

# Panel Mount Indicators

## PM4-IV3 3 channel scanning with arithmetic functions

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



### PM4 displays



4 digit LED 20mm digit height



4 digit LCD 12.7mm digit height



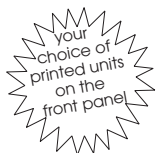
5 digit LED 14.2mm digit height



6 digit LED 14.2mm digit height



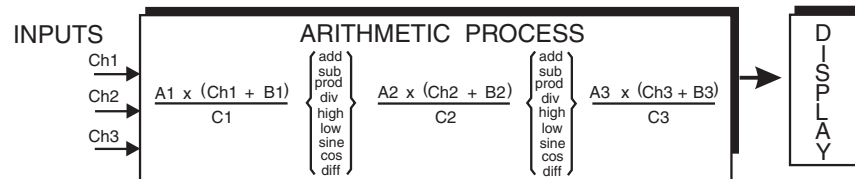
6 digit LCD 12.7mm digit height



### Description

The PM4-IV3 accepts inputs of  $\pm 20\text{mA}$ , 4 to 20mA,  $\pm 1\text{V}$ ,  $\pm 10\text{V}$  or  $\pm 100\text{V}$ . and may be programmed to operate as a 3 input scanning monitor or an arithmetic process monitor.

In scanning mode the instrument scans and displays each input at a programmable rate (0 to 240 seconds). In arithmetic mode the three inputs (Ch1, Ch2 & Ch3) can be combined arithmetically using the versatile formula below. The display shows the result but each input can be viewed separately.



The instrument is ideal for situations requiring multi-input calculations such as:- power measurement, density correction, temperature compensation measurements, flow combining from more than one source, ratios etc.

The instruments feature flexible pushbutton calibration and programming. The programmable digital filter improves stability by smoothing out short term interference. The display brightness can be adjusted. Each instrument is supplied with a single control/alarm relay. Electrical isolation between power supply, input voltage/current signal and retransmission eliminates grounding and common mode voltage problems.



Circular graph and 5 digit display



20 segment bargraph and 5 digit display

### Features

- Accepts  $\pm 20\text{mA}$ , 4 to 20mA,  $\pm 1\text{V}$ ,  $\pm 10\text{V}$  or  $\pm 100\text{V}$
- Pushbutton calibration and setup
- Displays in engineering units
- Versatile arithmetic process (all A,B and C values may be programmed separately).
- Scanning mode allows up to 3 separate inputs to be scanned and displayed
- Allows many common control and monitoring conditions such as density correction, flow combining, input to output differences etc. from up to 3 inputs to be calculated and displayed
- 240V, 110V, 32V, 24V AC, 12 to 48 V DC or 50 to 110 V DC (factory configured)
- Alarm/control relay output
- 2 year guarantee

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## Specifications

### Technical Specifications

Input types:	Link selectable $\pm 20\text{mA}$ , 4 to 20mA or DC Volts $\pm 1\text{V}$ , $\pm 10\text{V}$ , $\pm 100\text{V}$
Maths functions:	Add, subtract, product, divide, maximum, minimum, sine & cosine
Impedance:	80 $\Omega$ nominal (4 to 20mA) 1M $\Omega$ on DC voltage
ADC resolution:	1 in 20,000
ADC conversion:	Dual slope ADC
Accuracy:	0.1% of FS when calibrated
Sample rate:	1/2 sec per channel
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:	<b>LED models:</b> 4 digit 20mm, 5 digit 14.2mm, status LEDs, keypad. 6 digit 14.2mm + 4 way keypad LED bar graph 20 segment bar + 5 digit display + 4 way keypad 16 segment circular "bargraph" + 5 digit display + 4 way keypad <b>LCD models:</b> 4 digit 12.7mm or 6 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.
<b>Output Options</b>	
Extra relays:	Same specs as relay 1 (form C optional)
Retransmission:	Analog 4 to 20mA, 0 to 1VDC or 0 to 10VDC 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 ( $\pm 12\text{V}$ ), 20mA
Data logger:	2MB memory inbuilt or externally mounted

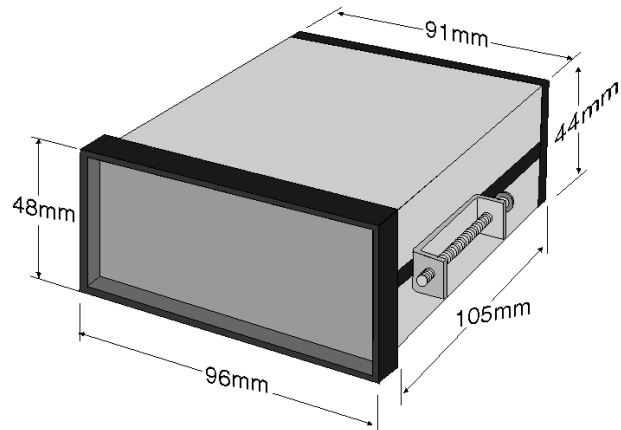
### Physical Characteristics

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

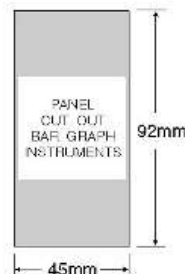
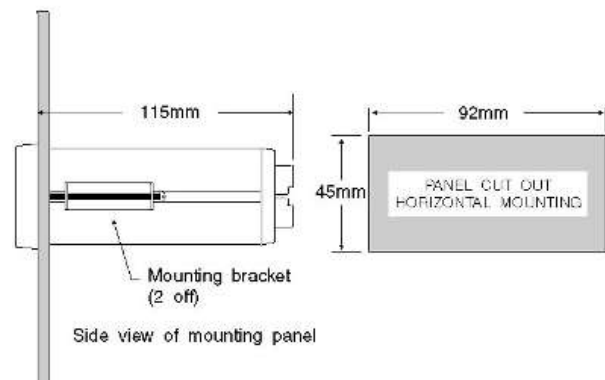
## PM4-IV3 Accessories

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-IV3 case dimensions



### PM4-IV3 panel mounting details



Wiring diagrams and full operations manual are available from [www.aicpl.com.au/pdf/pm4iv3ma.pdf](http://www.aicpl.com.au/pdf/pm4iv3ma.pdf).

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## PM4-IV3 order codes

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

PM4-IV3- [ ] - [ ] - [ ]

	<b>Power supply</b>	
240	-----	240VAC
110	-----	110VAC
32	-----	32VAC
24	-----	24VAC
DC	-----	12-48VDC isolated
DCH	-----	50-110VDC isolated
	<b>Display type</b>	
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
	<b>Optional outputs</b>	
R	-----	2nd setpoint relay
R12	-----	2nd setpoint relay and 24V (+/- 12V) isolated transmitter supply
RRR	-----	2nd, 3rd and 4th setpoint 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
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
DP	-----	Digital PNP 16 bit Binary/BCD retransmission
ABP	-----	Analog retransmission bipolar output (-10V to +10VDC only)

## 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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