Intelligent PM4 monitors
Model PM4-SSI
Synchronous Serial Interface (SSI) 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

8 digit LED 10mm digit height
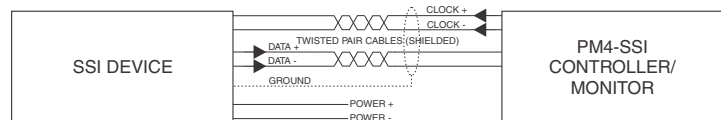
6 digit LCD 12.7mm digit height

Circular graph and 5 digit display

20 segment bargraph and 5 digit display

Laser distance measuring device or absolute position encoder etc.

SSI DEVICE

CLOCK +
CLOCK -
TWISTED PAIR CABLES (SHIELDED)
DATA +
DATA -
GROUND
POWER +
POWER -

PM4-SSI CONTROLLER/ MONITOR

Description

SSI communication is typically used in non contact measurement. Long transmission distances (up to 1.2km) are possible when connecting to SSI devices. Devices available with SSI output include position encoders and laser distance measuring equipment. The data transmitted is in the form of a binary or Gray code (up to 31 bits).

The serial communications is externally activated via clock pulses generated by the PM4-SSI . Shielded twisted pair wire should be used for the clock and data lines and two wires are required for the power supply.

When used with AIC model RM-BC or RM4-BC converters the PM4-SSI may be used as Binary/BCD/Gray code display. The PM4-SSI panel meter can be programmed to scale the input signal to give a display in engineering units e.g. "metres".

Two sets of scaling values can be programmed e.g. "metres" and "millimetres", with scale selection being via an external switch.

All scaling and setup programming of the PM4-SSI is accomplished via pushbuttons.

The isolated retransmission options allow the instruments to retransmit as serial (RS232 or RS485 with choice of ASCII or Modbus RTU protocols), analog (4-20mA, 0-1V or 0-10VDC) or binary/BCD signals.

Features

- Synchronous Serial Interface (SSI) input

- Pushbutton programming

- Alarm relay output standard

- Rugged construction

- 240V, 110V, 32V, 24V AC, 12 to 48 V DC or 50 to 110 V DC operation (factory configured)

- 2 year guarantee

- External input to provide one of the following special functions: Peak hold, Display hold, Peak high/low memory, Select second set of scaling values, Brightness switching, fast setpoint access, setpoint only access oe security lockout

- Can be used with RM-BC or RM4-BC to display from BCD/Binary/Gray Code sources

- Wide range of options available:

  ○ Single or dual analog retransmission
  ○ Additional setpoint relays
  ○ RS232 or RS485 serial communications
  ○ Isolated transmitter supply 24VDC (±12VDC)

PM4SSI-3.6-0

Specifications

Technical Specifications

Input:	Synchronous Serial Interface (SSI) Binary or Gray Code - up to 31 bits
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 8 digit 10.2mm, 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
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 (±12V), 20mA

Physical Characteristics
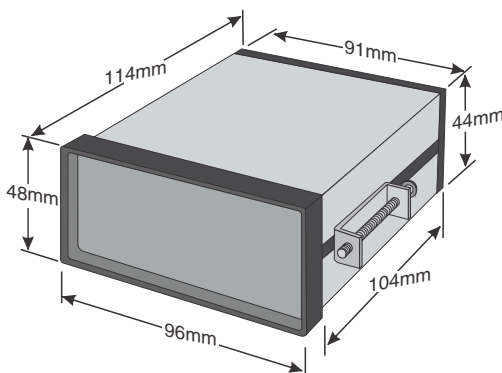
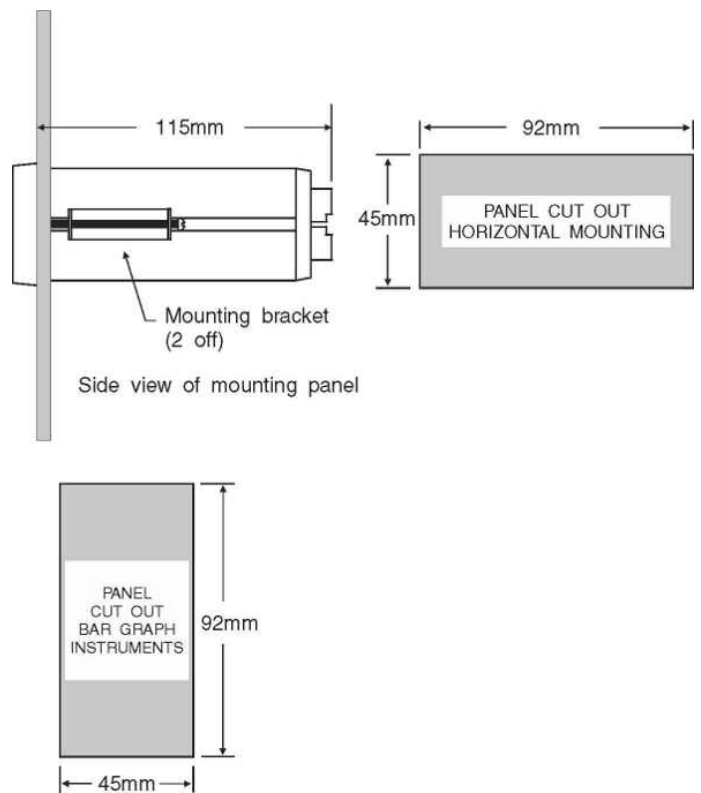|	
Bezel size:	DIN 48mm x 96mm x 10mm
Case size:	44mm x 91mm x 115mm behind face of panel
Panel cut out:	45mm x 92mm (+1mm & -0mm)
Connections:	Plug in screw terminals
Weight:	400g basic model, 450g with option card

PM4-SSI 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-SSI panel mounting details

Side view of mounting panel

PM4-SSI case dimensions

Wiring diagrams and full operations manual are available from www.aicpl.com.au/pdf/pm4ssima.pdf.

PM4SSI-3.6-0

PM4-SSI order codes

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

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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
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. ±20mA, 4-20mA or ±2.5VDC or ±25VDC
- 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