

Panel Mount Indicators Model PM4-IVT

Scalable indication of Rate & Total



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



8 digit LED 10mm digit height

Description

Model PM4-IVT is a rate/total display which accepts DC inputs of $\pm 2\text{mA}$, $\pm 20\text{mA}$, 4 to 20mA, $\pm 100\text{mV}$, $\pm 1\text{V}$, $\pm 10\text{V}$, $\pm 100\text{V}$ or 3-wire slidewire with the resultant display reading directly in engineering units.

The total is stored in memory for at least forty days with power removed. The instruments feature flexible pushbutton calibration and programming to suit most applications. The programmable digital filter improves stability by smoothing out short term interference. Each instrument is supplied with a single control/alarm relay. An 18VDC transmitter supply is provided as standard.

Optional outputs include additional relays and isolated retransmission or serial RS232/RS485. An external input is configurable to perform one of various functions including zero, totaliser reset, brightness level, setpoint only access or security lockout. This input can also be used to allow fast and easy access to the alarm setpoints. The front panel **P** button can also perform the zero, reset, or max/min memory function if required.

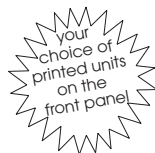
Electrical isolation between power supply, input voltage/current signal and retransmission has eliminated grounding and common mode voltage problems. This isolation feature makes the PM4-IVT ideal for interfacing to PLCs and other data acquisition equipment.



Circular graph and 5 digit display



20 segment bargraph and 5 digit display



Features

- Rate and total from analog input
- Accepts $\pm 20\text{mA}$, 4 to 20mA, $\pm 100\text{mV}$, $\pm 1\text{V}$, $\pm 10\text{V}$, $\pm 100\text{V}$ or 3-wire slidewire
- Pushbutton calibration and setup
- Displays in engineering units
- Isolation between input/output/power supply
- 240V, 110V, 32V, 24V AC, 12 to 48V DC or 50 to 110 V DC operation (factory configured)
- Alarm/control relay output (5A)
- 40 day total memory retention
- Default display can be set for rate or total and display can be toggled via **▲** or **▼** buttons.
- 18VDC transmitter supply (standard)
- Remote input to perform a special function e.g. brightness level, fast setpoint access, totaliser reset, max/min, peak/display hold or security lockout
- 2 year guarantee

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Specifications

Technical Specifications

Input types: Link selectable $\pm 20\text{mA}$, 4 to 20mA or DC Volts $\pm 100\text{mV}$, $\pm 1\text{V}$, $\pm 10\text{V}$, $\pm 100\text{V}$ or $0\text{-}1\text{k}\Omega$ to $0\text{-}1\text{M}\Omega$ 3-wire slidewire

Impedance: 135Ω nominal (4 to 20mA)
 $1\text{M}\Omega$ on DC voltage

ADC resolution: 1 in 20,000

Accuracy: 0.1% of FS when calibrated
0.3% on $\pm 100\text{mV}$ and $\pm 2\text{mA}$ 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
LED bar graph 20 segment bar
5 digit display, keypad
16 segment circular "bargraph", 5 digit display, keypad
LCD models:
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

Transmitter supply: 18VDC (25mA maximum)- standard

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

Output Options

Extra relays: Same specs as relay 1 (form C optional)

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

DC voltage out: Isolated 24V ($\pm 12\text{V}$), 20mA

Physical Characteristics

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

Case size: 44mm x 91mm x 115mm

Panel cut out: 45mm x 92mm (+1 & -0mm)

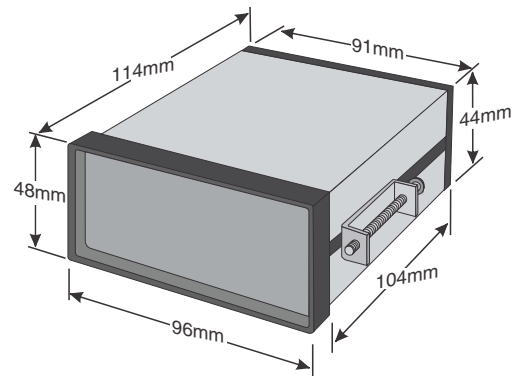
Connections: Plug in screw terminals (max 2.5mm^2 wire)

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

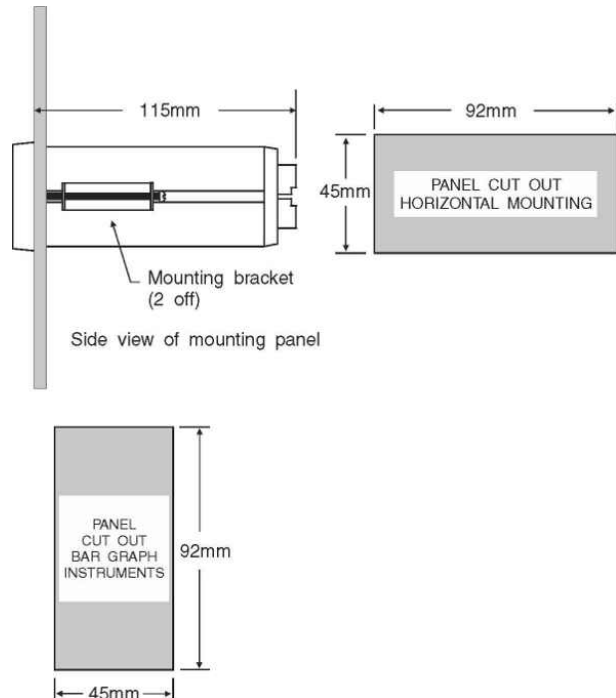
PM4-IVT Accessories

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-IVT case dimensions



PM4-IVT panel mounting details



Wiring diagrams and full operations manual are available from www.aicpl.com.au/pdf/pm4ivtma.pdf.

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PM4-IVT order codes

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

PM4-IVT-	<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		
					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		
	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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