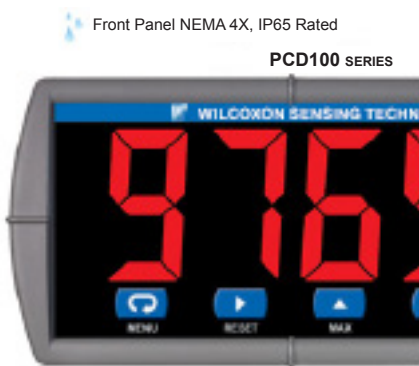


# Process and temperature meters

## PCD100 series

The PCD100 digital panel meters are one of the most versatile on the market, and are used in a wide variety of process and temperature applications. The PCD100 can be field programmed to accept common process voltage (1-5V,  $\pm 10V$ ) and current (0-20 mA, 4-20 mA) inputs, 100  $\Omega$  RTDs, and the four most common thermocouples. One of the PCD100's most useful features is its ability to provide 24 VDC to power the transmitter's 4-20 mA signal. There are two power options: 85-265 VAC or 12-36 VDC. The meter can be programmed via front panel or remotely.



The display is four full digits, meaning it can display numbers up to 9999, an advantage over most digital panel meters. The PCD100 can display type K thermocouples to 2300°F and 4-20 mA signals up to 9,999.

The meter is supplied with two alarm points that include front panel red LEDs to indicate alarm conditions, making it particularly useful for alarm applications that require visual-only indication.

### Key features

- NEMA 4X, IP65 front panel
- 4-20 mA,  $\pm 10V$ , TC & RTD field-selectable inputs
- Options for 2 relays, isolated 4-20 mA output, and 24 VDC transmitter power supplies
- Includes PC-based programming and monitoring software
- External contacts for remote button operation

### Certifications



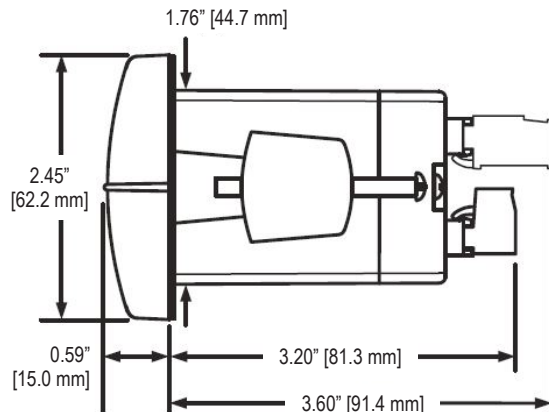
Ordering information		
85-265 VAC	12-36 VDC	Options installed
PCD100-265-B-N-0	PCD100-24-B-N-0	none
PCD100-265-B-N-200		24 VDC transmitter supply
PCD100-265-B-2R-0	PCD100-24-B-2R-0	2 relays
PCD100-265-B-2R-200		2 relays + 24 VDC transmitter supply
PCD100-265-B-420-0	PCD100-24-B-420-0	4-20 mA output
PCD100-265-B-420-200		4-20 mA output + 24 VDC transmitter supply
PCD100-265-B-420-240		4-20 mA output + dual 24 VDC transmitter supplies
	PCD100-24-B-2R420-0	2 relays + 4-20 mA output
PCD100-265-B-2R420-200		2 relays + 4-20 mA output + 24 VDC transmitter supply

Note: Due to continuous process improvement, specifications are subject to change without notice. This document is cleared for public release.

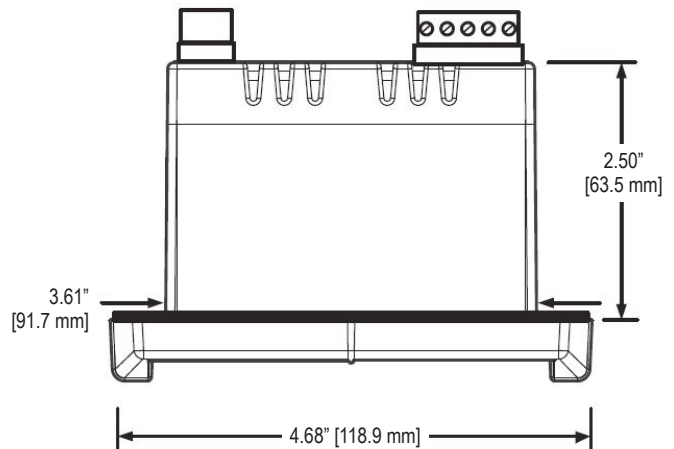
# Process and temperature meters

## PCD100 series

### DIMENSIONS



Side view



Top view

### SPECIFICATIONS

#### GENERAL

<b>Display</b>	1.2" (30.5 mm) height, 4 digits, red LED
<b>Display intensity</b>	Eight levels, user-selectable
<b>Front panel</b>	NEMA 4X, IP65 (panel gasket provided)
<b>Programming methods</b>	Four front panel buttons, cloning with Copy feature, PC with MeterView software, Modbus registers
<b>Power options</b>	85-265 VAC, 50/60 Hz; 90-265 VDC, 20 W max or 12-36 VDC; 12-24 VAC, 6 W max
<b>Required fuse</b>	UL recognized, 5 A max, slow-blow; up to 6 meters may share one fuse
<b>Isolation</b>	4 kV input/output-to-power line; 500 V input-to-output or output to 24 VDC supplies; -2R420 models only: 100 V output-to-24 VDC supply
<b>Temperature range</b>	Operating: -40° to 65°C Storage: -40° to 85°C
<b>Relative humidity</b>	0 to 90% non-condensing
<b>Connections</b>	Power & signal: removable screw terminal blocks accept 12 to 22 AWG Serial: RJ11 header, standard on all meters
<b>Enclosure</b>	1/8 DIN, high impact plastic, 94V-0, color: gray
<b>Weight</b>	269 grams (9.5 oz) (including options)

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# Process and temperature meters

## PCD100 series

### SPECIFICATIONS

#### PROCESS INPUTS

<b>Inputs</b>	0-20 mA, 4-20 mA, 1-5 V, $\pm 10V$
<b>Transmitter supply</b>	Isolated, one or two transmitter supplies
<b>P1</b>	24 VDC $\pm 10\%$ @ 200 mA max (-200 models)
<b>P1 &amp; P2</b>	24 VDC $\pm 10\%$ @ 200 mA and 40 mA max (-240 models)
<b>Accuracy</b>	$\pm 0.05\%$ FS $\pm 1$ count; square root: $\pm 0.1\%$ FS $\pm 2$ counts
<b>Function</b>	linear or square root
<b>Calibration range</b>	user programmable over entire range of meter
<b>Input impedance</b>	Voltage range: $>1$ M $\Omega$ Current range: 50-100 $\Omega$ , varies with resettable fuse impedance
<b>Input overload</b>	protected by automatically resettable fuse
<b>Temperature drift</b>	see table 1

#### TEMPERATURE INPUTS

<b>Inputs</b>	Factory-calibrated, field selectable, type J, K, T, or E (see table 2)
<b>Resolution</b>	1°; type T TC & RTD: 1° or 0.1°
<b>Cold junction reference</b>	automatic
<b>Temperature drift</b>	$\pm 2^\circ\text{C}$ maximum
<b>Offset adjustment</b>	programmable to $\pm 19.9^\circ$ (allows user to apply an offset value to the temperature being displayed)
<b>Input impedance</b>	$>100$ k $\Omega$

#### RELAYS

<b>Rating</b>	2 Form C (SPDT); rated 3 A @ 30 VDC or 3 A @ 250 VAC resistive load; 1/14 HP (=50 watts) @ 125/250 VAC for inductive loads
<b>Relay operation</b>	
<b>Time delay</b>	0 to 199 seconds, on and off delays; programmable

Input	0 to 65°C ambient	-40 to 0°C ambient
Current	$\pm 0.20\%$ FS (50 PPM/°C)	$\pm 0.80\%$ FS
Voltage	$\pm 0.02\%$ FS (1.7 PPM/°C)	$\pm 0.06\%$ FS

Type	Range	Acc. (0 to 65°C)	Acc. (-40 to 0°C)	Resolution
J	-58° to 1382°F -50°C to 750°C	$\pm 2^\circ\text{F}$ $\pm 1^\circ\text{C}$	$\pm 5^\circ\text{F}$ $\pm 3^\circ\text{C}$	1°
K	-58° to 2300°F -50°C to 1260°C	$\pm 2^\circ\text{F}$ $\pm 1^\circ\text{C}$	$\pm 4^\circ\text{F}$ $\pm 2^\circ\text{C}$	1°
T	-292° to 700°F -180°C to 371°C	$\pm 2^\circ\text{F}$ $\pm 1^\circ\text{C}$	$\pm 13^\circ\text{F}$ $\pm 7^\circ\text{C}$	1° or 0.1°
E	-58° to 1700°F -50°C to 927°C	$\pm 2^\circ\text{F}$ $\pm 1^\circ\text{C}$	$\pm 11^\circ\text{F}$ $\pm 6^\circ\text{C}$	1°
RTD	-328° to 1382°F -200°C to 750°C	$\pm 1^\circ\text{F}$ $\pm 1^\circ\text{C}$	$\pm 5^\circ\text{F}$ $\pm 3^\circ\text{C}$	1° or 0.1°

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# Process and temperature meters

## PCD100 series

### SPECIFICATIONS

#### SERIAL COMMUNICATIONS

<b>Protocol</b>	Modbus RTU
<b>Meter address</b>	PDC protocol: 0 to 99 Modbus protocol: 1 to 247
<b>Baud rate</b>	300 to 19,200 bps
<b>Transmit time delay</b>	Programmable, 0 to 199 ms
<b>Data</b>	8 bit (1 start bit, 1 stop bit)
<b>Parity</b>	None (1 or 2 stop bits), even, or odd
<b>Turn around delay</b>	< 2 ms (fixed)

#### ISOLATED 4-20 mA TRANSMITTER OUTPUT

<b>Scaling range</b>	1.00 to 23.00 mA; reverse scaling allowed
<b>Accuracy</b>	±0.1% FS ±0.004 mA
<b>Temperature drift<sup>1</sup></b>	50 PPM/°C
<b>Isolation</b>	500 V input-to-output or output-to-24 VDC supplies; 4 kV output-to-power line; 100 V output-to-24 VDC supply (model PCD100-265-B-2R420-200 only)
<b>External power</b>	35 VDC maximum
<b>Output loop resistance</b>	see table 3

#### EXTERNAL BUTTON CONTACTS

<b>Number</b>	Four
<b>Function</b>	Remote operation of front-panel buttons
<b>Open state</b>	+5 VDC open contact on button input terminals
<b>Closed state</b>	Closed contact button input terminal to common/ground, active low 0 to 0.4 VDC

**Notes:** <sup>1</sup> Analog output drift is separate from input drift.

Power supply	Minimum	Maximum
24 VDC	10 Ω	700 Ω
35 VDC (external)	100Ω	1200 Ω

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