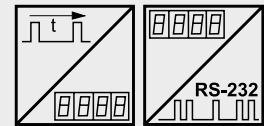


PRODIS® PD-TDC Digital Process Meter for Time-of-Flight Sensors



- For POSICHRON® position sensors with pulse output
- Integrated sensor supply
- 6-digit LED display
- RS-232 interface
- Optional 4 comparator Output
- Easy programming



Description

PRODIS-TDC displays measurement values of magnetostrictive position sensors, programmable scaling is provided to display units like mm or inch. The request signal will be sent to the sensor periodically. The time between the start pulse and the stop pulse will be counted by a high resolution time-digital converter (TDC). When used with a POSICHRON sensor the calibration parameters of the sensor will be uploaded to the meter at power-on. This avoids the need for recalibration when the sensor has been changed. A tare function or programming lock can be activated by two control terminals.

Sensor excitation is supplied by the meter. Optional comparator functions with 4 NPN open-collector Output are available, additional 2 of them have relay output.

Specifications

Display	6-digit, 7-segment LED, height 14 mm [.55 in.], decimal point programmable
Sampling rate	1 ... 5 ms, programmable
Excitation voltage/current	24 V DC $\pm 10\%$ /150 mA, residual ripple 1% _{pp} ; 85-250 V AC, 50-60 Hz/180 mA max.
Sensor excitation	24 V DC/300 mA
Request pulse output	INIT, $\overline{\text{INIT}}$ (RS422)
Start/stop pulse input	STSP, $\overline{\text{STSP}}$ (RS422)
Control inputs	2 control inputs 24 V, active low
Comparator Output (option)	Relay NPN 250 V AC/5 A, 30 V DC/5 A 24 V max./50 mA to GND
Connection	Terminal strip 12 pole, excitation 3 pole
Temperature coefficient	$\pm 20 \times 10^{-6} / ^\circ\text{C}$
Operating temperature	-10 ... +40 °C
Storage temperature	-20 ... +85 °C
Weight	24 V DC: approx. 250 g; 230 V AC: approx. 400 g
Protection class	Front IP60, rear IP40
Humidity	Max. 80 % R.H, non condensing
Safety of equipment	Directive 73/23/EWG: DIN EN61010:2002-03
Electromagnetic compatibility	Directive 89/336/EWG

Order Code PRODIS-TDC

Model Name

Excitation Voltage

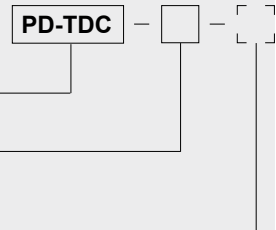
24VDC = 24 V DC

230VAC = 85...250 V AC

Options

REL2 = Comparator

DT = Desktop version



Order example: PD - TDC - 24VDC - REL2

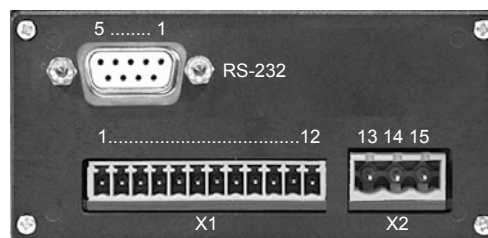
PRODIS® PD-TDC Digital Process Meter for Time-of-Flight Sensors



Programmable parameters / value range	Divisor, multiplier, offset, limit values	0 to 999999
	Other programmable parameters	Wave speed, average function, edge evaluation, use with several magnets, difference evaluation, decimal point position, display brightness

Wiring basic unit	Signals	Connector X1 pin no.	Connector X2 pin no.
		Sensor excitation +U _B 24 V	1
	Sensor excitation 0 V (GND)	2	
	Control input terminal 1 active low	3	
	Control input terminal 2 active low	4	
	Not used	5 / 6	
	INIT output request pulse	7	
	$\overline{\text{INIT}}$ output request pulse	8	
	STSP input start/stop pulse	9	
	$\overline{\text{STSP}}$ input start/stop pulse	10	
	Do not connect!	11	
	GND	12	
	PD-TDC-24VDC		
	Excitation +24 V		13
	Excitation 0 V (GND)		14
	PD-TDC-230VAC		
	Excitation		13, 15
	Protective ground		14

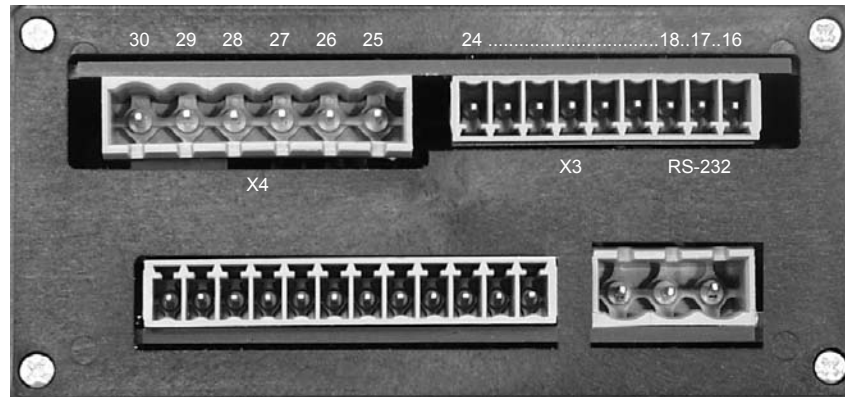
Rear view without comparator Output



RS-232 interface	Level	RS-232: ±8 V, galvanically isolated	
	Data format	1 start bit, 8 data bits, 1 stop bit, no parity	
	Transmission rate	4800 / 9600 / 19200 / 115200 Baud	
	Signals	Connector X3, pin no.	D-Sub, pin no.
	TxD	17	2
RxD	16	3	
GND	18	5	

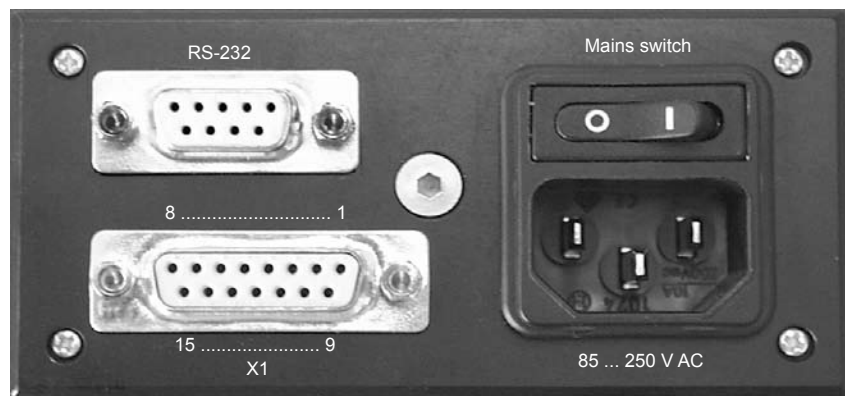
For rear view with comparator Output and outline drawings see pages 86 and 87.

Rear view with comparator Output



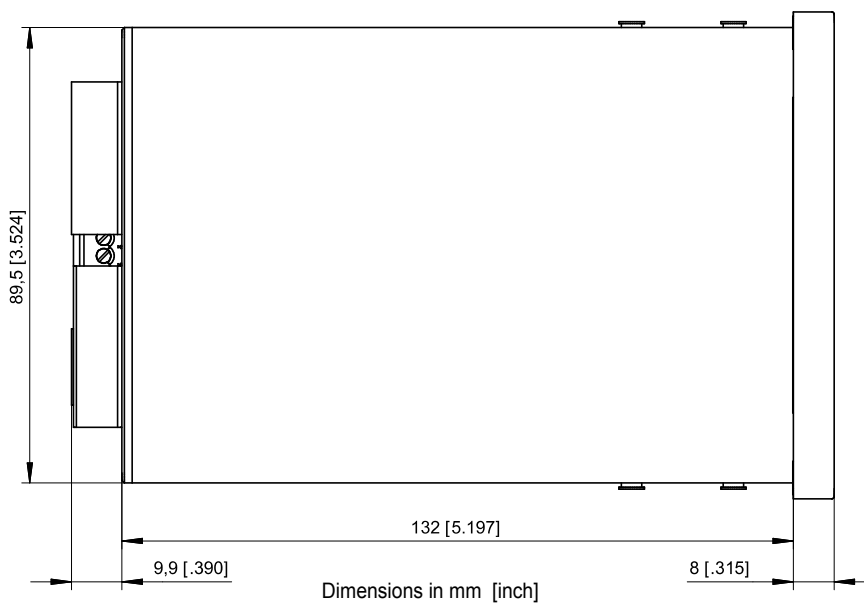
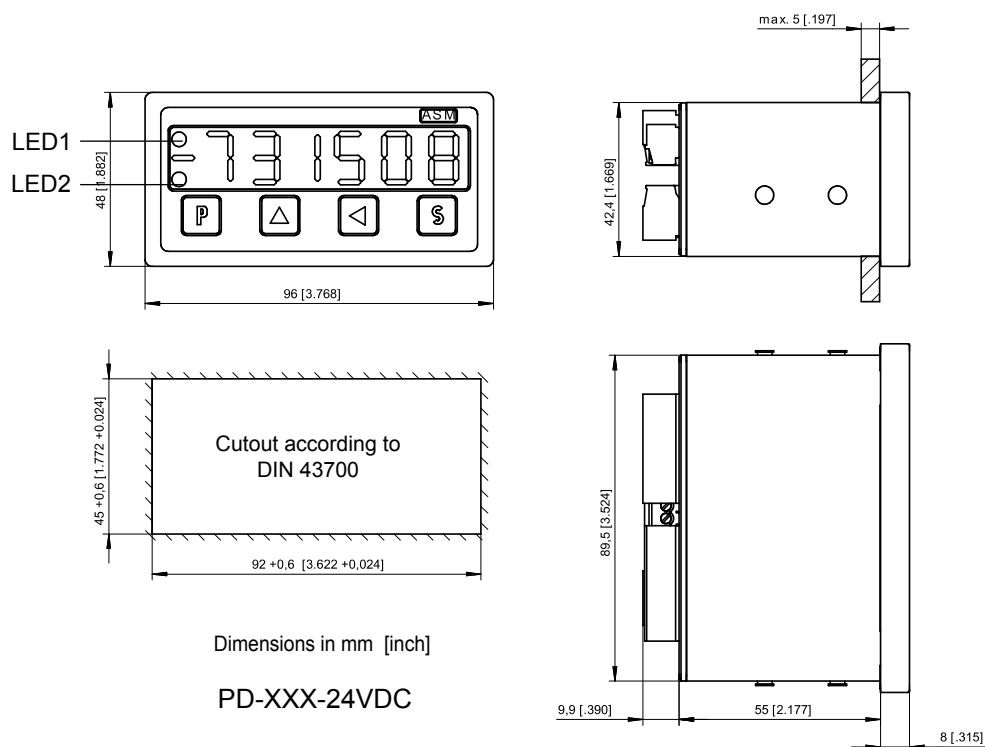
Comparator function (option)	Comparator	Comparator output			
	NPN Collector	Connector X3 pin no.	Relay	Connector X4 pin no.	LED
Comparator 1	NPN1	20	Relay 1	25	LED1
			NO		
Comparator 2	NPN2	21	Relay 2	28	LED2
			NO		
Comparator 3	NPN3	22			
Comparator 4	NPN4	23			
	NPN GND	24			
	NPN U _B (+24V)	19			

Desktop version (option)



Wiring of connector X1 see table at page 81 (PD-ADC), page 83 (PD-TDC) resp. page 85 (PD-SSI).

Outline drawing



PD-XXX-230VAC

Dimensions informative only.
 For guaranteed dimensions
 consult factory.