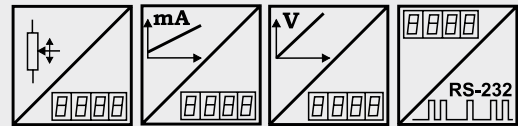


# PRODIS® PD-ADC Digital Process Meter for analog Sensors



- For WS® position sensors with analog output:
  - Voltage 0 ... 10 V
  - Current 0/4 ... 20 mA
  - Potentiometer (voltage divider)
- Integrated sensor supply
- 6-digit LED display
- RS-232 interface
- Optional 4 comparator Output
- Easy programming



## Description

PRODIS-ADC is designed for use with analog position sensors to display angle and displacement. A high resolution A/D converter processes signals from sensors with voltage or current output.

The meter is programmable to display values within preset start/end range or values in units as inches, mm or degrees. A tare function or programming lock can be activated with two control terminals.

Sensor excitation is supplied by the meter. With four membrane keys all parameters can be programmed for the special applications. Optional comparator functions with 4 NPN open-collector Output are available, additional 2 of them have relay output.

| Specification              |              |   |
|----------------------------|--------------|---|
| Display                    |              | 6-digit, 7-segment LED, height 14 mm, decimal point programmable  |
| Counting rate              |              | 1 ... 25/s programmable   |
| Measurement accuracy       |              | ±0.05 % f.s.  |
| Excitation voltage/current |              | 24 V DC ±10%/150 mA, residual ripple 1% <sub>pp</sub> ;<br>85-250 V AC, 50-60 Hz/180 mA max.  |
| Sensor excitation          |              | 24 V DC/300 mA; 5 V/10 mA   |
| Input                      |              | Two channels, each for:<br>Voltage 10V; U1; U2; U3; max. 24V<br>Current I1, load 100 Ω, I <sub>max</sub> <30 mA<br>Voltage divider R <sub>min</sub> =500 Ω, 0 ... 5 V<br>One input or the difference between both inputs can be chosen by programming |
| Control input              |              | 2 control inputs 24 V, active low   |
| Comparator Output (option) | Relay<br>NPN | 250 V AC/5 A, 30 V DC/5 A<br>24 V max./50 mA to GND   |
| Connection                 |              | Terminal strip 12 pole, excitation 3 pole   |
| Temperature coefficient    |              | ±20 x 10 <sup>-6</sup> / °C   |
| Operating temperature      |              | -10...+40 °C  |
| Storage temperature        |              | -20...+85 °C  |

## Order Code PRODIS-ADC

### Model Name

### Excitation Voltage

24VDC = 24 V DC

230VAC = 85...250 V AC

### Options

REL2 = Comparator

DT = Desktop version

PD-ADC

**Order example: PD - ADC - 24VDC - REL2**

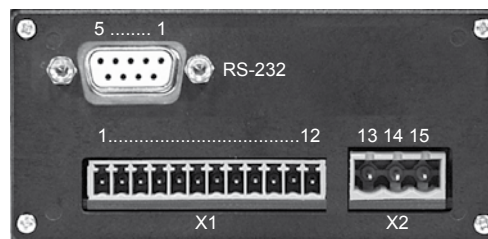
# PRODIS® PD-ADC Digital Process Meter for analog Sensors



|  |                                    |   |
|--|------------------------------------|---|
| <b>Specifications</b><br>(continuation)      | 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, EMC | Directive 89/336/EWG                            |
| <b>Programmable parameters / value range</b> | Value range offset, limit values   | -999999 to +999999                              |
|  | Divisor, multiplier                | 0 to 999999                                     |
|  | Other programmable parameters      | Decimal point position, display brightness      |
|  | Control input terminals            | Key lock, display value hold, tare function     |

| <b>Wiring basic unit</b> | <b>Signals</b>                                  | <b>Connector X1<br/>pin no.</b>        | <b>Connector X2<br/>pin no.</b> |
|--------------------------|---|--|---------------------------------|
|                          |   | Sensor excitation +U <sub>B</sub> 24 V | 1                               |
|                          | Sensor excitation 0 V (GND)                     | 2                                      |                                 |
|                          | Control input terminal 1: tare function         | 3                                      |                                 |
|                          | Control input terminal 2: programming lock      | 4                                      |                                 |
|                          | Voltage input terminal 0 ... 10 V, channel 1    | 5                                      |                                 |
|                          | Voltage input terminal 0 ... 10 V, channel 2    | 6                                      |                                 |
|                          | Current input terminal 0/4 ... 20 mA, channel 1 | 7                                      |                                 |
|                          | Current input terminal 0/4 ... 20 mA, channel 2 | 8                                      |                                 |
|                          | Voltage divider input terminal, channel 1       | 9                                      |                                 |
|                          | Voltage divider input terminal, channel 2       | 10                                     |                                 |
|                          | Sensor excitation, R1K +U <sub>B</sub> 5V       | 11                                     |                                 |
|                          | GND   | 12                                     |                                 |
|                          | PD-ADC-24VDC                                    |  |                                 |
|                          | Excitation +24 V                                |  | 13                              |
|                          | Excitation 0 V (GND)                            |  | 14                              |
|                          | PD-ADC-230VAC                                   |  |                                 |
|                          | Excitation                                      |  | 13, 15                          |
|                          | Protective ground                               |  | 14                              |

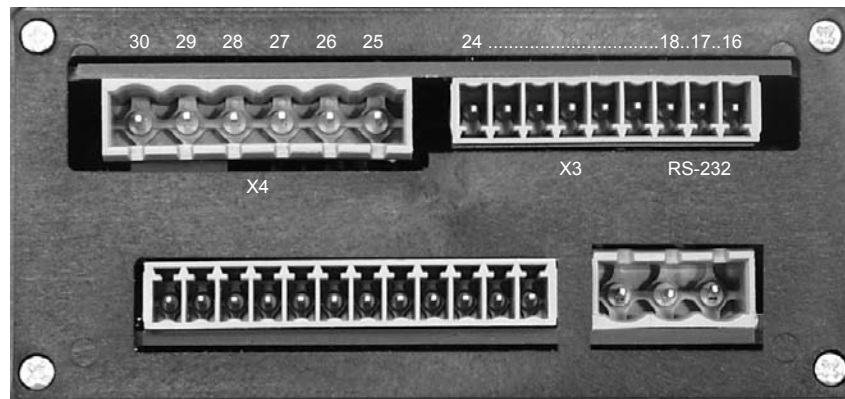
Rear view without  
comparator Output



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

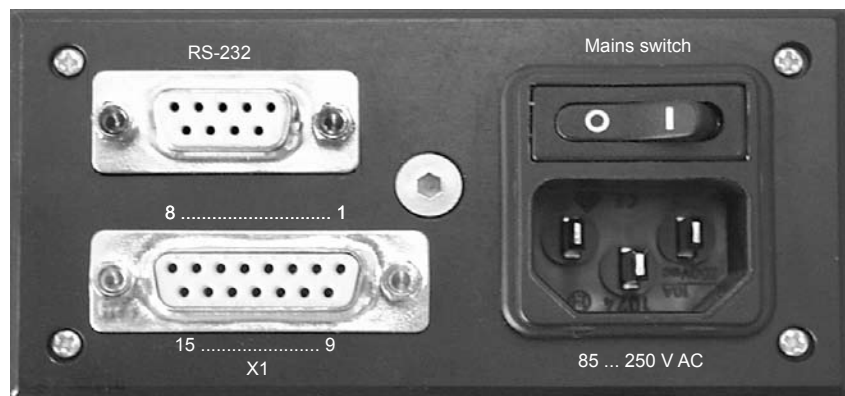
For rear view with comparator Output and outline drawings see pages 90 and 91.

Rear view with  
 comparator Output



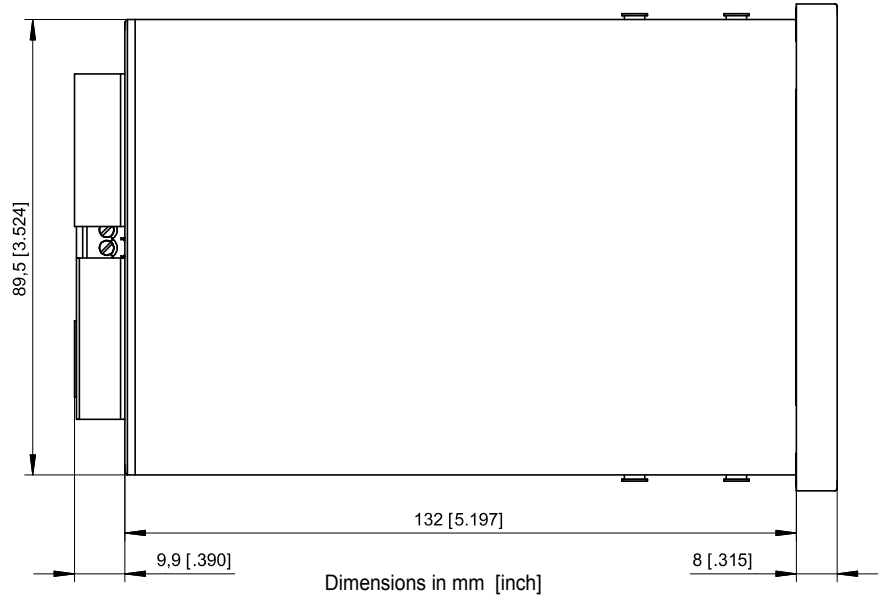
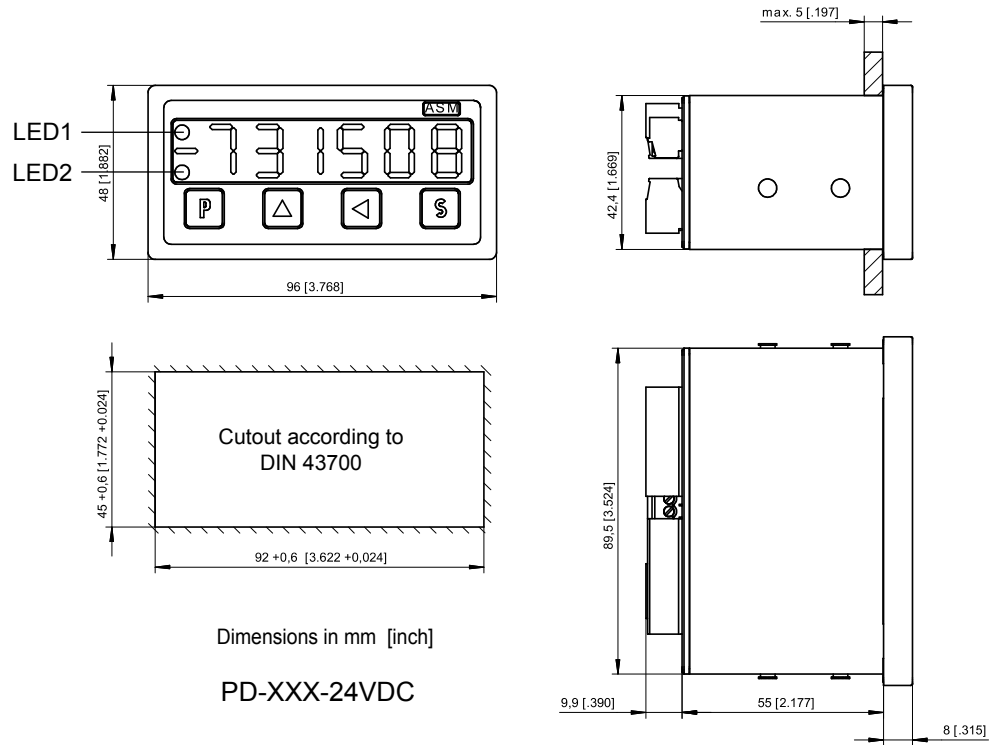
| Comparator function (option) | Comparator                | Comparator output    |         |                      |      |
|------------------------------|---------------------------|----------------------|---------|----------------------|------|
|                              | NPN Collector             | 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 <sub>B</sub> (+24V) | 19                   |         |                      |      |

**Desktop version**  
 (option)



Wiring of connector X1 see table at page 85 (PD-ADC), page 87 (PD-INC) resp. page 89 (PD-SSI).

**Outline drawing**



PD-XXX-230VAC

Dimensions informative only.  
 For guaranteed dimensions  
 consult factory.