

Plugzio Universal Plus

Installation Manual

For use with Plugzio
Universal Plus Models:

240L20V1U 240L20V1UD
240F20V1U 240F20V1UD
240W20V1U



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IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

WARNINGS AND CAUTIONS:

- DO NOT attempt to repair or service the **Plugzio Universal Plus** yourself. Refer to the Troubleshooting section, or Customer Support section for service information.
- Retain this guide for future reference.

WARNING! DANGER OF ELECTRICAL SHOCK OR INJURY. TURN OFF POWER AT THE PANELBOARD OR LOAD CENTER BEFORE WORKING INSIDE THE EQUIPMENT OR REMOVING ANY COMPONENT. DO NOT REMOVE CIRCUIT PROTECTIVE DEVICES OR ANY OTHER COMPONENT UNTIL THE POWER IS TURNED OFF.

CAUTION: DISCONNECT ELECTRICAL POWER PRIOR TO INSTALLING THE **PLUGZIO UNIVERSAL PLUS**. FAILURE TO DO SO MAY CAUSE PHYSICAL INJURY OR DAMAGE TO THE ELECTRICAL SYSTEM AND DEVICE.

The **Plugzio Universal Plus** shall be installed only by a licensed contractor, and/or a licensed electrician in accordance with all applicable state, local and national electrical codes and standards.

Before installing the **Plugzio Universal Plus**, review this manual carefully and consult with a licensed contractor, licensed electrician and trained installation expert to ensure compliance with local building practices, climate conditions, safety standards, and state and local codes.

Use appropriate protection when connecting to the main power distribution cable.

INSTRUCTIONS PERTAINING TO THE RISK OF ELECTRIC SHOCK:

1. **Read all the instructions before using this product.** Install and operate only as instructed. Failure to do so may lead to death, injury, or property damage, and will void the Limited Warranty
2. Only use licensed professionals to install **Plugzio Universal Plus** and adhere to all national and local building codes and standards.
3. Communicate with a certified contractor, certified electrician or trained installer to ensure compliance with local building code, regulation, security standards and weather conditions.
4. DO NOT use this product if the enclosure is broken, cracked, open, or shows any other indication of damage.
5. This device is not suitable for use in hazardous locations. Do not install **Plugzio Universal Plus** near flammable, explosive, or combustible materials.

- An equipment-grounding conductor must be run with the circuit conductors and ensured that it is connected to the downstream equipment grounding and installed by a certified electrician.
- Plastic enclosures are not conductive!** The continuity of a conduit system shall be provided by metal-to-metal contact, not relying on the polymeric material.

CAUTION: To reduce the risk of fire, connect only to a branch circuit provided with a maximum surge protection of 20 A in accordance with the Canadian Electrical Code (CSA C22.1-12) and the National Electrical Code (ANSI / NFPA 70).

Datasheet & Specifications

Dimensions	H	W	D
	160mm (6.3in)	160mm (6.3in)	61mm (2.4in)
Weight	540-610g (1.2-1.35lbs) Dependent on Model		
Operating Temperature	-40°C to +40°C		
Electrical Ratings	120/208/240V		
	Maximum 20A		
	50/60Hz		
Enclosure Type	NEMA 4X Non-metallic (PC-ABS)		
Standards	UL 508 & CSA 22.2 No. 14		
Connectivity	WiFi Models - 802.11b/g/n 2.4GHz		
	LTE Model - LTE Cat M1		

Installation / **Recommended Tools**

Included

- **Plugzio Universal Plus**
- **Quickstart Guide with Offline Registration Token (unique to each device)**
- **Installation Manual**
- **Software Manual**
- **Drill Guide**

Installer-supplied components

- Conduit of appropriate trade size for power wire/ installation type and conduit adapter for same
 - For watertight connections - terminal adapter ($\frac{1}{2}$ " or $\frac{3}{4}$ " recommended) with sealing washer and lock nut
 - When connecting to a rigid conduit system, hub should be connected to conduit first
- Copper electrical wire of appropriate gauge and construction for the installation according to local, state, and national codes
 - Terminal crimps of appropriate trade size for electrical wires for #6 screw connections (if necessary for the installation/jurisdiction)

- 4 #6 or M4 screws of appropriate type and length for the material being mounted to
- Downstream device or receptacle

Note: The receptacle connection and the conduits and junction boxes are outside the scope of this manual.

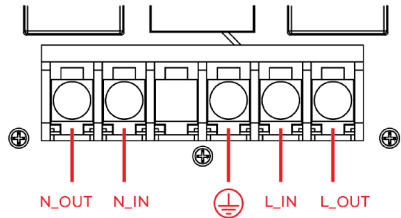
Recommended Tools

- Phillips #2 screwdriver
- Terminal Crimper
- Step Drill bit, or similar, to cut access hole

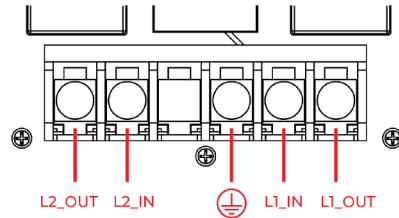
Installation / Installation Instructions

Note: Plugzio Universal Plus is intended to provide control of a single receptacle or EVSE up to 20A 120/208/240V. Install with a single receptacle model of the appropriate current/voltage rating for the wiring and overcurrent protection installed. Plugzio Universal Plus should not be connected to any duplex receptacles or to multiple downstream receptacles/devices.

Single Phase Setup



240V Split Phase or 208V Setup



Note: Split phase installations with neutral conductor are not recommended. Power measurement accuracy will be reduced. NEMA 6-15 or 6-20 receptacles recommended.

Note: GND connection is not automatic. Installer must ensure that the GND connection to the downstream outlet or device is made properly.

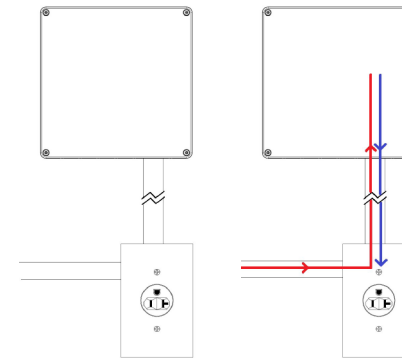
IMPORTANT! If installing multiple Plugzio Universal Plus units be sure not to swap the lids, the QR code on the front of the lid is linked to the controller inside.

If the correct lid is not installed to the correct device, it will not be able to be properly registered by the owner or activated by the user.

Sample Installation

Plugzio Universal Plus is to be mounted vertically to a flat surface as shown with all conduit or wire entrances to be on the lowest surface as shown. Plugzio Universal Plus should be mounted such that all markings remain visible after installation.

½" conduit recommended



WARNING! Disconnect electrical power before installing Plugzio Universal Plus!

Step 1: Use included drill guide to align mount points in desired installation location. Device must be installed with PCB side up as shown.

Step 2: Loosen 4 Phillips screws and remove the lid (Do not swap lids between devices).

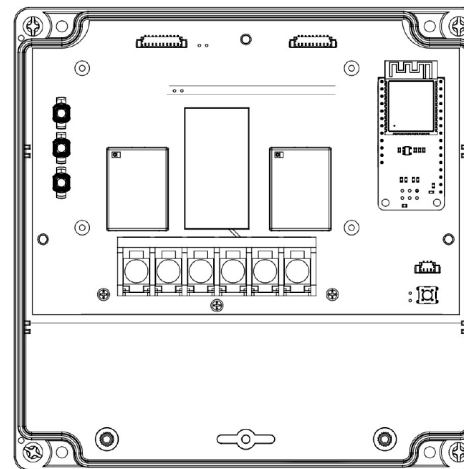
Step 3: Use a step drill bit (recommended), hole saw, or similar, to cut an appropriately sized hole for the connection method desired in the indicated location - maximum hole size **1-1/8" (28.575mm)**.

1/2" conduit recommended

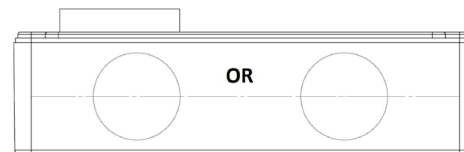
NOTE: Plugzio Universal Plus is to be mounted vertically with all conduit or wire entrances to be on the lowest surface as shown. It must be installed with the PCB up to align the lid with the status LEDs and QR code the right way up.

If required for the type of installation performed, install the appropriate conduit or entry adapter and conduit to maintain the waterproof rating as necessary.

NOTE: Choose appropriate conduit in accordance with all applicable state, local and national electrical codes and standards.



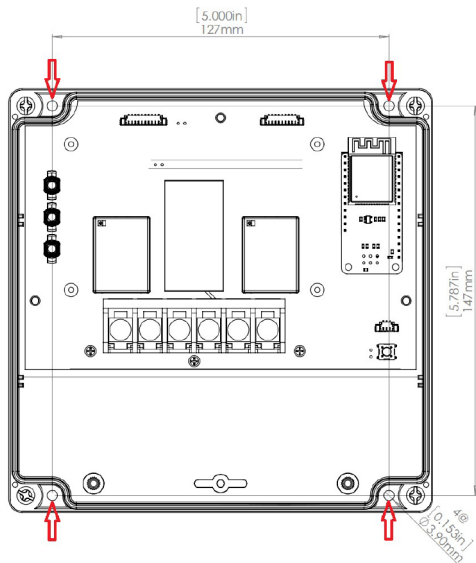
↑ OR ↑
Drill on lowest surface



Step 4: Secure the **Plugzio Universal Plus** to the wall using through holes using #6 or M4 screws (see arrows in image below for mount points) appropriate for the material being mounted to.

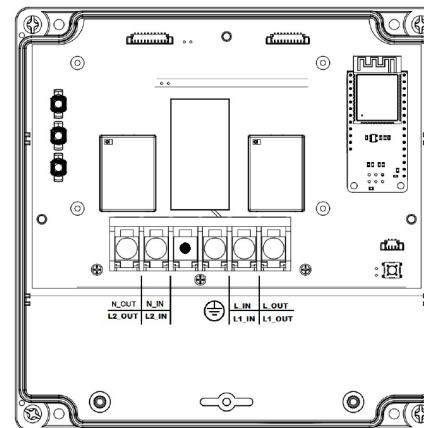
Attach and secure conduit as needed for the installation type.

Plugzio Universal Plus is intended to be mounted vertically to a flat surface.



Step 5: Install wires (10 to 18 AWG, copper only - consistent with overcurrent protection and local and national codes) to terminals as shown, tighten to 20 lb-in. If necessary, use appropriate terminals for wire gauge and #8 studs as required according to applicable local, state/provincial, and national codes and standards.

CAUTION: Enclosure is non-conductive. Bonding between conduit connections is not automatic and must be performed as part of the installation. Manually ensure GND continuity to downstream receptacle or device.



Step 6: Reinstall lid with four Phillips screws, taking care to maintain seal and making sure that the lid is installed the correct orientation. Tighten to the recommended torque value of 2.5 in-lb (30 cN-m).

If not already done, connect outgoing wires to outlet or downstream equipment.

Step 7: Turn on breaker and check connectivity:

WARNING! Plugzio Universal Plus starts up in Always On mode, any connected electrical equipment will be immediately energized.

The device's LED will light up to indicate that the device is turned on. If the device is brand new and unconfigured, the LED will blink green and may change to breathing white if internet connection is found. Refer to the LED guide below for more information.

Electricity will immediately be available when plugged into Plugzio.

The **Plugzio Universal Plus** unit should be registered with a management account at <https://manage.plugz.io/>

Once the device is registered the mode can be changed. Refer to the "Dashboard & Software Setup" document for more information.

Operation / LED Guide

- **Blinking Green** - Device is searching for connection. This is only applicable for brand new unconfigured devices.
- **Blinking Purple** - Software is being updated. Device may reboot.
- **Blinking Red** - Error. See Troubleshooting section
- **Rainbow** - Device is being used and electricity is flowing.
- **Breathing White** - Device is online and electricity is readily available upon plugging in. No user activation required.
- **Breathing Cyan** - Device is online and available to users. User activation is required.
- **Breathing Red** - Device is offline and/or not available to users.
- **Off** - Device has no power

Troubleshooting and Customer Support

To see an example of the network connection process, watch the LED Colour & Pattern for Installers video: <https://www.youtube.com/watch?v=7cPs4aXMSes&t=>
(Note: the model shown is Plugzio Integrated but the LED patterns are the same.)



For a more advance guide on LED Colors & Patterns, visit <https://www.youtube.com/watch?v=zmpYJiDJm4Y&t=>
(Note: the model shown is Plugzio Integrated but the LED patterns are the same.)



- If any other LED colors are seen, please contact Plugzio support at 1 833-758-4946 or hello@plugzio.com
- If the unit is having trouble connecting disconnect power for ten seconds and reconnect to reset the device.



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