

DMG-2SE Digital Manifold Gauge User Manual

1. Product Introduction

1.1 Product introduction

Thank you for purchasing the Elitech DMG Series Digital Manifold Gauge. Please read this manual carefully before use to ensure proper operation and avoid potential hazards.

The **DMG-2SE Digital Manifold Gauge** integrates high-precision measurement, intelligent computation, and exceptional durability, significantly enhancing efficiency in HVAC applications. Utilizing advanced sensor technology with an accuracy of $\pm 0.5\%$ FS, it guarantees precise data acquisition. Its impact-resistant housing adapts to harsh environments, ensuring longevity. With a built-in database of 88 refrigerants, it automatically calculates saturation temperature, enabling automatic calculation of saturation temperature. Whether for installation, system debugging, or fault diagnosis, the DMG-2SE delivers efficient and precise performance, offering HVAC engineers and technicians a comprehensive solution to boost productivity and quality.



1.2 Overview

1. LCD Display
2. Control Buttons (Detailed functions outlined in Section 1.5)
3. Sight Glass
4. Valve Knob
5. Refrigerant Hose Connection Port (1/4 SAE)
6. Hanging Mount
7. Battery Compartment (2×AAA batteries, replaceable)
8. Information Label

1.3 Safety Precautions

1. Do not use this product in ammonia or ammonia-containing refrigerant systems.
2. Do not expose the device to high temperatures or fire due to the risk of explosion..
3. Do not operate during thunderstorms to prevent lightning strikes, personal injury, or product damage.
4. Strictly adhere to all safety protocols associated with refrigeration systems.
5. Wear protective eyewear and gloves during use. Read the system' s maintenance manual before connecting.
6. Do not disassemble the product if damaged. Contact us immediately. Unauthorized disassembly may result in further damage, battery ignition, or explosion.

1.4 Environmental Protection

1. Adhere to local environmental regulations. Do not release refrigerants directly into the atmosphere, use professional recovery equipment.

2.At the end of its service life, dispose of the device in compliance with local disposal regulations.

3.Recycle used batteries at designated collection facilities.

1.5 Button Operations

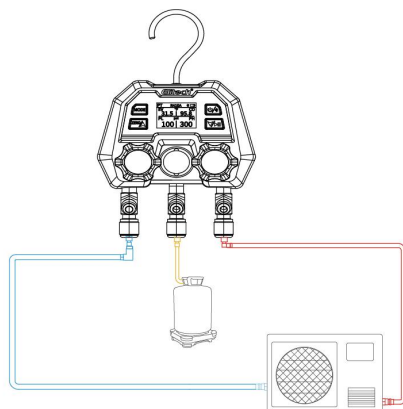
	Long Press: Turn power ON/OFF
	Short Press: Toggle between settings options Long Press: Enter Settings Interface
	Short Press: Switch refrigerant types Long Press : Zero Calibration , (Pressure calibration range: -14.7-100 psi)
	Short Press: Switch refrigerant types
Press  +  at the same time	Press and hold for 3 seconds to unlock and select refrigerant status <i>Note: The refrigerant starts to blink after unlocking. At this time, the refrigerant can be switched, and the refrigerant will be locked automatically after 10 seconds</i>

1.6 Technical Specifications

Feature	Parameter
Measurement Range	-14.7~600psi
Accuracy	±1%FS
Resolution	1psi
Units	Pressure: psi、 kg/cm^2 、kPa、MPa、bar、inHg Temperature: °C、°F
Refrigerant Types	88 types
Ports	1/4 SAE*3
Power	2×1.5V, AAAbatteries

Supply	Battery Life: 200 hours (low-power mode)
Display	LCD screen
Dimensions & Weight	Dimensions : 110 x 75 x 135mm Weight: ~600g
Environmental Requirements	Operating Temperature:-10 to 50°C (14 to 122°F) Storage Temperature: -20 to 60°C/(-4 to 140°F)
Supported Languages	English,French, Spanish, Portuguese, Russian, Chinese

2 Quick Start Guide



1. Long press the power button  to turn on the device.
2. Hold  +  for 3 seconds until the refrigerant indicator blinks, to unlock the refrigerant.
3. The refrigerant flashes, short press  or  select the desired refrigerant.
4. Connect the high and low voltage side of the product to the system under test.
5. Turn on the system under test to observe real-time system pressure and saturation temperature variations.

3 Operation Steps

3.1 Measurement Preparation

1. Press the power button to turn on the device and enter the main interface.

2. Calibrate the pressure sensor to zero (long press  to zero).

! Perform zero calibration of the pressure sensor before each measurement (zero calibration range: -14.7-100psi) .

! Before zeroing, be sure to cut off the connection of the instrument with any pressure source, and keep it balanced with the external pressure.

3. Connect the refrigerant hose.

! Connect the refrigerant hoses: The low-pressure hose (blue) and high-pressure hose (red) must be correctly attached to the system.

4. Configure the refrigerant type, (long press  +  unlock, then short press  or  switch the refrigerant type).

3.2 Pressure Temperature Measurement Mode(PT)

Upon refrigerant selection, the display will indicate real-time system pressure, evaporation temperature, and condensation temperature.

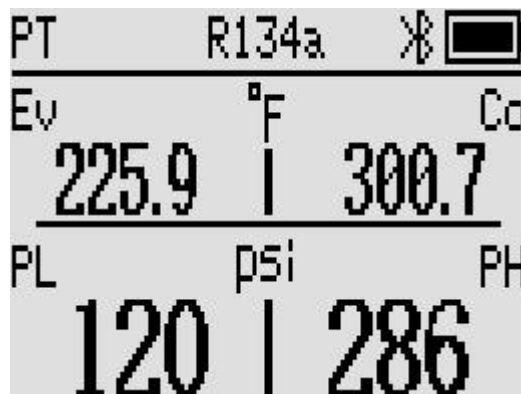


Figure 1 Pressure temperature mode

3.3 Setup mode

Enter the settings : press  and hold , the upper left corner of the window will display SET (Figure 3)

Switch settings : short press 

Select setting items : short press  or 

Exit settings : long press 



Figure 3 Setting interface diagram

3.3.1 Unit setting

pressure unit

1. Enter Settings and select **PRESS** .
2. Short press  or  to select the pressure unit.

Temperature Unit

1. Enter Settings and select **TEMP** .
2. Short press  or  to switch temperature units.

3.3.2 Auto Power-Off

1. Enter Settings and select **AUTOOFF** .

! Default setting: 15 minutes.

2. Short press  or  to select auto power-off duration (OFF, 5, 15, 30, 60 minutes).

! "OFF" indicates the auto-shutdown function is disabled.

3.3.3 Language Settings

Enter settings, select **LANG**.

3.3.4 About

1. Enter Settings and select **ABOUT** .
2. Check the software version number, SN serial number.
3. Short press the  or  key to view the SN serial number.

4 Maintenance and Care

4.1 Battery Replacement

1. Turn off the instrument and remove the battery cover.
 2. Remove the low battery and install a new battery in the battery compartment.
- ! Replace with two new AAA batteries, ensuring correct polarity.
3. Attach the battery cover securely.
- ! Remove batteries if storing the device for an extended period to prevent leakage and corrosion.

4.2 Cleaning Products

1. Use a damp cloth to clean the exterior casing.
- ! Do not use strong corrosive detergents or solvents to clean the product.
2. Ensure that refrigerant hose connections remain clean and free from grease and other deposits .

4.3 Problems and Solutions

Issue	possible reason	Solution

 battery indicator flashing	low battery	replace with new battery
Device shuts down unexpectedly	1.The device has auto-shutdown enabled 2.Battery is dead	1.Turn off the auto power off function 2.Replace with new battery
“----”displayed in temperature section	Measurement out of range	Ensure readings remain within specified limits
"OL" displayed in pressure section	The pressure exceeds the allowable range	Operate within the defined range
"E04" displayed in pressure section	Excessive pressure detected	Power off and place in a dry environment for 24 hours. If unresolved, perform calibration reset. Enter the calibration zero operation steps: 1.Hold the ZERO key first, and then press the power button. After the screen is lit up, release the ZERO key when the progress bar runs to the half, and enter the calibration interface. 2. Long press ZERO to reset calibration. 3. Restart the device.

4.4 Package Contents

Product host *1

User Manual *1

Packaging box *1

Certificate of Conformity *1