

DIN Rail Mount Indicators

RM4-LN 50 Point Lineariser

Description

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

The RM4-LN 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.

Up to 50 linearising points may be input and stored in the lineariser table (X and Y values). Table values are stored in electrically programmable memory.

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 operation.

The RM4-LN 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. To reduce power consumption in normal use the display can be programmed to automatically dim or blank after a set time.

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, max/min memory, scale switching (allows switching between two sets of calibration values), two levels of security lockout, pushbutton tare and zero.

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



Features

- Up to 50 X,Y linearising points
- EEPROM storage of lineariser table values.
- Pushbutton calibration and setup
- 5 digit LED display and relay/ alarm status indication
- Programmable **P** button e.g. max/min, zero or tare
- Thermal fuse protection for mA input
- Isolation between input signal, output and supply
- 240V, 110V, 48V, 42V, 32V, 24VAC or 12 to 48VDC (factory configured)
- Digital filter, improves stability
- Two relay outputs (5A) standard
- 24VDC unregulated transmitter supply - 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, setpoint only access or security lock out
- 2 year guarantee

Options

- Isolated analog output single or two independent outputs 4-20mA, 0-1V or 0-10V (first analog output configurable as retransmission or PI control)
- Isolated & regulated 12VDC @ 50mA or 24VDC @ 25mA (link selectable)
- Additional relays in combination with analog or transmitter supply outputs
- Isolated RS232, RS422 or RS485 serial comms. with choice of ASCII or Modbus RTU protocol
- Combined analog 4-20mA and RS485 serial outputs



RM4LN-3.4-0

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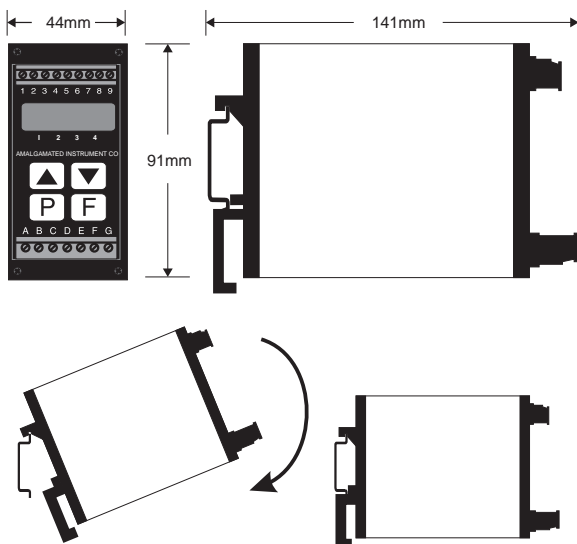
Specifications

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
- Linearising: Up to 50 points, X & Y values
- Input resistance: 135Ω (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°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 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 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)
16 bit single channel available
Serial RS232 or RS485, choice of ASCII or Modbus RTU protocols
- 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-LN Order Codes

RM4-LN - [] - [] - []

Power Supplies

RM4-LN - [XXX] - [] - []

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

Display Type

RM4-LN - [] - 5E - []

Options

RM4-LN - [] - [] - [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

