User Manual
Intelligent Digital Manifold

MS-4000

MS-2000

1.Products Introduction

Thanks for your purchase of Elitech MS series intelligent manifold gauge. This manual details the product performance parameters, operation instructions, operation steps and other information, in order to use the product correctly and safely, please carefully read and properly keep this manual.

MS series of intelligent manifold gauge integrates the functions of pressure temperature measurement, pressure keeping measurement, vacuum measurement, refrigerant weight measurement, data recording and so on. Supports connection with Elitech IPT-01 series wireless temperature probes and VGW-Mini vacuum gauge.It is suitable for daily inspection and maintenance of refrigeration and HVAC system, which can provide more real and abundant data for users and greatly improve the on-site work efficiency of users. Thoughout the 5-inch capacitive touch screen.all the data you needed can be displayed without repeatedly switching the display content, and it will more intuitively to view the data, more simply to operate, and more complicated data analysis can be provided to users through mobile phone and cloud computing, as well as it can provide the data storage, so that data management can be easy and convenient. OTA firmware upgrade should be supported, and the user experience can be improved.

2.Cautions

This product is not suitable for maintenance of ammonia (ammonia-containing) refrigerant system.

This product contains batteries inside. Do not place the product in a high temperature environment or put it in a fire. Otherwise, it is dangerous to explode.

Do not use this product in thunderstorm weather.

Strictly obey the safety cautions of the refrigeration system.

When using this product, please wear eyeglasses and protective gloves

correctly. Please read the maintenance instruction of the system unit carefully before connecting to the system for maintenance operation.

3.Environmental protection

1.Compliance with local environmental policy, refrigerants can not be directly discharged into the atmosphere, which need to use professional equipment for recycling.

2.When the service life of the product ends, please recycle it according to the local regulations, and do not throw away at will to avoid causing environmental pollution.

3.Send the discarded old batteries to the specified waste battery collection point.

4.Overview
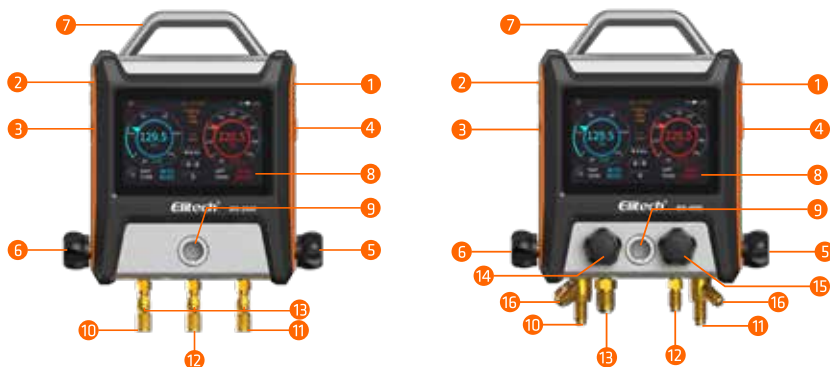
MS-2000 Product details	MS-4000 Product details
1. High Temperature Clamp Sensor Interface (with Sealed Plug)	1. High Temperature Clamp Sensor Interface (with Sealed Plug)

2. Low temperature clamp Sensor interface (with sealing plug)	2. Low temperature clamp Sensor interface (with sealing plug)
3. Type-C power interface (with sealing plug)	3. Type-C power interface (with sealing plug)
4. Power button	4. Power button
5. High pressure control valve	5. High pressure control valve
6. Low Pressure Control Valve	6. Low Pressure Control Valve
7. Metal handles	7. Metal handles
8. 5 inches IPS capacitive touch color screen	8. 5 inches IPS capacitive touch color screen
9. Sight windows	9. Sight windows
10. Low-pressure refrigerant pipe interface (1/4 SAE female)	10. Low-pressure refrigerant pipe interface (1/4 SAE female)
11. High-pressure refrigerant pipe interface (1/4 SAE female head)	11. High-pressure refrigerant pipe interface (1/4 SAE female)
12. Refrigerant fill interface (1/4 SAE female)	12. Refrigerant fill interface (1/4 SAE female)
13. Refrigerant pipe bracket	13. Vacuum refrigerant pipe interface (3/8 SAE female)
	14. Vacuum Control Valve

15. Fill Control Valve	
16. Refrigerant pipe bracket	

Accessories

1. Temperature Clamps	4. Transmitter T-joints
2. Vacuum Transmitter	5. Transmitter Bending Joint
3.Refrigerant Pipe	

5.Specification Parameter

5.1 Host parameter

Range of pressure :	-14.7~800psi
Accuracy of pressure :	±0.5%FS
Resolution of pressure :	0.5psi
Collecting frequency :	0.5s
Pressure unit :	psi、kg/cm^2、cmHg、inHg、bar、kPa、MPa

Overload pressure :	1000psi
Default refrigerant type :	The default device is 20, which can be updated through the APP
Pressure interface :	1/4SAE*3 3/8SAE*1 (MS-4000 series only)
Sensor interface :	PS/2*2 (the right interface is temperature and vacuum probe multiplexing)
USB Interface :	Type-C*1
Charging parameter :	5V2A
Battery capacity :	5000mAh
Record points :	6000 points
Screen parameter :	5"IPS capacitive touch screen
Dimensions of the mainframe :	254*215*46mm (MS-2000) 254*215*71mm (MS-4000)
Weight of the mainframe :	1.59kg/3.5lb (MS-2000) 1.73kg/3.8lb (MS-4000)
Operational Environment :	-10~50℃/14~122°F
Storage environment :	-20~60℃/-4~140°F
Languages supported :	English, Chinese, Deutsch, Français, Español, Português, Nederlands, Русский, Türkiye, Italiano

Refrigerant type :	Device default type:
	R11 R12 R13 R22 R290 R32 R134a R404A R410A R407C R408A R409A R458A R448A R449A R500 R502 R600 R600a R744
	APP support types:
	R11 R113 R114 R115 R116 R12 R123 R1233zd R1234yf R1234ze R124 R125 R13 R134a R14 R141b R142b R143a R152a R161 R170 R21 R218 R22 R227EA R23 R236EA R236fa R245fa R290 R32 R40 R401A R401B R401C R402A R402B R403A R403B R404A R405A R406A R407A R407B R407C R407D R407E R407F R408A R409A R409B R41 R410A R410B R411A R411B R412A R413A R414A R414B R415A R415B R416A R417A R417B R417C R419A R419B R420A R421A R421B R422A R422B R422C R422D R422E R423A R424A R425A R426A R427A R428A R429A R430A R431A R432A R433A R433B R433C R434A R435A R436A R436B R437A R438A R439A R440A R441A R442A R443A R444A R444B R445A R446A R447A R448A R449A R449B R450A R451A R451B R452A R452B R452C R453A R454A R454B R454C R455A R456A R457A R458A R50 R500 R502 R503 R504 R507A R508A R508B R509A R510A R512A

R514A R600 R600a R601 R601a
R717 R718 R720 R728 R732
R740 R744
Note: The actual supported
refrigerant types are subject to the
APP

5.2 Temperature parameter

Range of temperature :	-40~150℃/-40~302℉
Accuracy of temperature :	±0.5℃/±0.18℉
Resolution of temperature :	0.1℃/0.2℉
Temperature unit :	℃/℉/K
Interface Specification :	PS/2

5.3 Vacuum parameter

Range of vacuum :	1-19000microns
Accuracy of vacuum :	1-10000microns: ±10% of reading±10microns 10000-19000microns: ±20% of reading

Resolution of vacuum：	0-400	1micron
	400-3000	10microns
	3000-10000	100microns
	10000-19000	250microns
Vacuum unit：	inHg、Torr、psia、mbar、mTorr、micron、Pa、kPa	
Interface Specification：	Type 1/4SAE and 1/4SAET	

6.Quick Operation Guide

6.1 Pressure and temperature measurement

1.Press the power button to boot and enter the main interface.

2.Close all valves.

3.Connect the high and low pressure temperature clamp on both sides of the mainframe and install the temperature clamp at the measuring position of the corresponding system.

4.Connect the high pressure and low pressure interface of the system to the corresponding interface position of the instrument.

5.Click on the PRESSURE/TEMP to enter the pressure temperature measuring interface.

6.Click 🔘 R134a ， select refrigerant.

7.Click 🔘 ， select the working mode, usually refrigeration mode.

8.After the Settings are complete, view the system status on the page.

Note: The connection method is shown below.

8
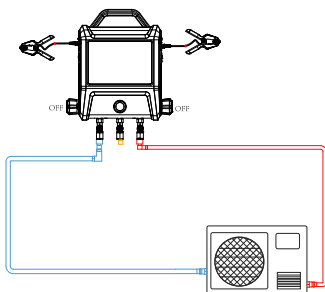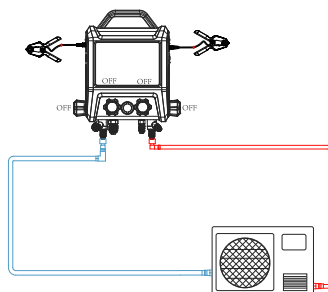
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6.2 Pressure holding measurement

1.Fill the system with appropriate nitrogen.

2.Close High Pressure Side Valves

3.Connect high and low temperature clips to both sides of the host, and connect the system under test to the high pressure side of the host.

4.Click the PRESSURE HOLD to enter the pressure holding interface.

5.Click to set alarm parameters according to actual needs.

6.Press the Start icon to start the pressure retention test.

Note: The connection method is shown below.
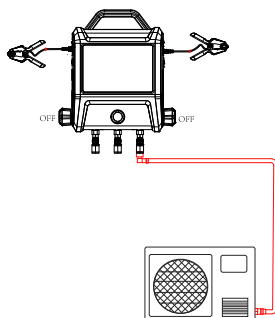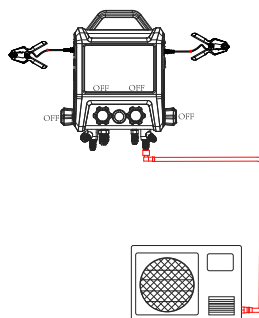
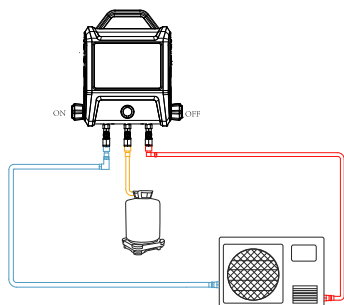MS-2000   MS-4000

6.4 Refrigerant filling/recovery

1.The main engine is connected to the refrigerant tank.

2.Turn on the Bluetooth switch of the host refrigerant scale.

Refrigerant scale Bluetooth way : SETTINGS→Settings→Wireless→Scale Link

3.Click the SMART SCALE to enter the weighing interface.

4.Open the refrigerant scale, the refrigerant scale is automatically connected to the host, and the interface displays the weight data.

5.Click ▤ the icon to set the refill/reclaim weight value.

6.Click ▭ to open the low pressure knob and start filling

  Click ▭ to turn on the high pressure knob and start recycling

Note: The connection method is shown below.
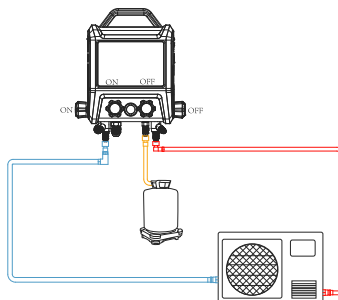
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7.Multi-device Interconnection

This series product supports connection with Elitech IPT-01 series wireless temperature probes and VGW-Mini vacuum gauges. If you need to purchase wireless probes that support the connection of this product, please contact our customer service.

8.More Details

Scan the QR code for instructions in your language.
Scannen Sie den QR-Code für Anleitungen in Ihrer Sprache.
Scannez le code QR pour les instructions dans votre langue.
Scansiona il codice QR per le istruzioni nella tua lingua.
Escanea el código QR para obtener instrucciones en tu idioma.
Digitalize o código QR para obter instruções na língua da sua escolha.
Scan de QR-code voor meer gedetailleerde productbeschrijvingen.
Daha ayrıntılı ürün açıklamalarına ulaşmak için lütfen QR kodunu tarayın.
Для получения более подробной информации о продукте, пожалуйста, отсканируйте QR-код, чтобы получить его.
QRコードをスキャンして、お好きな言語の説明書をご覧ください。

9.Family Product
## Elitech Tools

Scan the QR code to download APP

6.3 Vacuum Measurement

1.Connect vacuum transmitters to the system and connect communication lines to the mainframe.

2.Open the low-pressure side and high-pressure side valves.

3.Click EVACUATION to enter the vacuum interface.

4.Click to set the pumping target value and pumping time.

5.Start the vacuum pump and pump to the target pumping value.
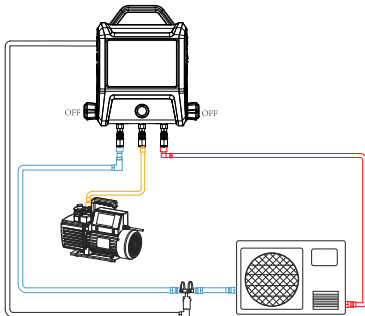
6.Note: The connection method is shown below.
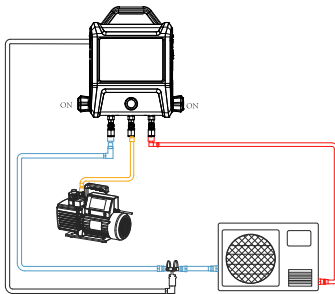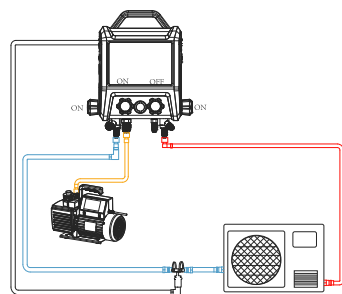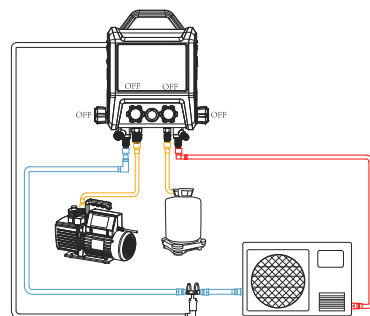

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7.Click again to set the decay value and decay time.

8.Close all valves.

9.Click to start the leak test.

Note: The connection method is shown below.

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