DC Overlapping Current Source

6240

English Manual

1.0

Table of Content

1. FOREWORD

1.1 Product Features

- Current scan and frequency scan graphical analysis.
- Controlled directly with an LCR Meter (Model 6577 series) through the Handler interface.
- Forward and reverse current switching function.
- Able to output maximum power continuously for long periods of time.
- DCR measurement functions.
- Enhanced surge protection device.
- Automatically adjusts maximum output voltage (11Vdc maximum, maximum output power restricted to 25W) according to output current.
- Output current can be expanded up to 320A using parallel connection.

1.2 Technical Specifications Description

- Output Current
  0.00A ~ 40.00A
  ※ **In order to ensure the accuracy of DCR, the current must be set to 1A or above when measuring this item.**
- Current Accuracy
  0.00A ~ 1.00A 1%+5mA
  1.01A ~ 5.00A 2%
  5.01A ~ 20.0A 3%
  20.01A ~ 40.0A 5%
- Frequency Response
  20Hz ~ 1MHz
- General Specifications
  - ✓ Operating Environment
    10~40°C，20~90%RH non-condensing
  - ✓ Input Power
    88~264Vac，47~63Hz

- ✓ Power Consumption
  750W max

- ✓ Appearance Dimensions
  435x133x555mm

- ✓ Weight
  Approximately 15.5Kg

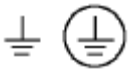
2. SAFETY PRECAUTIONS

This instrument is not suitable for outdoor use, especially in humid or highly dusty locations. Improper use of this instrument may result in electric shocks. Please read the safety descriptions carefully before using this tester in order to avoid improper or wrong use causing accidents.

1. Safety Signs (the following safety signs may appear in this manual and this instrument)

 : Note, please read this Manual carefully for these contents.

 : High Voltage Danger Symbol; the output terminal may output lethal voltages. Please read this Safety Precautions chapter carefully.

 : Protective Ground Terminal: Please ground this terminal properly before using this tester in order to avoid electrical shock accidents from coming in contact with the case with power leakages.

CAUTION: Warning Sign, when the product is used improperly, it may cause improper results to this instrument or other DUT.

WARNING: Warning Sign, when the product is used improperly, it may cause injuries or even death.

2. Electric Shocks

In order to prevent accidental electric shocks, the wearing of insulating plastic gloves is recommended before using this tester to perform testing related tasks.

3. Ground

There is a safety ground terminal on the rear panel case of this tester. Ground this terminal properly in order to prevent electrical shock accidents from occurring when touching the case.

4. Power

This machine can use power between 88-264Vac. Confirm whether the input power is consistent with the switch power label on the rear panel before inserting the power. When the fuse needs to be changed, please change the specific type of fuse with the same amperage in order to prevent electrical fires,

and unplug the power plug before changing in order to prevent danger from occurring.

5. Warm Up

The tester can operate normally once the power is turned on; however, in order to achieve accuracy within specifications, please turn on the machine in advance and let it warm up for 15 minutes or more before use.

6. External Control of the Host

This machine can be controlled externally. Please make sure that the operator is not in contact with the high voltage output terminal and DUT when performing this type of control in order to prevent danger from occurring.

7. Machine Malfunction

If the tester malfunctions, such as: The current displayed on the ammeter differs greatly from the current set, or that the overlap current indicator remains on even though there is no high current output, etc., please stop using this machine immediately and contact our Company or your dealer for repairs.

8. Test End

Please turn off the power switch when this tester is not in use. When the power switch is turned off, to turn it on again. Please wait for a few seconds and do not turn the power switch on and off continuously.

9. Placement and Storage

The normal operating temperature and humidity range of this machine is 5^{o}C - 40^{o}C, 80% RH; the machine might malfunction if it exceeds this range. The storage temperature and humidity range of this machine is -20^{o}C - 70^{o}C, 80% RH. In order to achieve accurate testing and for safety considerations, do not place this machine in environments with direct sunlight exposure, high temperature, high humidity, frequent vibrations, or excessive dust.

10. Emergency Processing

When there is an electric shock or if the DUT or machine catches on fire, please switch off the power and unplug the power cable in order to prevent danger from occurring.

11. General Instructions

(1) Do not place any flammable or heavy objects on this testing instrument.

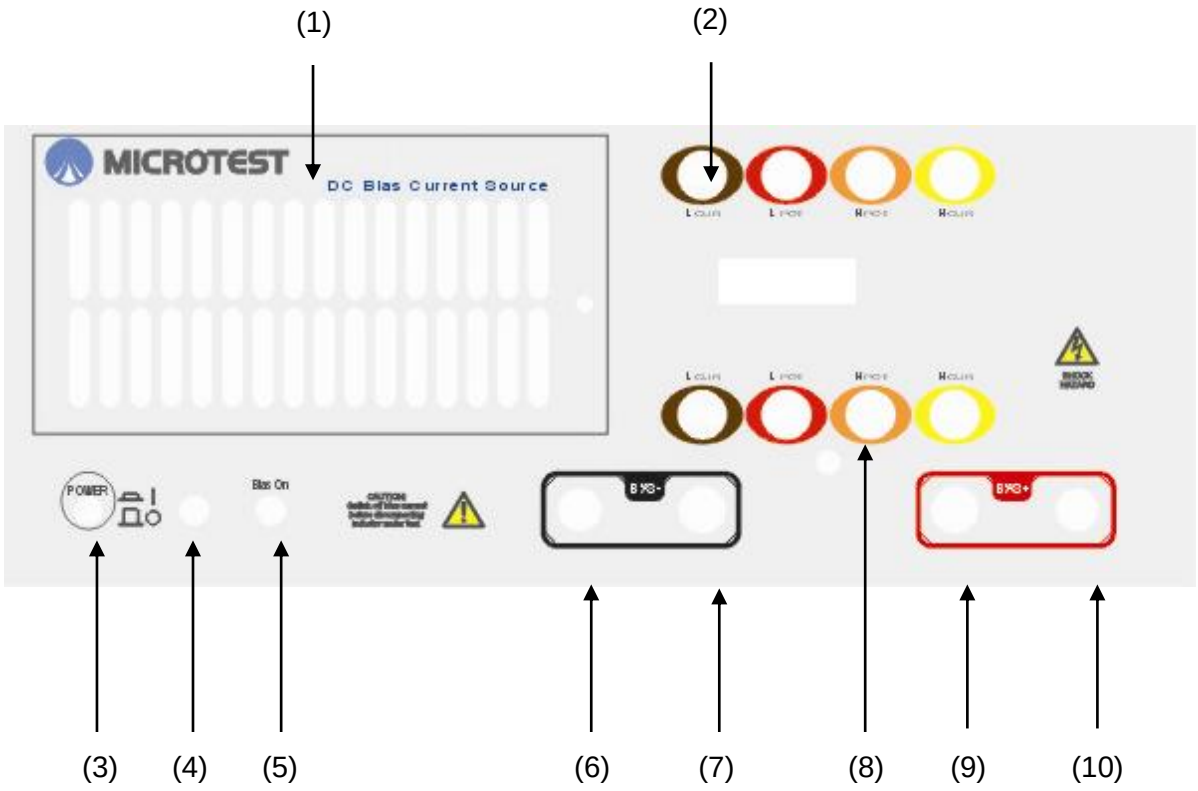
(2) Avoid severe impact from damaging the machine.

(3) When cleaning this instrument, please unplug the power plug first, and wipe it with a soft cloth moistened with mild detergent and water.

(4) If the instrument has any abnormalities, do not disassemble and repair it on your own; please send it to our Company to have professional technical repair staff process it.

3. INSTALLATION

3.1 Front Panel Function Description



(1) Air Filter

(2) Measurement Signal Input Terminal

(3) Power Switch

(4) Power Indicator (green)

(5) Overlap Current Indicator (red)

(6) Overlap Current Parallel Terminal--Black (-)

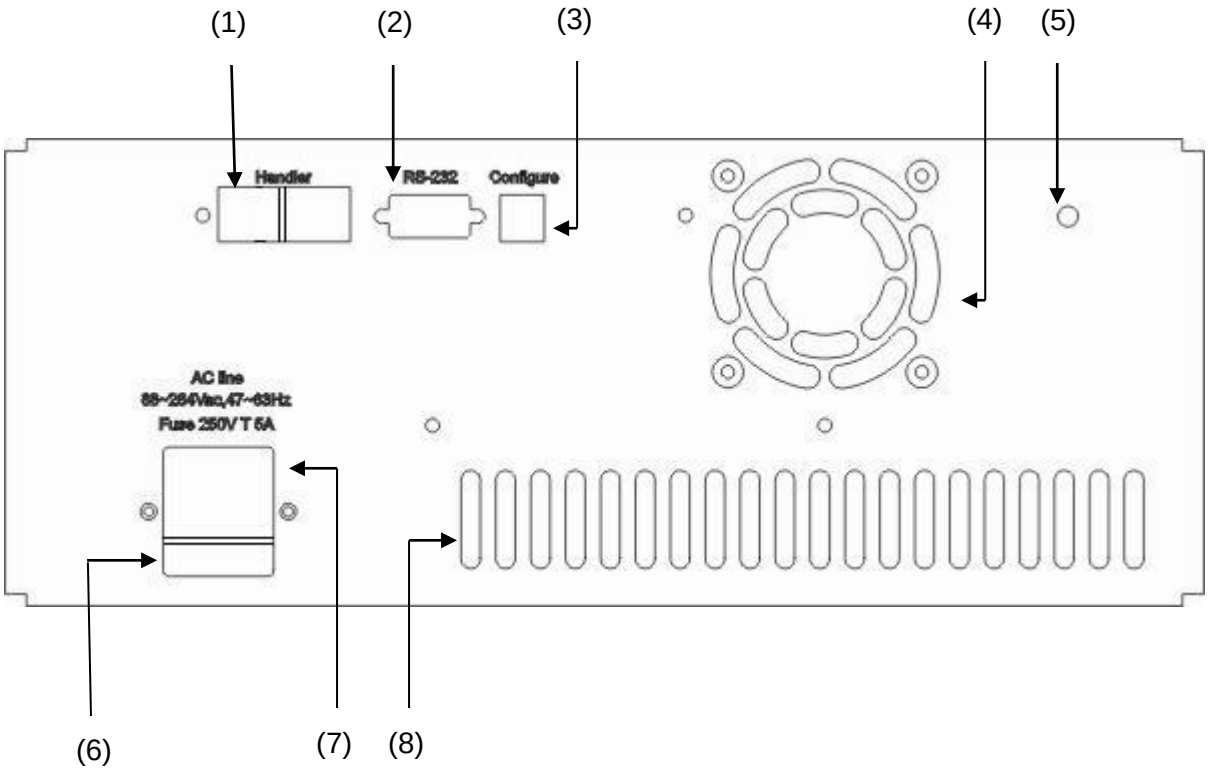
(7) Current Output Terminal--Black (-)

(8) Measurement Signal Output Terminal

(9) Overlap Current Parallel Terminal--Red (+)

(10) Current Output Terminal--Red (+)

3.2 **Rear Panel Function Description**



(1) Handler Interface X 2

(2) RS-232 Transmission Interface

(3) Address Switch

(4) Fan Air Outlet

(5) Ground Terminal

(6) Fuse Holder

110V / 3A

220V / 5A

(7) Power Outlet

(8) Vents

3.3 How to Install the Overlap Current Machine

Description: This machine cannot operate independently; it must be controlled directly with an LCR Meter (Model 6577 series) through the Handler interface.

3.3.1 Address Switch Setting Method

Before connecting this machine to the LCR Meter, the address switch behind the machine must be adjusted to an appropriate position in order to connect and be controlled by the LCD Meter; press set on the panel -> the cursor will move to Maximum Bias Current, and press Detect to the right to jump to Figure 3.3.1.1. Since a maximum of eight machines can be connected and used simultaneously using parallel connection, therefore there are eight setting methods for the address switch as well; as shown in Figure 3.3.1.1. When only one overlap current is connected to the LCR Meter for use, the address switch must be set to the setting method of the first unit, and that is SW1: On, SW2: Off, SW3: Off, SW4: Off. If two overlap currents are connected, the setting method of the second unit is: SW1: Off, SW2: On, SW3: Off, SW4: Off. The expansion setting methods for expansions after that are as shown in Figure 3.3.1.1.

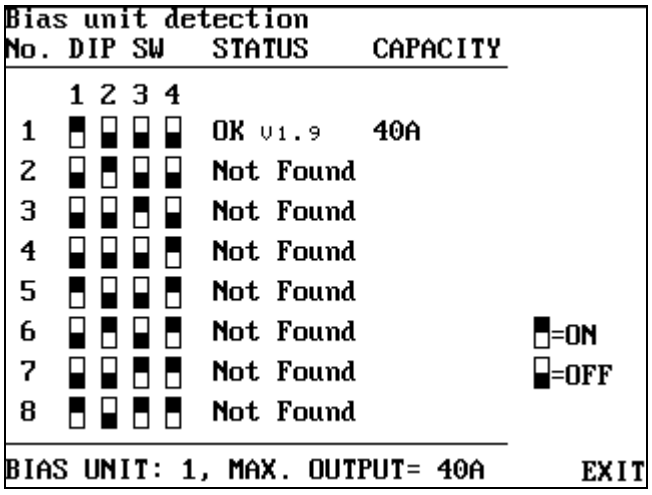


Figure 3.3.1.1

3.3.2 Handler Interface Connection

When this machine is shipped from the factory it includes a Handler cable; this cable is used to connect the LCR Meter. The connection method is a shown in Figure 3.3.2.1; first connect the connector at one end of the cable to the Handler interface behind the LCD Meter, and then connect the connector at the other end of the cable to the Handler interface behind this machine the complete the connection. If two overlap current machines are connected, another cable must be used to connect the two machines using the same connection method (as shown in Figure 3.3.2.2).

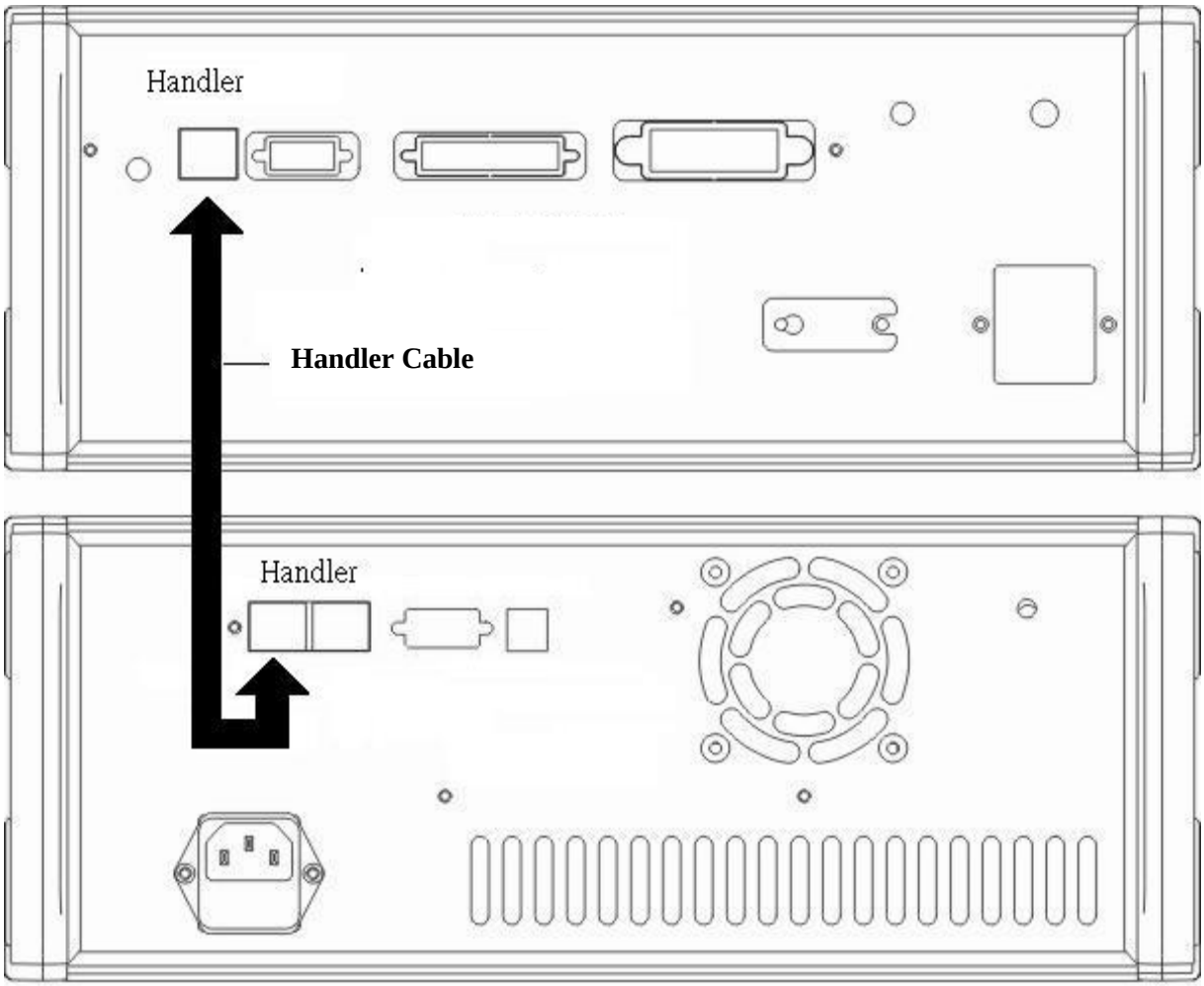


Figure 3.3.2.1

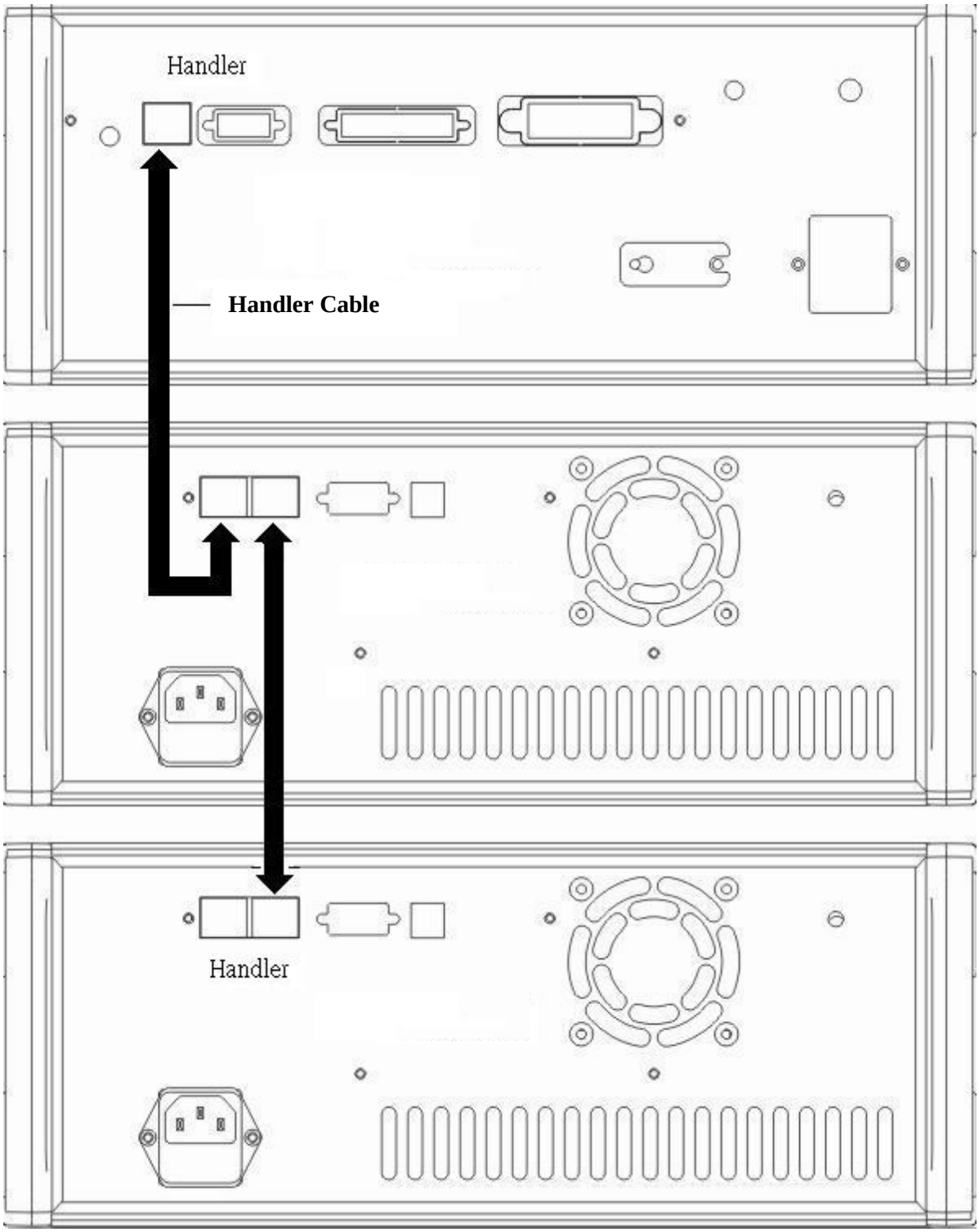


Figure 3.3.2.2

3.3.3 Measurement Signal Source and Overlap Current Parallel Terminal Connection

When 6577 is connected and used with this machine, the measurement signal of 6577 must be connected to the measurement signal input terminal of this machine, and then use the measurement signal output terminal of this machine to connect to the DUT. If two or more overlap current machines are used, the overlap current parallel connection junction must be used to connect the parallel connection terminal of the two units in order to increase the current output (as shown in Figure 3.3.3.1).

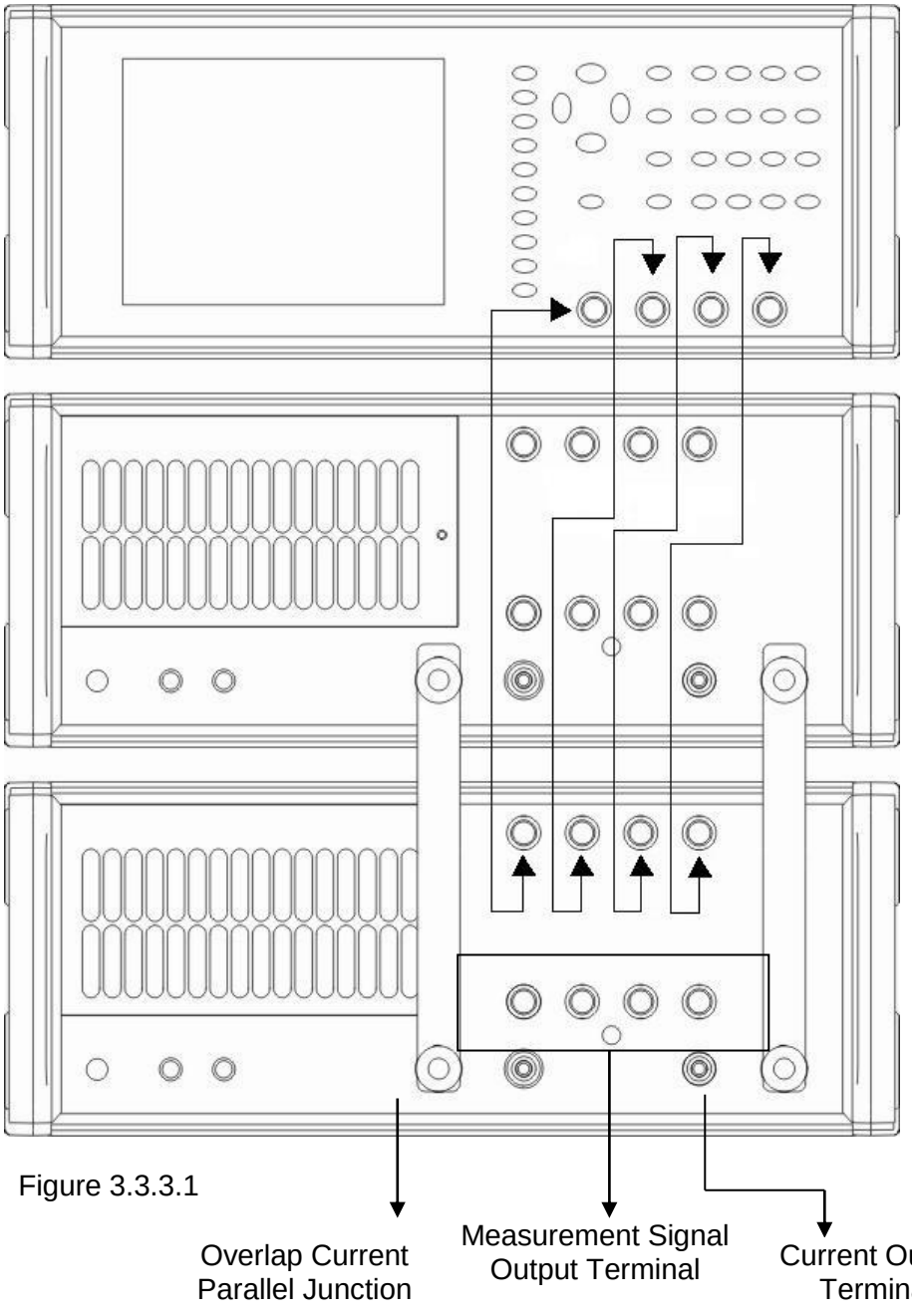


Figure 3.3.3.1

4. OPERATION INSTRUCTIONS

4.1 Precautions Before Operation

1. This machine can use power between 88-264Vac. Confirm whether the input power and power label on the rear panel comply the label range before inserting the power.
2. While the tester is off, connect the high voltage tester cables to the high voltage output terminal of the tester and make sure that there are no ruptures outside the cables and that the cables are not loose.
3. The tester can operate normally once the power is turned on; however, in order to achieve accuracy within specifications, please turn on the machine in advance and let it warm up for 15 minutes or more before use.
4. Since this machine will output large currents during measurement, do not touch the DUT during current output, or remove the DUT from, the test clamp in order to prevent danger from occurring.

4.2 DUT Connection

Since the measurement signal of this machine is provided by 6577, the measurement signal source of 6577 must be connected to this machine. The parts connected to the DUT are the measurement signal output terminal and overlap current output terminal of this machine. Figure 4.2.1 shows the connection of the test clamp and overlap current source with the DUT.

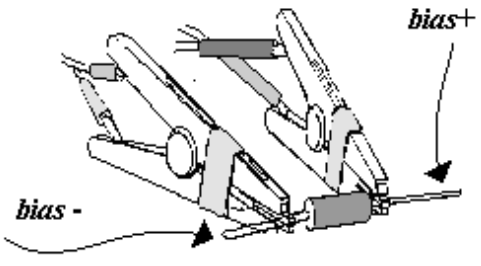


Figure 4.2.1

5. RS232 INTERFACE DESCRIPTION

5.1 Interface Specifications

This machine uses the standard RS-232 interface; its specifications are as follows:

Baud Rate: 9600

Parity: NONE

Data Bit: 8 bits

Stop Bit: 1 bit

5.2 Command Format

The RS-232 function of this machine is a command string composed of “parameters + end code” sent by the user in order to achieve remote control functions.

End Code is: LF(0x0A)

5.3 Pin Descriptions

The RS-232 interface of this machine is a 9Pin male connector, as shown in Figure 5.3.1. Its pins functions are as shown in Figure 5.3.2.

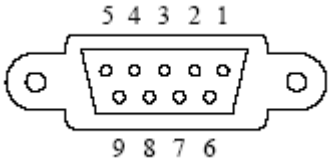


Figure 5.3.1

Pin Number		Description
1.	*	Not Used
2.	TxD	Transmit Data
3.	RxD	Receive Data
4.	*	Not Used
5.	GND	Signal Grounding
6.	*	Not Used
7.	*	Not Used
8.	*	Not Used
9.	*	Not Used

Figure 5.3.2