

# Panel Mount Instruments PM4-OR ORP or pH Monitor



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

## Sensors

A wide variety of ORP and pH sensors are available to suit most applications - visit [pH and ORP sensors](#) and [Electrode manual](#)

## Other pH/ORP(Redox) and related products

See also models:

RM4-PH [DIN rail mount](#)

TP4-PH [dual input wall mount IP65](#)

TH3-PH [pH transmitters](#)

[Datalogger](#)

[Download software](#)

## Features

- Can be configured for ORP (Redox) or pH sensor
- Pushbutton calibration and setup
- Two point, offset or grab sample calibration
- Automatic temperature compensation for pH measurement
- High brightness LED displays
- Display flashing over/under range warning
- 240V, 110V, 24VAC, 12-48VDC supply (factory configured) - for other variations see specifications (over)
- Programmable digital filter, improves stability
- Alarm/control relay output
- Remote input to perform special functions
- 2 year guarantee

## Optional outputs

- Serial output RS232 or RS485 ASCII or Modbus RTU
- Analog output single or dual versions. One output can be configured for either retransmission or PI control
- 1, 3 or 6 extra relay outputs
- Inbuilt or externally mounted 2MByte data logger with serial communications and Windows compatible software

PM4PH-3.6-0

AMALGAMATED INSTRUMENT CO PTY LTD

ACN: 001 589 439

Unit 5, 28 Leighton Place Hornsby  
NSW 2077 Australia

Telephone: +61 2 9476 2244  
Facsimile: +61 2 9476 2902

e-mail: [sales@aicpl.com.au](mailto:sales@aicpl.com.au)  
Internet: [www.aicpl.com.au](http://www.aicpl.com.au)

# Specifications

## Technical Specifications

Input types: Standard platinum Redox (ORP) electrode (-2V to +2V nom.) or pH - any electrode where  $E_0=7$

Input resistance: Greater than  $10^{10}\Omega$

Temperature Input: 100 $\Omega$  1000 $\Omega$  RTD, LM335, 3k $\Omega$ Balco thermistor or manual

Measuring range: ORP -2000mV to +2000mV  
pH 0.00 to 14.00  
Temperature -40 to 130°C

Accuracy: 0.2% of full scale (pH)

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 14mm, status LEDs, keypad.  
LED bar graph 20 segment bar, 5 digit display, keypad  
16 segment circular bargraph, 5 digit display, keypad  
**LCD models:**  
4 digit 12.7mm

Power supply: 240, 110, 32, 24VAC 50/60Hz,  
12-48VDC or 50-110VDC  
(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 - see order codes for full list

Extra relays: 1, 3 or 6 extra relays  
Same specs as relay 1  
(form C optional)

Retransmission: Analog 4-20mA, 0-1V or 0-10V  
(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 ( $\pm 12V$ ), 20mA

### Physical Characteristics

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

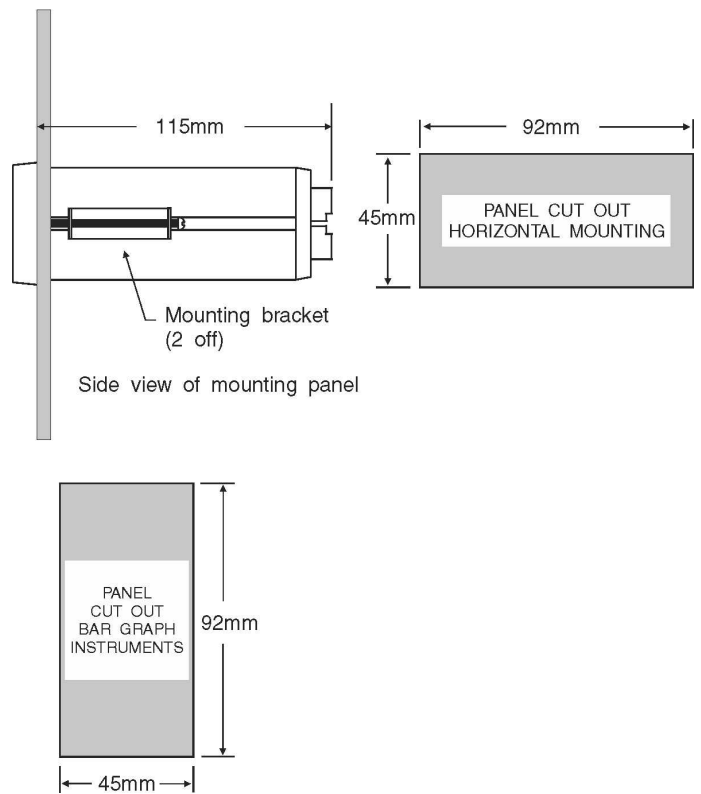
Case size: 44mm x 91mm x 115mm  
behind face of panel

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

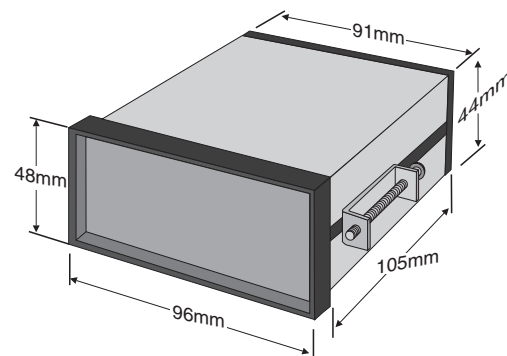
## PM4-OR panel mounting details



## PM4-OR 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-OR case dimensions



Wiring diagrams and full operations manual are available from [www.aicpl.com.au/pdf/pm4phman.pdf](http://www.aicpl.com.au/pdf/pm4phman.pdf).

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## PM4-OR order codes

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

|         |                      |       |   |   |                      |
|---------|----------------------|-------|---|---|----------------------|
| PM4-OR- | <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  |   |                      |
|         |                      |       |   |   |                      |
|         | 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  |   |                      |
|         |                      |       |   |   |                      |
|         |                      |       |   |   |                      |
|         | 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)  |   |                      |

## 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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