RM4-AI Process Unit
DIN Rail Mounted
True RMS measurement from AC current input 0-5A
Functions as:
Display/Alarm/Controller/ Transmitter/PLC & Computer Interface

Manufactured by a Quality Endorsed Company
AS/NZS ISO 9001:2000
Standards Australia
Lic. No. QEC6187

AUSBUY
AUSTRALIAN MADE & OWNED
PROUDLY 100% AUSTRALIAN

EMC COMPLIANT

Description

Model RM4-AI is a DIN rail mounted process unit which can function as an indicator/alarm/ controller/transmitter/computer interface.

The RM4-AI accepts its input from 0-5A AC. To measure from higher current ranges an external current transformer can be used to step down the current. The RM4 can be scaled to show the required input range e.g. A input of 0-5A can be scaled to read as 0.0 to 80.0 Amps on the display. Measurement is in true RMS and the display can be scaled as required. All function settings and calibration scaling is carried out via the instruments pushbuttons.

One alarm relay is provided as standard with programmable hysteresis, trip time and reset time delay functions. The trip time delay is particularly useful in AC current measurement to ensure that large start up currents do not trip the alarm relays. Combinations of optional outputs including extra relays, analog retransmission or serial communications (ASCII or Modbus RTU protocol) can also be provided.

An on board link is provided to allow DC components within AC waveforms to be taken into account in the reading or ignored.

The RM4 has a programmable display brightness function, this allows the unit to be operated with low display brightness to reduce the instrument power consumption and to improve readability in darker areas.

The programmable eight level digital filter improves stability by smoothing out short term interference using weighted averaging of the input sample. An external input is configurable to perform one of various functions e.g. Two level brightness switching, peak hold, display hold, max/min memory, setpoint only access or security lockout.

Electrical isolation between power supply, input signal and retransmission eliminates grounding and common mode voltage problems. This isolation feature makes the RM4 ideal for interfacing to PLCs, computers and other data acquisition equipment.

Features

- Measures in true RMS
- Pushbutton calibration and setup
- 5 digit LED display and relay/alarm status indication
- Programmable P button e.g. max/min display
- Isolation between input signal, output and supply
- Powered by 240V, 110V, 48V, 42V, 32V, 24VAC, 12 to 48V DC or 50 to 110V DC (factory configured)
- DC link allows DC components of the AC waveform to be taken into account or ignored
- Digital filter, improves stability
- One alarm/control relay output (5A) standard
- Programmable display brightness reduces power consumption and controls glare in low brightness areas
- Auto dim feature conserves power
- Rugged aluminium DIN rail mount housing
- Remote input to perform special functions e.g. zero, brightness switching, peak hold, display hold, max/min or security lock out
- 2 year guarantee

Options

- Isolated analog retransmission single or two independent outputs 4-20mA, 0-1V or 0-10V
- Additional relays
- Isolated RS232, RS422 or RS485 serial comms. with choice of ASCII or Modbus RTU protocol
- Combined analog 4-20mA and RS485 serial outputs

RM4AI-1.2-0

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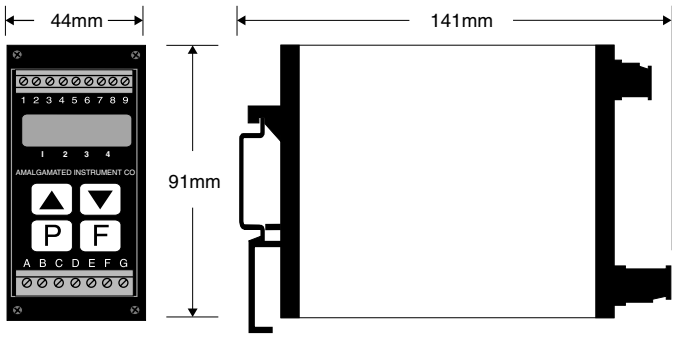
SPECIFICATIONS

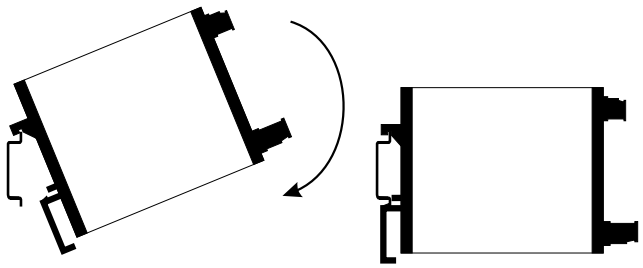
Specifications are subject to change without notice

TECHNICAL SPECIFICATIONS

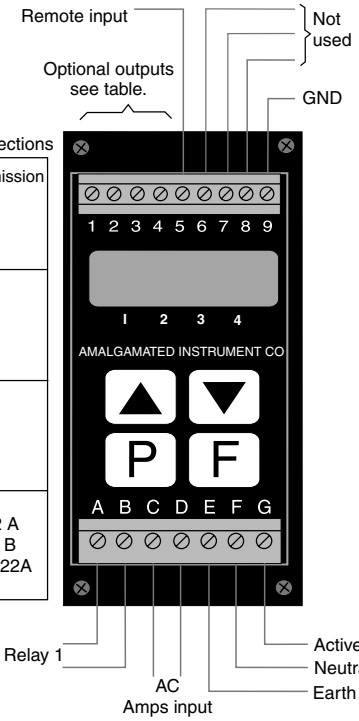
Input:	AC Amps 0-5A RMS
Impedance:	< 50mΩ
ADC Resolution:	1 in 20,000
Accuracy:	0.5% when calibrated
Sample Rate:	7.5 per sec.
Isolation:	Between input & power supply or output 2kV DC for 30 seconds
Conversion:	Dual Slope ADC
Microprocessor:	MC68HC11 HCMOS
Ambient Temp:	-10 to 60°C
Humidity:	5 to 95% non condensing

DIMENSIONS AND INSTALLATION DETAILS





ELECTRICAL CONNECTIONS



Common optional output connections

Second relay + analog retransmission 1 Relay 2 2 Relay 2 3 Analog retransmission + 4 Analog retransmission -
Second relay only 1 Not used 2 Not used 3 Relay 2 4 Relay 2
Second and third relays 1 Relay 3 2 Relay 3 3 Relay 2 4 Relay 2
Serial communications 1 RS232 Rx or RS485/RS422 A 2 RS232 Tx or RS485/RS422 B 3 RS232/RS485 GND or RS422A 4 RS422 B

Display:	LED 5 digit 7.6mm + alarm annunciator LEDs
Power Supply:	240V, 110V, 48V, 42V, 32V, 24V AC, 12 to 48V DC or 50 to 110V DC (factory configured)
Power Consumption:	AC supply 6VA max, DC supply, less than 6W (depends on load & options)
Output (standard):	1 x relay, form A rated 5A resistive 240VAC
Relay Action:	Programmable N.O. or N.C.

OUTPUT OPTIONS (see order code for valid combinations)

Second relay:	Rated 0.5A resistive at 30VAC or DC, form C.
Third relay:	Rated 0.5A resistive at 30VAC or DC, form A
Switched voltage:	24VDC output (common to remote input ground but isolated from input and supply) to be used for open collector or solid state relay driver
Analog retransmission:	Isolated 4-20mA. 0-1V or 0-10V link selectable (12 bit). Single or dual output versions
Serial communications:	Isolated RS232, RS485 or RS422 (factory configured)

PHYSICAL CHARACTERISTICS

Case size:	44mm x 91mm x 141mm
Connections:	Plug in screw terminals. Max 2.5mm^2 wire (input, relays and supply), 1.5mm^2 wire for options
Weight:	500 gms basic model, 550 gms with option card

ORDER CODE

RM4-AI- □ □ □ - 5 E - □ □ □ □

POWER SUPPLY

RM4-AI- □ □ □ - 5 E

240 VAC	2 4 0
110 VAC	1 1 0
48 VAC	4 8
42 VAC	4 2
32 VAC	3 2
24 VAC	2 4
12 to 48 VDC	D C
50 to 110 VDC	D C H

DISPLAY TYPE (ALL MODELS ARE TYPE 5E)

RM4-AI- □ □ □ - 5 E - □ □ □ □

5 DIGIT LED + KEYPAD + STATUS LEDs	5 E

OUTPUT OPTIONS

SECOND RELAY	R
SECOND AND THIRD RELAY	R R
SECOND AND THIRD SETPOINTS 24VDC	S S
ANALOG RETRANSMISSION (12 BIT)	A
DUAL ANALOG RETRANSMISSION (12 BIT)	A A
ANALOG RETRANSMISSION (12 BIT) PLUS SECOND RELAY	A R
RS232 COMMUNICATIONS - ISOLATED	2 3 2
RS422 COMMUNICATIONS - ISOLATED	4 2 2
RS485 COMMUNICATIONS - ISOLATED	4 8 5
ANALOG RETRANSMISSION (12 BIT) PLUS RS485 COMMUNICATIONS	A 4 8 5