

DIN Rail Mount Indicators

RM4-WT High Speed/Precision Load Cell/Strain Bridge Input

Description

The RM4-WT 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-WT 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. This method is very useful for applications in which test loads of accurately known value are not available.

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

Two separate calibration memories are provided allowing simple switching of scaling between two different load cells or two measuring units e.g. metric and imperial. When scaling using a simulator or live input the RM4-WT allows the choice of either two point linear calibration scaling or up to five point linearised scaling.

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

The RM4-WT 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 350 Ω load cells can be connected in parallel directly to the RM4-WT using either 10V excitation or 5V excitation. The RM4-WT offers advanced features for weighing applications. These include auto zero tracking, high sample speed from 5 to 100 samples per second user selectable, an accuracy of 0.005% of FS, remote contact or pushbutton controlled functions such as zero, tare/gross/net, peak hold, display hold, max/min, batching or a security lock out, and a combination of output options including up to 4 setpoint relays, analog and serial retransmission (ASCII or Modbus protocol).



Features

- High speed, up to 100 samples/sec.
- Pushbutton calibration and setup
- 5 digit LED display and relay/alarm status indication
- Choice of calibration methods
- Programmable **P** button e.g. max/min display, zero, tare, preset or alternate calibration units
- 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, batching 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.
- Isolated RS232, RS422 and RS485 serial communications, ASCII or Modbus RTU protocol



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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: 5 to 100 samples/second (selectable)
Accuracy: Up to 0.005% of full scale(alarms & display) dependant on sample rate
 Analog retransmission is better than 0.05% (12 bit) or better than 0.01% (16bit)
 Serial comms ± one display digit
ADC resolution: Up to 22 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 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
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
 (single or dual channel versions)
 16 bit single channel available
 Serial RS232, RS485 or RS422 choice of ASCII or Modbus RTU protocols
DC voltage out: Isolated 24V at 25mA or 12VDC at 50mA (link selectable)

RM4-WT Order Codes

RM4-WT - [] - [] - []

Power Supplies
RM4-WT - [XXX] - [] - []

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

Display Type
RM4-WT - [] - [5E] - []

Options
RM4-WT - [] - [] - [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 (±12V)	E
THIRD RELAY	R
THIRD & FOURTH RELAYS	RR
ANALOG (16 BIT) PLUS 3RD RELAY	AHR
3RD RELAY PLUS 24V (±12VDC) OUTPUT	RE
3RD RELAY PLUS ANALOG (12 BIT)	AR
ANALOG (12 BIT) PLUS 24V (±12VDC) OUTPUT	AE
ANALOG (12 BIT) PLUS RS485	A485

Physical Characteristics

Case size: 44mm x 91mm x 141mm
Connections: Plug in screw terminals
 2.5mm² wire
Weight: 500g basic, 550g with option card

