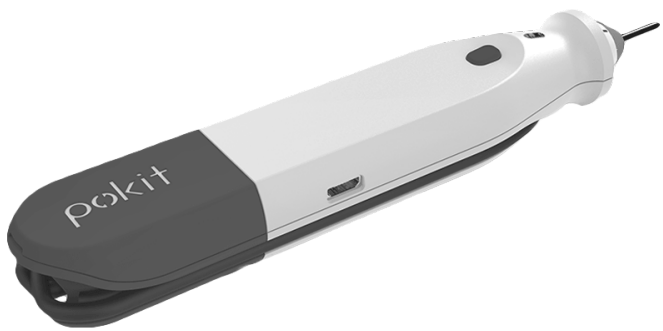
Pokit Pro User Manual

MODEL: POK-PRO



Pokit ® Innovations

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1 Warranty and Limitation of Liability

This Pokit product will be free from defects in materials and workmanship under normal use as described in the published product documentation for 12 months from the date of original purchase (Limited Warranty). This Limited Warranty is only valid and enforceable if you have purchased the product directly from Pokit Innovations or our authorised resellers and distributors. It does not apply where you purchase the product from an unauthorised reseller.

The following link contains our complete Limited Warranty and Limitation of Liability:

www.pokitinnovations.com/warranty-policy/

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To obtain service for your Pokit product, please contact us.

2 Introduction

The Pokit Pro (MODEL: POK-PRO) is a battery powered multimeter, oscilloscope and logger.

This device meets CAT III IEC61010-1 Edition 3 Standards. IEC61010-1 defines four measurement categories (I to IV) based on the potential danger from transients. CAT III devices are designed to protect against transients when measuring equipment permanently installed in a building. Examples of this kind of equipment are distribution boards, circuit breakers, and mains socket outlets.

3 Contacting Pokit

Website: www.pokitinnovations.com
Email: support@pokitmeter.com
Address:
Pokit Innovations
Suite 2.2, 56 Delhi Rd,
North Ryde,
NSW, 2113
Australia

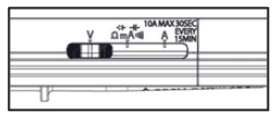
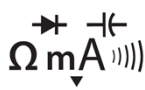
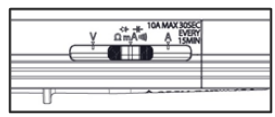
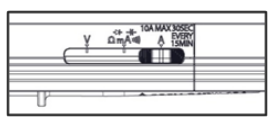
4 Installing the App

The Pokit Pro requires a Bluetooth connection to a smartphone running the official Pokit App. No measurements can be taken without the app.

1. Download the Pokit App from the Apple App Store or Google Play Store.
2. For information about device compatibility visit: pokitmeter.com/devices.
3. Ensure the device is charged and press the button once to power on.
4. Open the app and see your devices listed.
5. Connect to your Pokit and start measuring.

5 Switch Explanation

Warning: Personal Injury or damage to the Pokit Pro can occur if you attempt to take a measurement with the switch in an incorrect position.
Ensure the switch is in the correct position before taking a measurement by adjusting the switch and selecting the desired measurement mode in the app. Measurement modes will not be selectable if the switch is in the wrong position.

Measurement Mode		
Voltage:		
Select this mode for voltage measurements.		
Resistance / Low Current / Capacitance / Diodes:		
Select this mode for resistance measurements, current measurements below 300 mA, diode measurement, external temperature probe use and capacitance measurement.		
High Current:		
Select this mode for high current measurements. **Warning:** Restrict use to 10A max current for a maximum of 30 seconds every 15 minutes.		

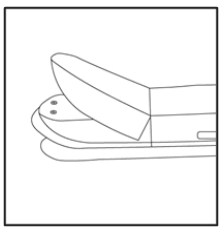
6 Safety Information

- Use the device only as specified in this manual. Do not exceed the measurement limits defined in the specifications.
- Do not use the device if it appears damaged, or if it is not operating properly. Inspect the probe lead, button, switch, USB port and unit for signs of wear before use.
- The black probe lead is double insulated with a white inner insulation layer. If the white layer is visible then stop using the device immediately.
- Always use proper switch position and measurement mode for measurements (Refer to Section 5).
- Turn off circuit power before connecting the device to take a current measurement. Remember to connect the device in series with the circuit when measuring current.
- Do not apply more than the rated voltage (as marked on the device) between terminals, or between any terminal and earth ground.
- Use caution with voltages above 30V ac rms, 42V ac peak, or 60V dc. These voltages pose a shock hazard.
- Disconnect circuit power and discharge all high-voltage capacitors before testing resistance, continuity, diodes, or capacitance.
- Do not use the device in an environment where explosive gas or vapor may be present.
- Keep your fingers behind the finger guards at all times when measuring with the probes.
- When measuring mains voltages, only use accessories that are rated with measurement category III or IV ratings for voltages that meet or exceed the rated voltage of the device and are compatible with Pokit Pro.
- Comply with local and national safety requirements when working in hazardous locations.
- Use proper protective equipment, as required by local or national authorities, when working in hazardous areas.
- Avoid working alone.
- Do not use device if internal water damage is suspected.
- Use only the specified replacement fuse or the protection may be impaired and the warranty voided.
- Verify the device's operation by measuring a known voltage prior to use.

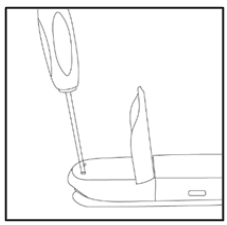
Symbol	Description
	Caution - Consult manual for more information.
	Equipment protected throughout by double insulation or reinforced insulation.
	Fuse required - See section 7 of manual for details.

7 Fuse replacement

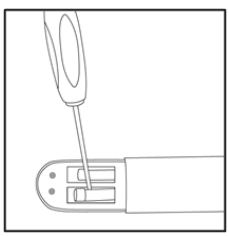
Only use the appropriate fuses for Pokit Pro:
Fuse for High Current: 10A, 600V AC/DC FAST 10kA Fuse (PN: 0ADAC9100-BE)
Fuse for Low Current: 0.5A, 600V AC/DC FAST 10kA Fuse (PN: 0ADAC0500-BE)
Before replacing the fuse ensure the device is removed from any external circuits.



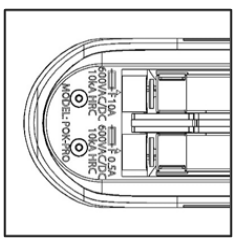
1. Lift external rubber fuse cover.



2. Remove internal fuse cover screw and remove internal fuse cover.



3. Replace blown fuse.



4. Ensure replacement fuse matches the correct ratings as specified on the device.

Warning: Ensure all fuse covers are securely in place prior to operation.

8 Technical Specifications

Maximum voltage between any terminal and earth ground: 600V
Surge Protection 6 kV peak per IEC 61010-1 600V CAT III, Pollution Degree 2
Fuse for High Current: 10A, 600V AC/DC FAST 10kA Fuse (PN: 0ADAC9100-BE)
Fuse for Low Current: 0.5A, 600V AC/DC FAST 10kA Fuse (PN: 0ADAC0500-BE)
Safety Compliance IEC 61010-1:2010+A1:2016 (Ed 3.0)
Safety Compliance IEC 61010-2-033:2012 (Ed 1.0)
Maximum Operational Altitude: 2000m

Characteristic	Specification
Voltage	1mV to 600V AC(True RMS)/DC ±1%
Current	1µA to 10A* AC(True RMS)/DC ±1%
Resistance	100mΩ to 1MΩ ±1%, 1MΩ to 5MΩ ±5%
Temperature	0 to 60˚C ±1˚C, 32 to 140˚F ±1.8˚F
Capacitance	1nF to 1000µF ±2%
Diode	0V-1.5V
Continuity	100ms, Internal Buzzer
Logging	128kB, 3hr/sample @ 6 months
Logged Parameters	Voltage, Current, Temperature
Logging Sample Rate	100ms to 18hr
Input Impedance (DC)	10MΩ
	All measurements are ±3 readings
Operating Temperature	-10 to 40˚C, 14 to 104˚F
Battery Charging Temperature	10 to 45˚C, 50 to 113˚F
Max Sample Rate	1M Samples/sec
BLE Range	10m

*Do not measure Currents above 6A for more than 30 seconds every 15 Minutes.
Full specifications are available in the app.

EMC Compliance: CE, FCC, RCM, MiC

1.Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

2.This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

Supplier's Declaration of Conformity

Trade Name:	Pokit Innovations Pty. Ltd.
Model Number:	POK-PRO
Responsible Part---U.S. Contact Infomation	
Company:	Pokit Innovations Pty. Ltd.
Street Address:	Suite 2.01, 56 Delhi Rd
City, State:	Macquarie Park, NSW
Zip Code:	2113
Telephone number:	+61 1300 611 388
Internet contact infomation:	www.pokitinnovations.com

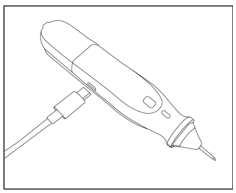
FCC Compliance Statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference recieved, including interference that may cause undesired operation.

9 Recharging

Ensure the device is removed from any external circuits before recharging the device.
Do not perform measurements when the device is charging.

Included is a USB C cable which can be used to charge your device from any compliant USB-A port. The device should fully recharge in 3 hours or less.

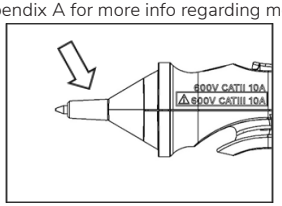


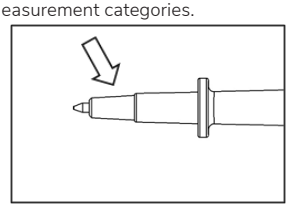
10 Taking Measurements

As a safety precaution when working on mains circuits, if possible, isolate circuits before taking measurements. Always wear appropriate PPE safety gear when measuring live circuits.

Pokit Pro is Rated for CAT II 600V circuits when no accessories are fitted. To measure CAT III circuits, probe shrouds must be added to the probe tips in order to safeguard from short circuits as per IEC61010. Some of the accessories are also rated to CAT III and may also be used to measure CAT III circuits (Refer to Section 11).

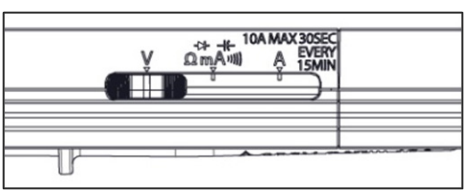
Refer to Appendix A for more info regarding measurement categories.





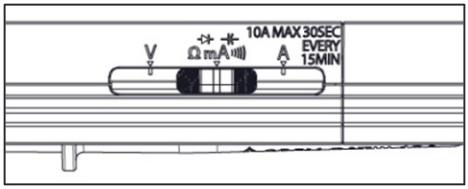
10.1 Voltage

When measuring voltage, make sure the switch is set to voltage measurement. To test the Pokit Pro devices, take a measurement on a known live circuit to ensure the device is operating correctly. Check (or replace) the 0.5A fuse if 0V is measured.
Warning: Stop using the device immediately if the fuse is OK and 0V is measured.

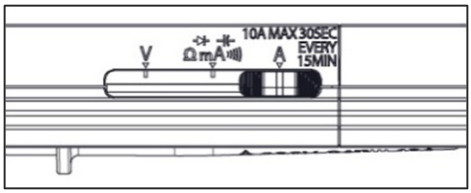


10.2 Current

When measuring Low Current (<300mA), make sure the switch is set to Low Current measurement.



When measuring High Current (>300mA), make sure the switch is set to High Current measurement.

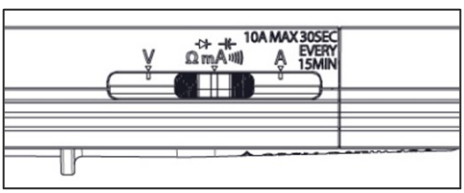


For Currents above 6A, do not exceed the 30sec/15min rating of the high current mode. After 30 seconds of measurement wait 15 minutes before taking your next reading. The unit may become hot if measurements are taken for longer periods of time.

Isolate the circuit to be measured before connecting and disconnecting the Pokit Pro. Do Not connect to a live circuit as this may cause arcing to occur between the Pokit Pro test probes and the circuit contacts.

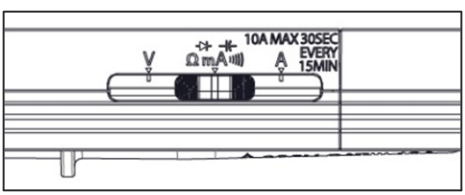
10.3 Resistance/Continuity

When measuring Resistance, make sure the switch is set to Resistance measurement.
Warning: Do not connect to Live Mains Voltages in Resistance mode.



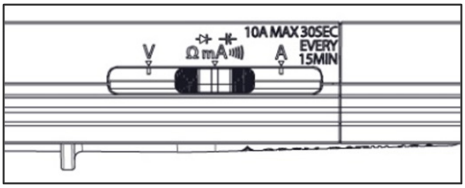
10.4 Capacitance

When measuring Capacitance, make sure the switch is set to Capacitance measurement.
Warning: Do not connect to Live Mains Voltages in Capacitance mode.



10.5 Diodes

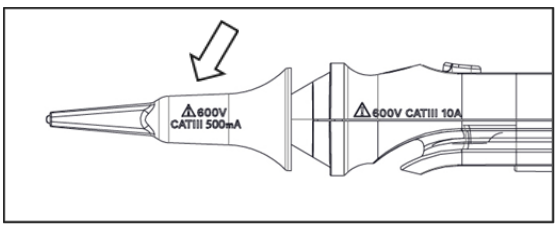
When measuring Diodes, make sure the switch is set to Diode measurement.
Do not connect to Live Mains Voltages in Diode measurement mode.



See app for detailed measurement instructions.

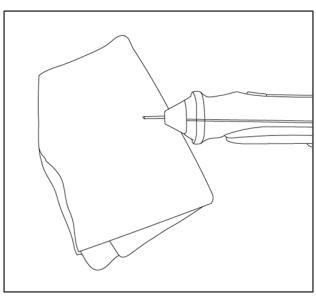
11 Accessories Ratings

WARNING The applicable measurement category and voltage rating for the Pokit Pro and any attached accessories is always the lower of the two. Ensure both the accessory and the Pokit Pro are adequately rated before measurement.



12 Cleaning and Maintenance

Dirt or moisture on the probe pins can affect readings. Wipe the device with a damp cloth and mild detergent. Do not use abrasives or solvents.



13 Troubleshooting

If none of the below troubleshooting tips resolves your issue, visit the Pokit Innovations website for more troubleshooting guides or contact our support team at support@pokitmeter.com.

13.1 No BLE Connection

If the Pokit Pro does not appear in the app, then try the following:

- Press the button once to wake the Pokit Pro up if it hasn't been used for a while.
- Move closer to the Pokit Pro (max rated BLE range is 10m).
- Plug the Pokit Pro into a USB compliant charger; the RGB LED should blink green to indicate a charging state.
- Try disconnecting other Bluetooth devices from your phone.
- Refresh the list of connectable devices.
- Restart the app.
- Restart the phone.
- Make sure Bluetooth is enabled on your phone and the Pokit Pro app has its Bluetooth permissions set correctly.

13.2 Poor BLE Connection

If the Pokit Pro keeps disconnecting while in use, try the following:

- Move closer to the Pokit Pro (max rated BLE range is 10m).
- Try disconnecting other Bluetooth devices from your phone.
- Restart the app.
- Restart the phone.

Ambient electrical noise can also cause poor connection.

13.3 Voltage Measurement

If the Pokit Pro is not recording a Voltage measurement, try the following:

- Make sure the switch is correctly indexed in the Voltage measurement position (refer to section 10.1).
- Make sure that you have selected the correct measurement mode for the signal i.e., AC for AC Signals such as switchboards, outlets and household appliances and DC for DC Signals such as computer equipment, batteries and logic circuits. If you are unsure, use oscilloscope mode in DC Coupling to determine the signal type.
- If you have multiple Pokit devices, ensure that you are connected to the correct Pokit Pro. You can flash the RGB indicator by changing devices or by pressing 'locate' in the app.
- Check the fuse is OK by disconnecting from the circuit you are measuring. Move the switch into Low Current measurement mode, select continuity in the Pokit Pro App and short the probe leads together. If there is no continuity, replace the 500mA fuse (Refer to section 7).

If Voltage measurement is not working correctly after troubleshooting, an internal fault may exist, stop using the device immediately.

13.4 Low Current Measurement

If the Pokit Pro is not recording Low Current measurement , try the following:

- Make sure the switch is correctly indexed in the Low Current measurement position (refer to section 10.2).
- Make sure that you have selected the correct measurement mode for the signal i.e AC for AC Signals such as switchboards, outlets and household appliances and DC for DC Signals such as computer equipment, batteries and logic circuits. If you are unsure, use oscilloscope mode in DC Coupling to determine the signal type.
- If you have multiple Pokit Pro's, ensure that you are connected to the correct Pokit Pro. You can flash the RGB indicator by changing devices or by pressing locate in the app.
- Check the fuse is OK by disconnecting from the circuit you are measuring. Move the switch into Low Current measurement mode, select continuity in the Pokit Pro App and short the probe leads together. If there is no continuity, replace the 500mA fuse (Refer to section 7).

If Low Current measurement is not working correctly after troubleshooting an internal fault may exist. Stop using the device immediately.

13.5 High Current Measurement

If the Pokit Pro is not recording High Current measurement , try the following:

- Make sure the switch is correctly indexed in the High Current measurement position (refer to section 10.2).
- Make sure that you have selected the correct measurement mode for the signal i.e., AC for AC signals such as switchboards, outlets and household appliances and DC for DC Signals such as computer equipment, batteries and logic circuits. If you are unsure, use oscilloscope mode in DC Coupling to determine the signal type.
- If you have multiple Pokit devices, ensure that you are connected to the correct Pokit Pro. You can flash the RGB indicator by changing devices or by pressing locate in the app.
- Replace the 10A Fuse (Refer to section 7).

If High Current measurement is not working correctly after troubleshooting, an internal fault may exist. Stop using the device immediately.

13.6 Other Measurements

If the Pokit Pro is not recording Other measurements, try the following:

- Make sure the switch is correctly indexed in the Low Current measurement position (refer to section 10.2).
- If you have multiple Pokit Pro's, ensure that you are connected to the correct Pokit Pro. You can flash the RGB indicator by changing devices or by pressing locate in the app.
- Check the fuse is OK by disconnecting from the circuit you are measuring. Move the switch into Low Current measurement mode, select continuity in the Pokit Pro App and short the probe leads together. If there is no continuity, replace the 500mA fuse (Refer to section 7).

14 Getting Started with the App

To get started with the app, navigate to the Apple App store or Google Play store (respective of your device manufacturer) and download the official Pokit App that is compatible with Pokit Pro.

When you start the App, you will receive a prompt requesting you to connect your Pokit devices. Once you select “Connect your devices,” you will receive another prompt requesting permissions for the app to connect to Bluetooth and/or to allow access to your device’s location or likewise. In order to use the app, you will need to enable these permissions. Pokit Innovations does not store or transmit any personal location data however, the software modules we use need these permissions to operate correctly.

Connect your device by pressing the connect device button. Using the app, select your device by scrolling down the list of devices until you find the one you’re looking for. When you select the device, you will be prompted with important safety information relating to the use of the Pokit devices. Make sure you read this carefully before using your device.

Once you have connected to a device, press locate. The RGB indicator LED should blink and the buzzer should sound. If it doesn’t, you have likely connected to a different device.
Press measure to start taking measurements with your Pokit device.

15 Appendix A

15.1 Measurement Overvoltage Categories

OVERVOLTAGE CATEGORY I is not used within the context of IEC 61010. It is intended for equipment used to connect to a mains supply for which precautionary measures have been taken to substantially and reliably reduce transient overvoltages to a level where they cannot cause a hazard.

OVERVOLTAGE CATEGORY II is intended for equipment for which power is supplied from the building wiring. It applies to both plug-connected equipment and to permanently connected equipment.

OVERVOLTAGE CATEGORY III is intended for equipment that forms part of a building wiring installation. Such equipment includes socket outlets, fuse panels, and some mains installation control equipment.

OVERVOLTAGE CATEGORY IV is for equipment installed at or near the origin of the electrical supply to a building, between the building entrance and the mains distribution board. Such equipment may include electricity tariff meters and primary overcurrent protection devices.