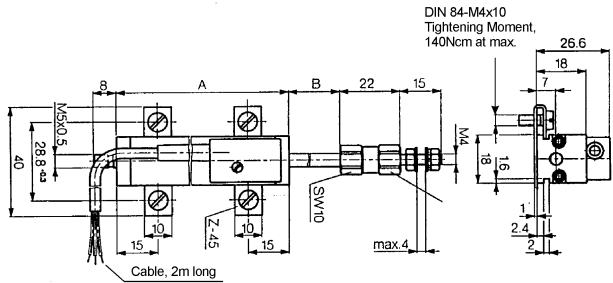


Displacement

Displacement Sensor, Potentiometric FWA xxx T

06/2018 • We reserve the right to make technical changes.



- 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, extraordinary linearity, 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.

New: Measurement of fast changes in displacement with digital ALMEMO® D7 measuring plugs, see page 10.16.

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 10 ⁶ 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

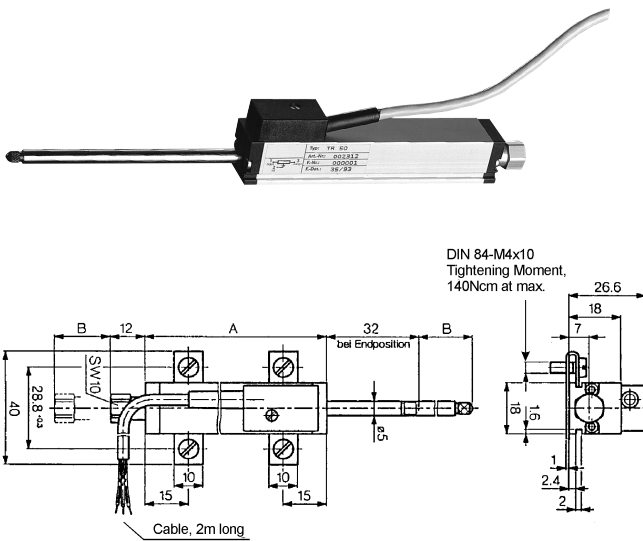
Types	Order no.	Order no.
Working length/resolution, incl. ALMEMO® cable 2m long	100 mm / 0,01 mm	FWA100T
25 mm / 0,001 mm	FWA025T	150 mm / 0,01 mm
50 mm / 0,01 mm	FWA050T	included with delivery 2 tensioning clamps Z3-31 including 4 cap screws M4x10, 1 ball-shaped coupling
75 mm / 0,01 mm	FWA075T	

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, extraordinary linearity, 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.

New: Measurement of fast changes in displacement with digital ALMEMO® D7 measuring plugs, see page 10.16.

Technical Data:

Independent linearity:	TR25: ±0.2%; TR50: ±0.15% TR75: ±0.1%; TR100: ±0.075%	Operating force (horizontal):	≤ 5 N
Housing length (meas. A+1mm):	TR25: 63mm; TR50: 94.4mm; TR75: 134.4mm; TR100: 166mm	Reproducibility:	0.002mm
Mech. stroke (meas. B ±1.5mm):	TR25: 30mm; TR50: 55mm TR75: 80mm; TR100: 105mm	Insulation resistance:	≥ 10MW (500VDC, 1 bar, 2s)
Total weight (with 2m cable):	TR25: 120g; TR50: 150g TR75: 180g; TR100: 200g	Dielectric strength:	≤ 1mA (50Hz, 2s, 1 bar, 500VAC)
Weight of the pull rod incl. coupling and sliding contact block:	TR25: 25g; TR50: 36g TR75: 48g; TR100: 57g	Max. permissible torque:	140Ncm
Max. operating frequency: (for most critical application 'probe tip upright')	TR25: 18Hz; TR50: 14 TR75: 11Hz; TR100: 10Hz	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

Plug connection (instead of fixed connected cable), including 3m cable with screwed round socket and ALMEMO® connector

Order no.

OWA071AK

Types

Working length/resolution, incl. ALMEMO® cable 2m long
25 mm / 0,001 mm
50 mm / 0,01 mm
75 mm / 0,01 mm

Order no.

FWA025TR
FWA050TR
FWA075TR

Order no.

FWA100TR

100 mm / 0,01 mm
included with delivery
2 tensioning clamps Z3-31 including 4 cap screws M4x10,
1 probe tip with hard-metal ball