

Intelligent PM4 Monitors

Model PM4-AV

True RMS measurement from AC Volts input



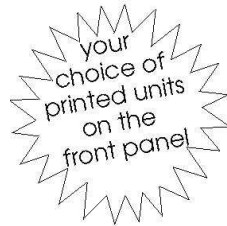
4 digit LED 20mm digit height



5 digit LED 14.2mm digit height



4 digit LCD 12.7mm digit height



Circular graph and 5 digit display



20 segment bargraph and 5 digit display

Description

The PM4 series of process monitors is designed to meet a wide variation of user requirements.

The PM4-AV accepts AC voltages in link selectable ranges from 0-1.5V to 0-300V.

A special "DC" link setting allows DC components in the AC waveform to be taken into account or ignored when calculating the displayed value. The DC link also allows DC voltage measurement.

The instrument features flexible pushbutton calibration and programming. A programmable digital filter improves stability by smoothing out short term interference.

Each instrument is supplied with a single programmable control/alarm relay as standard.

The display can be toggled to show voltage or frequency via the front or buttons or via a remote switch input.

Optional outputs include additional relays, isolated DC voltage (to power external transmitter/sensor) and isolated retransmission - analog (4-20mA, 0-1V or 0-10V) or serial RS232/RS485 with choice of ASCII or Modbus RTU protocols.

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

Features

- True RMS measurement
- Link selectable 1.5V, 15V, 150V or 300V AC or DC or AC with DC component ranges (higher voltages require external transformer)
- Display can be toggled to show Volts or frequency via front or buttons or remote input switch. Frequency display is scalable
- Pushbutton calibration and setup
- 240V, 110V, 32V, 24VAC, 12 to 48VDC or 50 to 110VDC operation (factory configured)
- 18VDC regulated transmitter supply
- Isolation between input/output/power supply
- Alarm/control relay output (5A) configurable as alarm or PI control
- 2 year guarantee
- Remote input for special functions including
 - peak/display hold
 - zero
 - display brightness control
- Wide range of options available:
 - Single or dual analog retransmission
 - Additional setpoint relays
 - RS232 or RS485 serial communications
 - Isolated transmitter supply 24VDC (± 12 VDC)

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Specifications

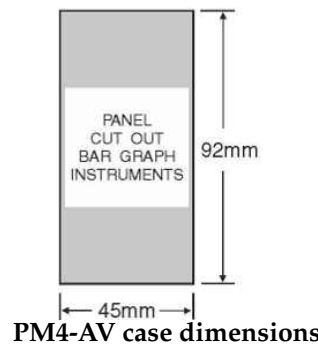
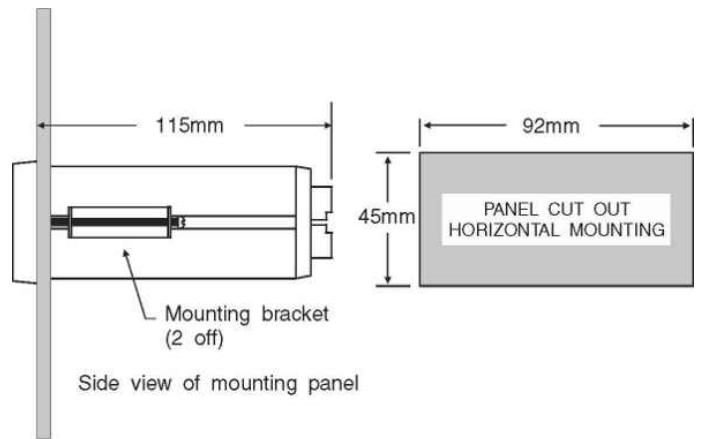
Technical Specifications

Input types (True RMS): 0-1.5V, 0-15V, 0-150V & 0-300V AC
 Impedance: 1MΩ on all ranges
 ADC resolution: 1 in 20,000
 Accuracy: Voltage: 0.3% (5% to 100% of FS when calibrated at the same frequency as measured, 30Hz to 10kHz range)
 Frequency: 0.01% (5% to 100% of full scale voltage, frequency display 10Hz to 500Hz)
 Isolation: 2kV peak for 30 seconds, 250VAC RMS @ 50Hz continuous
 Sample rate: 7.5 per sec
 ADC conversion: Dual slope ADC
 Microprocessor: MC68HC11 CMOS
 Ambient temp: LED models -10°C to 60°C, LCD models -10°C to 50°C
 Humidity: 5% to 95% non condensing
 Display types: **LED models:**
 4 digit 20mm,
 5 digit 14.2mm, status LEDs, keypad.
 20 segment LED bar graph, 5 digit display, keypad
 16 segment circular "bargraph", 5 digit display and 4 way keypad
LCD models:
 4 digit digit 12.7mm
 Power supply: 240, 110, 32, 24VAC 50/60Hz, 12 to 48VDC or 50 to 110VDC (factory configured)
 Power usage: AC supply 4 VA max, DC supply, consult supplier
 Output (standard): 1 x relay, form A, rated 5A resistive
 Relay action: Programmable N.O. or N.C.
Output Options
 Extra relays: 1, 3 or 6 extra relays available
 Retransmission: Analog 4 to 20mA, 0 to 1V or 0 to 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 (±12V), 20mA
Physical Characteristics
 Bezel size: DIN 48mm x 96mm x 10mm
 Case size: 44mm x 91mm x 115mm
 Connections: Plug in screw terminals (max 2.5mm² wire)
 Weight: 400g basic model, 450g with option card

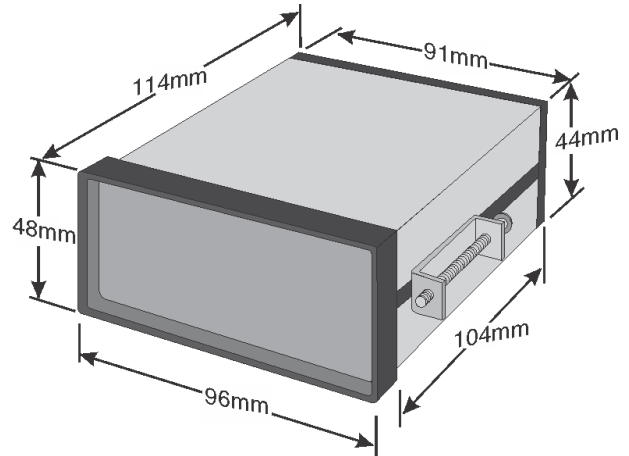
PM4-AV Accessories

Description	Model No.
IP67 access cover	COVER-PM-IP67
Wall mount enclosure	ENC-PM1-02
IP65 wall mount encl. with IP67 cover	ENC-PM1-02-IPCOV
Surface mount kit	PM4-OPT-SMKIT
Portable/bench enclosure AC	ENC-PM-AC
Portable/bench enclosure DC	ENC-PM-DC

PM4-AV panel mounting details



PM4-AV case dimensions



Wiring diagrams and full operations manual are available from www.aicpl.com.au/pdf/pm4avman.pdf.

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PM4-AV order codes

The last section is for optional outputs, if required. (Note: only one of the optional outputs below can be fitted).

PM4-AV-	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>
	↑		↑		↑
	240	-----	240VAC		
	110	-----	110VAC		
	32	-----	32VAC		
	24	-----	24VAC		
	DC	-----	12-48VDC isolated		
	DCH	-----	50-110VDC isolated		
					Power supply
	4E	-----	4 Digit 20mm red led		
	5E	-----	5 digit 14mm red led with front pushbuttons & annunciators		
	6E	-----	6 digit 14mm red led with front pushbuttons		
	5BP	-----	Bargraph with 7.6mm red led and front pushbuttons		
	5GP	-----	Circular bargraph with 7.6mm red led and front pushbuttons		
	4C	-----	4 digit 12.7mm lcd		
	4CG	-----	4 digit 12.7mm lcd with backlight		
	6C	-----	6 digit 12.7mm lcd		
					Display type
	R	-----	2nd setpoint relay		
	R12	-----	2nd setpoint relay and 24V (+/- 12V) isolated transmitter supply		
	RRR	-----	2nd, 3rd and 4th setpoint relays		
	R6	-----	2nd to 7th setpoint relays (i.e. 6 extra relays)		
	12	-----	24V (+/- 12V) isolated transmitter supply		
	A	-----	Analog retransmission (isolated)		
	AR	-----	Analog retransmission (isolated) and 2nd setpoint relay		
	ARRR	-----	Analog retransmission (isolated) and 2nd, 3rd and 4th setpoint relays		
	AR12	-----	Analog retransmission (isolated), 2nd relay and 24V (+/- 12V) isolated transmitter supply		
	A12	-----	Analog retransmission (isolated) and 24V (+/- 12V) isolated transmitter supply		
	AR6	-----	Analog retransmission (isolated) and 2nd to 7th setpoint relays		
	AA	-----	Dual analog retransmission (isolated)		
	AAR	-----	Dual analog retransmission (isolated) and 2nd setpoint relay		
	A2	-----	Analog retransmission, 4-20mA only (isolated) and RS232 communications (isolated)		
	A2R	-----	Analog retransmission, 4-20mA only (isolated), RS232 communications (isolated) and second relay		
	A4	-----	Analog retransmission, 4-20mA only (isolated) and RS485 communications (isolated)		
	A4R	-----	Analog retransmission, 4-20mA only (isolated), RS485 communications (isolated) and second relay		
	2	-----	RS232 communications (isolated)		
	2R	-----	RS232 communications (isolated) and 2nd setpoint relay		
	2R12	-----	RS232 communications (isolated), 2nd setpoint relay and 24V (+/- 12V) isolated transmitter supply		
	4	-----	RS485 communications (isolated)		
	4R	-----	RS485 communications (isolated) and 2nd setpoint relay		
	4R12	-----	RS485 communications (isolated), 2nd setpoint relay and 24V (+/- 12V) isolated transmitter supply		
	DN	-----	Digital NPN 16 bit Binary/BCD retransmission		
	DNR	-----	Digital NPN 16 bit Binary/BCD retransmission and 2nd relay		
	DN12	-----	Digital NPN 16 bit Binary/BCD retransmission and 24V (+/- 12V) isolated transmitter supply		
	DNR12	-----	Digital NPN 16 bit Binary/BCD retransmission, 2nd relay and 24V (+/- 12V) isolated transmitter supply		
	DP	-----	Digital PNP 16 bit Binary/BCD retransmission		
	DPR	-----	Digital PNP 16 bit Binary/BCD retransmission and 2nd relay		
	DP12	-----	Digital PNP 16 bit Binary/BCD retransmission and 24V (+/- 12V) isolated transmitter supply		
	DPR12	-----	Digital PNP 16 bit Binary/BCD retransmission, 2nd relay and 24V (+/- 12V) isolated transmitter supply		
	ABP	-----	Analog retransmission bipolar output (-10V to +10VDC only)		
					Optional outputs

Applications/input types available with panel mount display models

- Analog input, process transmitters etc. $\pm 20\text{mA}$, 4-20mA or $\pm 2.5\text{VDC}$ or $\pm 25\text{VDC}$
- Pulse input, rate, total, count, grand total (encoders, switches, proximity sensors etc.)
- Rate, total from quadrature pulse input
- Liquid conductivity/resistivity/ppm
- pH/Redox (ORP)
- Loop powered displays
- AC current or AC voltage input
- Temperature - RTD, thermocouple, 4-20mA
- Weighing - 4 or 6 wire mV/V output loadcells
- Pressure measurement - 4 or 6 wire mV/V pressure sensors or 4-20mA analog transducers
- Liquid level measurement - 4 or 6 wire mV/V pressure sensors or 4-20mA analog transducers
- Serial input - RS232, RS485, Serial current loop for slave displays etc.
- Synchronous Serial Interface (SSI) for high accuracy position etc. measurement
- Binary, BCD or Gray Code input
- Real time clock with alarms
- Timer, elapsed time, stopwatch, run time etc.
- Auto/Manual station

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