

Wireless Connectivity Digital Refrigerant Leak Detector (with flexible gooseneck probe)

Wireless Connectivity compatible, replaceable BLE or BLE+ memory module



Model no.: MS-WRLD

1. Contents

- Refrigerant Leak Detector
- Operating manual

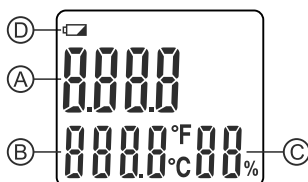


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Ambient temp. measurement and accuracy	1) -20.0°C (-4.0°F) ~0.0°C (32.0°F) and 70.0°C (158°F) ~100.0°C (212.0°F) / ±0.5°C (0.9°F) 2) 0.0°C (32.0°F) ~ 70.0°C (158°F) / ±0.2°C (0.4°F)
Relative humidity measurement and accuracy	1) 0% ~ 20% RH and 80% ~100%RH / ±5%RH @ 25.0°C (77.0°F) 2) 20% ~ 80% RH / ±3%RH @ 25.0°C (77.0°F)
Operating current / Standby current	< 150mA / < 10µA
Warm up time	240 secs. (4 mins.)
LC display	Dual row with ambient temp. and humidity display
Flexible sensor	300mm (12 inches)
Back light ON/OFF and °C / °F	Selectable
External power supply	Support external USB type 'C' 5.0V DC / 0.5A adaptor
Low battery indication	≤ 2.8V approx.
Operating temp. and humidity	0 °C ~ 40°C (32°F ~104°F) / 95%RH
Download recorded data through Smart phone (With external wireless module)	
Standalone mode (without external wireless module)	
Wireless connectivity transmit data to Smart phone / Tablet with iOS APPS or Android APPS (require external wireless module MS-WMB1, sold separately) can be used to any MEET's 'Wireless Connectivity compatible' instruments	
Data logger compatible (require external wireless with memory module MS-WMBM1, sold separately) 'Wireless Connectivity compatible' instruments	
Standalone mode or Bluetooth Connectivity transmit data to Smart phone / Tablet with iOS APPS or Android APPS	
Data logger compatible (Bluetooth with memory integrated)	*
Battery powered	3 x AAA (R03 / LR03)
Dimensions (L x W x D) mm	105 x 54 x 43 (main unit)
Weight (approx.) grams (without battery)	120

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5. Explanations for symbols and unit



- (A) Refrigerant reading display area
- (B) Temperature display area
- (C) Humidity display area
- (D) Low battery indication '🔋'

6. How to replace the battery

The accuracy can be impaired to measure by using a meter with very low power battery. When the icon '🔋' displays on the LCD, it is the time to replace 3 pcs. fresh AAA (R03 / LR03) alkaline type battery. Loosen the screw (anti-clockwise) and remove the battery cover of the unit, follow correct polarity indicated inside the battery compartment.

To avoid the chemical leakage from the battery, remove the battery if you are intended not to use the meter in a short period.

7. External USB input terminal (Type C)

For long duration operation / monitoring / data logging, use an external power adaptor or battery power bank which have output 5.0V / 0.5A DC and with USB type C plug.

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2. Introduction

MS-WRLD is a digital Refrigerant Leak Detector and a must perfect tool for repairing / maintaining the air-condition or a cooling system with Compressor and Refrigerant. This unit use latest developed semi-conductor sensor which is extremely sensitive for variety of common used Refrigerant.

Additionally one of the most advantaged features is that the Refrigerant Leak Detector is compatible with Wireless Connectivity to transmit data to Smart phone / Tablet (require external modules, sold separately) to view data, record reading, capture picture with data and send the information to headquarter.

- Microprocessor Control with advanced digital signal processing.
- Digital display with 9999 count for sensitivity range.
- Precisely trace and locate the leak point.
- With 300 mm (12") flexible gooseneck sensor probe enable to detect the leakage from any angle and narrow tight space.
- Audible feedback sound when detected leak gases (when sensitive level > 5 digits).
- Additionally ambient temperature and humidity indication.
- Relative (Rel) / Zero sensitive adjust during detecting.

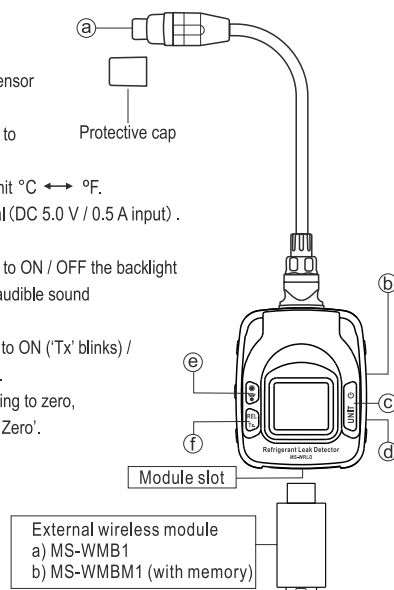
3. Specifications

Types of refrigerant gases detectable	R-134A, R-404A, R-410A, R-407C, R507, R438A, R22 and all CFCs, HFCs and HCFCs
Digital display the sensitivity level with increasing tone sound	Display 0~9999, over range 'Hi', audible tone sound when ≥ 5 digits
Response time	< 3 seconds
Relative reading (REL.) / Zero	At any sensitivity level

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4. Description

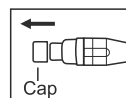
- (a) Refrigerant sensor.
- (b) Ambient temperature / humidity sensor
- (c) ON / OFF button '🔋'
 - i) Press and hold for 3 seconds to Power ON / OFF the unit.
 - ii) Press once to switch temp. unit °C ↔ °F.
- (d) USB type C Power input terminal (DC 5.0 V / 0.5 A input).
- (e) Setting button 1 '🔧'
 - i) Press and hold for 3 seconds to ON / OFF the backlight
 - ii) Press once to ON / OFF the audible sound
- (f) Setting button 2 '🔧'
 - i) Press and hold for 3 seconds to ON ('Tx' blinks) / OFF the wireless connectivity.
 - ii) Press once to adjust the reading to zero, the LCD will display 'REL = Zero'.



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8. Before using

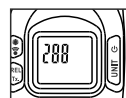
Before take measuring, to ensure the highest sensitivity and stable reading, please place the detector in an open fresh and free of any gas environment and then start the power button (c) to ON.



Remove the protective cap.



It is necessary for the sensor to pre-heat up for 240 secs. (4 mins.) after power 'ON'. Please wait patiently.



If the reading on the display shows any value, please press once the 'REL' button (f) to zero the reading.

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9. How to use

A) Calibration

- Before using, remove the protective cap, press and hold the Power button (ⓐ) for 3 seconds till the LCD is activated and calibration starts.

End of the countdown for 240 seconds, calibration will finish automatically



☞ Suggest to zero the reading always before using enable for accurate results obtained.

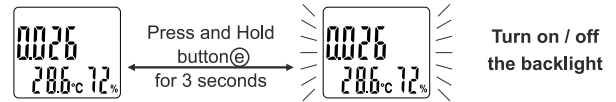
Notes:

- 1) If placed the sensor tip near to a known leak and then press 'REL' button (ⓑ) to zero, it is convenient to find higher concentration leak location.
- 2) If very low reading obtained, place the sensor in an open fresh air and press 'REL' button (ⓑ) to zero.
- 3) In case when absorbed 'high' level of concentrated gases, place the detector in an open fresh air and wait until the 'high' reading drops to lower level and then press the 'REL' button (ⓑ) to zero.

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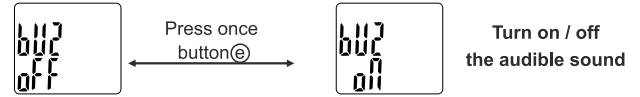
B) Backlight ON/OFF

- During measuring, press and hold the button (ⓐ) for 3 seconds. to turn on / off the backlight.



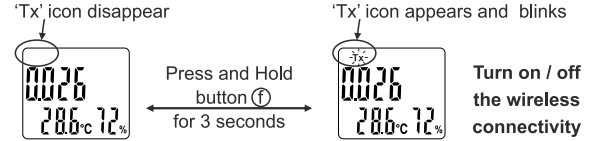
C) Audible sound ON/OFF

- During measuring, press once the button (ⓐ) to turn on / off the audible sound.



D) Wireless connectivity ON/OFF

- During measuring, press and hold the button (ⓑ) for 3 seconds. to turn on / off the wireless connectivity. (You must insert the external wireless module first).



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Wireless Connectivity

1. Operating the Smartphone / Tablet and the meter

- Need external wireless module, either
 - a) MS-WMB1 (external wireless module)
 - b) MS-WMBM1 (external wireless with memory module, for data logging)

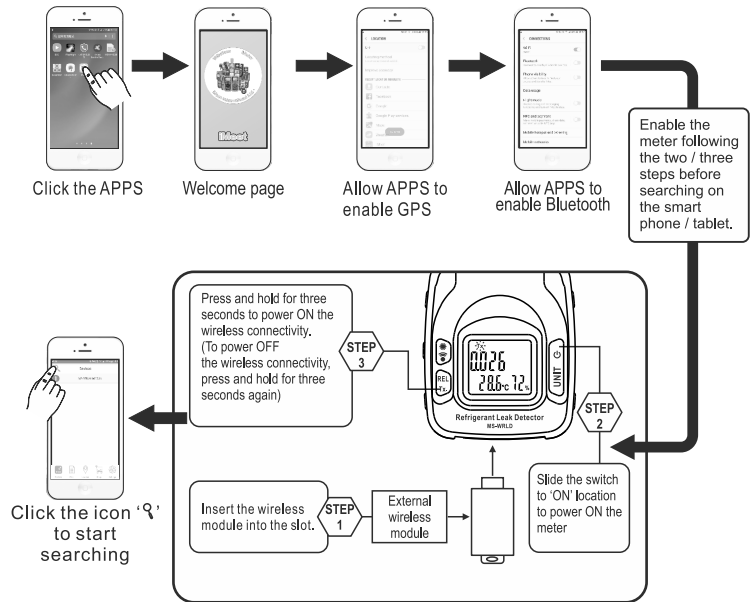
- Download free 'iMEET' iOS APPS from App Store or scan below QR code.

- Download free 'iMEET' Android APPS from Google Play Store or scan below QR code.



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- Click the APPS icon to start connectivity.



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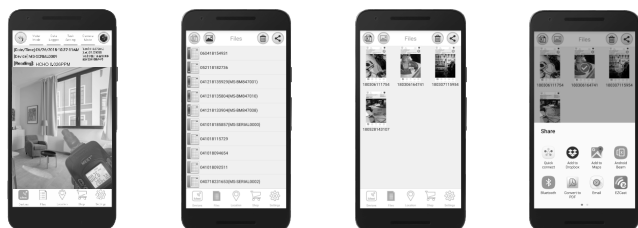
2. Reading display on Smart phone / Tablet



Digital display

Analogue display
(Turn clockwise)

Real time graphic display
(Turn anticlockwise)



Capture picture with data on screen display

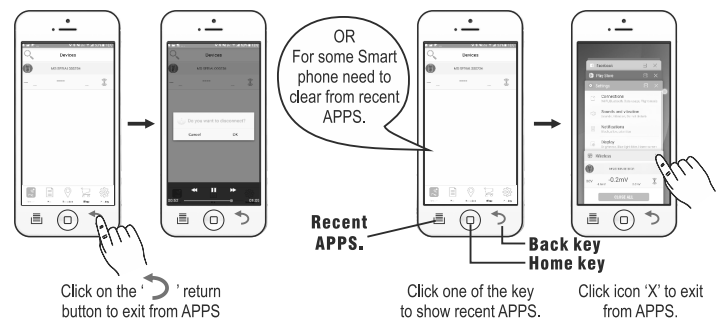
Historical storage / data filing

Historical storage / photo with data filing
(For iOS APP, please go to photo library to view the stored pictures and share)

Send / share file or photo

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3. Exit from wireless connectivity function



Note:

- A. Remember to disconnect the 'Wireless connectivity' APPS from the Smart phone / Tablet when not in use.
- B. You may connect the 'Wireless connectivity' if you need to always monitor the meter, but this will restrict the other user can't use the meter at same time.

4. Data logging

- ☞ Use part no. MS-WMBM1 wireless module with memory for data logger

- For long time recording, use external USB power .
- Setting option for data logging is included in same APPS.



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Data Logger Compatible

5. How to operate device, data log and data download by Smart phone

a) Home page



Connect the Smart phone to the device, then click the corresponding device to enter operating page



Display real time reading

- ① Refrigerant content reading
- ② Current ambient temperature reading
- ③ Current ambient humidity reading

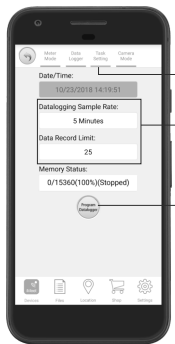
Operation

In button icon area ④, clicking them enable some functions such as 'unit switching', 'backlight ON/OFF'.

b) Data logging



Click the button ① and then button ②. To confirm setting, click the button ③.

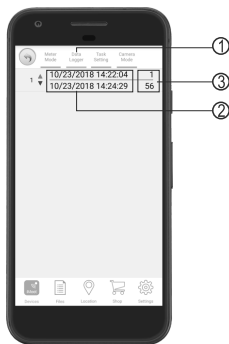


Click the button ① and then select the sampling rate / record limit ②. After, click the button ③.

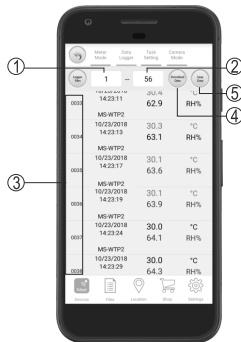


- a) To start logging, click the 'REC' button and it turns to red.
- b) To stop logging, click the 'REC' button again and it turns to white.

c) Data download

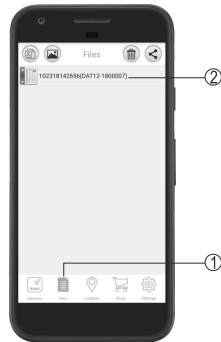


Click the button ① to find the details of data recorded ②. Column ③ indicates each file contains 'Data record limit', i.e. 56.



To view data, enter data no. in column ① to start and end in column ②. The column ③ indicates data no., i.e. 110

If need to download data to view on Smartphone (begin in column ① and end in column ②), click the icon ④ to download, click the icon ⑤ to save



Click the button ① to view / download from:
 ① Smart phone (blank)
 ② Bluetooth module (with module's name)
 Icon with ▲ means high alarm data recorded inside the file.
 Icon with ▼ means low alarm data recorded inside the file.