

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.

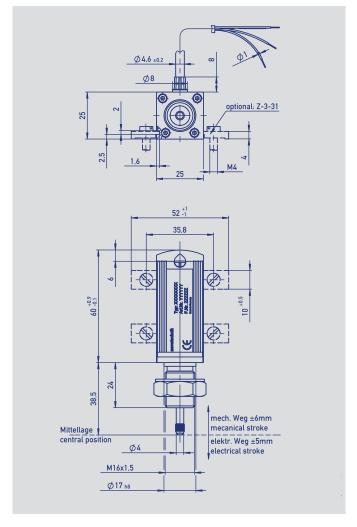
The 24 VDC input power feeds an integrated oscillator, which provides an AC signal to a differential transformer.

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	10	mm		
measurement range	(symmetrically within the mech. range)			
Absolute linearity	± 0.2	% F.S.		
(related to the electrical center)	± 0.4			
	± 0.1			
Signal output	4 20 (load < 500 Ω)	mA		
	0 20 (load < 500 Ω)			
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	≤ 100	ppm/K		
range of sensitivity				
Max. permissible voltage between	100	VDC		
the output terminals and housing				
Dielectric strength	≤ 100	μΑ		
(50 Hz, 500 VAC)		_		
Environmental data				
Temperature range	-25+70	°C		
Frequency of operation	< 10	Hz		
Shock	50	g		
	11	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)	4	N		
o) with IP 67 (optional)	10	N		
Permissible tightening torque	25	Nm		
at the clamping flange				
Mechanical life	100 x 10 ⁶	moven		
affected by radial shaft loading)				
Total weight (excluding cable)	90	g		

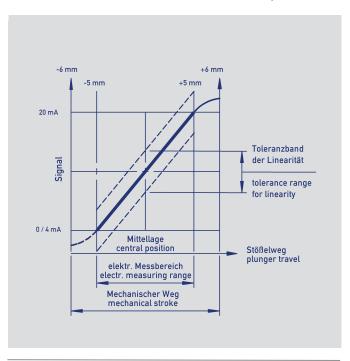
Included in delivery

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					
Туре	Linearity in ± %	Protection class in mA	Current otput	P/N	
FTI-10-1-50-4-K1	0,1	IP 50	420	053101	
FTI-10-1-67-4-K1	0,1	IP 67	420	053103	
FTI-10-1-50-0-K1	0,1	IP 50	020	053105	
FTI-10-1-67-0-K1	0,1	IP 67	020	053107	
FTI-10-2-50-4-K1	0,2	IP 50	420	053100	
FTI-10-2-67-4-K1	0,2	IP 67	420	053102	
FTI-10-2-50-0-K1	0,2	IP 50	020	053104	
FTI-10-2-67-0-K1	0,2	IP 67	020	053106	
FTI-10-4-50-4-K1	0,4	IP 50	420	053110	
FTI-10-4-67-4-K1	0,4	IP 67	420	053112	
FTI-10-4-50-0-K1	0,4	IP 50	020	053114	
FTI-10-4-67-0-K1	0,4	IP 67	020	053116	