

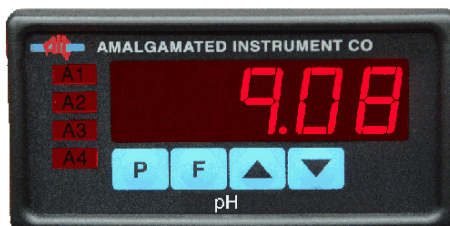
# Panel Mount Instruments PM5-PH pH or ORP Monitor



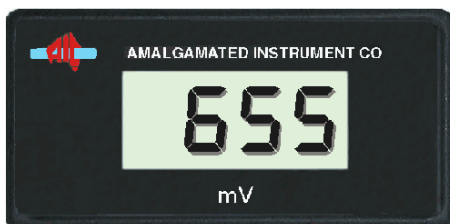
Isolated pH/ORP input with automatic temperature compensation



4 digit LED 20mm digit height



5 digit LED 14mm digit height



4 digit LCD 12.7mm digit height



Circular graph  
and 5 digit display



20 segment  
bargraph and  
5 digit display

## Features

- Isolated input, reduces or stops false readings when the process solution potential is above ground i.e. a potential difference exists between the solution and ground
- Selectable pH or temperature display
- Can be configured for pH or ORP (Redox) sensor
- Pushbutton calibration and setup
- Two point, offset or grab sample calibration
- Automatic temperature compensation
- High brightness LED displays
- Display flashing over/under range warning
- 240V, 110V, 24VAC, 12-48VDC supply (factory configured) - for other variations see order code section
- Programmable digital filter, improves stability
- Alarm/control relay output (can be configured for PI control)
- 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. Outputs 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

## Sensors

A wide variety of 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](#)

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**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

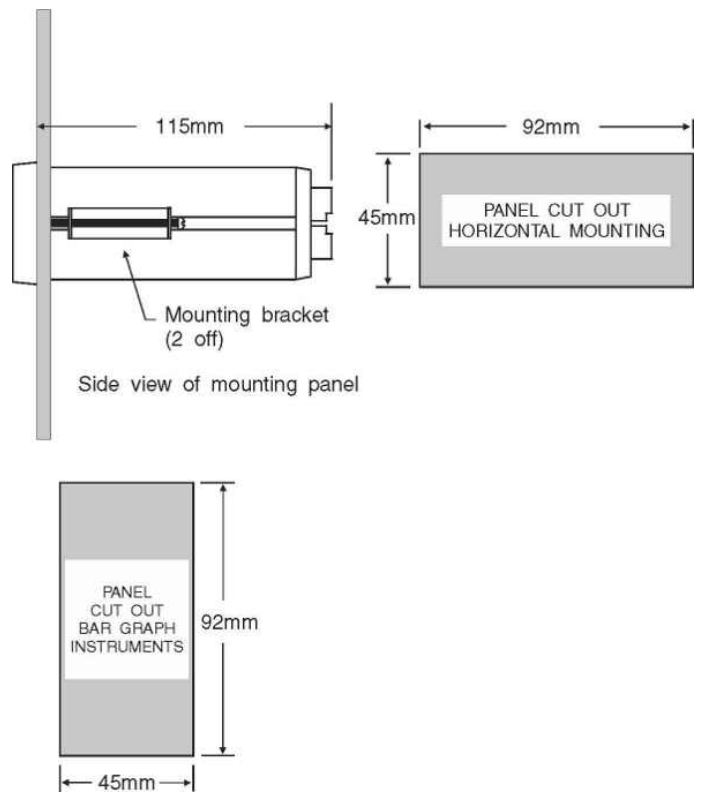
e-mail: [sales@aicpl.com.au](mailto:sales@aicpl.com.au)  
Internet: [www.aicpl.com.au](http://www.aicpl.com.au)

# Specifications

## Technical Specifications

Input types:	pH - any electrode where $E_0=7$ or standard platinum Redox (ORP) electrode (-1100mV to +1100V nom.)
Input resistance:	Greater than $10^{10}\Omega$
Electrical connections:	pH or ORP BNC connector (or screw terminals to special order) Temperature sensor screw terminals
Temperature Input:	100 $\Omega$ 1000 $\Omega$ RTD or manually set
Measuring range:	pH 0.00 to 14.00 ORP -1100 to 1100mV Temperature -40 to 160°C
Accuracy:	$\pm 0.03$ pH when calibrated $\pm 5$ mV (ORP) when calibrated $\pm 1^\circ\text{C}$ when calibrated
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 14mm, status LEDs, keypad. LED bar graph 20 segment bar, 5 digit display, keypad 16 segment circular bargraph, 5 digit display, keypad <b>LCD models:</b> 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, configurable for alarm or PI control
Relay action:	Programmable N.O. or N.C.
<b>Output Options</b> - see order codes for full list	
Extra relays:	1, 3 or 6 extra relays Same specs as relay 1 (form C optional on some choices) First optional relay can be configured for alarm or PI control
Retransmission:	Analog 4-20mA 12 bit Analog 4-20mA, 0-1V or 0-10V 16 bit (single or dual channel versions, configurable as retransmission or PI control and selectable as operating from pH/ORP or temperature) Serial RS232 or RS485, choice of ASCII or Modbus RTU protocols Ethernet comms. Digital Binary or BCD Internal or external datalogger
DC voltage out:	Isolated 24V ( $\pm 12$ V), 20mA
<b>Physical Characteristics</b>	
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

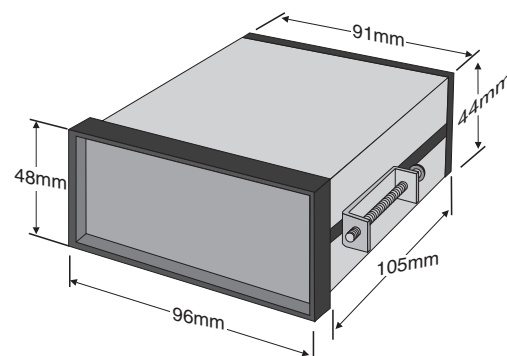
## PM5-PH panel mounting details



## PM5-PH Accessories

Description	Model No.
IP65 access cover	COVER-IP65
IP67 access cover	COVER-PM-IP67
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

## PM5-PH case dimensions



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## PM5-PH order codes

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

PM5-PH- [ ] - [ ] - [ ]

	↑	↑	↑	<b>Power supply</b>
240	-----	-----	-----	240VAC
110	-----	-----	-----	110VAC
48A	-----	-----	-----	48VAC
32A	-----	-----	-----	32VAC
24A	-----	-----	-----	24VAC
DC	-----	-----	-----	12 to 48VDC isolated
				<b>Display type</b>
4E	-----	-----	-----	4 digit 20mm red LED (special order only) - no front pushbuttons, screw terminals for pH/ORP electrode wiring
4C	-----	-----	-----	4 digit 12.7mm LCD (special order only) - no front pushbuttons, screw terminals for pH/ORP electrode wiring
5E	-----	-----	-----	5 digit 14mm red LED with front keypad and alarm annunciators, BNC connector for electrode
5BP	-----	-----	-----	5 digit 7.6mm red LED + 20 segment bargraph and alarm annunciators, BNC connector for electrode
6E	-----	-----	-----	6 digit 14mm red LED with front keypad, , BNC connector for electrode
6C	-----	-----	-----	6 digit 12.7mm LCD (special order only) - no front pushbuttons, screw terminals for pH/ORP electrode wiring
				<b>Optional outputs</b>
R	----	----	----	One extra relay (form C, 5A @ 240VAC)
RR	----	----	----	Two extra relays (form C, 5A @ 240VAC)
RRR	----	----	----	Three extra relays (form C, 5A @ 240VAC)
R6	----	----	----	Six extra relays (form A 2A @ 240VAC)
R12	----	----	----	One extra relay (form A, 3A @ 240VAC) plus +/- 12V (24V) supply (20mA max.)
I	----	----	----	Isolated 4-20mA retransmission 12 bit
A	----	----	----	Isolated 4-20mA or DCV retransmission 16 bit
IR	----	----	----	Isolated 4-20mA retransmission 12 bit + extra relay (form A, 3A @ 240VAC)
AR	----	----	----	Isolated 4-20mA or DCV retransmission 16 bit + extra relay (form A, 3A @ 240VAC)
*IRRR	----	----	----	Isolated 4-20mA retransmission 12 bit + 3 extra relays (form A, 2A @ 240VAC)
ARRR	----	----	----	Isolated 4-20mA or DCV retransmission 16 bit + 3 extra relays (form A, 2A @ 240VAC)
*IR6	----	----	----	Isolated 4-20mA retransmission 12 bit + 6 extra relays (form A, 2A @ 240VAC)
AR6	----	----	----	Isolated 4-20mA or DCV retransmission 16 bit + 6 extra relays (form A, 2A @ 240VAC)
II	----	----	----	Dual isolated 4-20mA retransmission 12 bit
AA	----	----	----	Dual isolated 4-20mA or DCV retransmission 16 bit
IIR	----	----	----	Dual isolated 4-20mA retransmission 12 bit + extra relay (form A, 3A @ 240VAC)
AAR	----	----	----	Dual isolated 4-20mA or DCV retransmission 16 bit + extra relay (form A, 3A @ 240VAC)
12	----	----	----	+/- 12V (24V) or +/- 5V (10V) supply (20mA max.)
12I	----	----	----	+/- 12V (24V) or +/- 5V (10V) supply (20mA max.) + isolated 4-20mA retransmission 12 bit
12A	----	----	----	+/- 12V (24V) or +/- 5V (10V) supply (20mA max.) + isolated 4-20mA or DCV retransmission 16 bit
12IR	----	----	----	+/- 12V (24V) or +/- 5V (10V) supply (20mA max.) + isolated 4-20mA retransmission 12 bit + extra relay (form A, 3A @ 240VAC)
12AR	----	----	----	+/- 12V (24V) or +/- 5V (10V) supply (20mA max.) + isolated 4-20mA or DCV retransmission 16 bit + extra relay (form A, 3A @ 240VAC)
DP	----	----	----	16 bit PNP digital output with 5/24V excitation
DPR	----	----	----	16 bit PNP digital output with 5/24V excitation plus extra relay (form A, 3A @ 240VAC)
DN	----	----	----	16 bit NPN digital output with 5/24V excitation
DNR	----	----	----	16 bit NPN digital output with 5/24V excitation plus extra relay (form A, 3A @ 240VAC)
2	----	----	----	RS232 comms.
2R	----	----	----	RS232 comms. + 1 extra relay (form A, 3A @ 240VAC)
2RRR	----	----	----	RS232 comms. + 3 extra relays (form A, 2A @ 240VAC)
2R5	----	----	----	RS232 comms. + 5 extra relays (form A, 2A @ 240VAC)
*2I	----	----	----	RS232 comms. + isolated 4-20mA retransmission 12 bit
2A	----	----	----	RS232 comms. + isolated 4-20mA or DCV retransmission 16 bit
*2IR	----	----	----	RS232 comms. + isolated 4-20mA retransmission 12 bit + extra relay (form A, 2A @ 240VAC)
2AR	----	----	----	RS232 comms. + isolated 4-20mA or DCV retransmission 16 bit + extra relay (form A, 2A @ 240VAC)
4	----	----	----	RS485 comms.
4R	----	----	----	RS485 comms. + 1 extra relay (form A, 3A @ 240VAC)
4RRR	----	----	----	RS485 comms. + 3 extra relays (form A, 2A @ 240VAC)
4R5	----	----	----	RS485 comms. + 5 extra relays (form A, 2A @ 240VAC)
*4I	----	----	----	RS485 comms. + isolated 4-20mA retransmission 12 bit
4A	----	----	----	RS485 comms. + isolated 4-20mA or DCV retransmission 16 bit
*4IR	----	----	----	RS485 comms. + isolated 4-20mA retransmission 12 bit + extra relay (form A, 3A @ 240VAC)
4AR	----	----	----	RS485 comms. + isolated 4-20mA or DCV retransmission 16 bit + extra relay (form A, 3A @ 240VAC)
ET	----	----	----	Ethernet comms. + RS232 or RS485 (Power over Ethernet available with PM5 DC supply models)
ETR	----	----	----	Ethernet comms. + RS232 or RS485 + 1 extra relay (form A, 3A @ 240VAC)
ETDL	----	----	----	Ethernet comms. + RS232 or RS485 + 8Mbyte data logger (Power over Ethernet available with PM5 DC supply models)
ETDLR	----	----	----	Ethernet comms. + RS232 or RS485 + 8Mbyte data logger + 1 extra relay (form A, 3A @ 240VAC) (Power over Ethernet available with PM5 DC supply models)

\* means not a normal stock item - check availability, minimum order quantity may apply

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**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  
Internet: www.aicpl.com.au