HANMATEK HM605T

HANMATEK HM605T Programmable DC Power Supply User Manual

Model: HM605T | Brand: HANMATEK

1. SAFETY INSTRUCTIONS

Please read all safety instructions carefully before operating the HANMATEK HM605T Programmable DC Power Supply. Failure to follow these instructions may result in electric shock, fire, or damage to the device.

- **Grounding:** Ensure the power supply is properly grounded to prevent electric shock.
- **Power Source:** Connect the device only to the specified input voltage (110V).
- **Ventilation:** Do not block the ventilation openings. Ensure adequate airflow around the unit to prevent overheating. The automatic temperature control cooling fan activates when the operating temperature exceeds 45°C.
- **Environment:** Avoid operating the power supply in wet, damp, or dusty environments. Keep away from flammable materials.
- **Connections:** Always ensure all connections are secure before turning on the output. Verify positive and negative poles.
- **Internal Components:** Do not open the casing or attempt to repair the unit yourself. Refer servicing to qualified personnel.
- **Protection Features:** The device is equipped with Overvoltage Protection (OVP), Overcurrent Protection (OCP), Overpower Protection (OPP), Overheat Protection (OTP), and Short-Circuit Protection. Understand how these features operate.

2. PRODUCT OVERVIEW

The HANMATEK HM605T is a high-precision programmable DC power supply designed for various electronic applications. It features a 4-digit display for voltage, current, power, and time, along with advanced protection mechanisms and PC software control.

Key Features:

- **Programmable Output:** Supports Modbus programming instruction set and programmable sequence output

via USB interface.

- **High Accuracy Display:** 4-digit display for output current, voltage, power, and time. Voltage resolution: 10mV; Current resolution: 1mA.

- **Comprehensive Protection:** Includes Overvoltage Protection (OVP), Overcurrent Protection (OCP), Overpower Protection (OPP), Overheat Protection (OTP), and Short-Circuit Protection.

- **Multi-functionality:** Features a front 5V 1.5A dual USB charging interface, one-key output ON/OFF switch, 6 groups of quick parameter storage (M1-M6), and automatic switching between voltage stabilization and current stabilization modes.

- **User-Friendly:** One-key keyboard lock prevents accidental operation.

Component Identification:

Figure 2.1: Front and Rear Panel Layout. This image illustrates the various controls and ports on the front and back of the HM605T power supply, including the display, control buttons, output terminals, USB ports, cooling fan, and AC power input.
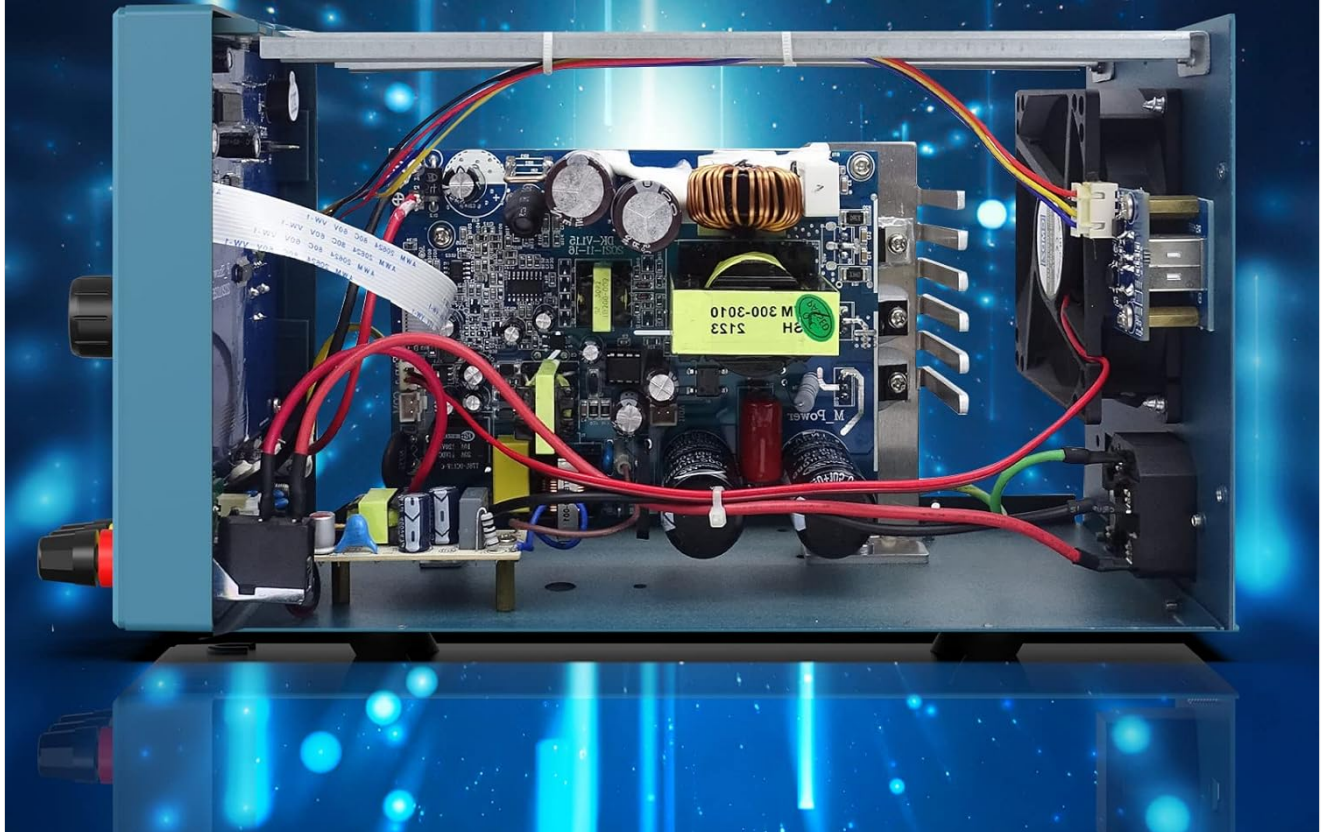
Figure 2.2: Multiple Protection Features. An internal view highlighting the robust circuitry designed for overvoltage, overcurrent, overpower, overtemperature, and short-circuit protection.

3. SETUP

Follow these steps for initial setup of your HANMATEK HM605T power supply:

1. **Unpacking:** Carefully remove all components from the packaging. Verify that all items listed in the 'Packing' section (1 * Programmable DC power supply; 1 * CD; 1 * Power cord; 1 * Clip cord; 1 * USB cable; 1 * Manual) are present.

2. **Power Connection:** Connect the provided power cord to the AC power input on the rear panel of the power supply and then to a suitable 110V AC outlet.

3. **Initial Power On:** Turn on the main power switch located on the rear panel. The display on the front panel should illuminate.

4. **Output Terminals:** Familiarize yourself with the output terminals (positive, negative, and ground) on the front panel. Ensure correct polarity when connecting your load.

4. OPERATING INSTRUCTIONS

This section details the operation of the HM605T power supply, including setting parameters and using its various functions.

4.1 Basic Operation

1. **Turning On/Off Output:** Press the **Output** button on the front panel to enable or disable the power output.
2. **Setting Voltage:**

   - Press the **V** button to select the voltage setting mode.
   - Rotate the large rotary knob to adjust the voltage value. The 4-digit display allows for precise adjustments.

3. **Setting Current:**

   - Press the **I** button to select the current setting mode.
   - Rotate the large rotary knob to adjust the current limit.

4. **Display Modes:** Press the **Display** button to switch between numerical and waveform display modes, allowing for real-time monitoring of output parameters.

4.2 Advanced Functions

1. **Memory Function (M1-M6):** The power supply allows for storing and recalling up to 6 sets of frequently used voltage and current parameters. Press the **Memory** button to access the memory presets. Use the rotary knob to navigate and select a preset, then press the knob to load it.
2. **Keyboard Lock:** To prevent accidental changes to settings, press the **ESC/Lock** button to lock the keyboard. Press it again to unlock.
3. **PC Software Control:** The HM605T features a standard USB interface on the rear panel for connection to a computer. Install the provided PC software (from the included CD or manufacturer's website) to utilize Modbus programming instruction set and programmable sequence output. This allows for remote control and data logging.
4. **Front USB Charging Ports:** The dual 5V 1.5A USB ports on the front panel can be used for charging compatible devices or powering low-current electronics.

4.3 Instructional Video

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Video 4.1: HANMATEK DC Power Supply Overview. This video provides a general demonstration of a HANMATEK adjustable DC power supply, showcasing its features and basic operation, including voltage and current adjustment, and output control.

5. MAINTENANCE

Proper maintenance ensures the longevity and reliable operation of your power supply.

- **Cleaning:** Regularly clean the exterior of the unit with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Ventilation:** Keep the cooling fan and vents free from dust and obstructions. The fan operates automatically to maintain optimal temperature.
- **Storage:** When not in use for extended periods, store the power supply in a cool, dry place, away from direct sunlight and extreme temperatures.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with the HM605T power supply.

- **No Power:**

    - Check if the power cord is securely connected to both the unit and the AC outlet.
    - Ensure the main power switch on the rear panel is in the 'ON' position.
    - Verify the fuse in the AC input socket. Replace if blown (refer to specifications for correct fuse type).

- **No Output:**

    - Press the **Output** button to ensure the output is enabled.
    - Check for active protection (OVP, OCP, OPP). If any protection is triggered, the output will be disabled. Address the cause of the protection event (e.g., reduce voltage/current settings, check load).
    - Ensure the load is correctly connected to the output terminals with proper polarity.

- **Incorrect Readings:**

    - Verify that the measurement leads are properly connected and not damaged.
    - Ensure the device is operating within its specified temperature range.

- **PC Software Connection Issues:**

    - Ensure the USB cable is securely connected to both the power supply and the computer.
    - Verify that the correct drivers and software are installed on your PC. Refer to the included CD or manufacturer's website for the latest versions.

7. SPECIFICATIONS

Specification	Value
Brand	HANMATEK
Model	HM605T
Input Voltage	110V
Output Voltage	0V-60V
Output Current	0A-5A
Output Wattage	300W
Voltage Resolution	10 mV
Current Resolution	1 mA
Display	4-Digit (Voltage, Current, Power, Time)
Front USB Output	Voltage: 5V; Current: ≤1.5A
Protection Features	OVP, OCP, OPP, OTP, Short Circuit
Cooling Method	Automatic Temperature Control Fan
Item Model Number	HM605T

| Parcel Dimensions | 36 x 21.3 x 17.4 cm; 2.58 kg |

8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation included with your product or contact HANMATEK customer service. The product package includes a manual and a CD with software and drivers. Ensure you keep your purchase receipt for warranty claims.