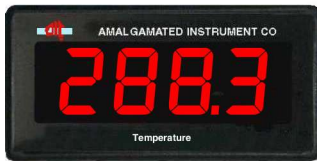


Intelligent PM4 Monitors

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

PM4TCR-3.7-0

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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 240, 110, 32, 24VAC 50/60Hz, 12 to 48VDC or 50 to 110VDC (factory configured)
Power supply:	AC supply 4 VA max, DC supply, consult supplier
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 ($\pm 12V$), 20mA

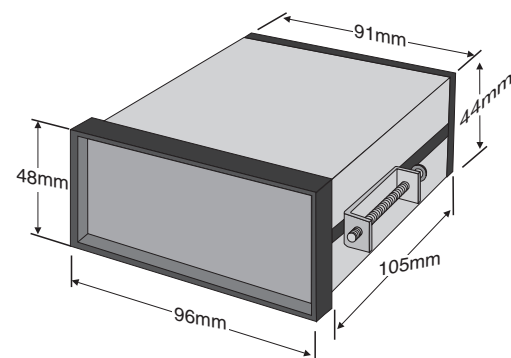
Physical Characteristics

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 ² wire)
Weight:	400g basic model, 450g with option card

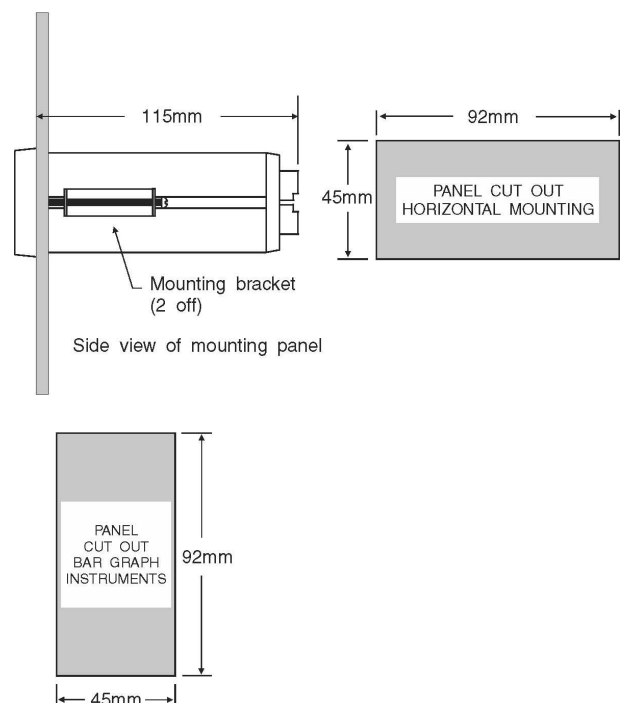
PM4-TCR Accessories

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-TCR case dimensions



Panel mounting details



Wiring diagrams and full operations manual are available from www.aicpl.com.au/pdf/pm4tcrma.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-	<div></div>	<div></div>	<div></div>
	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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