

# Panel Mount Instruments

## PM4-IV for Analog Input



Scalable indication of  $\pm 2\text{mA}$ ,  $\pm 20\text{mA}$ ,  $4\text{-}20\text{mA}$ ,  $\pm 100\text{mV}$ ,  $\pm 1\text{VDC}$ ,  $\pm 10\text{VDC}$ ,  $\pm 100\text{VDC}$  or Slidewire



4 digit LED 20mm digit height



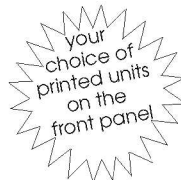
4 digit LCD 12.7 mm digit height



5 digit LED 14mm digit height



6 digit LED 14mm digit height



6 digit LCD 12.7mm digit height



Circular graph and 5 digit display



20 segment bargraph and 5 digit display

### Description

The intelligent, microprocessor based, panel mount PM4-IV monitor can function as an indicator/controller/transmitter/ computer interface.

The PM4-IV accepts DC inputs of  $\pm 2\text{mA}$ ,  $\pm 20\text{mA}$ ,  $4\text{-}20\text{mA}$ ,  $\pm 100\text{mV}$ ,  $\pm 1\text{V}$ ,  $\pm 10\text{V}$ ,  $\pm 100\text{V}$  or 3 wire slidewire, with the resultant display reading directly in engineering units.

The instruments feature flexible pushbutton calibration and programming to suit most applications. Each instrument is supplied with a single control/alarm relay as standard. A transmitter supply is provided as standard (18VDC regulated max. 25mA).

The programmable digital filter improves stability by smoothing out short term interference.

Optional outputs include additional relays, isolated analog output (single or dual channel, single channel configurable as retransmission or PI control) or serial (RS232 or RS485) communications. The relays can be configured for alarm, trailing or PI control operation.

A remote input is configurable to perform one of various functions e.g. display hold, maximum memory, minimum memory, display brightness switching, easy access to setpoints, setpoint only access and security lock out.

Electrical isolation between power supply, input voltage/current and retransmission eliminates grounding and common mode voltage problems.

### Features

- Accepts  $\pm 2\text{mA}$ ,  $\pm 20\text{mA}$ ,  $4\text{-}20\text{mA}$ ,  $\pm 100\text{mV}$ ,  $\pm 1\text{V}$ ,  $\pm 10\text{V}$ ,  $\pm 100\text{V}$  or slidewire
- Pushbutton calibration and setup
- Displays in engineering units
- Electrical isolation between input signal/output/power supply
- 240V, 110V, 24VAC, 12-48VDC (factory configured) - for other variations see specifications (over)
- 18VDC regulated transmitter supply
- Square root extractor
- Alarm/control relay output (5A) configurable as alarm or PI control
- 2 year manufacturing warranty
- Wide range of options available:
  - Single or dual analog retransmission
  - Additional setpoint relays
  - RS232 or RS485 serial communications
  - Isolated transmitter supply 24VDC ( $\pm 12\text{VDC}$ ) 25mA max.
- Remote input for special functions including
  - peak/display hold
  - tare or zero
  - display brightness control

PM4IV-3.1-0

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# Specifications

## Technical Specifications

Input types: Link selectable  $\pm 2\text{mA}$ ,  $\pm 20\text{mA}$ ,  $4\text{-}20\text{mA}$  or DC Volts  $\pm 100\text{mV}$ ,  $\pm 1\text{V}$ ,  $\pm 10\text{V}$ ,  $\pm 100\text{V}$  or  $0\text{-}1\text{k}\Omega$  to  $0\text{-}1\text{M}\Omega$  3 wire slidewire

Impedance:  $135\Omega$  nominal (mA ranges)  
 $1\text{M}\Omega$  on DC voltage

ADC resolution: 1 in 20,000

Accuracy: 0.1% of FS when calibrated  
0.3% on  $\pm 100\text{mV}$  and  $\pm 2\text{mA}$  ranges

Sample rate: 4 per sec

ADC conversion: Dual slope ADC

Microprocessor: MC68HC11 CMOS

Ambient temp: LED models  $-10^\circ\text{C}$  to  $60^\circ\text{C}$ ,  
LCD models  $-10^\circ\text{C}$  to  $50^\circ\text{C}$

Humidity: 5% to 95% non condensing

Display types: **LED models:**  
4 digit 20mm,  
5 digit 14mm, status LEDs and 4 way keypad.  
6 digit 14mm and 4 way keypad  
20 segment LED bar graph,  
5 digit display and 4 way keypad  
16 segment circular "bargraph",  
5 digit display and 4 way keypad

**LCD models:**  
4 digit or 6 digit 12.7mm  
240, 110, 32, 24VAC 50/60Hz,  
12-48VDC or 50-110VDC  
(factory configured)

Power supply: AC supply 4 VA max,  
DC supply, consult supplier

Power usage: AC supply 4 VA max,  
DC supply, consult supplier

Output (standard): 1 x relay, form A, rated 5A resistive

Transmitter supply: 18VDC (25mA maximum) - standard

Relay action: Programmable N.O. or N.C.

## Output Options

Extra relays: 1, 3 or 6 extra relays available

Retransmission: Analog 4-20mA, 0-1V or 0-10V link selectable (single or dual channel versions)  
Serial RS232 or RS485, choice of ASCII or Modbus RTU protocols  
Digital Binary or BCD

DC voltage out: Isolated 24V ( $\pm 12\text{V}$ ), 25mA

## Physical Characteristics

Bezel size: DIN 48mm x 96mm x 10mm

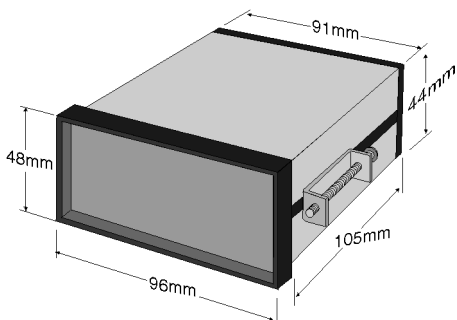
Case size: 44mm x 91mm x 115mm  
behind face of panel

Panel cut out: 45mm x 92mm (+1mm & -0mm)

Connections: Plug in screw terminals (max 2.5mm<sup>2</sup> wire)

Weight: 400g basic model, 450g with option card

## PM4-IV case dimensions



# PM4-IV Order Codes

<b>PM4-IV</b> - [ ] - [ ] - [ ]	
<b>Power Supplies</b>	
<b>PM4-IV</b> - [XXX] - [ ] - [ ]	
240VAC .....	240
110VAC .....	110
32VAC .....	32
24VAC .....	24
12 to 48VDC .....	DC
50 to 110VDC .....	DCH
<b>Display Type</b>	
<b>PM4-IV</b> - [ ] - [XXX] - [ ]	
4 DIGIT LED .....	4E
5 DIGIT LED + KEYPAD & ALARM LEDs .....	5E
6 DIGIT LED + KEYPAD .....	6E
BARGRAPH + 5 DIGIT DISPLAY + KEYPAD .....	5BP
CIRCULAR BARGRAPH + 5 DIGIT DISPLAY + KEYPAD .....	5GP
4 DIGIT LCD .....	4C
6 DIGIT LCD .....	6C
<b>Options</b>	
<b>PM4-IV</b> - [ ] - [ ] - [XXX]	
ANALOG (4-20mA, 0-1V or 0-10V selectable) .....	A
DUAL ANALOG (4-20mA, 0-1V or 0-10V selectable) .....	AA
RS232 .....	2
RS485 .....	4
BCD/Binary NPN .....	DN
BCD/Binary PNP .....	DP
DC VOLTAGE OUTPUT 24V ( $\pm 12\text{V}$ ) .....	12
<b>Note: The standard 18VDC transmitter supply output MUST NOT be used if the optional 24VDC (<math>\pm 12\text{VDC}</math>) voltage output is used</b>	
1 EXTRA RELAY .....	R
3 EXTRA RELAYS .....	RRR
6 EXTRA RELAYS .....	R6

The valid optional output combinations for PM4-IV models are:  
-R12, -AR, -ARRR, -AAR, -A12, -AR12,  
-AR6, -A2, -A2R, -A4, -A4R, -2R, -2R12, -4R, -4R12,  
-DNR, -DN12, -DN2, -DNR12, -DPR, -DP12, -DPR12

## PM4-IV Accessories

Description	Model No.
IP65 access cover	COVER-IP65
Wall mount enclosure	ENC-PM1-01
Wall mount encl. with IP65 cover	ENC-IP65-PM1-01
Surface mount kit	PM4-OPT-SMKIT
Portable/bench enclosure AC	ENC-PM-AC
Portable/bench enclosure DC	ENC-PM-DC

## PM4-IV panel mounting details

