

Road Far DY517

DUOYI DY517 Refrigeration Digital Manifold Gauge Meter User Manual

Model: DY517 | Brand: Road Far

1. INTRODUCTION

This manual provides comprehensive instructions for the proper use, setup, operation, and maintenance of the DUOYI DY517 Refrigeration Digital Manifold Gauge Meter. This intelligent electronic refrigerant group instrument is designed to assist in the installation, testing, and maintenance of refrigeration equipment, including air conditioners, refrigerators, and cold storage units. Please read this manual thoroughly before operating the device to ensure safe and efficient use.

2. PRODUCT OVERVIEW AND FEATURES

The DUOYI DY517 is a robust and versatile tool featuring a high-strength engineering plastic casing and a flexible non-slip silicone design for comfortable handling. It incorporates a built-in 32-bit digital processing unit and high-precision data acquisition unit, ensuring high data accuracy and stability.

Key features include:

- **Dual Pressure Test:** Capable of performing pressure measurements.
- **Dual Temperature Test:** Supports temperature measurements.
- **Digital Readout:** Large-size liquid crystal display (LCD) with backlight support for clear and easy-to-read data, facilitating operation in various lighting conditions.
- **Multi-Unit Switching:** Allows selection of various pressure and temperature units.
- **Multi-Mode Function:** Offers different operational modes for diverse testing scenarios.
- **Built-in Refrigerant Database:** Contains a database of refrigerants for accurate calculations.
- **Standard Interface:** Equipped with long-life valve switches and 1/4-inch standard interfaces for durability and versatility.



Figure 2.1: Front view of the DUOYI DY517 Digital Manifold Gauge Meter, showing the large LCD screen, control buttons (FUN, %, ZERO, R+, R-, UNIT, °C/°F, Power), and three 1/4-inch standard interfaces with blue and red valve knobs.

3. SAFETY INFORMATION

Always adhere to the following safety guidelines to prevent injury or damage to the instrument:

- Ensure all connections are secure before applying pressure or vacuum.
- Do not exceed the specified pressure overload limit (10000 Kpa / 10 Mpa / 100 bar).
- Wear appropriate personal protective equipment (PPE), such as safety glasses and gloves, when handling refrigerants.
- Operate the device in a well-ventilated area.
- Keep the instrument away from moisture, extreme temperatures, and direct sunlight.
- Do not attempt to disassemble or modify the instrument. Refer all servicing to qualified personnel.
- Dispose of refrigerants and used components according to local environmental regulations.

4. SETUP

Before initial use, ensure the device is properly prepared:

1. **Unpacking:** Carefully remove the DUOYI DY517 from its packaging and inspect for any signs of damage.
2. **Power Supply:** The device is typically powered by batteries. Open the battery compartment (usually on the back) and insert the required batteries, observing correct polarity.
3. **Hose Connections:** Connect appropriate refrigeration hoses to the 1/4-inch standard interfaces at the bottom of the manifold. The blue knob typically controls the low-pressure side, and the red knob controls the high-pressure side. The central port is usually for vacuum pump or refrigerant cylinder connection.
4. **Temperature Probes (Optional):** If performing temperature tests, connect the temperature probes to the designated ports on the device.

5. OPERATION

Follow these steps for general operation of the DUOYI DY517:

5.1. Power On/Off

- Press and hold the **Power** button (usually indicated by a circle with a vertical line) to turn the device on or off.

5.2. Unit Selection

- Press the **UNIT** button to cycle through pressure units: Kpa, Mpa, bar, inHg, PSI.
- Press the **°C/°F** button to switch between Celsius and Fahrenheit for temperature readings.

5.3. Zeroing Pressure

- Ensure all ports are open to atmosphere (not connected to a system) before zeroing.
- Press the **ZERO** button to calibrate the pressure sensors to atmospheric pressure.

5.4. Refrigerant Selection and Mode Functions

- Use the **FUN** button to access different operational modes or menus.
- Use the **R+** and **R-** buttons to navigate through the built-in refrigerant database and select the appropriate refrigerant type for your system.
- Consult the on-screen prompts for specific instructions related to each mode (e.g., vacuum test, leakage test).

5.5. Backlight Control

- Press the **Lightbulb** button (or similar icon) to toggle the LCD backlight on or off, improving visibility in low-light conditions.

6. MAINTENANCE

Regular maintenance ensures the longevity and accuracy of your DUOYI DY517:

- **Cleaning:** Wipe the instrument with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure no liquid enters the ports or display.
- **Storage:** Store the device in a clean, dry place, away from direct sunlight and extreme temperatures. It is recommended to store it in its original case if available.
- **Battery Replacement:** If the display dims or the device does not power on, replace the batteries. Always use the specified battery type and dispose of old batteries responsibly.
- **Port Inspection:** Periodically inspect the 1/4-inch ports for debris or damage. Ensure the valve knobs operate smoothly.

7. TROUBLESHOOTING

If you encounter issues with your DUOYI DY517, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Device does not power on.	Dead or incorrectly installed batteries.	Replace batteries, ensuring correct polarity.
Readings are unstable or fluctuating.	Loose connections; sensor calibration needed; external interference; internal electronic instability.	Check all hose connections for tightness. Perform a ZERO calibration. Ensure stable environmental conditions. If the issue persists, contact customer support.
Incorrect pressure/temperature readings.	Wrong unit selected; sensor malfunction; incorrect refrigerant selected.	Verify the selected unit (Kpa, PSI, °C, °F). Ensure the correct refrigerant is chosen from the database. If problem persists, sensor may be faulty.
LCD display is dim or blank.	Low batteries; backlight off.	Replace batteries. Press the backlight button to turn it on.

8. SPECIFICATIONS

Detailed technical specifications for the DUOYI DY517:

- **Product Type:** Digital Manifold Gauge Meter
- **Model:** DY517
- **Brand:** Road Far
- **Material:** High-strength Engineering Plastics, Flexible Non-slip Silicone
- **Pressure Test Type:** Gauge Pressure
- **Pressure Test Units:** Kpa, Mpa, bar, inHg, PSI
- **Pressure Test Range:** 0 Kpa – 6000 Kpa
- **Pressure Test Resolution:** 1 Kpa
- **Pressure Test Accuracy:** +/- 0.5 %(FS) + 5dgt
- **Pressure Overload Limit:** 10000 Kpa (10 Mpa; 100 bar)
- **Vacuum Test Type:** Relative Vacuum
- **Vacuum Test Units:** Kpa, Mpa, bar, inHg, PSI
- **Vacuum Test Range:** -101 Kpa – 0 Kpa
- **Vacuum Test Resolution:** 1 Kpa
- **Temperature Test Units:** °C (Celsius), °F (Fahrenheit)
- **Interface:** 1/4-inch Standard
- **Processor:** Built-in 32-bit Digital Processing Unit
- **Display:** Large-size Liquid Crystal Display (LCD) with Backlight
- **Dimensions (Approx.):** 8.9 x 5.67 x 2.76 inches (Package Dimensions)
- **Weight (Approx.):** 2.09 Pounds (Package Weight)

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the manufacturer, Road Far, directly. Details regarding warranty periods, coverage, and service

procedures are typically outlined by the manufacturer or authorized distributors.

When contacting support, please have your product model (DY517) and purchase details readily available.