



# DIN Rail Mount Indicators

## RM4-IVT Analog Input monitor with totalising

### Description

Description Model RM4-IVT is a DIN rail mounted process unit which can function as an indicator/alarm/controller/transmitter/computer interface. Both rate and total can be viewed via the  or  front panel pushbutton or via a remote input. The total will be retained for a minimum of forty days with power removed. The **P** button or a remote input can be programmed to reset the total. All function settings and calibration scaling is carried out via the instrument's pushbuttons.

The RM4-IVT accepts its input from  $\pm 20\text{mA}$ , 4-20mA,  $\pm 100\text{mV}$ ,  $\pm 1\text{V}$ ,  $\pm 10\text{V}$ ,  $\pm 100\text{V}$  or 3 wire slidewire signals. The  $\pm 20\text{mA}/4\text{-}20\text{mA}$  input is protected against over current by a self resetting thermal fuse.

Two alarm relays are provided as standard and can be independently programmed to operate on the rate or the total or to operate in PI control mode. 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. a relay can be programmed to close for 0.5 seconds every time the total reaches a multiple of 1000.

Combinations of optional outputs including extra relays, analog retransmission or serial communications (ASCII or Modbus RTU protocol) can also be provided. One optional analog output can be configured for retransmission or PI control.

The programmable digital filter improves stability by smoothing out short term interference. An external input is configurable to perform one of various functions e.g. Two level brightness switching, peak hold, display hold, display toggle (rate to total), max/min memory, scale switching (allows switching between two sets of calibration values), setpoint only access or security lockout, pushbutton zero and total reset.

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.

The RM4 has a programmable display brightness function and an auto display dimming function which helps to reduce power consumption.



### Features

- Pushbutton calibration and setup
- 5 digit LED display and relay/alarm status indication
- Programmable **P** button function e.g. totaliser memory reset, max/min display zero or display toggle (rate/total)
- Isolation between input, output and supply
- Powered by 240V, 110V, 48V, 42V, 32V, 24VAC, or 12 to 48V DC (factory configured)
- Thermal fuse protection for mA inputs
- Digital filter for improved stability
- Two alarm/control relay outputs (5A) standard with choices of operation from rate, total or pass
- Programmable display brightness reduces power consumption and controls glare in low brightness areas
- "Auto off" display function conserves power
- Rugged aluminium DIN rail mount housing
- Remote input to perform special functions e.g. totaliser reset, 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 single or two independent outputs 4-20mA, 0-1V or 0-10V
- 16 bit analog retransmission + 3rd setpoint relay
- Additional relays 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 4-20mA and RS485 serial outputs



RM4IVT-3.8-0

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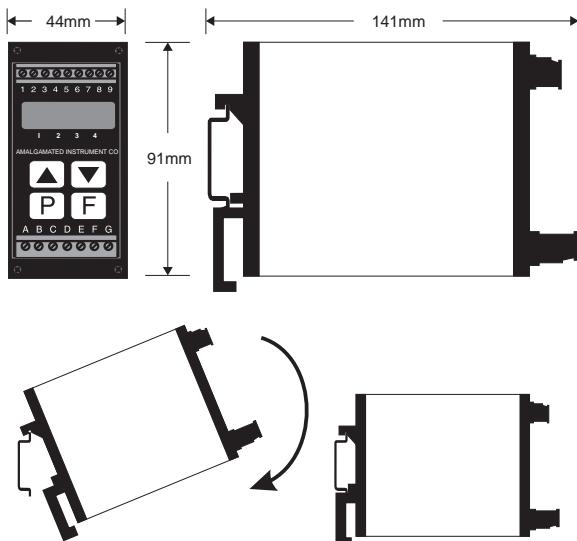
# Specifications

## Technical Specifications

- Input types: Link selectable  $\pm 20\text{mA}$ , 4 to 20mA,  $\pm 100\text{mV}$ ,  $\pm 1\text{V}$ ,  $\pm 10\text{V}$ ,  $\pm 100\text{V}$  or slidewire
- Input resistance:  $135\Omega$  (mA),  $1\text{M}\Omega$  (Voltage),  $>1000\text{M}\Omega$  (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:  $-10^\circ\text{C}$  to  $60^\circ\text{C}$
- Humidity: 5% to 95% non condensing
- Display: 5 digit 7.6mm LED 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,  $<6\text{W}$  (depends on load & options)
- Output (standard): 2 x relay, form A, rated 5A resistive 240VAC  
Transmitter supply 24VAC (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  
 $2.5\text{mm}^2$  wire)
- Weight: 500g basic model,  
550g with option card



# RM4-IVT Order Codes

**RM4-IVT** - [ ] - [ ] - [ ]

**Power Supplies**  
**RM4-IVT** - [XXX] - [ ] - [ ]

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

**Display Type**  
**RM4-IVT** - [ ] - [5E] - [ ]

**Options**  
**RM4-IVT** - [ ] - [ ] - [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

