

Elitech LMG-10

Elitech LMG-10 Digital Manifold Gauge Set User Manual

Model: LMG-10

1. INTRODUCTION

The Elitech LMG-10 is a professional digital manifold gauge set designed for HVAC/R system maintenance, installation, and troubleshooting. It provides precise measurements for pressure, temperature, and vacuum, supporting a wide range of refrigerants. This manual provides detailed instructions for the proper setup, operation, and maintenance of your LMG-10 unit.



Figure 1.1: Elitech LMG-10 Digital Manifold Gauge Set. The set includes the main digital manifold unit, three color-coded refrigerant charging hoses (red, yellow, blue), and two temperature clamps.

2. KEY FEATURES

The Elitech LMG-10 offers a comprehensive set of features for efficient HVAC/R system analysis:

- **Temperature Compensation:** Monitors pressure holding and vacuum leakage tests with precise temperature compensation.
- **Multi-Refrigerant Support:** Supports 88 types of refrigerants for broad application.
- **Automatic Calculations:** Auto-calculation of superheating and subcooling values.
- **Multiple Units:** Supports 5 pressure units (psi, kg/cm², kPa, MPa, bar) and 2 temperature units (°F/°C).
- **User-Friendly Design:** Features a large, easy-to-read display and an auto-off function for power saving.
- **Durable Hoses:** Includes 3 x 59" (1.5m) A/C charging hose set with heavy-duty brass connections, rated for 500 PSI working pressure and 4000 PSI burst pressure.

2 Valves Digital Manifold



Temperature
Compensation



88 Types
of Refrigerants



Superheating &
Subcooling



Large
Display



Compact &
Portable



Battery Life:
200h



Figure 2.1: Overview of Elitech LMG-10 features, highlighting temperature compensation, 88 refrigerant types, superheating & subcooling calculation, large display, compact design, and extended battery life.

3. PACKAGE CONTENTS

Verify that all items are present in your package:

- 1 x Elitech LMG-10 Digital Manifold Gauge
- 3 x Refrigerant Charging Hoses (Red, Yellow, Blue)
- 2 x Temperature Clamps
- 1 x User Manual

4. PRODUCT COMPONENTS AND SPECIFICATIONS

4.1. Main Unit Components

Length: 59inch/150cm

Screw thread: 1/4" SAE — 1/4" SAE

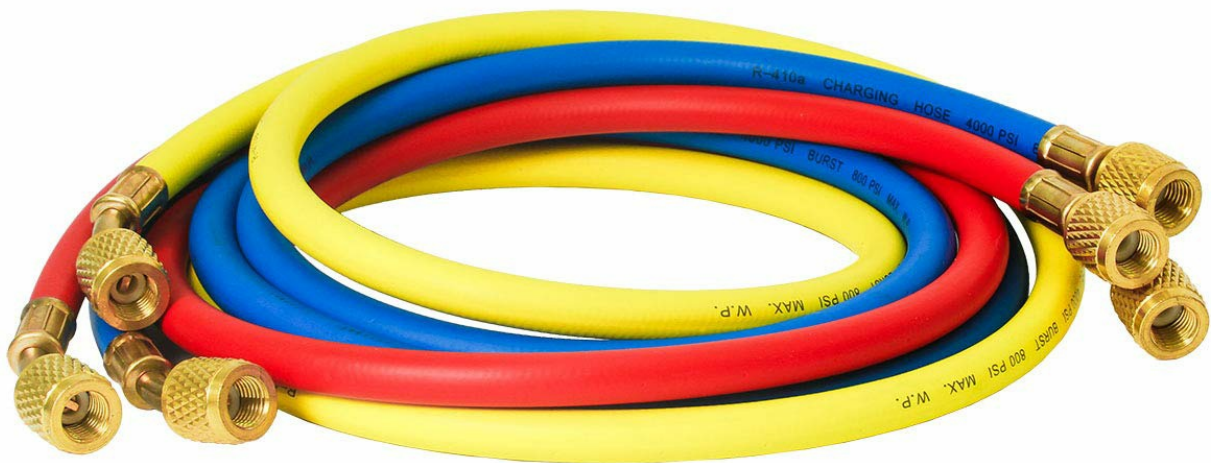


Figure 4.1: Labeled diagram of the Elitech LMG-10 Digital Manifold Gauge. Key components include the LCD screen, temperature probe port, integrated hook, battery compartment, warning label, control buttons, sight glass, control valves, refrigerant hose brackets, and refrigerant hose fittings.

4.2. Refrigerant Hoses

The included refrigerant hoses are designed for durability and safety:

- **Length:** 59 inches (1.5 meters)
- **Screw Thread:** 1/4" SAE – 1/4" SAE
- **Working Pressure:** 500 PSI (Hoses are rated for 800 PSI max working pressure)
- **Burst Pressure:** 4000 PSI
- **Color Coding:** Red for high pressure, Blue for low pressure, Yellow for refrigerant charging.

Working Pressure: 800PSI
Burst Pressure: 4000PSI

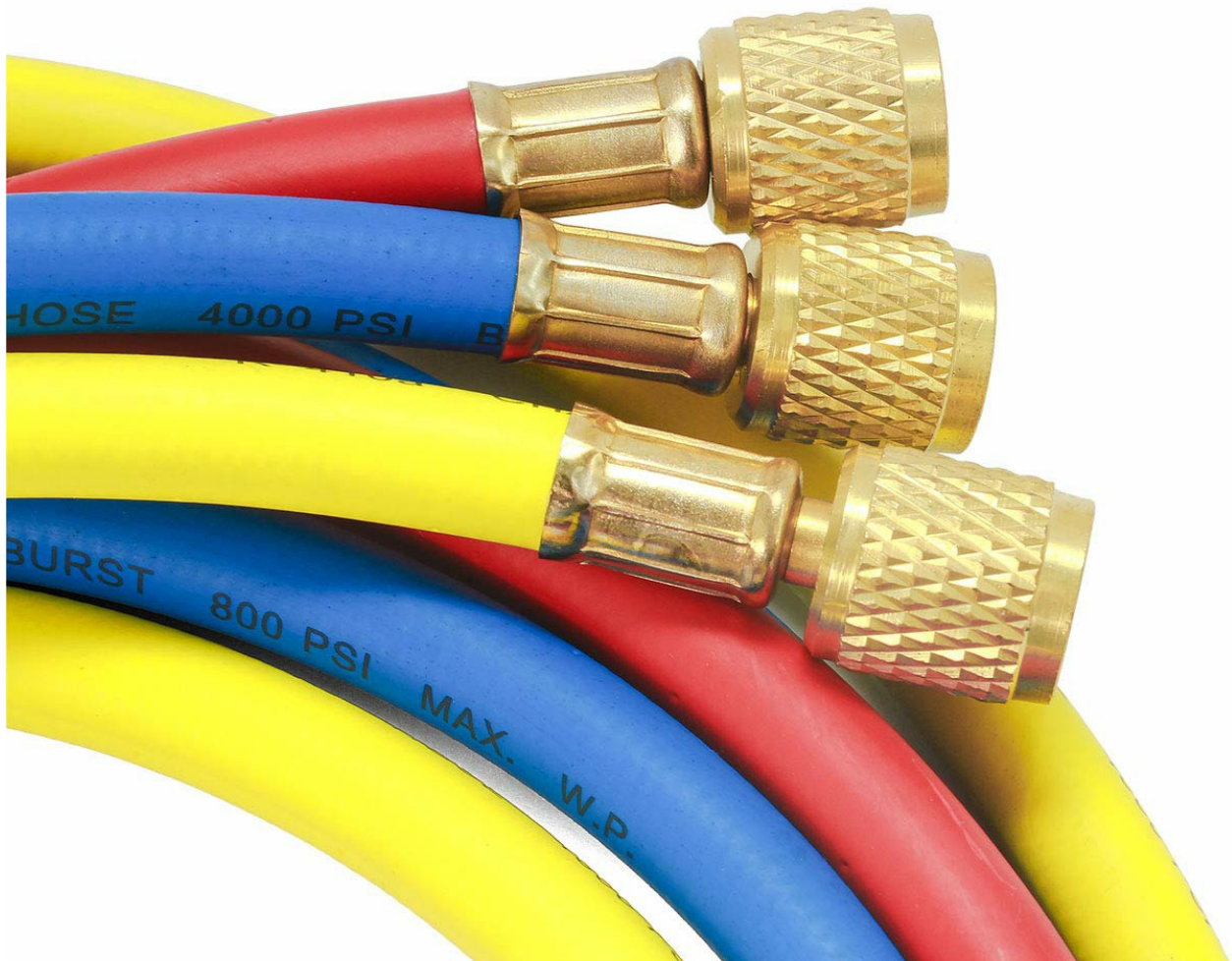
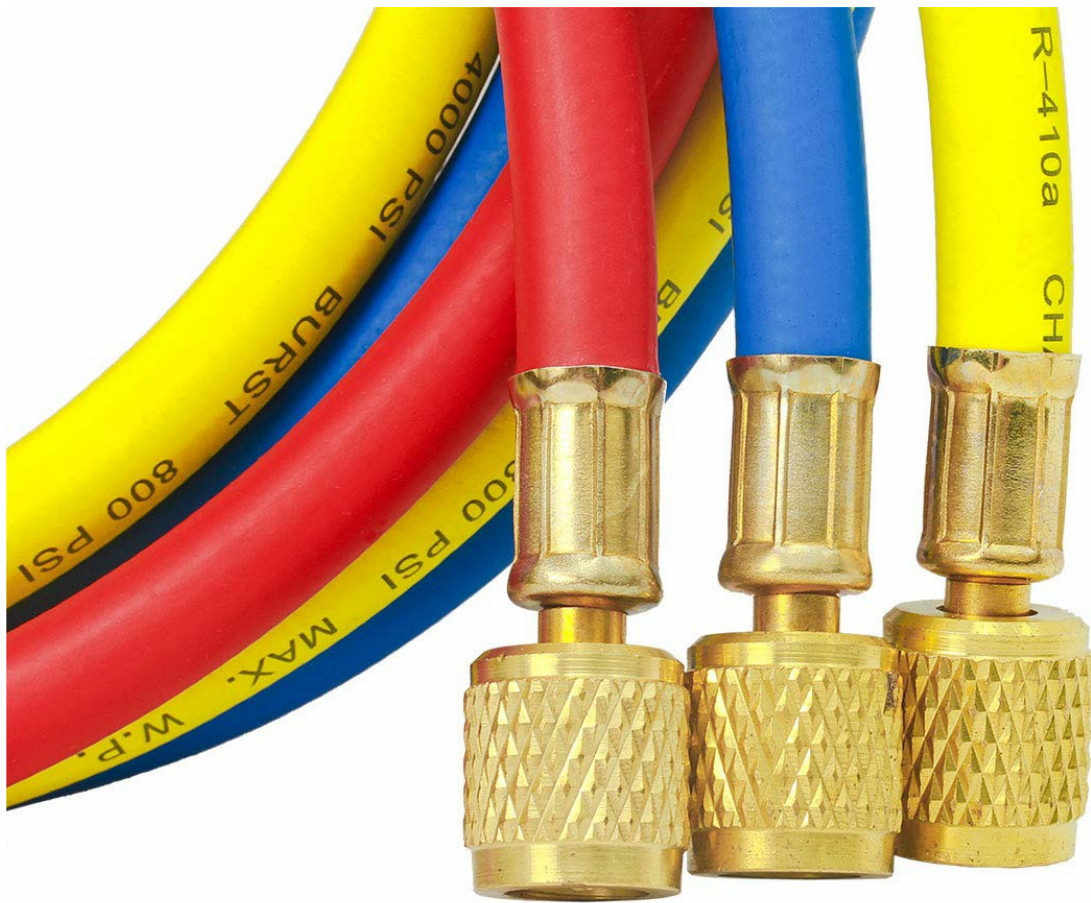


Figure 4.2: Refrigerant charging hoses, showing their length and thread type.



Red Hose: high pressure

Blue Hose: low pressure

Yellow Hose: refrigerant

Figure 4.3: Close-up view of the hose connections, indicating their working and burst pressure ratings.



Figure 4.4: Color-coded hoses for easy identification of their function: Red for high pressure, Blue for low pressure, and Yellow for refrigerant.

4.3. Technical Specifications



Figure 4.5: Physical dimensions and key technical specifications of the LMG-10 unit.

Specification	Value
Model	LMG-10
Measuring Range	-14.5 to 800 psi
Accuracy	±0.5% FS
Pressure Units	psi, kg/cm ² , kPa, MPa, bar
Temperature Units	°F / °C
Working Temperature Range	14°F ~ 122°F (-10°C ~ 50°C)
Battery Life	Approx. 200 hours
Power Supply	3 x AA Batteries
Dimensions (approx.)	18 cm (H) x 10 cm (W) x 4.5 cm (D)

Specification	Value
Weight (approx.)	0.95 kg
Material	Brass (fittings)

5. SETUP AND INITIAL USE

5.1. Battery Installation

1. Locate the battery compartment on the back of the LMG-10 unit.
2. Open the battery cover.
3. Insert three (3) AA batteries, ensuring correct polarity (+/-).
4. Close the battery cover securely.

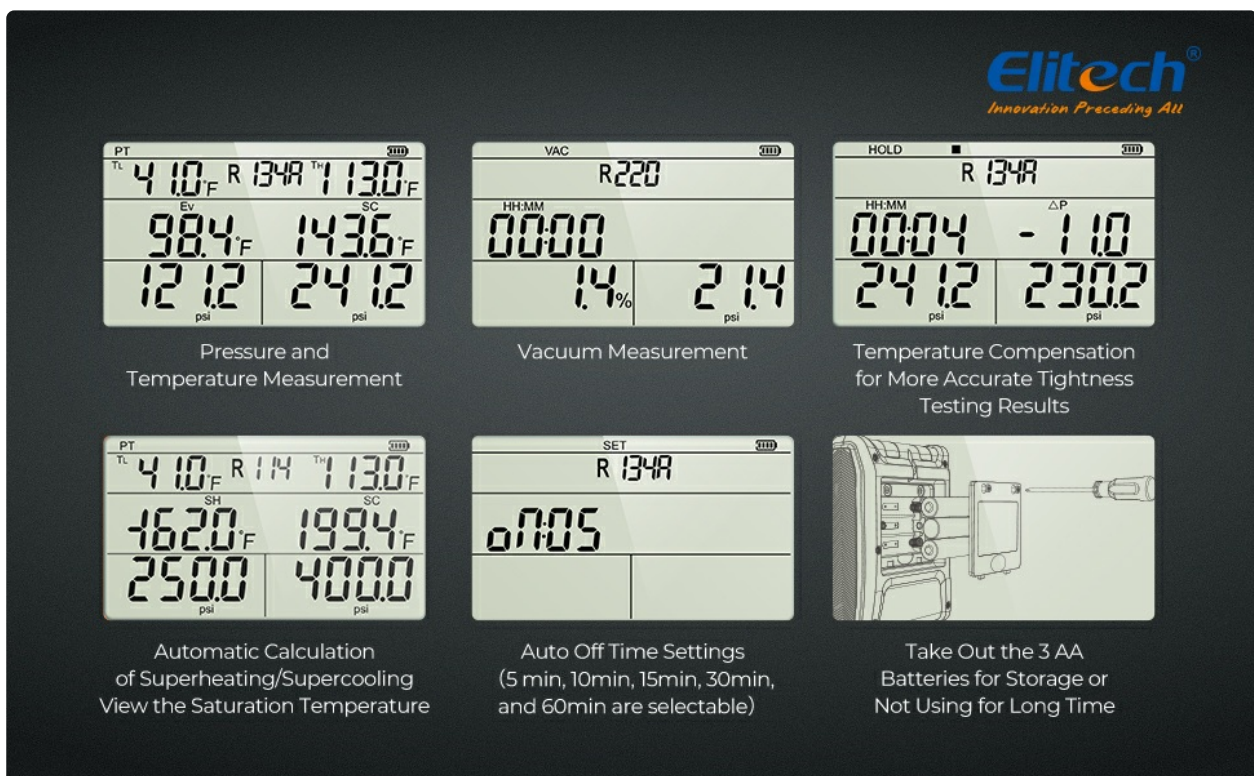


Figure 5.1: Illustration of battery installation and various display modes.

5.2. Connecting Temperature Clamps

1. Connect the temperature clamps to the designated temperature probe ports on the LMG-10 unit.
2. Attach the clamps securely to the refrigerant lines to measure pipe temperature.

5.3. Connecting Hoses

1. Identify the high-pressure (red), low-pressure (blue), and refrigerant (yellow) hoses.
2. Connect the appropriate ends of the hoses to the corresponding ports on the LMG-10 manifold.
3. Connect the other ends of the hoses to the HVAC/R system service ports or refrigerant tank as required for your task.
4. Ensure all connections are tight to prevent leaks.

6. OPERATING INSTRUCTIONS

6.1. Power On/Off

- Press the **Power** button (symbol: circle with vertical line) to turn the unit ON.
- Press and hold the **Power** button to turn the unit OFF.

6.2. Unit Selection (Pressure and Temperature)

- Press the **MODE** button to cycle through pressure units (psi, kg/cm², kPa, MPa, bar).
- Press the °F/°C button to switch between Fahrenheit and Celsius temperature units.

6.3. Refrigerant Selection

The LMG-10 supports 88 types of refrigerants. To select the desired refrigerant:

1. Press the **MODE** button until the refrigerant selection mode is active.
2. Use the arrow buttons (left/right arrows) to scroll through the list of available refrigerants.
3. Confirm your selection.



Support 88 Types of Refrigerants

R113 R114 R115 R116 R12 R123 R1233ZD R1234ZE
R1234YF R124 R125 R13 R134a R14 R141B R142B
R143A R152A R170 R22 R23 R236FA R245FA R290
R32 R401A R401B R401C R402A R402B R403B
R404A R406A R407A R407B R407C R407D
R407F R408A R409A R410A R410B R412A R413A
R414A R414B R416A R417A R417C R420A R421A
R421B R422A R422B R422C R422D R424A R426A
R427A R428A R429A R434A R437A R438A R441A
R443A R448A R449A R450A R452A R452B
R453A R454A R454B R455A R458A R500 R502
R503 R507A R508A R508B R514A R600 R600a
R601a R718 R744

Elitech
Innovation Preceding All

Elitech LMG-10

MODE ▶|| ZERO/⚡
◀ ▶ ⏻

PT 4.10 F R114 T_h 113.0 F
T_l 235.2 F T_{co} 280.4 F
Ev 2500 psi Co 4000 psi

Figure 6.1: The LMG-10's display showing the extensive list of 88 supported refrigerants.

6.4. Pressure and Temperature Measurement

Once connected and powered on, the LMG-10 will display real-time pressure and temperature readings. The display shows high-side and low-side pressures, as well as saturation temperatures for the selected refrigerant.

6.5. Vacuum Measurement

The LMG-10 can monitor vacuum levels during evacuation processes. Refer to the display for vacuum readings and progress.

6.6. Superheating and Subcooling Calculation

The device automatically calculates superheating (SH) and subcooling (SC) values based on the measured pressures and temperatures, providing critical data for system analysis.

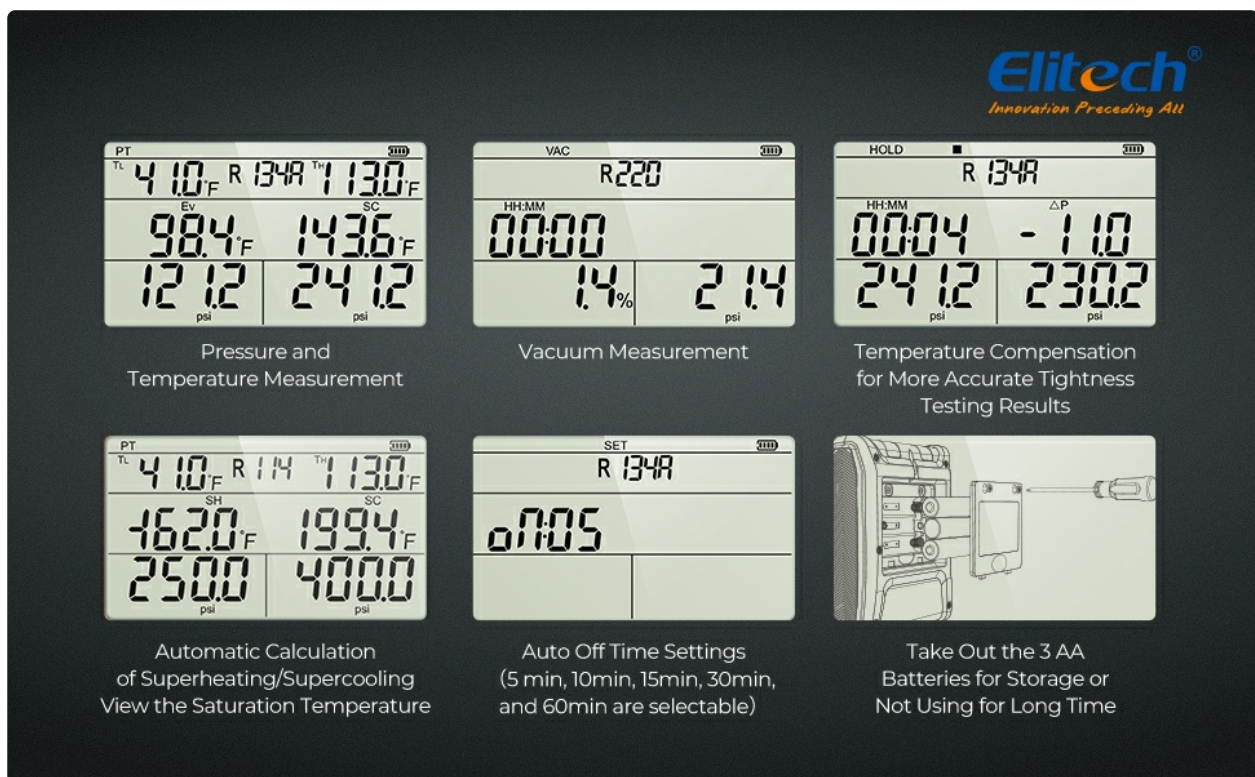


Figure 6.2: Various display screens of the LMG-10, illustrating pressure and temperature measurement, vacuum measurement, temperature compensation, and automatic calculation of superheating/subcooling.

6.7. Auto-Off Settings

To conserve battery life, the LMG-10 features an adjustable auto-off function. You can set the auto-off time to 5, 10, 15, 30, or 60 minutes.

7. MAINTENANCE AND CARE

7.1. Cleaning

- Wipe the unit with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Ensure the ports and connections are free from debris.

7.2. Battery Replacement

Replace batteries when the low battery indicator appears on the display. Follow the instructions in Section 5.1.

7.3. Storage

- When not in use for an extended period, remove the batteries to prevent leakage and damage to the unit.
- Store the LMG-10 in a cool, dry place, away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

If you encounter issues with your Elitech LMG-10, refer to the table below for common problems and solutions:

Problem	Possible Cause	Solution
Unit does not power on	Dead or incorrectly installed batteries	Replace batteries with new ones, ensuring correct polarity.
Inaccurate pressure readings	Loose hose connections; Sensor calibration needed; Incorrect refrigerant selected	Check and tighten all hose connections. If issue persists, contact customer support for calibration guidance. Verify the correct refrigerant is selected.
Temperature clamps not reading	Clamps not properly connected; Damaged clamp cable	Ensure clamps are fully plugged into the ports. Inspect cable for damage.
Display is dim or flickering	Low battery power	Replace batteries.

If the problem persists after attempting these solutions, please contact Elitech customer support.

9. WARRANTY AND CUSTOMER SUPPORT

Elitech Technology Inc. provides a **12-month warranty** for the LMG-10 Digital Manifold Gauge Set from the date of purchase. This warranty covers defects in materials and workmanship under normal use.

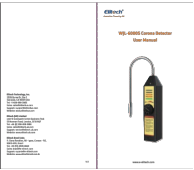





For technical assistance, warranty claims, or any other inquiries, please contact Elitech customer support. Elitech offers **24/7 customer support** service via email and phone.



Figure 9.1: Elitech customer support is available 24/7.

You can find more information and contact details on the official Elitech website or through their Amazon store: [Elitech Amazon Store](#).

Related Documents - LMG-10

	<p>Elitech WJL-6000S Corona Detector User Manual</p> <p>User manual for the Elitech WJL-6000S Corona Detector, providing detailed instructions on operation, detection, troubleshooting, and maintenance for refrigerant leak detection in various systems.</p>
	<p>Elitech MS-100 PLUS Smart Digital Manifold Gauge User Manual</p> <p>Comprehensive user manual for the Elitech MS-100 PLUS Smart Digital Manifold Gauge, covering product introduction, safety instructions, overview, button functions, technical parameters, and quick operation guides for refrigeration and HVAC systems.</p>
	<p>Elitech MS-100 Digital Manifold Gauge: Features, Operation, and Specifications</p> <p>Comprehensive guide to the Elitech MS-100 Digital Manifold Gauge, covering its features, quick operation, technical specifications, precautions, and product details for HVAC and refrigeration systems.</p>
	<p>Elitech MS Series Digital Manifold Gauge User Manual</p> <p>User manual for the Elitech MS Series digital manifold gauge, covering product description, general overview, button functions, specifications, quick start guide, operation steps, intelligent applications, and maintenance.</p>
	<p>Elitech MS-800 Series Digital Manifold Gauge User Manual & Specifications</p> <p>Comprehensive user manual for the Elitech MS-800 Series digital manifold instrument, covering product introduction, safety guidelines, environmental protection, detailed specifications, and quick operation guides for pressure and temperature measurements, hold pressure tests, and refrigerant charging for HVAC and refrigeration systems.</p>
	<p>Elitech MS-100 Digital Manifold Gauge User Manual</p> <p>User manual for the Elitech MS-100 Digital Manifold Gauge, detailing its features, operation, specifications, and maintenance.</p>

