Luqeeg Luqeegbnay3rfesc

Luqeeg Signal Generator Instruction Manual

Model: Luqeegbnay3rfesc

Introduction

The Luqeeg Signal Generator is a versatile device designed for generating DC voltage and current outputs, as well as PWM pulse square waves. It also features input measurement capabilities, making it suitable for a wide range of applications including PLC controller testing, LED calibration, and general electronic circuit analysis. This manual provides detailed instructions for the proper setup, operation, and maintenance of your signal generator.

1. Setup and Initial Use

1.1 Unpacking

Carefully remove all components from the packaging. The package should contain:

- 1 x Signal Generator
- 4 x Clips
- 1 x USB Cable
- 1 x User Manual (this document)

Figure 1.1: Included alligator clips for connections.

1.2 Device Overview

Familiarize yourself with the main components of the signal generator:

Figure 1.2: Signal Generator Component Diagram.

1. Pluggable terminal block (3.81-9P)
2. Terminal symbol
3. 2 inch TFT color display screen
4. Down arrow key
5. Digital encoder adjustment knob (with button, can be pressed)
6. Left shift key
7. Power switch
8. Charging indicator light
9. USB port

1.3 Power Supply Options

The signal generator offers flexible power supply methods:

- **External 24VDC Terminal:** Connect a 24VDC power source to the designated terminals.
- **USB Type-C:** Use the provided USB Type-C cable to connect to a power adapter or computer.
- **Rechargeable Li Battery:** The device supports an internal rechargeable lithium battery (not

included). When a battery is installed, it can be charged via USB Type-C or external 24VDC while in use.

Figure 1.3: Multiple power supply methods for the signal generator.

1.4 Connection Diagram

Refer to the following diagram for proper terminal connections. Terminal numbers are read from left to right (1-9).

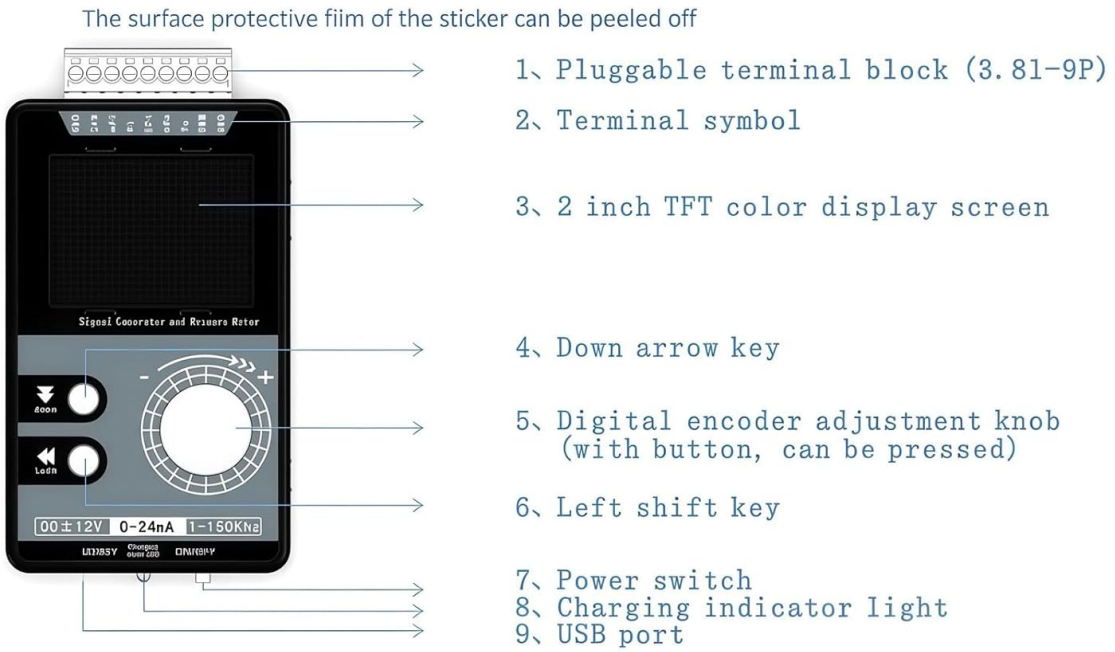


Figure 1.4: Terminal Connection Diagram.

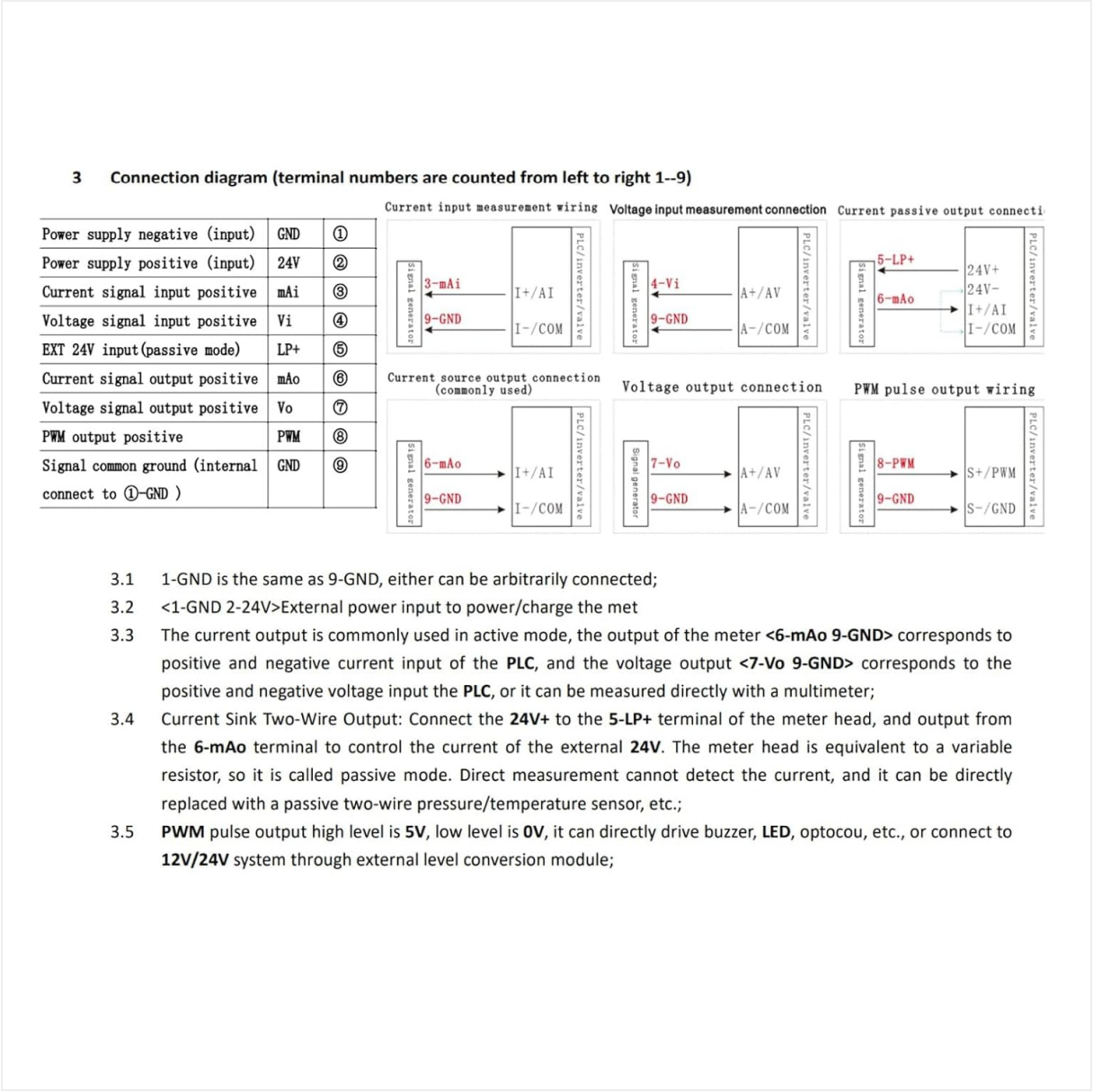
- **GND (1):** Power supply negative (input). This is the same as 9-GND and can be arbitrarily connected.
- **24V (2):** Power supply positive (input). External power input to power or charge the meter.
- **mA i (3):** Current signal input positive.
- **Vi (4):** Voltage signal input positive.
- **LP+ (5):** EXT 24V input (passive mode).
- **mA o (6):** Current signal output positive. The current output is commonly used in active mode. The output of the meter **6-mAo 9-GND** corresponds to positive and negative current input of the PLC.
- **Vo (7):** Voltage signal output positive. The voltage output **7-Vo 9-GND** corresponds to the positive and negative voltage input of the PLC, or it can be measured directly with a multimeter.
- **PWM (8):** PWM output positive.
- **GND (9):** Signal common ground (internal connect to ①-GND).

Current Sink Two-Wire Output: Connect the **24V+** to the **5-LP+** terminal of the meter head, and output from the **6-mAo** terminal to control the current of the external 24V. The meter head is equivalent to a variable resistor, so it is called passive mode. Direct measurement cannot detect the current, and it can be directly replaced with a passive two-wire pressure/temperature sensor, etc.

2. Operating Instructions

2.1 User Interface and Display

The device features a 2.0-inch TFT color screen (320x240) that displays all values clearly on one screen. It supports both Chinese and English interface switching. The large digital encoder knob allows for easy and precise adjustments.



3 Connection diagram (terminal numbers are counted from left to right 1--9)

Power supply negative (input)	GND	①
Power supply positive (input)	24V	②
Current signal input positive	mAi	③
Voltage signal input positive	Vi	④
EXT 24V input(passive mode)	LP+	⑤
Current signal output positive	mAo	⑥
Voltage signal output positive	Vo	⑦
PWM output positive	PWM	⑧
Signal common ground (internal connect to ①-GND)	GND	⑨

3.1 1-GND is the same as 9-GND, either can be arbitrarily connected;

3.2 <1-GND 2-24V>External power input to power/charge the met

3.3 The current output is commonly used in active mode, the output of the meter **<6-mAo 9-GND>** corresponds to positive and negative current input of the **PLC**, and the voltage output **<7-Vo 9-GND>** corresponds to the positive and negative voltage input the **PLC**, or it can be measured directly with a multimeter;

3.4 Current Sink Two-Wire Output: Connect the **24V+** to the **5-LP+** terminal of the meter head, and output from the **6-mAo** terminal to control the current of the external **24V**. The meter head is equivalent to a variable resistor, so it is called passive mode. Direct measurement cannot detect the current, and it can be directly replaced with a passive two-wire pressure/temperature sensor, etc.;

3.5 **PWM** pulse output high level is **5V**, low level is **0V**, it can directly drive buzzer, **LED**, optocou, etc., or connect to **12V/24V** system through external level conversion module;

Figure 2.1: TFT Color Screen Display.

Figure 2.2: Digital Encoder Adjustment Knob.

2.2 DC Voltage and Current Output

- **Voltage DC Analog Output Range:** ±12V (with short circuit protection).
- **Current DC Analog Output Range:** 0-24mA (short circuit protected).
- **Output Adjustment:** Users can freely set the output range, such as 0-20mA, 4-20mA, 0-10V, 0-5V, etc. The corresponding engineering display values can also be set.

2.3 PWM Pulse Square Wave Output

- **Adjustable Frequency:** 1-150kHz.
- **Adjustable Duty Cycle:** 0-100%.
- **High Level:** 5V.
- **Application:** PWM pulse output high level is 5V, low level is 0V. It can directly drive buzzers, LEDs, optocouplers, etc., or connect to 12V/24V systems through external level conversion modules.

Figure 2.3: Signal generator connected and operating.

2.4 Input Measurement

- **Voltage Measurement Range:** ±50V.
- **Current Measurement Range:** ±50mA.

3. Maintenance

To ensure the longevity and optimal performance of your Luqeeg Signal Generator, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the device. Avoid using abrasive cleaners or solvents, which can damage the casing or screen.
- **Storage:** Store the device in a cool, dry place away from direct sunlight, extreme temperatures, and high humidity.
- **Handling:** Handle the device with care to prevent physical damage. Avoid dropping it or exposing it to strong impacts.
- **Battery Care (if installed):** If using a rechargeable Li battery, ensure it is charged regularly, even if not in frequent use, to maintain battery health. Do not expose the battery to extreme heat or puncture it.

- **Protective Film:** The surface protective film of the sticker can be peeled off for clearer viewing.

4. Troubleshooting

This section addresses common issues you might encounter with your signal generator.

- **Device Not Powering On:**
  - Check if the power switch is in the "ON" position.
  - Ensure the USB Type-C cable is securely connected and the power source is active.
  - If using external 24VDC, verify the power supply is connected correctly to the terminals and is providing the correct voltage.
  - If using a rechargeable battery, ensure it is charged.
- **No Output Signal:**
  - Verify that the output parameters (voltage, current, PWM frequency, duty cycle) are set correctly on the display.
  - Check all connections to the output terminals for proper contact.
  - Ensure the device is powered on and functioning.
- **Incorrect Output Readings:**
  - Confirm that the measurement range is appropriate for the signal being measured.
  - Check the calibration settings if custom ranges have been configured.
  - Ensure all connections are secure and free from interference.
- **PWM Output Compatibility:**

  Note: The PWM output of this device is not suitable for 12V or 2V systems, as 5V is regarded as a low level in these systems. For such applications, an external level conversion module is required.

5. Technical Specifications

Feature	Specification
Product Material	ABS
Voltage DC Analog Output Range	±12V (with Short Circuit Protection)
Voltage Measurement Range	±50V
Current DC Analog Output Range	0-24mA (Short Circuit Protected)
Current Measurement Range	±50mA
PWM Pulse Square Wave Output Frequency	1-150kHz (Adjustable)
PWM Pulse Square Wave Output Duty Cycle	0-100% (Adjustable)
PWM High Level	5V
Display	2.0 inch TFT color screen (320x240), supports Chinese and English

Feature	Specification
Encoder	Digital encoder, large knob adjustment
Power Supply Methods	Terminal external 24VDC / USB Type-C / 1 x Rechargeable Li Battery (not included)
Package Dimensions	5.91 x 3.54 x 1.97 inches
Item Weight	7.8 ounces
Model Number	Luqeegbnay3rfesc
ASIN	B0GDFZ67MF

6. Warranty Information

Luqeeg products are manufactured to high quality standards. This product is covered by a manufacturer's warranty against defects in materials and workmanship. Please refer to the warranty card included with your product or contact Luqeeg customer support for specific warranty terms and conditions. Keep your purchase receipt as proof of purchase for warranty claims.

7. Customer Support

For technical assistance, troubleshooting, or any questions regarding your Luqeeg Signal Generator, please visit the official Luqeeg store or contact their customer support. You can find more information and contact details at the Luqeeg Store on Amazon.