# RM33 & 52
## Relative Humidity and Temperature Transmitter, HVAC Room Monitor

The RM series of relative humidity and temperature transmitters offers a comprehensive range of output signals and measurement ranges. The transmitters are housed in a wall mounting enclosure making these instruments ideal for HVAC and building management applications.
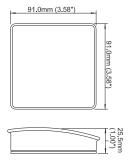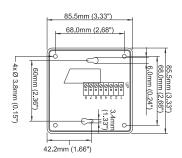
## Highlights

• Designed for low cost HVAC applications

• Quick installation: electrical rear connection with screw terminals

• Long term stability

## Technical Specifications

### Performance

| | |
|---|---|
| **Measurement range (RH)** | 0–100% RH |
| **Measurement range (T)** | 0 to +50°C (+32 to +122°F) |
| **Accuracy at 23°C (73°F) Humidity** | RM52: <±2% RH (10–90% RH) RM33: <±3% RH (30–80% RH) |
| **Accuracy at 23°C (73°F) Temperature** | RM52: ±0.2°C (±0.36°F) RM33: ±0.3°C (±0.54°F) |
| **Temperature influence** | ±0.05% RH/°C (±0.027% RH/°F) |
| **Stability – RH Sensor** | ±1% RH/year |
| **Response time – RH Sensor** | <10 sec typical (for 90% of the step change) |

### Electrical output/input

| | |
|---|---|
| **Output signal** | 0–1, 0–5, 0–10 V 4–20 mA (2-wire) |
| **Supply voltage** | 14–35 V DC (for 0–5 / 0-10 V output) 4.5–35 V DC (for 0–1 V / 4-20 mA {RH only} output) 14–26 V AC (for all output ranges) |
| **Supply voltage influence** | ±0.01% RH/V typical |

### Operating conditions

| | |
|---|---|
| **Operating humidity** Housing, Storage | 10-90% RH |
| **Operating temperature** Electronics Storage | 0 to +50°C (+32 to +122°F) -40 to +75°C (-40 to +167°F) |

### PRT

| | |
|---|---|
| **Measurement range** | Pt100/1000: -50 to +200°C (-58 to +392°F) |
| **Accuracy** | Pt100/1000: ±0.15% |

### Mechanical specification

| | |
|---|---|
| **Ingress protection** | N/A |
| **Housing material** | White molded polymer |
| **Dimensions** | 91 x 91 x 25.5mm (3.58 x 3.58 x 1.00") |
| **Filter** | N/A |
| **Weight** | 85g (3oz) |
| **Electrical connections** | Screw terminals |

## Dimensions

www.michell.com

**MICHELL Instruments**

Please note: Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice. Please contact us for latest version.

## Electrical Connections

| Voltage output | | |
|---|---|---|
| Pin 1 | Pin 1 | |
| Pin 2 | Pin 2 | |
| Pin 3 | Pin 3 | Temperature sensor Pt100/Pt1000 |
| Pin 4  Output temperature + | | |
| Pin 5  Output RH + | Pin 4 | |
| Pin 6  Common ground | Pin 5  Output RH + | |
| Pin 7  Power supply V+ | Pin 6  Common ground | |
| Pin 8 | Pin 7  Power supply V+ | |
| | Pin 8  Humidity with temperature sensor | |

| mA output | | |
|---|---|---|
| Pin 1  Output RH + | Pin 1  Output RH + | |
| Pin 2  Output RH - | Pin 2  Output RH - | |
| Pin 3 | Pin 3 | Temperature sensor |
| Pin 4 | Pin 4 | |
| Pin 5 | Pin 5 | |
| Pin 6 | Pin 6 | |
| Pin 7 | Pin 7 | |
| Pin 8 | Pin 8  Humidity with temperature sensor | |

## Ordering Codes

To construct the order code, select the relevant feature from the tables below, starting with the base model, which is {Feature A} and then add on options to create a string: {Feature A}+{Feature B}+{Feature C}

**Order example**: RM33+3+T3
Relative humidity and temperature transmitter RM33, 0-10 V output, 0 to 50°C (+32 to +122°F) temperature range

| RM33 | 3 | T3 |

| Base Model {Feature A} | |
|---|---|
| Relative humidity and temperature transmitter - 1pt calibration with 3% accuracy | RM33 |

| Signal Output {Feature B} | |
|---|---|
| 4–20 mA (only possible with X, T4 or T5 in Feature C) | 2 |
| 0–10 V | 3 |
| 0–5 V | 4 |
| 0–1 V | 5 |

| Temperature Signal {Feature C} | |
|---|---|
| 0 to +50ºC (+32 to +122ºF) | T3 |
| Pt100: -50 to +200ºC (-58 to +392ºF) | T4 |
| Pt1000: -50 to +200ºC (-58 to +392ºF) | T5 |
| Other output scaling available on request | TX |
| RH signal only. No temperature output | X |

| RM52 | 5 | T4 |

| Base Model {Feature A} | |
|---|---|
| Relative humidity and temperature transmitter 2pt calibration with 2% accuracy | RM52 |

| Signal Output {Feature B} | |
|---|---|
| 4–20 mA (only possible with X, T4 or T5 in Feature C) | 2 |
| 0–10 V | 3 |
| 0–5 V | 4 |
| 0–1 V | 5 |

| Temperature Signal {Feature C} | |
|---|---|
| 0 to +50ºC (+32 to +122ºF) | T3 |
| Pt100: -50 to +200ºC (-58 to +392ºF) | T4 |
| Pt1000: -50 to +200ºC (-58 to +392ºF) | T5 |
| Other output scaling available on request | TX |
| RH signal only. No temperature output | X |

**MICHELL Instruments**