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Bluetooth Manometer with Digital Display

VSM1



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⚠ Warning

This product operates under high pressure. Follow all safety guidelines regarding refrigerant handling including wearing Personal Protective Equipment such as safety glasses, and gloves.

⚠ Warning

This product contains a built-in lithium-ion battery.

- Do not disassemble, puncture, crush, or expose the battery to fire, high temperatures, or water.
- Use only the provided or compatible charger specified in the manual.
- Improper handling of the battery may cause fire, explosion, or serious injury.
- Dispose of the product following local regulations. Do not dispose of it with household waste.

Dispose of this product correctly



This mark indicates that this product should not be disposed of with other household waste. It is important to prevent uncontrolled waste disposal that may be harmful to the environment or human health, please use a return and collection system or contact the retailer from whom you purchased the product. They can recycle this product in an environmentally safe manner.

1. Safety Information

Please read this manual carefully before operating, servicing, or maintaining the product. Doing so will help ensure long-term stable performance and provide a comprehensive understanding of the safety considerations and precautions associated with its use and operation.

Please carefully check if the product you received matches the one you ordered and ensure that the accessories and instruction manual are included. In addition, inspect for any damage that may have occurred during transportation. If you notice any of these issues, kindly contact our marketing department or local distributor promptly.Reading the manual carefully and following the correct operating procedures will help ensure safe usage and extend the equipment's service life.Follow these guidelines to prevent personal injury or death:

- Most governments and regulatory authorities require HVAC technicians to be trained and certified in the safe and proper operation of HVAC tools, such as this instrument. Proper training is essential for the safe use of this instrument, as it can be connected to various types of equipment through tubing and fittings.
- Read the entire user manual before using the instrument.
- Use the instrument only as specified in this user manual. Failure to do so may impair the protection provided by the equipment.
- Before using the instrument, inspect the case for any cracks or loose components. Do not use the instrument if it is damaged.
- The instrument contains no internal, user-serviceable parts.
- Do not open the instrument.
- Do not use the instrument if it operates abnormally, as this may impair its protection. If in doubt, have the instrument serviced.
- Do not operate the instrument near explosive gases, vapor, or dust.
- Ensure proper safety measures when connecting to piping that contains refrigerant.
- The test pressure must not exceed the specifications outlined in this manual.

2. Product Overview



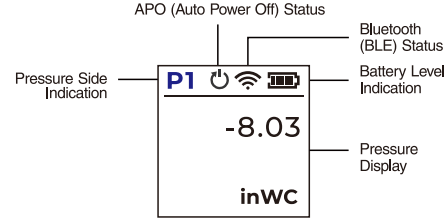
3. Technical Specification

Model	VSM1
Location	Indoor/Outdoor
Altitude	≤5000m
Charge Temperature	0 ~ 43℃
Discharge Temperature	-10 ~ 50℃
Measuring range	-8 ~ 64.3 inWC
Measuring accuracy	±1.5% FS
Resolutions	0.001psi
Battery	3.7V 1200mAh lithium battery
Bluetooth Range	50m line of sight
IP Class	IP54

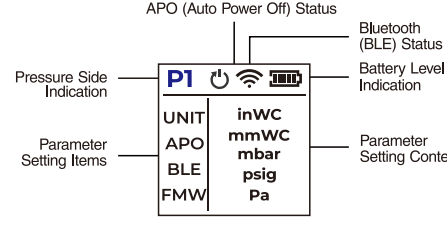
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4. Screen Display

Pressure Interface:



Parameter Setting Interface:



Parameter Setting Items	Parameter Setting Content
UNIT (Pressure unit)	psi,MPa,bar,kgf/cm²,KPa
APO (Automatic power off)	ON,OFF
BLE (Bluetooth switch)	ON,OFF
FMW (Hardware information)	VER: Hardware version; MAC: Bluetooth address

5. Indicator light

1. Power Status
   - Powered On: Green light stays on.
   - Powered Off: Red light stays on.
2 Screen-On Mode
   - Green light blinks when buttons are pressed.
3. Screen-Off Mode
   - Bluetooth Connected: Green light flashes.
   - Bluetooth Not Connected/Broadcasting: Yellow light flashes.

6. Bluetooth Connection

- Bluetooth Disconnected or Broadcasting: The Bluetooth icon blinks on the display.
- Bluetooth Connected: The Bluetooth icon remains steady.
- Bluetooth Off: The Bluetooth icon is not displayed.

7. Device Standby/Off

The device will automatically enter standby mode and turn off the screen after 1 minute of inactivity.
It will automatically power off if it has not been operated for 2 hours.

8. Temperature End Indication

Rotate the rotary knob fully to the left to display the P1 side on the device.
Rotate the rotary knob fully to the right to display the P2 side on the device.

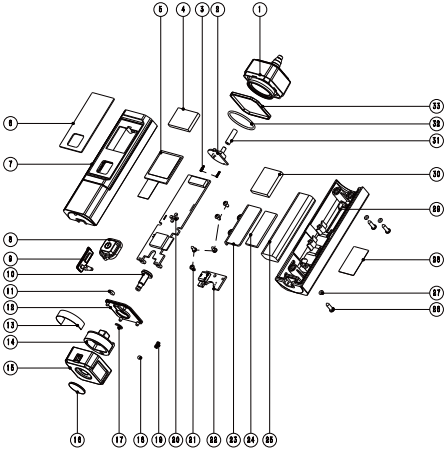
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9. Button Function

Power on/off: Press and hold the button for more than 2 seconds to turn the power on.
Press and hold for 2 seconds to bring up the menu, then select the "Power Off" option.
Calibration:
Press and hold for 2 seconds to bring up the menu, then select the "Calibration" option.
Function operation:
Click the button to refresh the page.
Double-click the button to access the parameter interface:
1. Click on the parameter interface to switch through the parameter setting items on the left side, in the following cyclic order: temperature unit, auto-shutdown function, Bluetooth switch, and device information.
2. Double-click on the parameter interface to enter the parameter setting content selection on the right side.
3. To enter the correct parameter setting content, click to switch the option, then double-click to confirm.

CAUTION:
When the measured pressure exceeds the range (less than -8 inWC or greater than 64.3 inWC), "OL" will be displayed.

10. Exploded View



Spare Parts List

No.	Item	No.	Item
1	Decorative Cover Plate	17	Snap Ring
2	O-ring	18	Decorative Cover Plate
3	Sensor Transparent Hose	19	Square Knob
4	Built-in Magnet	20	Fixed Base
5	Back Cover	21	LOGO Label
6	Nameplate	22	Knob Cover Plate
7	O-ring	23	Hall Switch Magnet
8	Self-tapping Screw	24	Fixed stud
9	Lithium Battery	25	Rubber plug
10	Battery compression foam	26	Power Button
11	Battery clamp	27	Front Cover
12	Charging Port Adapter Assy	28	Transparent Window
13	Self-tapping Screw	29	LCD screen
14	PCBA	30	LCD Display Foam
15	Spring	31	Machine Screw
16	Steel Ball	32	Sensor PCBA
		33	Top Cover

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11. Troubleshooting

Fault	Cause	Solution
Screen not displaying	1. Battery dead 2. Screen damaged 3. Mainboard damaged	1. Charge with correct specification charger 2. After-sales repair 3. After-sales repair
Button non-functional	1. Button damaged 2. Mainboard damaged	1. After-sales repair 2. After-sales repair
Bottom knob non-functional	1. Magnet detached 2. Mainboard damaged	1. After-sales repair 2. After-sales repair
Static pressure probe non-functional, no data input	1. Hose damaged 2. Hose not properly installed 3. Static pressure probe damaged	1. Cut damaged hose section, reinstall 2. Check hose and barbed fitting installation 3. After-sales repair

12. Maintenance

1. If unused for extended periods, check if battery has discharged;
2. Avoid prolonged outdoor rain exposure during use;
3. For repairs, contact VALUE distributor or VALUE company. If opened by individual or unauthorized company, warranty void;
4. Store product avoiding moisture, high temperature, and strong electromagnetic fields.



Correct disposal of this product:

This symbol indicates that this product should not be disposed of together with other household waste. To prevent uncontrolled waste disposal that may cause harm to the environment or human health, please use return and collection systems or contact the retailer from whom the product was purchased. They can ensure this product is recycled in an environmentally safe manner.

13. Download Methods

For Apple:
Search for “Hi VALUE” in the App Store, then download and install the app.

iOS Download
(iOS 12.0 or above)

For Android:
Search for “Hi VALUE” in the Google Play Store, then download and install the app.

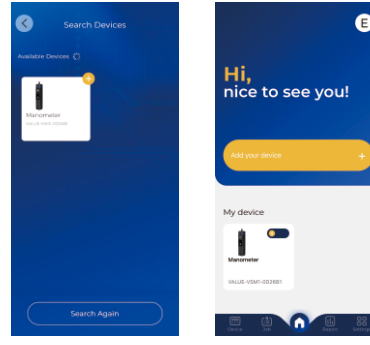
Android Download
(Android 7.0 or above)

14. Login Methods

Account login:
A network connection is required. All data records are stored on the server.
Visitor mode:
No network connection is required. All data records are stored locally on the cell phone.

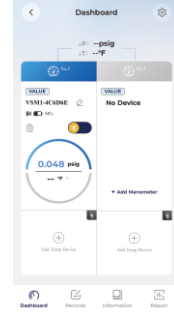
15. Page Introduction

1. Device Addition and Connection



Press button to turn on differential pressure gauge (Bluetooth enabled), click Add Device on home page, enter device search page, click + Add button to add differential pressure gauge

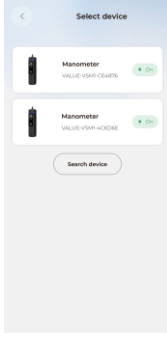
2. Device Combination and Separation
1) Combine with Other Differential Pressure Gauges



Individual Differential Pressure Gauge Device Page

App supports combining 4 differential pressure gauges (2 pairs).

On differential pressure gauge page, click Add Manometer in upper right corner to enter "Select Device Page," displaying added differential pressure gauges as shown below:



If differential pressure gauge not added, click Search device button on this page to jump to device search page, add required differential pressure gauge. After successful addition, click device to combine. The device page will then display pressure values of both differential pressure gauges simultaneously, showing their differential pressure Δp in real-time, as shown:



To add another pair of differential pressure gauges, click Add Device at bottom of page. Clicking this button also jumps to "Select Device Page" to add differential pressure gauge. When both lower differential pressure gauges are successfully added, their pressure values will be displayed simultaneously, showing their differential pressure Δp in real-time.

2) Combine with Thermohygrometer

Each differential pressure gauge supports adding one thermohygrometer below it to display temperature value and temperature difference. On combination page top, click Add Temp Device, similar to adding differential pressure gauge, enter "Select Device Page" to add thermohygrometer. After successful addition, temperature value will be displayed. After both upper thermohygrometers are successfully added, temperature difference ΔT will be displayed.



On combination page bottom, if no device added, displays Add Device. Clicking it can add differential pressure gauge or thermohygrometer, as shown below:

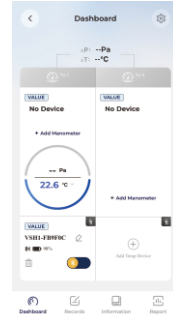


After adding differential pressure gauge first, its bottom displays Add Temp Device button for adding thermohygrometer;



After adding thermohygrometer first, its top displays Add Manometer for adding differential pressure gauge. Similarly, after both left and right thermohygrometers are successfully added, temperature difference will be displayed.

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3) Device Separation

To separate all combined devices with one click, simply click Remove all button. After separation, home page will no longer display combined devices, reverting to displaying each differential pressure gauge individually.

Each device has individual remove button. To remove only single device from combination page, click corresponding device's remove button, confirm twice, then remove device. Removed device regains its independence.

(Remove button can be captured in above images)

Notes:

a. The Select Device page only displays differential pressure gauges not currently combined with other devices. If the differential pressure gauge you need to add is already combined with other devices, you must separate them first before it becomes searchable on the device selection page and available for addition.

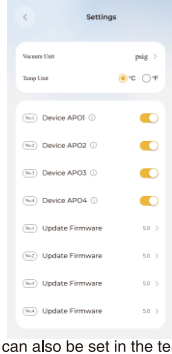
b. The differential pressure/temperature difference will only be displayed when the left and right pressure units or temperature units are consistent; otherwise, -- will be shown.

c. Some mobile phone models do not support simultaneous Bluetooth connections to 8 devices, preventing the concurrent use of the maximum 4 pairs of differential pressure gauges /thermohygrometers.

3. Unit Settings

Pressure Unit Settings: Switch pressure units on the settings page, and the units of all differential pressure gauges connected on the differential pressure gauge page will be uniformly changed to the set unit.

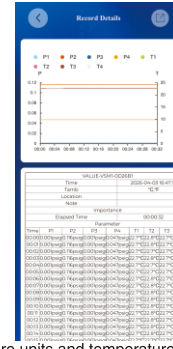
Temperature Unit Settings: Switch temperature units on the settings page, and the units of all thermohygrometers connected on the differential pressure gauge page will be uniformly changed to the set unit.



Temperature units can also be set in the temperature area. Click the arrow in the temperature zone, select the temperature unit, and after confirmation, the corresponding thermohygrometer's unit will be updated accordingly.

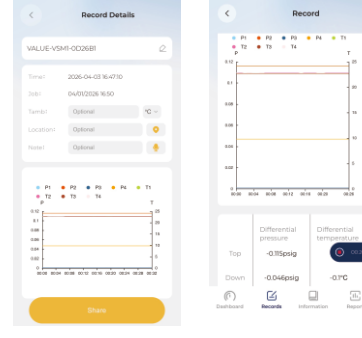
4. Chart Recording

The chart displays pressure and temperature values, recording data only from devices that have been added and connected. In the chart, P1, P2, P3, P4 record the pressure values of the top-left, top-right, bottom-left, and bottom-right differential pressure gauges respectively. T1, T2, T3, T4 record the temperature values of the top-left, top-right, bottom-left, and bottom-right thermohygrometers respectively. Below the chart, pressure difference and temperature difference are displayed. The Top row shows the data difference for devices in the upper section of the combination page, and the Down row shows the data difference for devices in the lower section of the combination page.



When the pressure units and temperature units of the devices are consistent, chart recording is possible. Start recording on the Records page to log device pressure and temperature values in real-time.

After stopping and saving the recording, a record report will be generated, viewable on the Report page. Record Viewing



Records can be shared as PDF or Excel files.