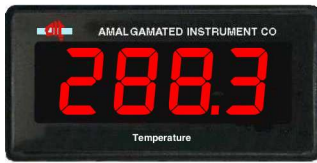


Intelligent PM4 Monitors

Model PM4-TCR

Input from Pt100 (RTD), Pt1000 (RTD),
mV (up to 200mV), thermocouple or 4-20mA



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



Circular graph
and 5 digit display



20 segment
bargraph and
5 digit display

Description

The PM4-TCR accepts its input from a Pt100, Pt1000, or thermocouple sensor, 4-20mA or mV.

The PM4-TCR features flexible pushbutton calibration and programming. The display may be programmed to show temperature units $^{\circ}\text{C}$ or $^{\circ}\text{F}$ or C or F if required e.g. 522°C .

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

Each instrument is supplied with a single relay output as standard, configurable as alarm or PI control (time division or frequency).

Optional outputs include up to 3 additional relays (the second relay is also configurable as alarm or PI control), analog (4-20mA, 0-1V, 0-10V, single or dual channel outputs, first output configurable as retransmission or PI control), serial (RS232 or RS485 - choice of ASCII or Modbus RTU protocols) or digital (BCD or binary) and an isolated 24VDC ($\pm 12\text{V}$) transmitter supply.

An external input is configurable to perform one of various functions e.g. peak hold, peak and valley memory, two level brightness switching, scale switching, clearing a latched relay, setpoint only access or security lock out.

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

Features

- Universal temperature input: RTD (2 wire or 3 wire), thermocouple, 4-20mA transmitter or mV
- Pushbutton calibration and setup
- Displays temperature in $^{\circ}\text{C}$, $^{\circ}\text{F}$ or absolute
- Electrical isolation between input signal/output/power supply
- 240V, 110V, 32V, 24VAC, 12 to 48VDC or 50 to 110VDC operation (factory configured)
- 18VDC transmitter supply - AC models
- Programmable digital filter
- Alarm/control relay output (5A) configurable as alarm or PI control
- 2 year warranty
- Wide range of options available:
 - Single or dual analog retransmission
 - Up to three additional setpoint relays
 - RS232 or RS485 serial communications
 - Isolated transmitter supply 24VDC ($\pm 12\text{VDC}$)
 - Binary or BCD digital output
- Remote input for special functions including
 - peak/display hold
 - peak/valley memory
 - reset of latched alarm relay
 - calibration scale switching
 - display brightness control

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Specifications

Technical Specifications

Input types: Accepts Pt100 (RTD), Pt1000 (RTD), mV (up to 200mV), thermocouple or 4-20mA

Impedance: 135Ω nominal (4 to 20mA range)

ADC resolution: 1 in 20,000

Accuracy: 0.1% of FS when calibrated (RTD, mV and mA ranges)
0.1% of FS ±1 degree (thermocouple ranges)

Sample rate: 4 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.
6 digit 14.2mm. 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

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

Transmitter supply: Unregulated 18VDC (25mA maximum)
- AC models only

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

Output Options

Extra relays: 1 or 3 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 (NPN or PNP)

DC voltage out: Isolated 24V (±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)

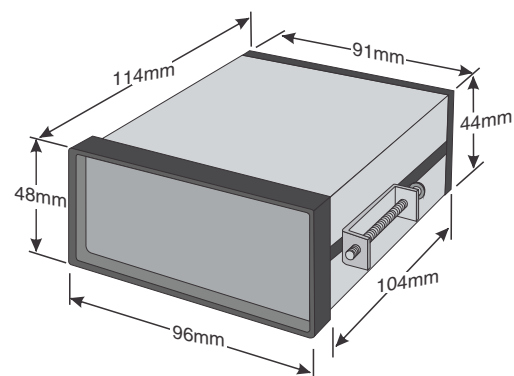
Connections: Plug in screw terminals (max 2.5mm² wire)

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

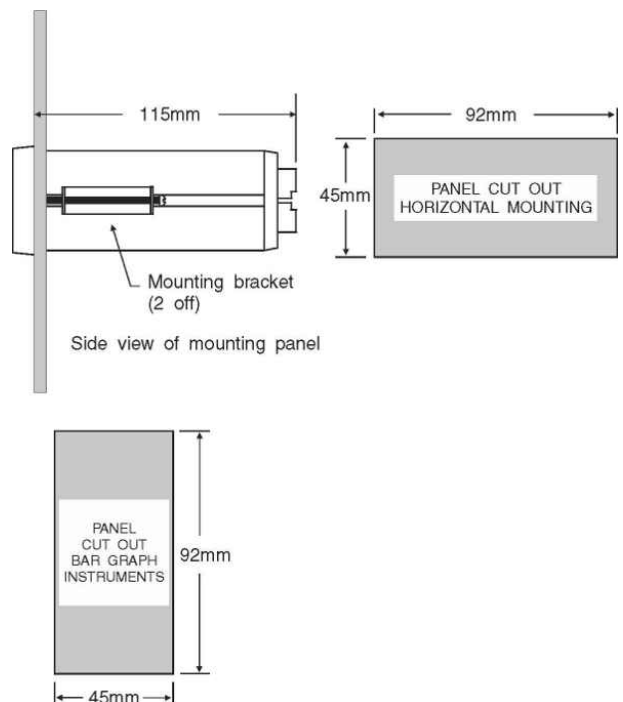
PM4-TCR Accessories

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-TCR case dimensions



Panel mounting details



Wiring diagrams and full operations manual are available from www.aicpl.com.au/pdf/pm4tcma.pdf.

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PM4-TCR order codes

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

PM4-TCR-	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>
	↑		↑		↑
	Power supply				
240	-----		-----		240VAC
110	-----		-----		110VAC
32	-----		-----		32VAC
24	-----		-----		24VAC
DC	-----		-----		12-48VDC isolated
DCH	-----		-----		50-110VDC isolated
	Display type				
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
	Optional outputs				
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
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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