

DIN Rail Mount Indicators

RM4-AI AC Current input - true RMS measurement

Description

The 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. An on board link is provided to allow DC components within AC waveforms to be taken into account in the reading or ignored. Measurement is in true RMS and the display can be scaled as required.

All function settings and calibration scaling is carried out via the front panel 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.

The RM4-AI 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.



Features

- Measures in true RMS
- Pushbutton calibration and setup
- 5 digit LED display and relay/ alarm status indication
- Programmable **P** button function e.g. max/min display
- Isolation between input, output and supply
- Powered by 240V, 110V, 48V, 42V, 32V, 24VAC, or 12 to 48V DC (factory configured)
- DC link allows DC components of the AC waveform to be taken into account or ignored
- Digital filter for improved 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
- Remote input to perform special functions e.g. zero, tare/gross/net, peak hold, display hold, max/min, scale switching or security lock out
- Rugged aluminium DIN rail mount housing
- 2 year guarantee

Options

- Isolated 12 bit analog output (configurable as retransmission or PI control)
Single or two independent outputs
4-20mA, 0-1V or 0-10V (link selectable)
- 16 bit analog retransmission + 2nd setpoint relay
- Additional relays
- Isolated RS232, RS422 or RS485 serial comms. with a choice of ASCII or Modbus RTU protocol
- Combined analog 4-20mA and RS485 serial outputs



RM4AI-3.4-0

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Specifications

Technical Specifications

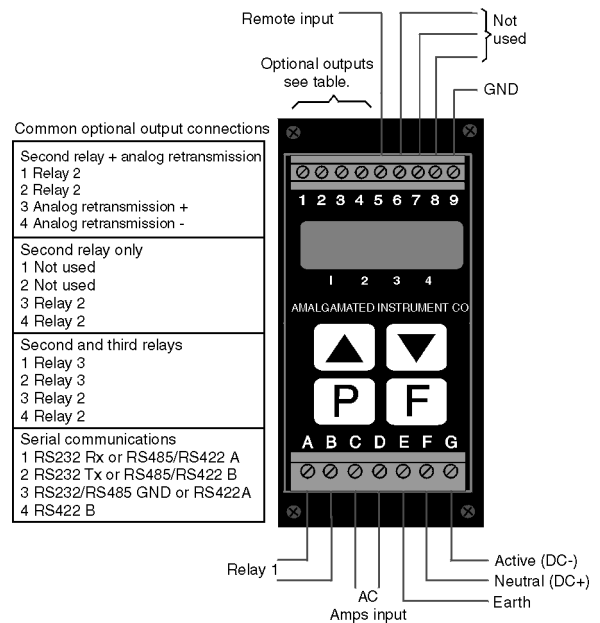
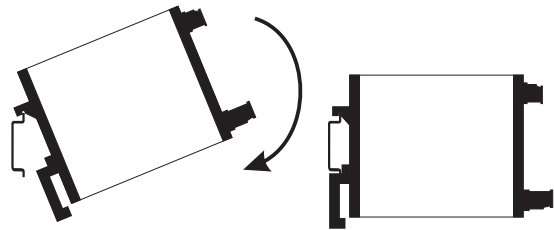
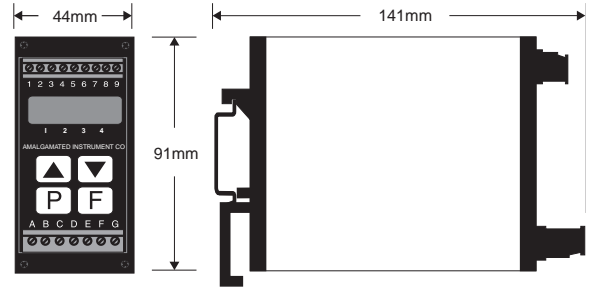
- Input types: AC Amps 0-5A RMS
- Input resistance: <math><50\text{m}\Omega</math>
- ADC resolution: 1 in 20,000
- Accuracy: 0.5% when calibrated
- Isolation: Between input and power supply or output 2kVDC for 30 seconds
- Sample Rate: 7.5 per second
- Conversion: Dual Slope ADC
- Microprocessor: MC68HC11 CMOS
- Ambient temp: -10°C to 60°C
- Humidity: 5% to 95% non condensing
- Display: LED 5 digit 7.6mm and alarm annunciator LEDs
- Power supply: 240V, 110V, 48V, 42V, 32V, 24VAC 50/60Hz, or 12 to 48VDC (factory configured)
- Power usage: AC supply 6 VA max, DC supply, <math><6\text{W}</math> (depends on load & options)
- Output (standard): 1 x relay, form A Rated 5A resistive 240VAC 24VDC unregulated transmitter supply (common ground) **25mA max**
- Relay action: Programmable N.O. or N.C.

Output Options - see below for full list

- Second relay : Rated 0.5A resistive at 30VAC or DC, form A
- Third relay: Rated 0.5A resistive at 30VAC or DC, form A
- Retransmission: Analog 4 to 20mA, 0 to 1V or 0 to 10V link selectable (single or dual channel versions) 16 bit single channel available Serial RS232, RS485 or RS422 choice of ASCII or Modbus RTU protocols (factory configured)

Physical Characteristics

- Case size: 44mm x 91mm x 141mm
- Connections: Plug in screw terminals 2.5mm² wire
- Weight: 500g basic model, 550g with option card



RM4-AI Order codes

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

