

DIN Rail Mount Indicators

RM4-IV Analog Input monitor

Description

Model RM4-IV is a DIN rail mounted process unit which can function as an indicator/alarm/controller/transmitter/computer interface. The RM4-IV accepts its input from $\pm 20\text{mA}$, $4\text{-}20\text{mA}$, $\pm 100\text{mV}$, $\pm 1\text{V}$, $\pm 10\text{V}$, $\pm 100\text{V}$ signals or 3 wire slidewire. The $20\text{mA}/4\text{-}20\text{mA}$ input is protected against over current by a self resetting thermal fuse. All function settings and calibration scaling is carried out via the instrument's pushbuttons.

Two alarm relays and an unregulated 24VDC transmitter supply are provided as standard. Combinations of optional outputs including extra relays, analog retransmission or serial communications (ASCII or Modbus RTU protocol) can also be provided. The optional analog output can be configured for retransmission or PI control.

An external input is configurable to perform one of various functions e.g. two level brightness switching, peak hold, display hold, max/min memory, scale switching, setpoint only access, security lockout, pushbutton tare and zero. A "zero limit" can be set on the zero operation to help ensure that the instrument is not inadvertently zeroed. Two separate calibration memories are provided allowing simple remote input switching of scaling values. This allows a single input to be switched between two different scale values e.g. "% & "metres". Alternatively if a different sensor is connected then the second calibration memory can be selected for this sensor via the remote input.

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 digital filter improves stability by smoothing out short term interference.

Electrical isolation between power supply, input signals 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

- Pushbutton calibration and setup
- 5 digit LED display and relay/alarm status indication
- Programmable **P** button function e.g. max/min display, zero or tare
- Isolation between input, output and supply
- Powered by 240V, 110V, 48V, 42V, 32V, 24VAC, or 12 to 48V DC (factory configured)
- 24VDC unregulated transmitter supply - standard
- Thermal fuse protection for mA inputs
- Digital filter for improved stability
- Two alarm/control relay outputs (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, tare/gross/net, peak hold, display hold, max/min, scale switching or security lock out
- 2 year guarantee

Options

- Isolated 12 bit analog output (configurable as retransmission or PI control) Single or two independent outputs $4\text{-}20\text{mA}$, $0\text{-}1\text{V}$ or $0\text{-}10\text{V}$ (link selectable)
- 16 bit analog retransmission + 3rd setpoint relay
- Additional relay in combination with analog or transmitter supply outputs
- Isolated & regulated 12VDC @ 50mA or 24VDC @ 25mA (link selectable)
- Isolated RS232, RS422 or RS485 serial comms. with a choice of ASCII or Modbus RTU protocol
- Combined analog $4\text{-}20\text{mA}$ and RS485 serial outputs



RM4IV-3.3-1

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Specifications

Technical Specifications

Input types: Link selectable $\pm 20\text{mA}$, 4-20mA, $\pm 100\text{mV}$, $\pm 1\text{V}$, $\pm 10\text{V}$, $\pm 100\text{VDC}$ or slidewire

Input resistance: 135 Ω (mA), 1M Ω (Voltage), >1000M Ω (Slidewire)

ADC resolution: 1 in 20,000

Accuracy: 0.1% when calibrated

Sample Rate: 4 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, <6W (depends on load & options)

Output (standard): 2 x relays, form A
Rated 5A resistive 240VAC
24VDC unregulated transmitter supply - standard **25mA max**

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

Output Options

Third relay : Rated 0.5A resistive at 30VAC or DC, form C if no other options fitted (otherwise form A)

Fourth 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 or RS485, choice of ASCII or Modbus RTU protocols (factory configured)

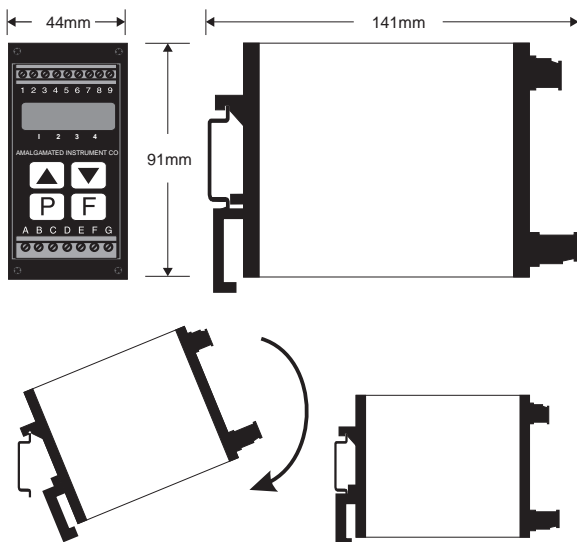
DC voltage out: Isolated 24V at 25mA or 12VDC at 50mA (link selectable)

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-IV Order Codes

RM4-IV - [] - [] - []

Power Supplies

RM4-IV - [XXX] - [] - []

240VAC	240
110VAC	110
48VAC	48
42VAC	42
32VAC	32
24VAC	24
12 to 48VDC	DC

Display Type

RM4-IV - [] - 5E - []

Options

RM4-IV - [] - [] - [XXX]

ANALOG (4-20mA, 0-1V or 0-10V selectable)	A
DUAL ANALOG (4-20mA, 0-1V or 0-10V selectable)	AA
RS232	232
RS485	485
RS422	422
DC VOLTAGE OUTPUT 24V ($\pm 12\text{V}$)	E
THIRD RELAY	R
THIRD & FOURTH RELAYS	RR
ANALOG (16 BIT) PLUS 3RD RELAY	AHR
3RD RELAY PLUS 24V ($\pm 12\text{VDC}$) OUTPUT	RE
3RD RELAY PLUS ANALOG (12 BIT)	AR
ANALOG (12 BIT) PLUS 24V ($\pm 12\text{VDC}$) OUTPUT	AE
ANALOG (12 BIT) PLUS RS485	A485

Common optional output connections

Third relay + analog retransmission			
1	Relay 3		
2	Relay 3		
3	Analog retransmission +		
4	Analog retransmission -		
Transmitter supply + analog retransmission			
1	Transmitter supply 12/24VDC +		
2	Transmitter supply GND		
3	Analog retransmission +		
4	Analog retransmission -		
Third relay only (Form C)			
1	Not used		
2	Relay 3 N/C		
3	Relay 3 N/O		
4	Relay 3 COM		
Third and fourth relays			
1	Relay 4		
2	Relay 4		
3	Relay 3		
4	Relay 3		
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		

