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Siedle Group

Position Transducer with return spring, non-contacting

Series FTI 10

Special features

- noncontacting inductive technology provides ultra-long life
- high precision - linearity of up to ±0.1%
- powered by +24 VDC
- standard 4-20 mA or 0-20 mA output provides reliable signal transmission
- resistant to changes in temperature due to special regulating winding
- complete electrical interchangeability
- environmentally sealed to IP67 or IP50

FTI inductive precision sensors transform linear displacement into an analog output signal. A differential transformer in the compact housing is equipped with a moveable core.

The moveable core is attached to the sensor's input shaft. The input shaft is equipped with a return spring and tipped with a gauging head.

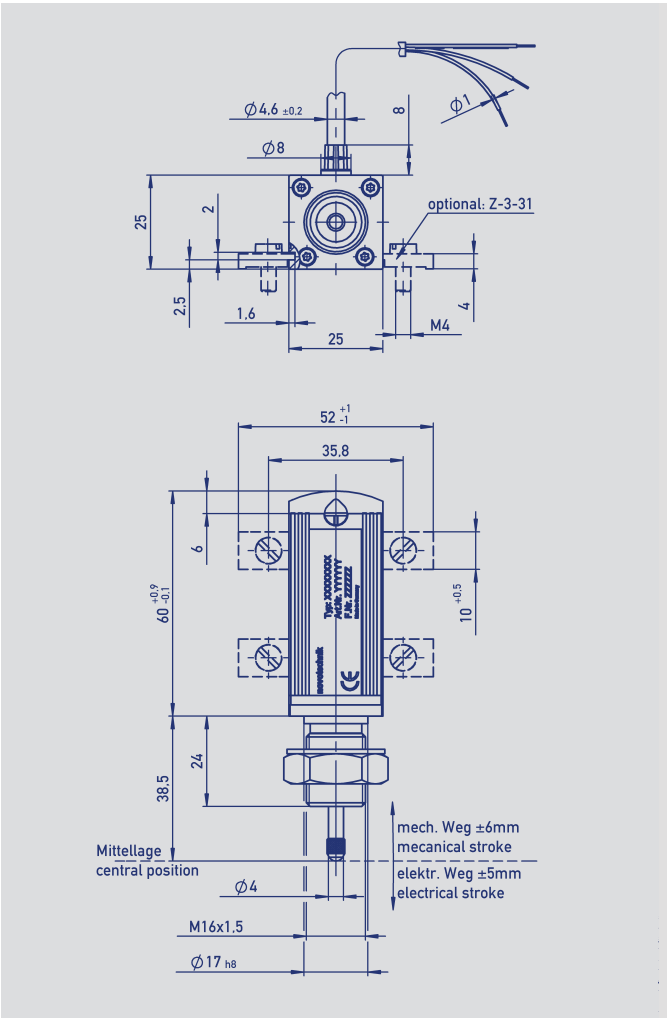
The 24 VDC input power feeds an integrated oscillator, which provides an AC signal to a differential transformer.

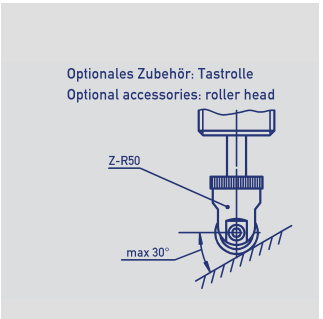
The voltages induced in the secondary windings of the transformer are dependent upon the position of the moveable core. These voltages are further processed by hybrid technology. The resulting current output is proportional to the physical position of the FTI's input shaft.

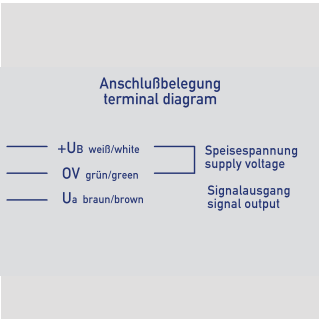
Standardized output signals and absolute linearity (up to ±0.1 %) guarantee a highly accurate measurement value and complete electrical interchangeability.

The FTI can be used under rough environmental conditions, due to its temperature compensation system and completely encapsulated housing. The FTI is sealed to either IP50 or IP67.

Optional roller-head is available on request.







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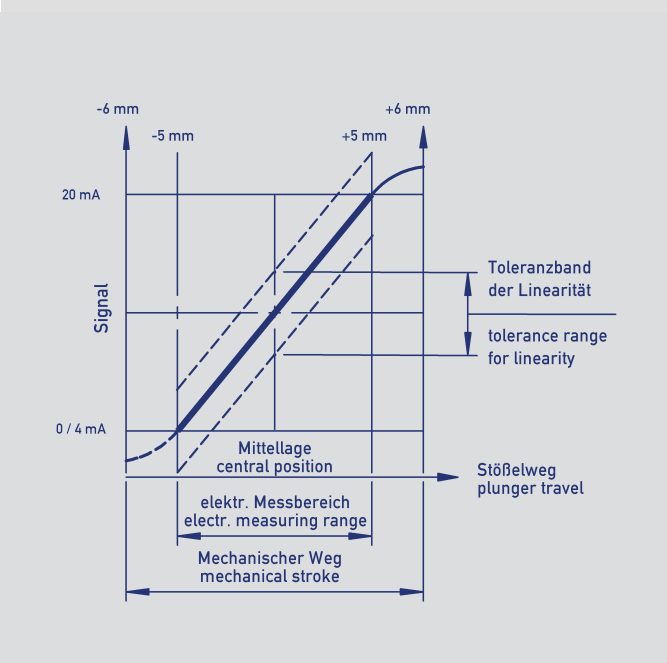
Description		
Housing	anodized aluminium	
Input Shaft	stainless antimagnetic steel, with return spring and anti-rotation feature.	
Gauging head	stainless steel with external thread M 2.5 and pressed-steel ball	
Bearing	maintenance-free plastic bearing	
Fixture	Centering collar with M 16 x 1.5 thread or with mounting clamps on the slot	
Connection	flexible shielded 3-core cable appr. 2 meter long, exits housing on side.	
Electronic circuitry	hybrid circuit	
Reverse polarity protection	yes	
Electrical data		
Electrically defined measurement range	10 (symmetrically within the mech. range)	mm
Absolute linearity (related to the electrical center)	± 0.2 ± 0.4 ± 0.1	% F.S.
Signal output	4 ... 20 (load < 500 Ω) 0 ... 20 (load < 500 Ω)	mA
Repeatability (typical)	≤ 2	µm
Hysteresis (typical)	≥ 10	µm
Dynamic (typical)	< 250	Hz
Supply voltage	18 ... 30	VDC
Max. current consumption	≤ 50	mA
Temperature coefficient of of center range of sensitivity	≤ 100	ppm/K
Max. permissible voltage between the output terminals and housing	100	VDC
Dielectric strength (50 Hz, 500 VAC)	≤ 100	µA
Environmental data		
Temperature range	-25...+70	°C
Frequency of operation	< 10	Hz
Shock	50 11	g ms
Protection class DIN EN 60529	IP 50, IP 67	
Mechanical data		
Dimensions	see drawing	
Mechanical range	12	mm
Required measuring force a) with IP 50 (standard) b) with IP 67 (optional)	 4 10	 N N
Permissible tightening torque at the clamping flange	25	Nm
Mechanical life (affected by radial shaft loading)	100 x 10^6	movem.
Total weight (excluding cable)	90	g

Included in delivery

1 hexagon nut M16x1.5 ISO 8675,
1 lock washer J 16,5 DIN 6797

Optional accessories

Z-FTI-B01 (4 mounting clamps Z-3-31 incl. 4 cylinder screws M4x10), P/N 059010;
Roller head Z-R50, P/N 005678.



Order designations

Type	Linearity in ± %	Protection class in mA	Current otput	P/N
FTI-10-1-50-4-K1	0,1	IP 50	4...20	053101
FTI-10-1-67-4-K1	0,1	IP 67	4...20	053103
FTI-10-1-50-0-K1	0,1	IP 50	0...20	053105
FTI-10-1-67-0-K1	0,1	IP 67	0...20	053107
FTI-10-2-50-4-K1	0,2	IP 50	4...20	053100
FTI-10-2-67-4-K1	0,2	IP 67	4...20	053102
FTI-10-2-50-0-K1	0,2	IP 50	0...20	053104
FTI-10-2-67-0-K1	0,2	IP 67	0...20	053106
FTI-10-4-50-4-K1	0,4	IP 50	4...20	053110
FTI-10-4-67-4-K1	0,4	IP 67	4...20	053112
FTI-10-4-50-0-K1	0,4	IP 50	0...20	053114
FTI-10-4-67-0-K1	0,4	IP 67	0...20	053116