

INSTALLING THE HUGHES POWER WATCHDOG IN A 2021 NUCAMP TAB 400

PURCHASED PARTS

- [Conntek 30amp 125Volt RV Marine Power Inlet Black](#) (Amazon)
- [Hughes Power Watchdog PWD 30EPOH 30 amp Smart RV Hardwired Surge Protector](#) (Amazon)
- [Power Watchdog, Ground-Neutral Bonding Plug – Neutral Ground Plug for RV & Generator](#) (Amazon)
- [Power Watchdog, RSM30W Replacement Surge Module 30 Amp WiFi](#) (Amazon)
- 10/2 Romex (black, white and ground) – 3 ft (local electrical supply store)
- 3 x 2-inch x #10 stainless steel wood screws
- 4" x 4# x 1/2" scrap wood

SAFETY

Never perform electrical work with 120V power connected to shore power! REMOVE all power connections to the camper before proceeding! Serious injury or death could occur.

OVERVIEW

This document explains how to install a 30amp Hughes Power Watchdog in a 2021 nuCamp T@B 400.

Hughes Power Watchdog

The Hughes Power Watchdog was selected because (a) it provides protection from faulty campground electricity, high/low voltage, damaging power surges, and dangerous wiring errors. (b) it is blue-tooth capable and can be paired with a smartphone to view power status and error codes. There is no need to mount a separate display. (c) In the event a surge, the sacrificial surge module can be replaced immediately with a spare surge module.

Installation Location

The device will be installed on the back side of the driver-side cubby next to the bed. This location was selected because: (a) there is sufficient space for the device (b) there is easy access to the existing 30 amp cable and (c) the device can be mounted off the floor thus reducing the chance of water intrusion (d) the device can be accessed in the future for maintenance by removing the cubby.

Spare Surge Module

We recommend purchasing a spare surge module. In the event of an actual electrical surge, the existing surge module will be sacrificed. A spare surge module can be installed and the unit will resume to provide surge protection

Ground-Neutral Bonding Plug

Designed for use with generators that have floating neutrals (especially inverter models), this plug creates a stable neutral to ground bond eliminating error codes that prevent the Power Watchdog from functioning properly.

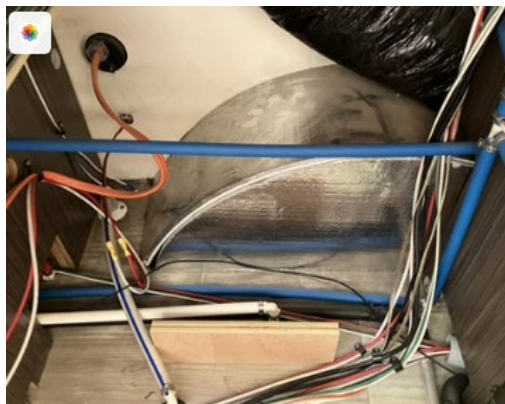
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INSTALLATION STEPS

- **REMOVE** the **driver-side cubby** next to the bed. The Power Watchdog will be mounted to the very top of backside of the driver-side cubby.



- **REMOVE** the **drawer above the cubby** (2021 T@B 400). This allows easy visibility and more working space.



- **CUT** the existing **10/2 orange Romex cable** as close to the old 30amp receptacle as possible.



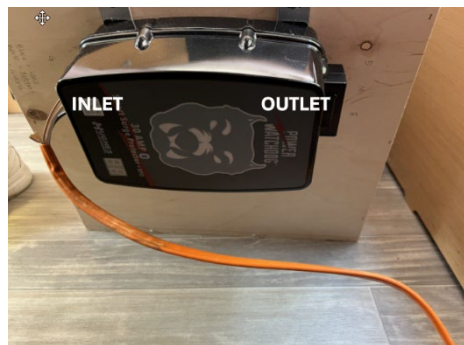
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- **REMOVE** the **old 30amp receptacle** from the outside of the camper by unscrewing the three existing screws in the receptacle. Clean any remaining gasket/adhesive from the outside of the camper.
- **MOUNT** the **Power Watchdog** to the back of the cubby as close to the top of the cubby as possible so it will not interfere with existing PEX tubing, etc.... The **outlet side** of the Power Watchdog **should face the rear of the camper**. The **inlet side** should face the front of the camper.

Note: The screws packaged with the Power Watchdog are long. You may choose to use shorter screws so as not to perforate the other side of the cubby.



ATTACH the new 3 ft 10/2 Romex cable to the **inlet** side of the Power Watchdog.



- **MATCH** black to black, white to white and copper to green/ground.
- **COVER** any bare wires with electrical tape.
- **ATTACH** the remaining 10/2 Romex cable (which used to be connected to the old 30 amp receptacle) to the outlet side of the Power Watchdog. You may have to place the cubby partway into place for the Romex cable to reach.
- **MATCH** black to black, white to white and copper to green/ground.
- **COVER** any bare wires with electrical tape.

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- With one end of the new 3ft Romex cable connected to the inlet of the Power Watchdog, **PASS** the other end of the new 3 ft Romex cable through the hole where the old receptacle was and **CONNECT** it to the new **Conntek 30amp receptacle** on the outside of the camper.
- **MATCH black to black, white to white, and copper to ground/green.**
- From the outside, **ATTACH** the new Conntek 30amp receptacle to the camper.
- Be sure to **INSTALL** the **gasket** between the receptacle and the camper wall.

IMPORTANT MODIFICIATION

- To strengthen the receptacle installation, **FABRICATE** a **wooden base plate** for the inside wall of the camper, behind the receptacle. Using three 2-inch #10 stainless steel wood screws, attach the new receptacle to the camper and the wooden baseplate on the inside of the camper. It is helpful to have someone inside the camper holding the wooden baseplate close to the camper wall while someone on the outside drills a tap-hole and then installs the wood screws.



- When complete, be sure to **APPLY outdoor caulk** around the outside of the new Conntek 30amp receptacle to ensure it is weatherproof.

FINISHING UP

- **REINSTALL** the **cubby** first.
- Using the drawer opening, **REPOSITION any wires** that may need to be adjusted.
- **REINSTALL** the **drawer** above the cubby.