

WM33 & 52

Relative Humidity and Temperature Transmitter, Multi Unit



Wall-mounted units that have the ability to display and provide an output signal of % RH, dew point or absolute humidity and temperature. The WM Series offers excellent measurement accuracy and stability wherever a wall-mounted sensor is required.

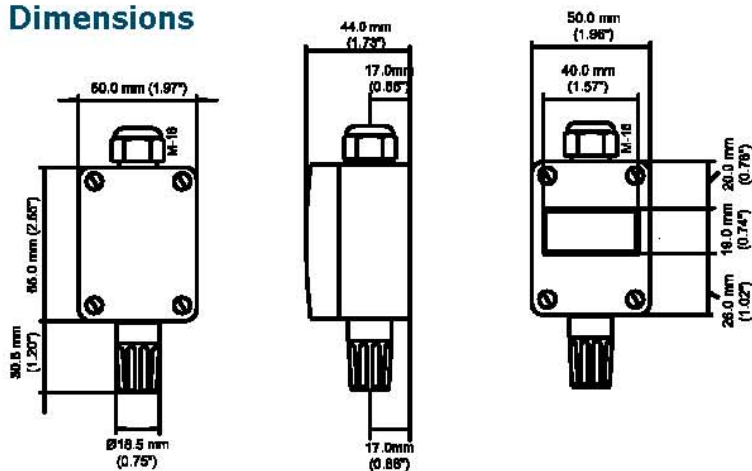
Highlights

- WM33 is designed for low cost HVAC applications
- WM52 has digital technology and is designed for accurate measurements in a controlled environment
- Easy to re-calibrate to maintain high accuracy

Technical Specifications

| Performance | |
|---|---|
| Measurement range (RH) | 0–100% RH |
| Measurement range (T) | -20 to +80°C / -4 to +176°F |
| Accuracy at 23°C / 73°F Humidity | WM52: $\pm 2\%$ RH (10–90% RH) WM33: $\pm 3\%$ RH (30–80% RH) |
| Accuracy at 23°C / 73°F Temperature | WM52: $\pm 0.2^\circ\text{C}$ (-10 to +50°C) $\pm 0.36^\circ\text{F}$ (14 to 122°F) WM33: $\pm 0.3^\circ\text{C}$ (5 to 40°C) $\pm 0.54^\circ\text{F}$ (41 to 104°F) |
| Stability – RH Sensor | $\pm 1\%$ RH/year |
| Response time – RH Sensor | <10 sec typical without filter (for 90% of the step change) |
| Electrical output/input | |
| Output signal | 4–20 mA, 0–1, 0–5, 0–10 VDC |
| Supply voltage | 14–30 VDC, 5–30 VDC (0–1 V & mA output) |
| Operating conditions | |
| Operating humidity Probe, housing, storage | 5–95% non-condensing |
| Operating temperature Probe, Housing Storage | -30 to +85°C / -22 to +185°F -40 to +85°C / -40 to +185°F |
| PRT | |
| Measurement range | Pt100/1000: -50 to +200°C / -58 to +392°F |
| Accuracy | Pt100/1000: $\pm 0.15\%$ |
| Mechanical specification | |
| Housing material | Moulded polymer housing |
| Weight | 82g / 2.89oz |
| Electrical connections | Screw terminals |
| Alternative outputs | |
| Dew point | -40 to +60°C / -40 to +140°F |
| Absolute humidity | 0–200g/m ³ / 0 – 87.4gr/ft ³ |


Dimensions




Accessories and spare parts

| | |
|--|-----------------------------|
| You can check your hygrometer with the control kit HKC which is based on the principle of non-saturated salt solutions. Refer to technical data sheet CONTROL KIT. | Control Kit HKC |
| Electrical connection | Standard cable gland |
| Slotted protection cap, white | A000001 |
| PVDF filter | A000014 |
| PVDF filter with protection cap | A000016 |
| Wire mesh filter with protection cap, black | A000021 |
| Stainless steel sintered filter 5/10/20 µm | A000025/26/27 |
| Foil 2µm filter with white protection cap | A000041 |
| Foil 1.5µm filter with white protection cap | A000045 |

Electrical Connections

| 3/4 wire VDC power supply voltage output | |
|--|---|
| Pin 1 |  Pt100/Pt1000 |
| Pin 2 | Output temperature + |
| Pin 3 | Common ground |
| Pin 4 | Output RH + |
| Pin 5 | Power supply V+ |

| 2 wire VDC power supply mA output | |
|-----------------------------------|---|
| Pin 1 |  Pt100/Pt1000 |
| Pin 1 | Output temperature - |
| Pin 2 | Output temperature + |
| Pin 3 | Output RH + |
| Pin 4 | Output RH - |

| 3/4 wire with display | |
|-----------------------|--|
| Pin 1 | Output temperature + |
| Pin 2 | Common ground |
| Pin 3 | Output RH , Dew Point, Absolute Humidity + |
| Pin 4 | Power supply V+ |

Order codes

Relative humidity and temperature transmitter **WM52 5 DX H T3**

| Accuracy and version configuration | |
|------------------------------------|------|
| 3% accuracy | WM33 |
| 2% accuracy | WM52 |

| Output configuration 1 | |
|--|---|
| 4–20 mA analog output (only RH & T possible and not for display version) | 2 |
| 0–10 V analog output | 3 |
| 0–5 V analog output | 4 |
| 0–1 V analog output | 5 |

| Display configuration 1 | |
|-----------------------------|----|
| No display | XX |
| Display version – WM52 only | DX |

| Temperature output configuration | |
|---|----|
| No temperature output, RH signal only – not for display version | X |
| -20 to +80°C / -4 to +176°F temp range | T1 |
| 0 to 50°C / 32 to 122°F temp range | T3 |
| Pt100: -50 to +200°C / -58 to +392°F – not for display version | T4 |
| Pt1000: -50 to +200°C / -58 to +392°F – not for display version | T5 |
| Other output scaling available on request | TX |

| Display configuration 2 - only in combination with display | |
|---|---|
| Dew-point temperature (T _{dew}), only with T1 | D |
| Relative humidity | H |
| Absolute humidity in g/m ³ / gr/ft ³ , only with T1 | A |

Example: WM52 5 DX H T3

Relative humidity and temperature sensor WM52, 2% accuracy, 0 to 1 V output for relative humidity and 0 to 50°C / 32 to +122°F temperature signal, with display.

Please note: Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice. Please contact us for latest version. Ref: WM33 & 52_97183_V1_UK_1009