This allows for an actuation that is free from backlash and transverse forces, even in case of parallel and angular displacements of transducer and measuring direction.
- Elastomer-damped, independently resilient multi-finger noble metal sliding contact for reliable contact, even at high adjustment speed, shock or vibration.
- Long life span of 100 x 106 strokes, extraordinary linearity up to ±0.075%, pull rod running on two exact bearings, very high adjustment speed of up to 10m/s, shock and vibration resistant.

! Pre-adjusted in the factory by storing the correction values in the ALMEMO® connector.
The precise adjustment can be locally performed by the user with final measures after the installation.

Technical Data:

Independent linearity:	T25: ±0.2%; T50: ±0.15% T75: ±0.1%; T100: ±0.075% T150: ±0.075%
Housing length (meas. A+1mm):	T25: 63mm; T50: 88mm T75: 113mm; T100: 138mm T150: 188mm
Mech. stroke (meas. B ±1.5mm):	T25: 30mm; T50: 55mm T75: 80mm; T100: 105mm T150: 155mm
Total weight (with 2m cable):	T25: 140g; T50: 160g T75: 170g; T100: 190g T150: 220g
Weight of the pull rod incl. coupling and sliding contact block:	T25: 35g; T50: 43g T75: 52g; T100: 58g T150: 74g

Movability, ball-shaped coupling	±1mm parallel displacement, ±2.5° angular displacement
Operating force (horizontal):	≤ 0.30N
Reproducibility:	0.002mm
Insulation resistance:	≥ 10MW, (500VDC, 1 bar, 2s)
Dielectric strength:	≤ 1mA, (50Hz, 2s, 1 bar, 500VAC)
Max. permissible torque:	140Ncm
Temperature range:	–30 to +100°C
Temperature coefficient:	typ. 5ppm/°C
Vibrations:	5 to 2000Hz/Amax = 0.75mm/amax = 20g
Shock:	50g/11ms
Life span:	> 100 x 106 strokes
Protection system:	IP 40

Option

	Order no.
Plug connection (instead of fixed connected cable), including 3m cable with screwed round socket and ALMEMO® connector	OWA071AK

Types

Working length/resolution, incl. ALMEMO® cable 2m long	Order no.
25 mm / 0,001 mm	**FWA025T**
50 mm / 0,01 mm	**FWA050T**
75 mm / 0,01 mm	**FWA075T**
100 mm / 0,01 mm	**FWA100T**
150 mm / 0,01 mm	**FWA150T**
up to 3000mm working length	on request

included with delivery 2 tensioning clamps Z3-31
including 4 cap screws M4x10, 1 ball-shaped coupling

Other designs are available on request

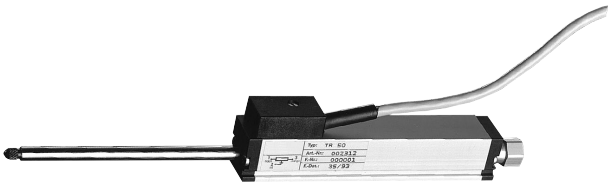


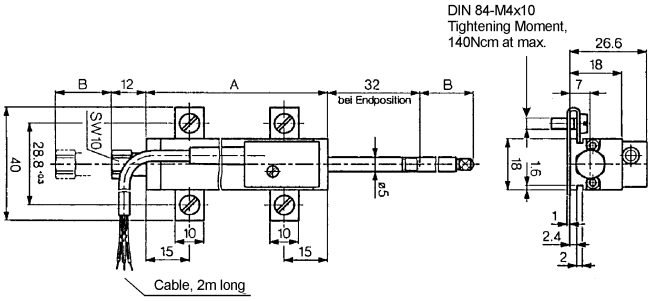
Displacement transducers FWA xxx TEX
with pivot joint Protective class IP54, 10 to 300 mm



Displacement transducers FWA xxx TX2
Protective class IP67 with pivot joint, 25 to 300 mm

Displacement Tracer, Potentiometric FWA xxx TR





- Resistor and collector paths made from conducting plastic.
- Suitable for direct measurements of displacement without a form-locking connection, position detection at stationary measuring objects, tolerance measurements and for continuous contour measurement.
- The pull rod, which is supported on both sides, allows for accepting transverse forces that, for example, occur during a continuous scan of curves or spline parts.
- Rear limit stop is used to provide a simple mechanical coupling of automatic retraction systems, such as pneumatic cylinders or electromagnets.
- Long life span of 100 x 106 strokes, extraordinary linearity up to ±0.075%, tracer pin running on two exact bearings, DIN compliant standard measuring inserts can be used, shock and vibration resistant.

! Pre-adjusted in the factory by storing the correction values in the ALMEMO® connector.
The precise adjustment can be locally performed by the user with final measures after the installation.

Technical Data:

Independent linearity:	TR25: ±0.2%; TR50: ±0.15% TR75: ±0.1%; TR100: ±0.075%
Housing length (meas. A+1mm):	TR25: 63mm; TR50: 94.4mm; TR75: 134.4mm; TR100: 166mm
Mech. stroke (meas. B ±1.5mm):	TR25: 30mm; TR50: 55mm TR75: 80mm; TR100: 105mm
Total weight (with 2m cable):	TR25: 120g; TR50: 150g TR75: 180g; TR100: 200g
Weight of the pull rod incl. coupling and sliding contact block:	TR25: 25g; TR50: 36g TR75: 48g; TR100: 57g
Max. operating frequency: (for most critical application ´probe tip upright´)	TR25: 18Hz; TR50: 14 TR75: 11Hz; TR100: 10Hz

Operating force (horizontal):	≤ 5 N
Reproducibility:	0.002mm
Insulation resistance:	≥ 10MW (500VDC, 1 bar, 2s)
Dielectric strength:	≤ 1mA (50Hz, 2s, 1 bar, 500VAC)
Max. permissible torque:	140Ncm
Temperature range:	–30 to +100°C
Temperature coefficient:	typ. 5ppm/°C
Vibrations:	5 to 2000Hz/Amax = 0.75mm/amax = 20g
Shock:	50g/11ms
Life span:	> 100 x 106 strokes
Protection system:	IP 40

Option	**Order no.**
Plug connection (instead of fixed connected cable), including 3m cable with screwed round socket and ALMEMO® connector	OWA071AK

Types	**Order no.**		**Order no.**
Working length/resolution, incl. ALMEMO® cable 2m long		100 mm / 0,01 mm	**FWA100TR**
25 mm / 0,001 mm	**FWA025TR**	included with delivery	
50 mm / 0,01 mm	**FWA050TR**	2 tensioning clamps Z3-31 including 4 cap screws M4x10,	
75 mm / 0,01 mm	**FWA075TR**	1 probe tip with hard-metal ball	

10/2013 • We reserve the right to make technical changes.