

# S503 Humidity Calibrator



The S503 is a highly portable and compact self-contained bench-top humidity calibrator. The humidity controlled chamber features interchangeable ports accommodating up to 7 humidity sensors and is ideal for companies or organizations that need to calibrate large numbers of probes in the field.

The S503 functions by proportionally mixing flows of dry and saturated air according to the relative humidity value selected by the operator. Step changes in relative humidity typically take less than 10 minutes to stabilize, allowing a simple 3-point calibration to be carried out in under an hour. The humidity and temperature within the chamber are clearly displayed on the front panel LCD display.

The S503 has been designed with field calibrations in mind and can also provide power to, and read a current or voltage signal from a single sensor. The signal from the sensor can be scaled and displayed on the LCD panel on the front of the calibrator as a temperature or relative humidity reading.

A kit is available to enable the integration of a high precision Optidew chilled mirror hygrometer to accurately measure both the humidity and temperature inside the chamber. Using the chilled mirror reference instrument kit enables the operator to perform calibrations that are traceable to national standards.

The optional integrated battery pack turns the S503 into a truly portable calibration solution, enabling operation in the field where a mains power supply isn't available, or isn't convenient to use. The battery provides up to 12 hours continuous usage.

The S503 weighs less than 2kg, and is just 24cm wide. It comes with optional hard carry case, making it ideal for an engineer to carry as part of their tool kit, allowing easy setup up in-situ, at different locations on site as required.

Maintenance is simple; the water reservoir and desiccant chamber can be accessed through the top panel of the calibrator and the desiccant changes color to indicate when it needs to be recharged. Recharging the desiccant is simply a matter of heating it in a conventional oven at +150°C (+302°F) for 3 hours.

## Highlights

- Lightweight and easily portable
- Rapid stabilization of chamber humidity allows for quick spot checks
- Optional fundamental chilled mirror reference
- Accepts up to 7 test probes
- Optional integrated battery pack

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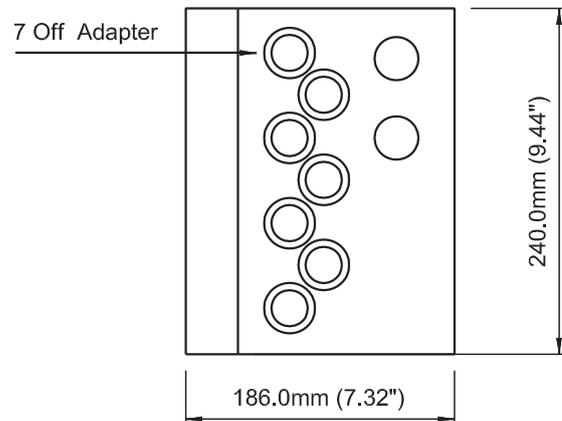
Please note: Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice. Please contact us for latest version.

## Technical Specifications

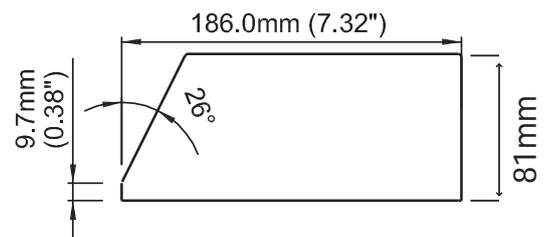
Humidity	
Generation range	10–90% RH in steps of 0.1% RH
Accuracy	±2% RH or better (10–90% RH)
Chamber stability	Better than ±0.5%
Stabilization time	<10 minutes
Temperature	
Temperature accuracy	±0.3°C (±0.54°F) - internal reference
Operating temperature (ambient)	+15 to +35°C (+59 to +95°F)
Sensor Under Calibration	
Voltage read out	0 to 1, 0 to 5, 0 to 10 V
Voltage input	0 to 1, 0 to 5, 0 to 10 V
Current input	4–20 mA
General	
Probe ports	7 off – sensor body diameters 5 to 25mm (0.2 to 0.98") accommodated by port adapters
Desiccant chamber	25g (0.88oz) capacity
Saturation chamber	25ml capacity, distilled water
Display	3½ digit LCD, 13mm (0.5") characters
Supply	12 V DC (100 to 240 V AC adapter included)
Weight	1.85kg (4.08lbs)

## Dimensions

Top View



Side View



S503 in case with MDM25 Handheld Hygrometer