

# DIN Rail Mount Indicators

## RM4-TMR Multifunction Timer

### Description

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

All function selections are setup via the instruments pushbuttons. Reset can be via external pushbutton or via the instruments **P** button.

The RM4-TMR is a highly visible and versatile indicator for applications including "hours run", "time on belt" etc. User selectable display formats available are:

Seconds e.g. **2346.4**

Minutes:Seconds e.g. **238.53**

Minutes e.g. **8472**

Hours:Mins e.g. **14.22**

Hours:Mins.Secs. e.g. **3.24.22**

Hours e.g. **2464**

Days e.g. **364**

Days:Hours e.g. **07.11**

The RM4-TMR accepts contact closure or control voltage inputs. The instrument may be used in stopwatch (start, stop, reset inputs) or elapsed time mode (start & reset inputs) and may be set for up or down timing. A scaled period mode of operation allows the display to be scaled i.e. multiplied or divided by a factor. An inverse period mode allows the display to measure inverse time quantities such as velocity.

Two alarm relays are provided as standard. Combinations of optional outputs including extra relays, analog retransmission or serial comms. (ASCII or Modbus RTU protocol) can also be provided.

The RM4-TMR 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 display brightness will be restored if an alarm relay is activated or any of the front buttons is pushed.

An external input is configurable to perform one of various functions e.g. Two level brightness switching, peak hold, display hold, max/min memory, setpoint only access, security lockout, reset (zero).



### Features

- Period, scaled period or reciprocal scaled period display modes
- Stopwatch or elapsed timer operation
- Pushbutton calibration and setup
- Easy scaling - no test gear needed
- 240V, 110V, 48V, 42V, 32V, 24VAC, or 12 to 48VDC (factory configured)
- Two alarm/control relay outputs (5A) with visual indication of relay state via annunciator LEDs
- Remote inputs for reset and to perform special functions including display hold, peak hold, high memory, low memory, brightness level switching, reset (zero), grand total reset or rate/total display toggle
- Programmable **P** button function may be used for high/low memory, reset or preset
- 5 digit LED display and relay/alarm status LEDs
- Isolation between input signal, output and supply
- Programmable display brightness
- Auto dim feature conserves power
- Rugged aluminium DIN rail mount housing
- 2 year guarantee

### Options

- Third relay
- Third & fourth relay
- Isolated RS232, RS422 or RS485 serial comms. with choice of ASCII or Modbus RTU protocol
- Isolated analog output single or two independent outputs 4-20mA, 0-1V or 0-10V
- 16 bit analog retransmission + 3rd setpoint relay
- Combined analog 4-20mA and RS485 serial outputs



RM4TMR-3.2-0

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# Specifications

## Technical Specifications

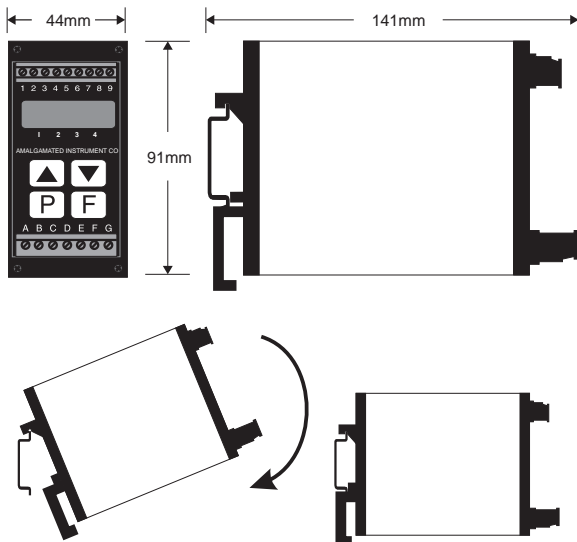
Input types: Contact closure or 5VDC  
 Impedance: 10kΩ  
 Operations Modes: Elapsed time, stopwatch, up or down timer with user selectable ranges of seconds, minutes:seconds, minutes, hours:minutes, hours:minute:seconds, hours, days:hours or days  
 Accuracy: Period measurement 0.01% ±10μS  
 Resolution: To 0.01 seconds  
 Memory Retention: Time memory retained for a minimum of 40 days with power removed  
 Reset: Reset via contact closure (or 5VDC control voltage) or front panel **P** button  
 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 6 VA max, DC supply, <6W (depends on load & options)  
 Output (standard): 2 x relays, form A  
 Relay action: Rated 5A resistive 240VAC 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 channel) 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)

## Physical Characteristics

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



# RM4-TMR Order Codes

**RM4-TMR** - [ ] - [ ] - [ ]

## Power Supplies

**RM4-TMR** - [XXX] - [ ] - [ ]

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

## Display Type

**RM4-TMR** - [ ] - [5E] - [ ]

## Options

**RM4-TMR** - [ ] - [ ] - [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

## 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

