

# DIN Rail Mount Indicators

## RM4-SG Load Cell/Strain Bridge Input

### Description

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

The RM4-SG accepts its input from any conventional 4-wire strain bridge sensor. All function setup and calibration scaling is carried out via the instruments pushbuttons. The RM4-SG can be calibrated by simulating or altering the load to two known points and scaling the display to give the correct reading for the loads. An alternative scaling method allows the known transducer mV/V output value to be entered along with the transducer full scale capacity value in the required display units.

The input sensitivity is user programmable to accept load cells/transducers with outputs from 0.5mV/V to 100mV/V.

A remote contact or pushbutton controlled input allows a function such as zero, tare/gross/net, peak hold, display hold, max/min, setpoint only access or security lock out to be selected. A "zero limit" can be set on the zero operation to help ensure that the instrument is not inadvertently zeroed.

A programmable digital filter function improves stability by smoothing out short term interference.

Two alarm relays are provided as standard. The relays can be set for independent operation or to have a "trailing" operation in which one relay automatically follows the operation of another by a programmed offset.

The RM4-SG 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 RM4-SG also features automatic display dimming to conserve power. The display returns to its bright level when a button is pressed or if an alarm condition occurs.

Up to four 350Ω load cells can be connected in parallel directly to the RM4-SG using either 10V excitation or 5V excitation.



### Features

- Pushbutton calibration and setup
- 5 digit LED display and relay/ alarm status indication
- Choice of calibration methods
- Direct connection of up to 4 load cells
- Programmable **P** button e.g. max/min display, zero or tare
- Full isolation between input, output and supply
- 240V, 110V, 48V, 42V, 32V, 24VAC or 12 to 48VDC (factory configured)
- Digital filter, improves 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, or security lock out
- 2 year guarantee

### Options

- Isolated analog retransmission single or two independent outputs 4-20mA, 0-1V and 0-10V, first analog output can be configured for PI control or retransmission
- 16 bit analog retransmission + 3rd setpoint relay
- Additional relays in combination with analog or transmitter supply outputs
- Isolated & regulated transmitter supply. 12VDC (50mA max) or 24VDC (25mA max) selectable.



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# Specifications

## Technical Specifications

**Input:** Ratiometric four arm strain bridge  
**Input sensitivity:** 0.5mV/V to 100mV/V (selectable)  
**Bridge compatibility:** 85Ω to > 2000Ω  
**Excitation:** 5V or 10V, link selectable  
**Sample Rate:** 10 samples/second  
**Accuracy:** Better than 0.01% of full scale (alarms & display) dependant on sample rate  
 Analog retransmission is better than 0.1%

**ADC resolution:** 20 bits  
**Conversion:** Sigma Delta  
**Microprocessor:** MC68HC11 CMOS  
**Ambient temp:** -10°C to 60°C  
**Humidity:** 5% to 95% non condensing  
**Display:** LED 5 digit 7.6mm and alarm 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  
**Relay action:** Programmable N.O. or N.C.

### Output Options - see below for full list

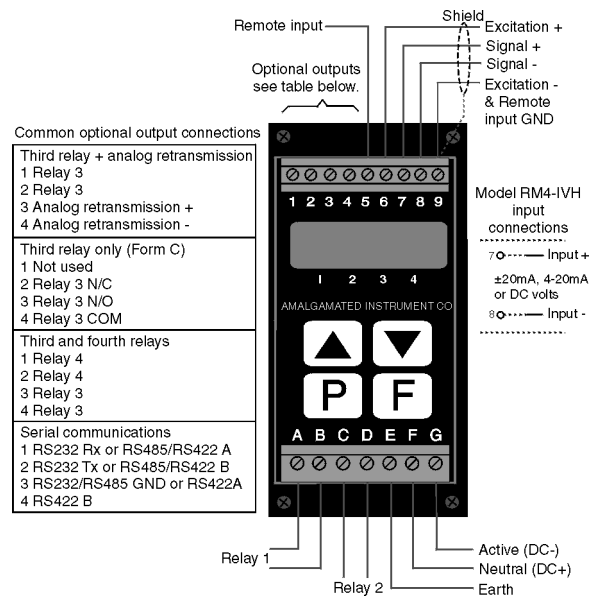
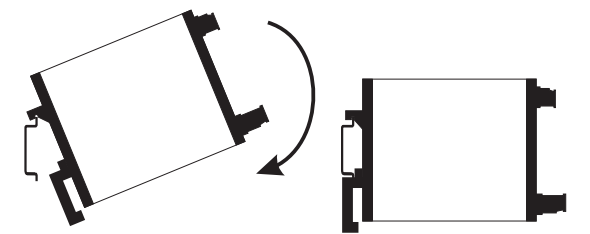
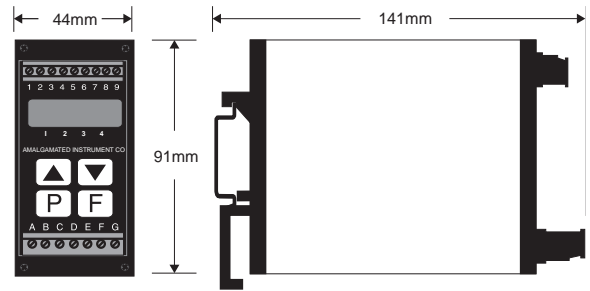
**Third relay :** Rated 0.5A resistive at 30VAC or DC, form C if no other options fitted (otherwise form A)

**Fourth relay:** Rated 0.5A resistive at 30VAC or DC, form A

**Retransmission:** Analog 4-20mA, 0-1V or 0-10V link selectable

### Physical Characteristics

**Case size:** 44mm x 91mm x 141mm  
**Connections:** Plug in screw terminals  
 2.5mm<sup>2</sup> wire  
**Weight:** 500g basic, 550g with option card



## RM4-SG Order codes

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

