DIN Rail Mount Indicators RM4-TCR Universal Temperature Monitor

RTD, thermocouple, 0-20mV & 0-50mV

Description

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

Input types available are 100Ω (Pt100) or 1000Ω (Pt1000) RTDs or thermocouple types B, E, J, K, N, R, S or T. Two millivolt input ranges of 0-20mV and 0-50mV are also provided with five point linearisation.

All function settings, including selection of input type and calibration scaling is carried out via the pushbuttons.

Temperature units can be selected as °C or °F with a user selectable resolution of up to 0.01 degrees (RTD) or 0.1 degrees (thermocouple). If required the display can be programmed to show the units of temperature as °. °E, °F, C or F e.g. 325°C. For mV inputs the display can be scaled to read in engineering units.

Two alarm relays are provided as standard. The relays can be set for independent operation or to have a "trailing" operation.

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

The RM4-TCR 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.

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 display scale values, resolution and display units e.g. $^{\circ}$ C to $^{\circ}$ F), setpoint only access or security lockout.

Electrical isolation between power supply, temperature sensor input and retransmission eliminates grounding and common mode voltage problems.





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)
- 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
- Additional relay 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

RM4TCR-3.3-0

Specifications

Technical Specifications

Input types: 100Ω (Pt100) or 1000Ω (Pt1000) RTDs,

thermocouple types B, E, J, K, N, R, S or T or

mV

Display values: Temperature °C or °F or scaled in engineering

units for mV input

Display resolution: RTD & thermocouple up to 2 decimal places,

mV up to 4 decimal places

ADC resolution: 1 in 20,000

Accuracy: 0.1% when calibrated

Sample Rate: mV: 7.5 per second, RTD: 2 per second,

thermocouple: 1 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, <6W (depends on load & options) andard): 2 x relays, form A Rated 5A resistive 240VAC

Output (standard): 2 x relays, form A Rated 5A re 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, RS485 or RS422 choice of ASCII or

Modbus RTU protocols

DC voltage out: Isol. 24V at 25mA or 12VDC at 50mA

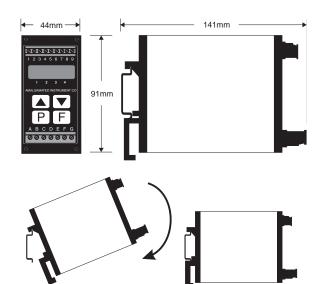
Physical Characteristics

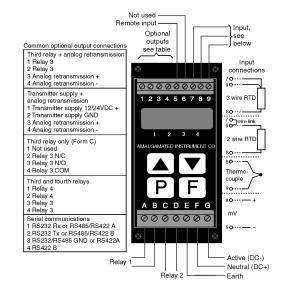
Case size: 44mm x 91mm x 141mm Connections: Plug in screw terminals

2.5mm² wire)

Weight: 500g basic model,

550g with option card





RM4-TCR Order codes

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

