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 ±20mA, 4-20mA, ±100mV, ±1V, ±10V, ±100V signals or 3 wire slidewire. The 20mA/4-20mA input is protected against over current by a self resetting thermal fuse. All function settings and calibration scaling is carried out via the instruments 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
- 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
  4-20mA, 0-1V or 0-10V (link selectable)
- 16 bit analog retransmission + 3rd setpoint relay
- 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

RM4IV-3.4-0

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Specifications

Technical Specifications

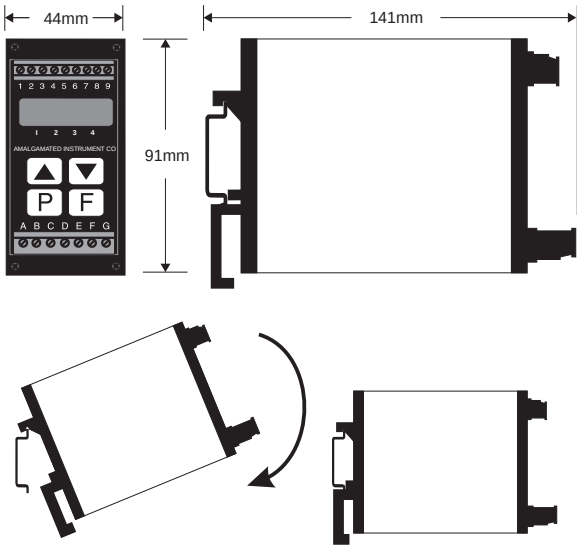
Input types:	Link selectable ±20mA, 4-20mA, ±100mV, ±1V, ±10V, ±100VDC or 3 wire slidewire
Input resistance:	135Ω (mA), 1MΩ (Voltage) >10000MΩ (Slidewire)
ADC resolution:	1 in 20,000
Accuracy:	0.1% when calibrated
Sample Rate:	4 per second
Conversion:	Dual slope ADC
Microprocessor:	MC68HC11 CMOS
Ambient 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 4 VA max, DC supply, <6W (depends on load & options)
Output (standard):	2 x relays, form A Rated 5A resistive 240VAC 24VDC unregulated transmitter supply **25mA max**
Relay action:	Programmable N.O. or N.C.

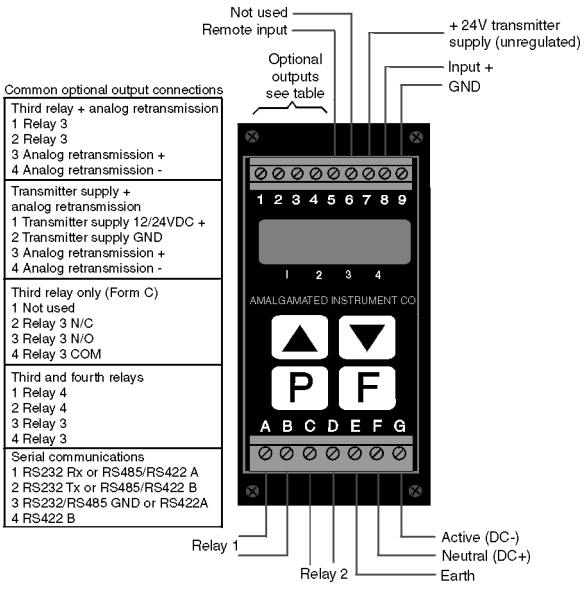
Output Options - see below for full list

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 2.5mm^2 wire
Weight:	500g basic model, 550g with option card





RM4-IV Order codes

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

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

Power supply

240	240VAC
110	110VAC
48	48VAC
42	42VAC
32	32VAC
24	24VAC
DC	12-48VDC isolated

Display type

5E	5 digit 7.6mm red led with front pushbuttons & annunciators

Optional outputs

R	3rd setpoint relay (form C) - rated 0.5A/32VAC or DC
RR	3rd & 4th setpoint relays (form A) - rated 0.5A/32VAC or DC
RE	3rd setpoint relay (form C) - rated 0.5A/32VAC or DC and 12 or 24V isolated regulated transmitter supply
E	12 or 24V isolated regulated transmitter supply
SS	3rd and 4th setpoints, transistor 24VDC output or open collector NPN
A	Analog retransmission (12 bit 4-20mA, 0-1V or 0-10V) isolated
AA	Dual analog retransmission (12 bit 4-20mA, 0-1V or 0-10V individually isolated)
AE	Analog retransmission (12 bit 4-20mA, 0-1 or 0-10V) plus 12 or 24V regulated transmitter supply
AR	Analog retransmission (12 bit 4-20mA, 0-1 or 0-10V) plus 3rd setpoint relay (form A)
AHR	Analog retransmission (16 bit 4-20mA, 0-1 or 0-10V) plus 3rd setpoint relay (form A)
232	RS232 serial communications output - isolated
422	RS422 serial communications output - isolated full duplex (4 wire)
485	RS485 serial communications output - isolated half duplex (2 wire)
A485	Analog retransmission (12 bit 4-20mA, 0-1 or 0-10V) plus RS485 serial communications