

- 4-digit display, switchable between two inputs
- Completely field programmable
- Modbus RTU communications (RS-485)
- Optional 2 or 4 relay outputs
- Optional Analog output card with (2) 4-20 mA outputs
- Full diagnostic functions
- Sensor failure detection and notification
- Built-in relay test function
- Optional explosion proof enclosure
- Optional NEMA 4X enclosure kit
- 115 VAC (50/60 Hz), with 230 VAC (50/60Hz) power option



## Description

The PM500 is a fully programmable process meter that takes in one or two 4-20 mA sensor inputs and scales them in any user units. The most common are temperature, position, and speed. The sensor transmits its output as a 4-20 mA signal to the PM500 via a two- or three-conductor shielded cable. The PM500 then uses this analog signal to determine the appropriate display value and relay output states.

The inputs are independent of each other and can be displayed as two different processes. For example, one input could be programmed for temperature and the other for position.

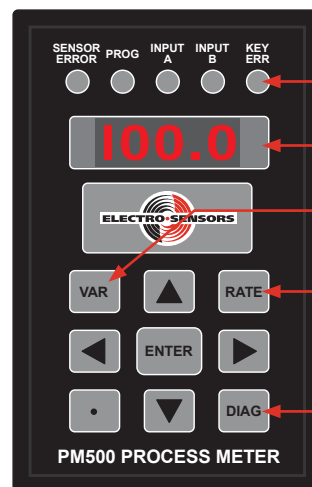
## Options:

- 2 or 4 programmable Form C relay contact outputs. Rated 250 VAC, 30 VDC at 5 amps resistive load
- 2-channel, 16-bit 4-20 mA output card

## Principle Of Operation

The PM500 is a full-logic process ratemeter that can easily display any production variable such as temperature, position, or rate. The ability to accurately display the signal input and compare it to setpoints makes the PM500 an inexpensive solution to many industrial applications.

With the addition of optional relay outputs and/or 4-20 mA analog outputs, the PM500 becomes a complete process control and display system. The optional relay outputs can be programmed for under-setpoint or over-setpoint operation. The 4-20 mA output can be scaled to reflect any area of the monitored range, including operations requiring an inverse output.



Status LEDs give entry mode and operation status

Display window

Used to change or examine program variables

Used to switch between rates

Diagnostics for testing the PM500 operation

## Product Specifications

Input Power	
Voltage	115 VAC, 9 VA @ 50/60 Hz, Internally fused with a SLOBLO 100 mA TR5 250 VAC
Optional Voltage	230 VAC, 9 VA @ 50/60 Hz, Internally fused with a SLOBLO 50 mA TR5 250 VAC
Sensor Inputs	
Sensor Inputs	2 channels of 4-20 mA @16-bit resolution
Sensor Supply	2 channels of 24 VDC regulated, 50 mA max. each channel Channels may be combined for a single device requiring 100 mA
External Control I/O	
Standard Inputs	2 contact closure inputs reserved for future use
Optional Setpoint Outputs (Relays)	2 or 4 programmable Form C relays on board, rated 250 VAC, 5 Amp; 30 VDC, 5 Amp resistive load
Optional Analog Output	2 channels of programmable 4-20 mA outputs @ 16-bit DAC resolution
Operational	
Accuracy Input	0.1 % typical uncalibrated @ 25 °C (77 °F)
	0.35 % max. uncalibrated @ full temperature range
	When used with temperature probes, calibration typically will not be needed as the error is up to 1 °F at worst case and typically better than 0.5 °F.
	The unit can be factory calibrated to achieve accuracy greater than 0.1% upon request.
Accuracy Output	To achieve the highest level of accuracy, the unit can be field-calibrated to the sensor, eliminating the greatest source of error.
	0.1% max. uncalibrated @ 25 °C (77 °F)
	0.15% max. uncalibrated @ full temperature range

Response Time	Minimum 0.05 seconds
Setpoints	2 or 4 programmable as over or under
Mechanical	
Enclosure	ABS plastic 94V-0
Keypad	Polycarbonate tactile switch pad, chemical-resistant, and splash-proof
Display	4-digit, 0.3" height, 7-segment displays, 5-status LEDs
Operating Temperature	0 °C to +50 °C (+32 °F to +122 °F)
Dimensions	3.10" w x 4.85" h x 6.25" l
Panel Cutout	2.61" w x 4.31" h

*Specifications subject to change without notice.*

## Ordering

Basic Model	Part Number
PM500 Process Meter 115/230 VAC	800-004300
PM500 Model Options	
Factory preset to 230 VAC (no charge)	991-000020
2 Relay Output	991-000021
4 Relay Output	991-000022
Analog Output	991-000023

Options	
Explosion Proof Enclosure	305-001400
NEMA 4X Enclosure Kit	725-003600

## Customization

If one of our standard products does not meet your specifications, please call one of our applications specialists. Many of our products can be customized to fit specific needs.

## Additional Information

For more information about the PM500, please refer to the Installation and Operating Manual.

**Email:** [sales@electro-sensors.com](mailto:sales@electro-sensors.com)

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We also have more information online at:  
[www.electro-sensors.com](http://www.electro-sensors.com)