

Intelligent PM4 monitors

Model PM4-QC

Rate/Total/Position from Quadrature input



4 digit LED 20mm digit height



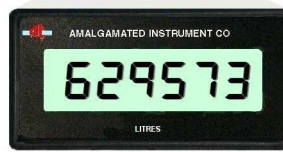
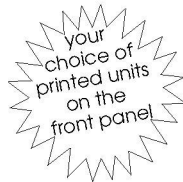
4 digit LCD 12.7mm digit height



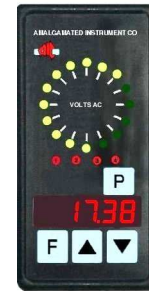
5 digit LED 14.2mm digit height



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

Model PM4-QC provides the versatility and flexibility needed for a wide variety of rate, counting, batching, measuring and positioning applications.

The PM4-QC accepts inputs from quadrature output devices giving automatic count up/down capability or positive/negative rate indication.

The instrument features flexible pushbutton scaling and programming and may be scaled to read directly in terms of measured units (engineering units e.g. Millimetres, Metres/sec etc.)

Input frequencies of up to 2MHz can be used.

Each instrument is supplied with a single control/alarm relay (standard). In addition to normal total alarm operation a special "pass" mode allows the relays to be configured to activate for a programmable time on multiples of a total e.g the a relay can be programmed to close for 1 second every time the total reaches a multiple of 1000.

Optional outputs include additional relays, isolated 24VDC ($\pm 12V$) (to power encoder, 20mA max.) or isolated retransmission, analog 4-20mA, 0-1V, 0-10V, binary/BCD or serial RS232/RS485. An external input is configurable to perform one of various functions e.g. reset, preset, peak hold, display hold, peak/valley memory, display toggle (rate/total), display dulling, grand total reset, setpoint access only, security lock out or remote brightness switching.

Electrical isolation between power supply, input signal and retransmission eliminates grounding and common mode voltage problems. This isolation feature makes the PM4 ideal for interfacing to PLCs, computers and other data acquisition equipment.

Features

- Accepts input from quadrature output transducers
- Pushbutton calibration and setup
- Easy display scaling - no special test equipment required
- Simple preset operation for batching applications
- Electrical isolation between input signal/output/power supply
- 240V, 110V, 32V, 24VAC, 12 to 48VDC or 50 to 110VDC operation (factory configured)
- 18VDC regulated transmitter supply
- Alarm/control relay output (5A) configurable as alarm or "pass" mode operation
- Wide range of options available:
 - Single or dual analog retransmission
 - Additional setpoint relays
 - RS232 or RS485 serial communications
 - Isolated transmitter supply 24VDC ($\pm 12VDC$)
- Remote input for special functions including
 - peak/display hold
 - tare or zero
 - display brightness control
 - preset
 - freeze input
 - grand total reset

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Specifications

Technical Specifications

Input types: Quadrature input (A & B) from NPN, PNP, switch contact, magnetic pickup etc (24VDC max.)

Max Count Rate: 2MHz (500kHz phase input)

Display Update: 1, 2, 4, 8, 16 or 32 per sec

Impedance: 10k Ω nominal

Memory retention: Total & grand total memory retained for a minimum of 40 days with power removed

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 and 4 way keypad.
 6 digit 14.2mm and 4 way keypad
 8 digit 10.2mm and 4 way 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

Transducer supply: +5V reg. or +9V or +18V unreg. (20mA max) + 9V & +18V on AC models only

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

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

Output Options

Extra relays: 1, 3 or 6 extra relays available

Retransmission: Analog (4-20mA, 0-1VDC or 0-10VDC) (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)

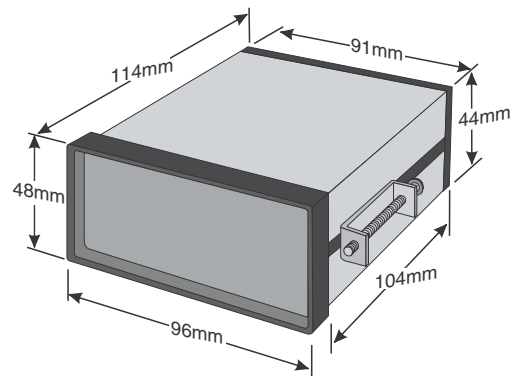
Connections: Plug in screw terminals

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

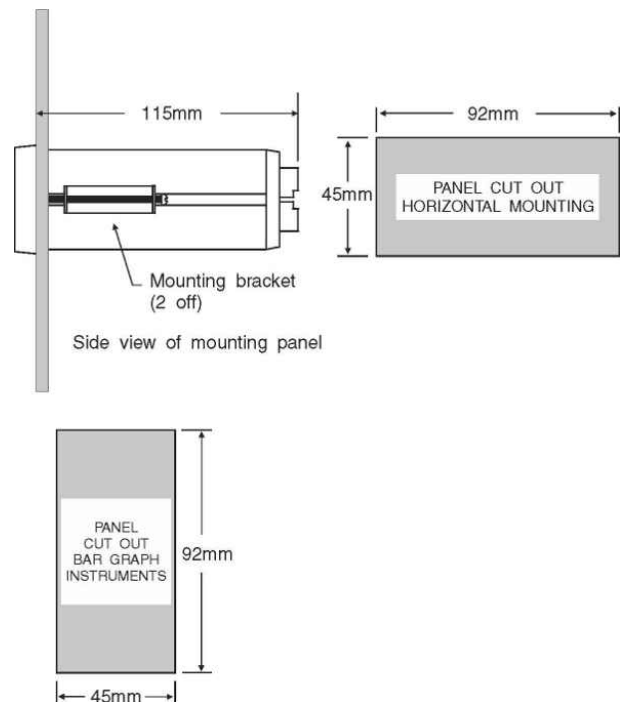
PM4-QC Accessories

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-QC case dimensions



PM4-QC panel mounting details



Wiring diagrams and full operations manual are available from www.aicpl.com.au/pdf/pm4qcman.pdf.

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PM4-QC order codes

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

PM4-QC-	<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		
					Power supply
	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		
					Display type
	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)		
					Optional outputs

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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