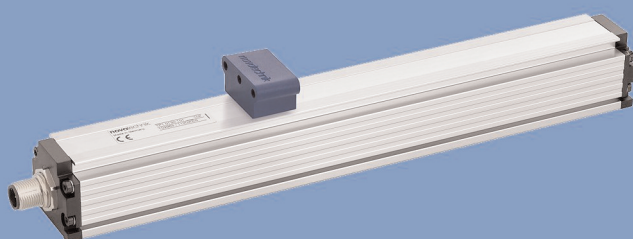




GUEMISA

Sta. Virgilia, 29 - 28033 Madrid - Tfno.: 91 764 21 00
Desde 1986 suministrando sensores e instrumentación.
<http://www.guemisa.com> - ventas@guemisa.com



Special features

- absolute transducer in robust profile design
- NOVOSTRICTIVE non-contacting magnetostrictive measurement principle
- non-contact position detection
- wear-free, unlimited mechanical life span
- Standard output signals current or voltage
- position Teach-In via programming-input
- optional galvanic isolated
- excellent linearity up to 50 µm
- resolution up to 0.001 mm regardless of stroke length
- low temperature coefficient <30 ppm/K
- insensitive to shock and vibration
- cable or connector version available
- protection class IP67 / IP68

Position transducer with NOVOSTRICTIVE non-contacting magnetostrictive measurement principle for direct, accurate measurement of travel in display- or feedback applications. The measurement with floating position marker takes place contactless and therefore wear-free.

The passive position marker (magnet) is optionally as floating or guided design available.

The fixing via mounting clamps allows a very simple, flexible mounting and a precise adjustment of the installation position.

The aluminium housing was designed in such a way, that a closed tight construction form with reduced installation dimensions could be realized. The transducer is insensitive to soiling such as dust, humidity or oils.

**NOVOSTRICTIVE
Transducer
up to 4500 mm
touchless, absolute**

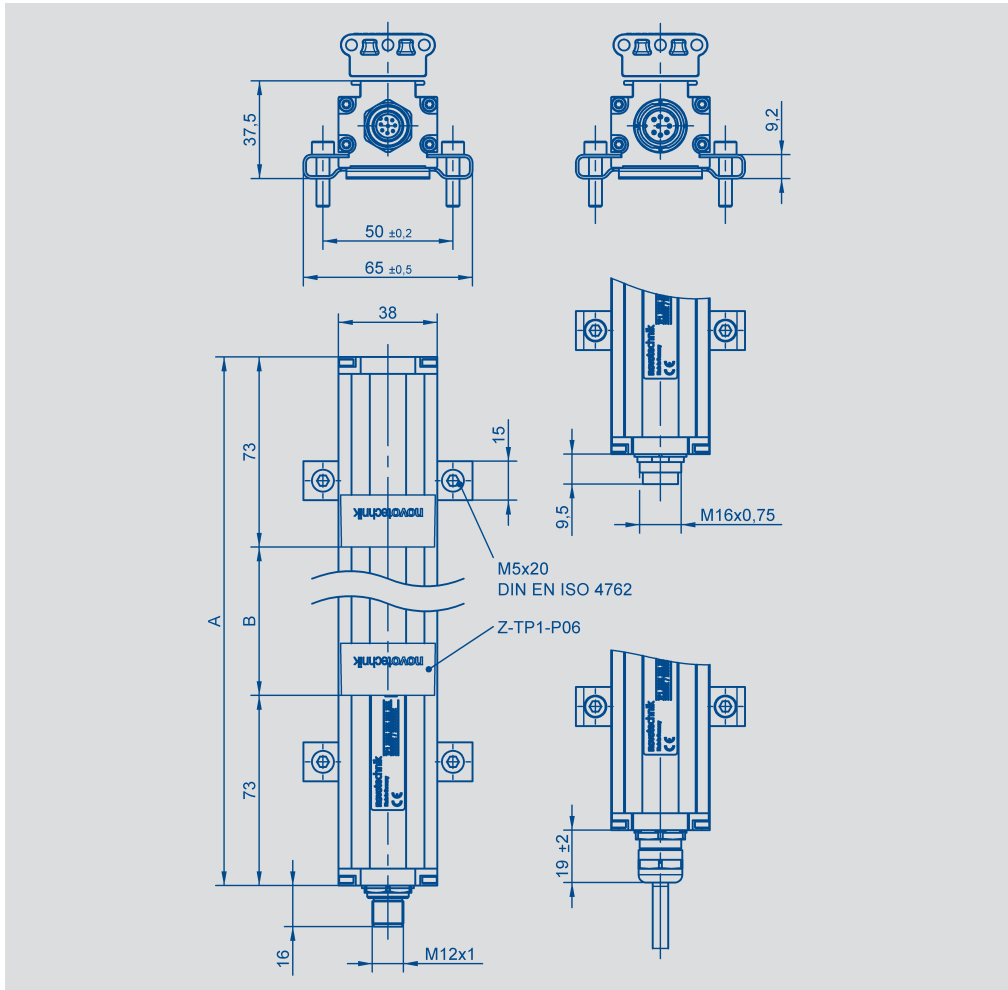
Series TP1
with analog Interface

The high mechanical robustness of the transducer in combination with the measurement principle enables measuring stroke lengths up to 4500 mm.

The integrated advanced ASIC electronics provides an absolute and proportional current- or voltage output signal, alternative also with galvanic isolated DC/DC converter.

Additional interfaces see separate data sheet.

Description	
Housing	Aluminium, anodized, metal end flanges
Mounting	adjustable clamps
Position marker	floating position marker, plastic guided position marker, ball coupling
Measurement principle	NOVOSTRICTIVE touchless magnetostrictive
Electrical connections	8-pin round connector, shielded, M12 x 1 8-pin round connector, shielded, IEC130-9 6-pin round connector, shielded, IEC IEC130-9 8-wire PUR / PVC-cable, 8 x 0.25 mm ² , shielded: 1 m, 5 m or 10 m length
Electronic	SMD with ASIC, integrated Connector casing resp. shield is connected with the sensor housing, housing is capacitive decoupled to the electronic

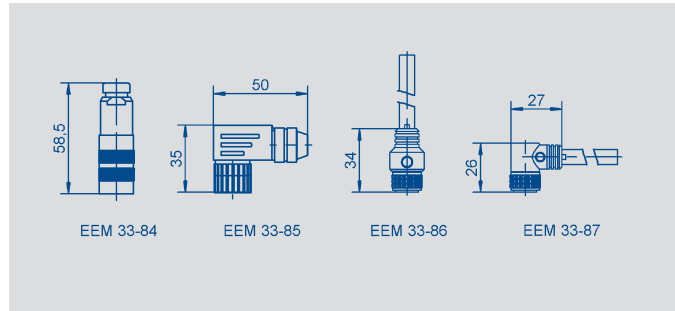
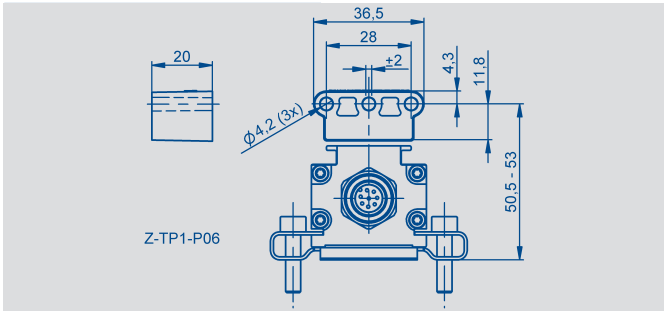


The analog interfaces provide by default a Teach-In function via the electrical connection.

Output connector Code 101, 102	Cable Code 201, 203, 205	Connector with cable EEM33-86, EEM33-87	Analog current	Analog voltage
PIN 1	YE	WH	0(4)...20 mA	do not connect
PIN 2	GY	BN	signal GND	signal GND
PIN 3	PK	GN	do not connect	+10...0(-10) VDC
PIN 4	RD	YE	DIAG *	DIAG *
PIN 5	GN	GY	do not connect	0(-10)...+10 VDC
PIN 6	BU	PK	supply GND	supply GND
PIN 7	BN	BU	+24 VDC	+24 VDC
PIN 8	WH	RD	PROG *	PROG *
Output connector Code 103	Analog voltage	Analog current	*) connect only for Teach-In function (see manual).	
PIN 1	0...10 VDC	0 (4)...20 mA		
PIN 2	signal GND	signal GND		
PIN 3	10...0 VDC	do not connect		
PIN 4	supply GND	supply GND		
PIN 5	+24 VDC	+ 24 VDC		
PIN 6	supply GND	supply GND		

Type designations	TP1 - _ _ _ _ - 101 - 41 _ _ _ _ Analog voltage	TP1 - _ _ _ _ - 101 - 42 _ _ _ _ Analog current	
Electrical Data			
Electrical measuring range (dimension B)	0050 up to 4500	0050 up to 4500	mm
Absolute linearity	$\leq \pm 0.02$ % F.S. (min. ± 50 μm)	$\leq \pm 0.02$ % F.S. (min. ± 50 μm)	
Tolerance of electr. zero point	± 0.5 (min. 2 x reproducibility)	± 0.5 (min. 2 x reproducibility)	mm
Output signal	Voltage 0.1 ... 10 VDC (load ≥ 5 k Ω) -10 ... 10 VDC (load ≥ 5 k Ω)	Current 0.1 ... 20 mA (burden ≤ 500 Ω) 4 ... 20 mA (burden ≤ 500 Ω)	
Resolution	16	16	Bit
Reproducibility	≤ 0.03	≤ 0.03	% F.S.
Hysteresis	≤ 0.01	≤ 0.01	% F.S.
Supply voltage	24 (19...30)	24 (19...30)	VDC
Supply voltage by galvanic isolation	24 (18...36) see ordering specifications		VDC
Supply voltage ripple	≤ 10	≤ 10	% V _{ss}
Current consumption	≤ 100	≤ 100	mA
Output update rate max. *	16	16	kHz
Temperature coefficient	≤ 30 (min. 0.01 mm/K)	≤ 30 (min. 0.01 mm/K)	ppm/K
Overvoltage protection	40 (temporary / 1 min.)	40 (temporary / 1 min.)	VDC
Polarity protection	up to U _{max}	up to U _{max}	VDC
Signal output protection	up to U _{max}	up to U _{max}	VDC
Insulation resistance (500 VDC)	≥ 10	≥ 10	M Ω
Mechanical Data			
Dimensions	see drawing	see drawing	
Body length (dimension A)	Dimension B + 146	Dimension B + 146	± 2 mm
Environmental Data			
Operating temperature range	-40...+85	-40...+85	$^{\circ}\text{C}$
Storage temperature range	-40...+105	-40...+105	$^{\circ}\text{C}$
Operating humidity range	0...95 (no condensation)	0...95 (no condensation)	%R.H.
MTTF (ISO 13849-1, parts count method, w/o load)	23	23	years
Shock per DIN IEC68T2-27	100 (11 ms) (single hit)	100 (11 ms) (single hit)	g
Vibration per DIN IEC 68T2-6	20 (5...2000 Hz, A _{max} =0.75 mm) g	20 (5...2000 Hz, A _{max} =0.75 mm) g	g
Protection class per DIN EN 60529	IP67 with fastened connector IP68 with cable connection	IP67 with fastened connector IP68 with cable connection	
Mechanical data when used with floating position marker			
Max. traverse speed with valid output signal	10		ms ⁻¹
Max. traverse acceleration with valid output signal	200		ms ⁻²
Life	mechanically unlimited		
Standard defined measuring range (dimension B)	50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300, 325, 350, 375, 400, 425, 450, 475, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2250, 2500, 2750, 3000, 3250, 3500, 3750, 4000, 4250, 4500 Other lengths on request.		
CE-Conformity			
Emission	RF noise field strength EN 55011, class B		
Noise immunity	ESD EN 61000-4-2 Radiated immunity EN 61000-4-3 Burst EN 61000-4-4 Conducted disturbances induced by RF fields EN 61000-4-6		

*J) data are extrapolated, internal update rate depending on length



Ordering specifications

Preferred types printed in bold

T P 1 - 0 8 0 0 - 1 0 1 - 4 1 1 - 1 0 2	Mech. version 101: Profile design	Electrical interface 4: Analog interfaces	Output signal analog interfaces 4 _ _ 1: Voltage output 2: Current output	Analog interfaces voltage output 41_ 1: 0 VDC...10 VDC und 10 VDC...0 VDC 4: 0 VDC...10 VDC galvanic isolated 6: -10 VDC ... +10 VDC galvanic isolated	Analog interfaces current output 42_ 1: 0 mA... 20 mA 2: 20 mA... 0 mA 3: 4 mA... 20 mA 4: 20mA... 4 mA	Electrical connection 101: 8-pin round connector IEC130-9 102: 8-pin round connector M 12x1 103: 6-pin round connector IEC130-9 201: NT standard cable 1 m 203: NT standard cable 3 m 205: NT standard cable 5 m
	Series	Electrical measuring range Standard lengths 0050 up to 4500 mm 0050 up to 0500 mm in 25 mm-steps, 0500 up to 1000 mm in 50 mm-steps, 1000 up to 2000 mm in 100 mm-steps, 2000 up to 4500 mm in 250 mm-steps. Other lengths on request				

Included in delivery

Mounting clamps Z46 electr. isolating incl. cylinder screws.

Required accessories

Floating position marker Z-TP1-P06, Art.No. 005693,
 Z-TP1-P07, Art.No. 005694,
 Guided position marker Z-TP1-P08, Art.No. 005695.
 Other position markers on request.

Recommended accessories

Straight connector IEC 130-9 8-pin, EEM 33-84, 6-pin, EEM 33-82.
 Angled connector IEC 130-9 8-pin, EEM 33-85, 6-pin, EEM 33-94.
 PUR-cable with 8-pin female connector M12 x 1, 8 x 0.25 mm², shielded:
 2 m length, EEM 33-86, 5 m length, EEM 33-90, 10 m length, EEM 33-92;
 PUR-cable with 8-pin female angled connector, M 12 x 1, 8 x 0.25 mm², shielded:
 2 m length, EEM 33-87, 5 m length, EE 33-91, 10 m length, EEM 33-93.
 Actuating rods Z-TP1-S01... for position marker Z-TP1-P08.

Available on request

Standard cable 10 m
 Specific connectors
 Digital, incremental and fieldbus interfaces (s. separate data sheets).

Important

Avoid equalizing currents in the cable shield caused by potential differences. Twisted pair cable is recommended.