DISPLACEMENT

Displacement Sensor, Potentiometric
Type FWAxxxT

Types:
Working length/resolution, incl. ALMEMO® cable 2m long

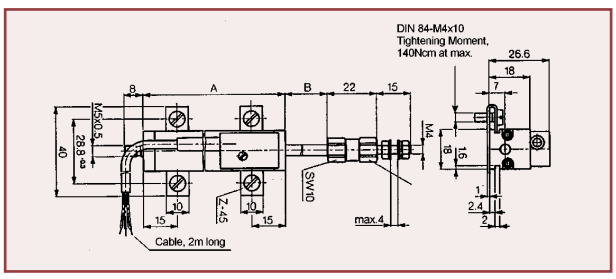
25mm/0.001mm	**Order No. FWA025T**
50mm/0.01mm	**Order No. FWA050T**
75mm/0.01mm	**Order No. FWA075T**
100mm/0.01mm	**Order No. FWA100T**
150mm/0.01mm	**Order No. FWA150T**
up to 3000mm working length	on request

- 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 10^6 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:	≥ 10MΩ (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:

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

Order No. OWA071AK

06/2002 We reserve the right to make technical changes.

Displacement Tracer, Potentiometric
Type FWAxxxTR

Types:
Working length/resolution, incl. ALMEMO® cable 2m long

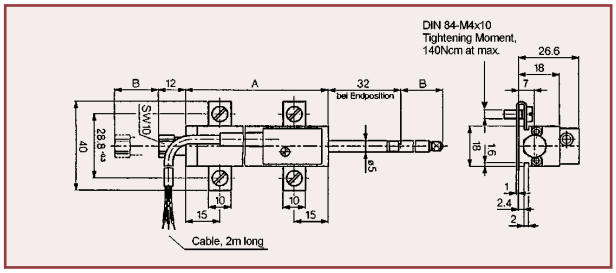
25mm/0.001mm	**Order No. FWA025TR**
50mm/0.01mm	**Order No. FWA050TR**
75mm/0.01mm	**Order No. FWA075TR**
100mm/0.01mm	**Order No. FWA100TR**

- 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 10^6 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:	≥ 10MΩ (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:

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

Order No. OWA071AK