

Current / Voltage Calibrator

Model PRC15



Introduction

Thank you for selecting the Extech Model PRC15. This device is shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Please visit the Extech Instruments website (www.extech.com) to check for the latest version of this User Guide. Extech Instruments is an ISO-9001 certified company.

Safety

International Safety Symbols



This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.



This symbol, adjacent to a terminal, indicates that, under normal use, hazardous voltages may be present



Double insulation

Safety Notes

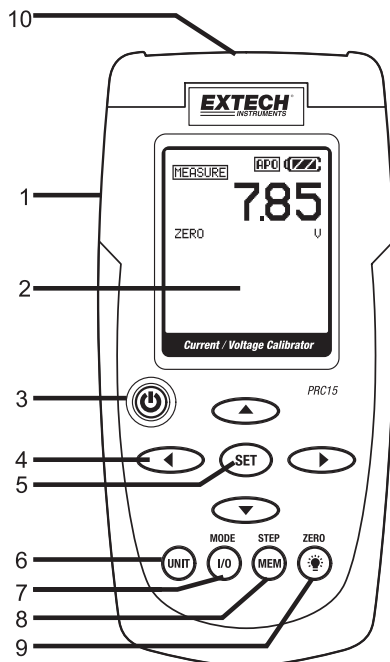
- Do not exceed the maximum allowable input range.
- Turn the unit OFF when the device is not in use.
- Remove the batteries if the device is to be stored for longer than 60 days.
- Never dispose of batteries in a fire. Batteries may explode or leak.
- Never mix battery types. Always install new batteries of the same type.

Cautions

- Improper use of this meter can cause damage, shock, injury or death. Read and understand this user manual before operating the meter.
- Always remove the test leads before replacing the battery.
- Inspect the condition of the test leads and the meter itself for any damage before operating the meter. Repair or replace any damage before use.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

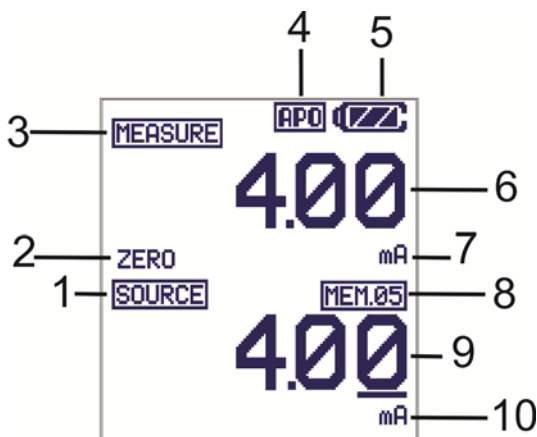
Meter Description

1. AC adaptor input jack
2. Display
3. Power ON/OFF
4. Source output adjustment arrow buttons
5. Set button
6. Unit button (mA or %)
7. I/O MODE button
8. MEM (memory STEP button)
9. Backlight/ZERO button
10. Test lead input jacks



Display Layout

1. SOURCE mode icon
2. ZERO function status icon
3. MEASURE mode icon
4. Auto Power OFF active icon
5. Battery status icon
6. Measure mode value
7. Measure mode unit icon
8. Datalogger memory location
9. Source mode value
10. Source mode unit icon



Keypad Descriptions and Operation

POWER BUTTON and AUTO POWER OFF FEATURE

1. Use the POWER button to turn the unit ON or OFF. When the unit is powered up, a short self-test will ensue after which the display will stabilize.
2. When the battery symbol flashes on the display, replace the battery as soon as possible. Low battery power may cause inaccurate readings and erratic meter operation.
3. This instrument is equipped with Auto Power OFF which turns the meter off after 10 minutes of inactivity. To override this feature; press and hold the POWER button until the display icon "ATP" turns off.

MODE I/O BUTTON

In the **MEASURE** mode, Press and Hold the **MODE (I/O)** button for >2 seconds to select either the current (mA/%) or voltage (mV/V) function. Release the button when the desired function appears. Voltage is autoranging in the MEASURE mode and mV may not appear.

Short press the Mode (I/O) button to change from Measure mode to SOURCE mode and back to Measure mode.

UNIT BUTTON

Press the **UNIT** button while in the current function to select **mA** or **%** units or **V** or **mV** while in the voltage function. Voltage is autoranging in the MEASURE mode and mV may not appear.

Note: you can only change from the current to the voltage function while in Measure mode.

(Backlight) BUTTON

Press the Backlight button to turn the backlight on or off.

ZERO () BUTTON

In the MEASURE or Source mode, Press and Hold the **ZERO** () button for 2 seconds to zero the meter.

► ◀ ▼ and ▲ BUTTONS

The arrow buttons are used to set the output value in the SOURCE mode.

1. While in Measure mode, select either the current or the voltage mode.
2. Short press the Mode button to Select the SOURCE mode.
3. Press the ► or ◀ button select a digit for adjustment. The blinking underline cursor identifies the digit selected.
4. Press the ▼ or ▲ button to adjust the value of the digit. Press and Hold the ▼ or ▲ button to rapidly adjust the value.

SET BUTTON

The SET button is used to manually step through the 5 stored output values.

1. While in Measure mode, select either the current or the voltage mode.
2. Short press the Mode button to Select the SOURCE mode.
3. Press the SET button and the value stored in memory location 01 will be sourced. "MEM.01" appears in the display.
4. Each press of the SET button will step through the 5 memory locations.
5. The arrow buttons can be used to adjust the value in each memory location.

STEP/MEM BUTTON

The STEP/MEM button is used to automatically step through the 5 stored output values. The meter can be set for a single cycle of the stored values or a continuous cycle.

1. While in Measure mode, select either the current or the voltage mode.
2. Short press the Mode button to Select the SOURCE mode.
3. Press and HOLD the STEP/MEM button. "STEPSS" (single cycle) and "STEPSC" (continuous cycle) will alternately appear in the display. Release the button when the desired mode is displayed.
4. In single cycle mode the meter will source the current or voltage displayed in MEM01 for 5 seconds. The meter will then advance to MEM02 for 5 seconds. This will continue through MEM05 and then step down through the memory locations. The cycle will end when MEM01 has been reached.
5. In the continuous mode the cycle will continue until manually stopped.
6. Short press the MEM button to stop the cycle. "END" will briefly appear in the display.

STORING VALUES INTO MEMORY

The default values stored in the memory locations are:

Memory Location	mA	%	mV	V
M1	4.00mA	0.0%	0mV	0V
M2	8.00mA	25%	500mV	5V
M3	12.00mA	50%	1000mV	10V
M4	16.00mA	75%	1500mV	15V
M5	20.00mA	100%	2000mV	20V

To change the values in memory:

1. While in Measure mode, select either the current or the voltage mode.
2. Short press the Mode button to Select the SOURCE mode.
3. Press the SET button to select the memory location to be changed.
4. Press the arrow buttons to adjust to the new value
5. Short press the MEM button to store the value. The memory location icon will blink while the value is being stored.

Modes of Operation

MEASURE (Input) Mode of Operation

In this mode, the unit will measure up to 50mADC or 20VDC.

1. Turn the meter ON.
2. "MEASURE" will appear in the display.
3. Press and Hold the MODE button for >2 seconds to select mA or % or mV
4. Connect the Calibration Cable to the meter.
5. Connect the Calibration Cable to the device or circuit under test.
6. Read the measurement on the LCD display.

SOURCE (Output) Mode of Operation

In this mode, the unit can source current up to 24mADC at 1000 ohms or voltage up to 20.00V. The current or voltage can be output either manually or stepped from memory as described earlier.

1. Turn the meter ON
2. MEASURE" will appear in the display.
3. Press and Hold the MODE button for >2 seconds to select mA or % or V/mV
4. Short press the "MODE I/O" button to select SOURCE.
5. Press the UNIT button to select % / mA or mV / V.
6. Connect the Calibration Cable to the meter
7. Connect the Calibration Cable to the device or circuit under test
8. Use the **arrow** buttons to set the desired output value in the lower display. The upper display indicates the actual current or voltage value being sourced. If the upper display does not match the set value, either the batteries need to be replaced or the load impedance is beyond the specified range.

Tilt Stand / Hanger

The rear stand provides two methods for viewing convenience.

1. Pull the bottom portion of the stand out to place the unit on a flat surface for viewing.
2. Pull the bottom and top portions of the stand out, and then rotate the stand to allow the unit to be hung.

Battery Replacement

When the battery icon appears on the display, the six AA batteries must be replaced.

The battery compartment is located on the rear of the meter.

1. Open the tilt stand, loosen the captive Philips head screw and remove the battery cover.
2. Remove and replace the batteries, observing polarity.
3. Replace and secure the battery cover.

Battery Safety Reminders

- Please dispose of batteries responsibly; always observe local, state, and federal regulations with regard to battery disposal.
- Never dispose of batteries in a fire. Batteries may explode or leak.
- Never mix battery types or old and new batteries. Always install new batteries of the same type.

Specifications

General Specifications

Display	Dot matrix LCD
Maximum Load	1000 ohms @ 24mA
Meter Power	6 AA batteries or AC adaptor
Auto Power OFF	Meter automatically powers off after 10 minutes of inactivity
Current output capability	24mADC at 1000 ohms
Voltage input impedance	10kohms minimum
Operating Temperature	41°F to 104°F (5°C to 40°C)
Storage Temperature	- 4°F to 140°F (5°C to 40°C)
Operating Humidity	Max 80% up to 87°F (31°C) decreasing linearly to 50% at 104°F (40°C)
Storage Humidity	<80%
Operating Altitude	7000ft (2000meters) maximum
Dimensions	6.3 x 3.2 x 1.7" (159 x 80 x 44 mm)
Weight	8.3 oz. (234g)

Range Specifications

Mode	Function	Range (Resolution)	Accuracy (% of reading)
DC Measure	Current	0 to 50mA (0.01mA)	± (0.01% + 1 digit)
	Percent (%)	-25% to +230% (0.1%)	
	Voltage (autorange)	0 to 1999mV (1mV)	
		2 to 20V (0.01V)	
DC Source	Current	0 to 24mA (0.01mA)	
	Percent (%)	-25% to +125% (0.1%)	
	Voltage	0 to 2000mV (1mV)	
		0 to 20V (0.01V)	

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