

# User Manual

## Intelligent Digital Manifold

### MS-1000/1000S



MS-1000



MS-1000S

# 1. Products Introduction

Welcome to buy Elitech MS series digital manifold, please read this manual carefully before use, to avoid illegal operations to you and your products to bring harm.

The MS series manifold instrument integrates the functions of Pressure and Temperature Measurement Mode, Pressure Holding Mode and Vacuum Mode to provide more abundant data for user analysis and diagnosis, and improve field work efficiency. The rugged plastic housing, combined with durable elastomer buttons and a large backlit LCD display, provides better product protection and clearer data display.

Note: Supports connection with Elitech IPT-01 series wireless temperature probes(MS-1000S)

## 2. Cautions

1. This product is not suitable for maintenance of ammonia (ammonia-containing) refrigerant system.
2. 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.
3. Do not use this product in thunderstorm weather.
4. Strictly obey the safety cautions of the refrigeration system.
5. 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.

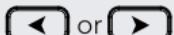
3. Send the discarded old batteries to the specified waste battery collection point

## 4. Overview



|  |   |
|--|---|
| 1.Temperature probe interface                  | 2.LCD screen  |
| 3.Buttons (See the 5 button function)          | 4.Sight windows                                     |
| 5.Control valve                                | 6.Refrigerant pipe bracket                          |
| 7.Refrigerant pipe connection port (1/4SAE)    | 8.Hanging hook                                      |
| 9.Warning label (built-in magnet, do not tear) | 10.Battery compartment (3 AA replaceable batteries) |

## 5.Key Function

|   |   |
|---|---|
|  Power key (MS-1000)<br> Power key (MS-1000S) | Power on/off<br>1.Power on/off 2.Bluetooth on/off   |
|  Mode  | <b>Short press:</b> Switch sub mode of PT interface<br><b>Long press:</b> Enter the SET interface   |
|  Backlight/Zero  | <b>Short press:</b> Turn backlight on/off<br><b>Long press:</b> Data reset, air pressure to zero standard pressure  |
|  Start/Pause   | <b>Short press:</b><br>1. Open/Close the pressure holding state<br>2. Open/Close vacuum leak test statu<br><b>Long press:</b> 1.Exit the pressure retaining test result<br>3. Exit vacuum leak test result<br>4. Forcibly exit the pressure holding test state<br>5. Force exit from vacuum leak test state |
|  Combined key  | Press and hold to unlock the refrigerant  |
|  Back/Forward  | 1. Switch the refrigerant type of PT interface<br>2. Switch sub-options of SET interface  |
|  Combined key<br> Combined key            | Switch the three modes of pressure temperature measurement, vacuum measurement, pressure holding test   |

## 6.General Technical Data

### 6.1 Host parameter

| Specification         | parameter   |
|-----------------------|---|
| Measuring Range       | -14.7~800psi  |
| Accuracy              | ±0.5%FS   |
| Resolution            | 0.5psi  |
| Units                 | psi、kg/cm <sup>2</sup> 、bar、kPa、MPa   |
| Types of Refrigerants | MS-1000: 88 Types<br>MS-1000S: Default 18 kinds, and about 140 kinds can be updated through the APP |
| Connector             | 1/4SAE*3  |
| Power Supply          | 3*AA  |
| Ambient Conditions    | Operating temperature: -10~50°C<br>Storage temperature: -20~60°C                                    |

### 6.2Temperature parameter

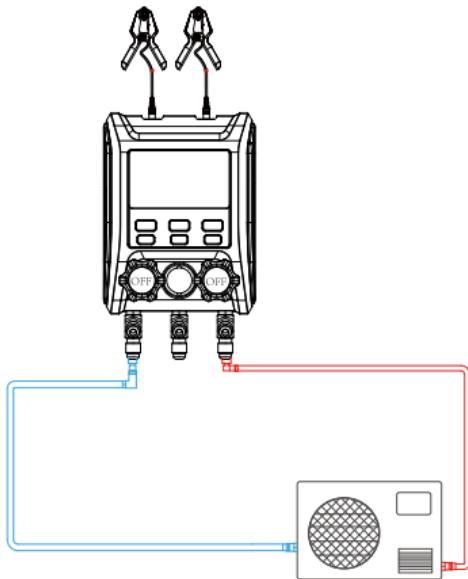
| Specification   | parameter |
|-----------------|-----------|
| Measuring Range | -40~150°C |
| Accuracy        | ±0.5°C    |
| Resolution      | 0.1°C     |
| Units           | °C/°F     |

## 7.Quick Start Guide

### 7.1 Pressure temperature measurement

1. Press the power button to turn on the device, enter the PT interface.
2. Close all valves.
3. Connect temperature clips to both sides of the host, and install the temperature clips at the corresponding measuring positions in the system.
4. Connect the high voltage and low voltage ports of the system to the corresponding ports on the host.
5. Press and hold the + button to unlock the refrigerant.
6. After the refrigerant blinks, press or to select the refrigerant.
7. After the Settings are complete, you can view the system status on the page.

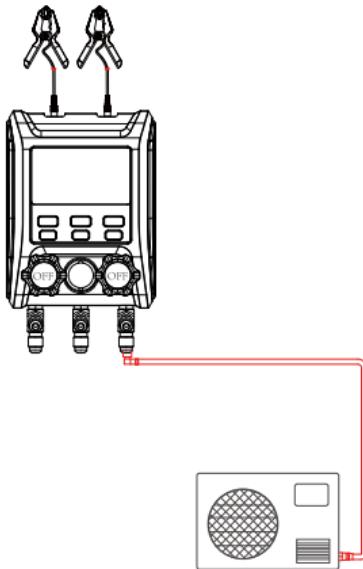
*Note: The connection mode is shown in the following figure*



## 7.2 Pressure holding measurement

1. Inject proper amount of nitrogen into the system under test.
2. Close the high pressure side valve.
3. Connect temperature clips to both sides of the host, and connect the system under test to the high voltage side of the host.
4. Press **MODE** + **▶** to enter the HOLD screen.
5. Press **▶** to start the pressure retention test.

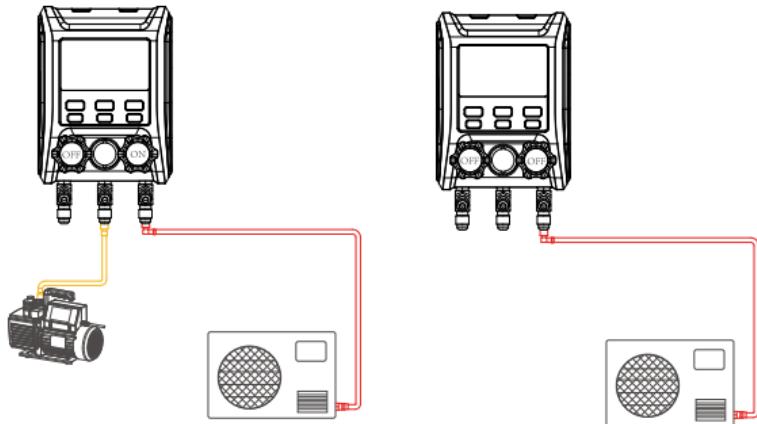
*Note: The connection mode is shown in the following figure*



## 7.3 Vacuum measurement

1. Open the high and low pressure side valves.
2. Press **MODE** + **▶** to enter the vacuum VAC screen.
3. Start the vacuum pump and start the vacuum test.
4. After a period of extraction, click **▶** to start the leak test.

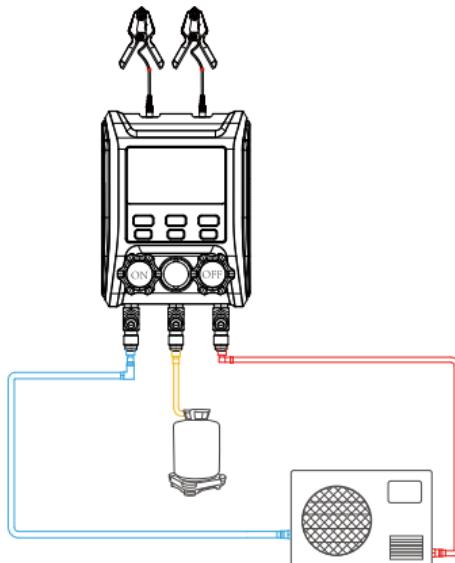
*Note: The connection mode is shown in the following figure*



## 7.4 Refrigerant filling

1. The intermediate interface of the product is connected to the refrigerant tank.
2. Close the high pressure valve and open the low pressure valve.
3. Open refrigerant pipe valve and fill refrigerant.

*Note: The connection mode is shown in the following figure*



## 8. Multi-device Interconnection

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

## 9. 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。



## 10. Family Product

