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, 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.

Other version: Displacement transducer with digital ALMEMO[®] D7 measuring plug, see page 91 Digital sensor, can be calibrated without measuring device. High measured value resolution.

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		
	1150: 188mm		
Mech. stroke (meas. B ± 1.5 mm): 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 couplin	± 1 mm parallel displacement,
	± 2.5 angular displacement
Operating force (horizontal):	≤ 0.30N
Reproducibility:	0.002mm
Insulation resistance:	\geq 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 $= 20$ g
Shock:	50g/11ms
Life span:	> 100 x 106 strokes
Protection system:	IP 40

Options

Plug connection (instead of fixed connected cable), including 3m cable with screwed round socket and $ALMEMO^{*}$ connector

OWA071AK

Order no.

Order no.

Types	Order no.
Working length/resolution, incl. ALMEMO®	cable 2m long
25 mm / 0,001 mm	FWA025T
50 mm / 0,01 mm	FWA050T
75 mm / 0,01 mm	FWA075T

100 mm / 0,01 mmFWA100T150 mm / 0,01 mmFWA150Tincluded with delivery 2 tensioning clamps Z3-31including 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, 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.

Other version:

Displacement transducer with digital ALMEMO® D7 measuring plug, see page 91

Digital sensor, can be calibrated without measuring device. High measured value resolution.

	Independent linearity:	TR25: ±0.2%; TR50: ±0.15%	Operating force (horizontal):
		TR75: ±0.1%;	Reproducibility:
	Housing length (meas. A+1mm	Ising length (meas. A+1mm):TR25: 63mm; TR50: 94.4mm;	
		TR75: 134.4mm; TR100: 166mm	Max. permissible torque: Temperature range:
	Mech. stroke (meas. B ± 1.5 mn	n): TR25: 30mm; TR50: 55mm TR75: 80mm; TR100: 105mm	Temperature coefficient: Vibrations:
	Total weight (with 2m cable):	TR25: 120g; TR50: 150g TR75: 180g; TR100: 200g	Shock:
-	Weight of the pull rod incl. cou and sliding contact block:	ppling TR25: 25g; TR50: 36g TR75: 48g; TR100: 57g	Protection system:
diaiges.	Max. operating frequency: (for upright')	most critical application 'probe tip TR25: 18Hz; TR50: 14 TR75: 11Hz; TR100: 10Hz	

Operating force (horizontal):	\leq 5 N
Reproducibility:	0.002mm
Insulation resistance:	\geq 10MW (500VDC, 1 bar, 2s)
Dielectric strength:	≤ 1 mA (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 ⁴	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 sc	erews M4x10,
75 mm / 0,01 mm	FWA075TR	1 probe tip with hard-metal ball	