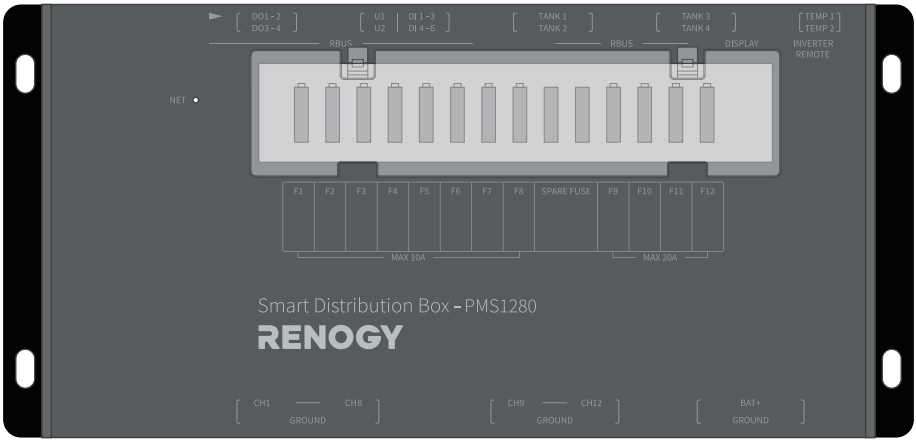
RENOGY

Smart Distribution Box PMS1280

12V/24V | 80A

RSHCB-C02P-G1

VERSION A1
April 14, 2025



USER MANUAL

Before Getting Started

The user manual provides important operation and maintenance instructions for Renogy Smart Distribution Box PMS1280 (hereinafter referred to as distribution box). Read the user manual carefully before operation and save it for future reference.

Failure to observe the instructions or precautions in the user manual can result in electrical shock, serious injury, or death, or can damage the distribution box, potentially rendering it inoperable. It is recommended that the distribution box should be installed by qualified electrical technicians as electricity knowledge is required.

- Renogy ensures the accuracy, sufficiency, and the applicability of information in the user manual at the time of printing due to continual product improvements that may occur.
- Renogy assumes no responsibility or liability for personal and property losses, whether directly and indirectly, caused by the user's failure to install and use the product in compliance with the user manual.
- Renogy is not responsible or liable for failures, damages, or injuries resulting from repair attempted by unqualified personnel, improper installation, and unsuitable operation.
- The illustrations in the user manual are for demonstration purposes only. Details may appear slightly different depending on product revision and market region.
- Renogy reserves the right to change the information in the user manual without notice. For the latest user manual, visit renogy.com.

Disclaimer

Online Manual

User Manual

Table of Contents

1. General Information

1.1. Symbols Used

The following symbols are used throughout the user manual to highlight important information.

WARNING: Indicates a potentially hazardous condition that could result in personal injury or death.

CAUTION: Indicates a critical procedure for safe and proper installation and operation.

NOTE: Indicates an important step or tip for optimal performance.

1.2. Product Overview

Renogy Smart Distribution Box PMS1280 is a centralized direct current (DC) power control hub specially designed for off-grid recreational vehicles, yachts, and motorhomes. The distribution box provides 12 circuit channels for load control as well as voltage and current detection, four water level detection circuit channels, two temperature detection ports, and multiple digital input/output signal ports.

When connecting with Renogy ONE Core, Renogy app, and/or Renogy ONE Vision, the distribution box makes real-time monitoring and control of the connected devices possible.

1.3. Key Features

- **Powerful Load Control**
  Supports up to 12 DC loads at 80A to accommodate power load requirements.
- **24/7 Remote Monitoring**
  Allows for remote monitoring, control, and troubleshooting when the distribution box is connected to Renogy ONE Core or Renogy app anywhere, anytime.
- **Custom Configuration**
  Supports settings customization on Renogy ONE Core or the Renogy app.
- **Intelligent Automation**
  By creating automation scenes on the Renogy app, you can easily control your power system.
- **High-Precision Current Detection**
  The built-in current detection module enables precise current control for every connected DC load, ensuring reliable power supply.
- **Battery Protection**
  Provides automated low-voltage shutdown and high-voltage reconnect functions to prevent connected batteries from overdischarging or overcharging.
- **Automated Load Mode Switch**
  Intelligently adjusts power distribution based on battery voltage and load requirements.

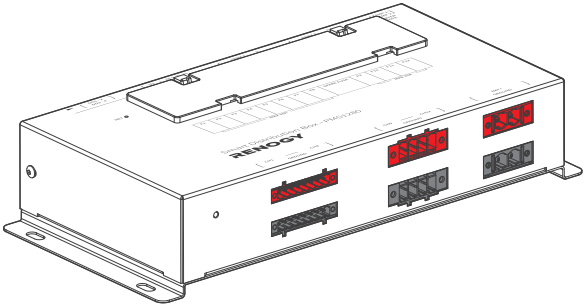
1.4. Model Info

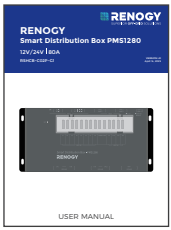
Renogy Smart Distribution Box PMS1280	RSHCB-C02P-G1

2. Get to Know Renogy Smart Distribution Box PMS1280

2.1. What's In the Box?

Renogy Smart Distribution Box PMS1280 × 1

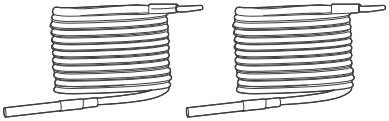




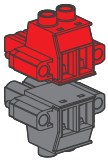
User Manual × 1

ST6.3*1.8*13 mm

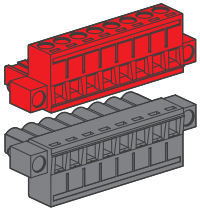
Mounting Screw × 4



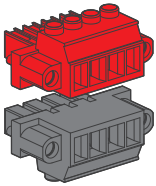
Temperature Sensor (5 m) × 2



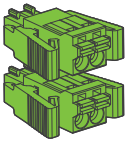
2-Pin BAT Connector × 2



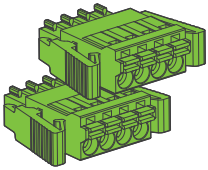
8-Pin Load Connector × 2



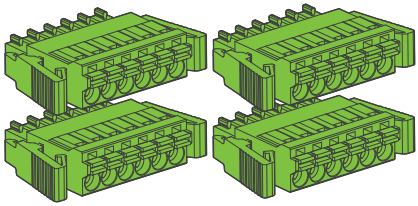
4-Pin Load Connector × 2



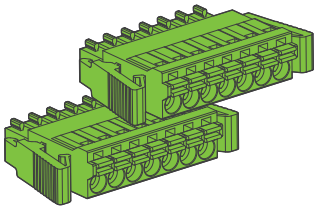
2-Pin Push-In Connector × 2



4-Pin Push-In Connector × 2



6-Pin Push-In Connector × 4

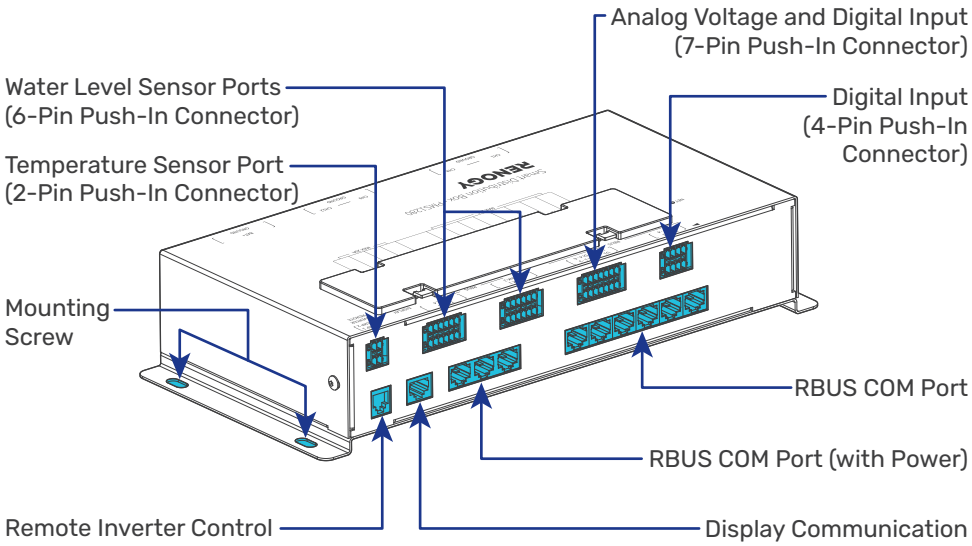


7-Pin Push-In Connector × 2

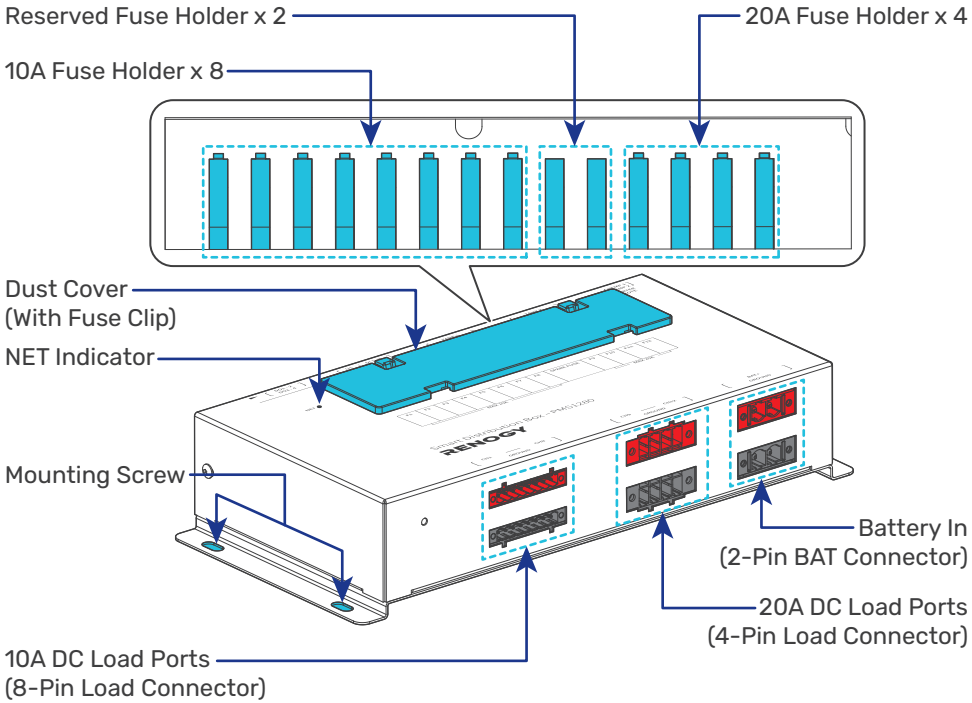
- Make sure that all accessories are complete and free of any signs of damage.
- The accessories and product manual listed are crucial for the installation, excluding warranty information and any additional items. Please note that the package contents may vary depending on the specific product model.

2.2. Product Overview

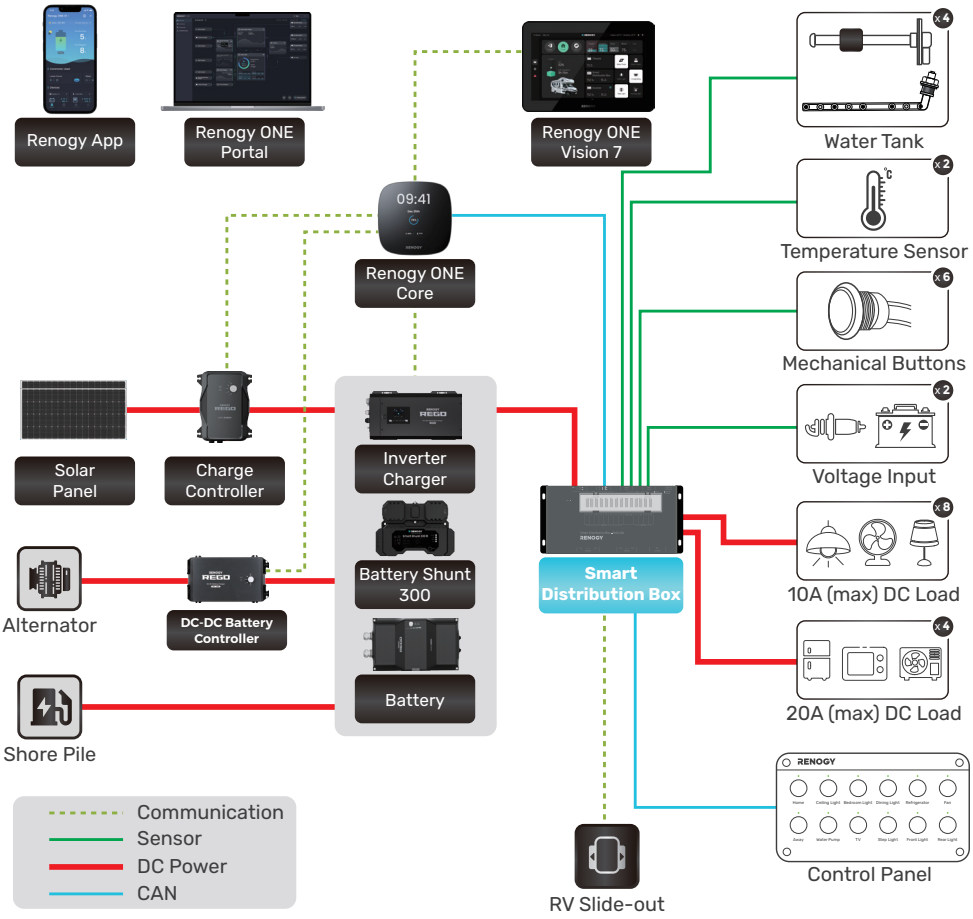
Top View



Bottom View

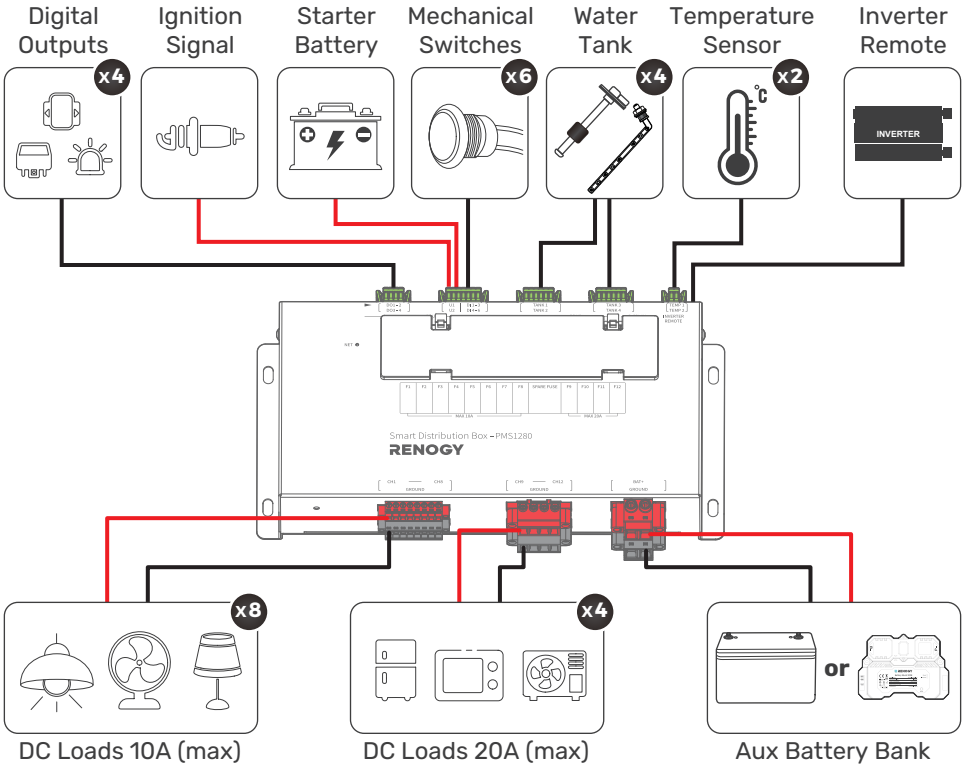


2.3. System Setup



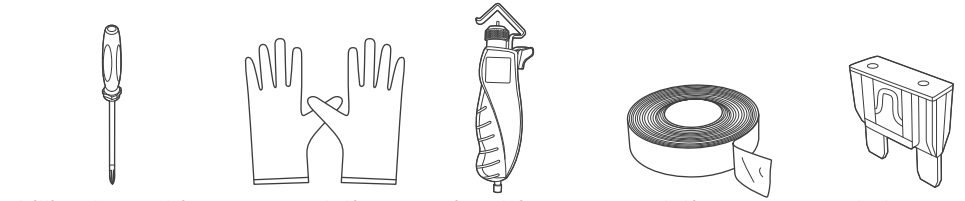
The wiring diagram only shows the key components in a typical DC-coupled off-grid energy storage system for the illustrative purpose. The wiring might be different depending on the system configuration. Additional safety devices, including disconnect switches, emergency stops, and rapid shutdown devices, might be required. Wire the system in accordance with the regulations at the installation site.

2.4. Wiring Diagram



3. Preparation

3.1. Recommended Tools & Accessories

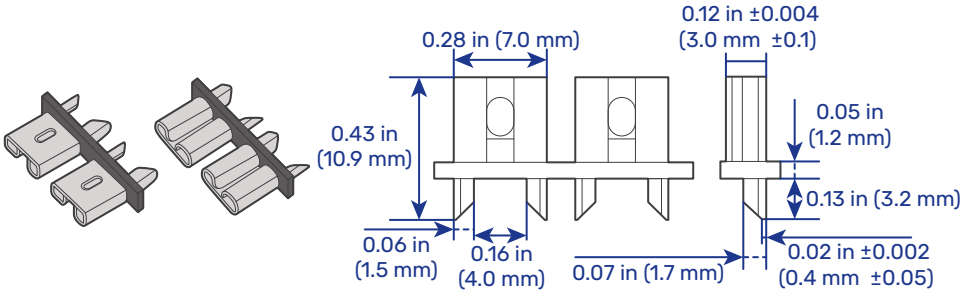


Phillips Screwdriver (#1) | TInsulating Gloves | Wire stripper | Insulation Tape | Blade Fuse

Please choose a proper blade fuse based on the load current. The F1 to F8 fuse holders allow for up to 10A fuses while F9 to F12 holders support up to 20A fuses.

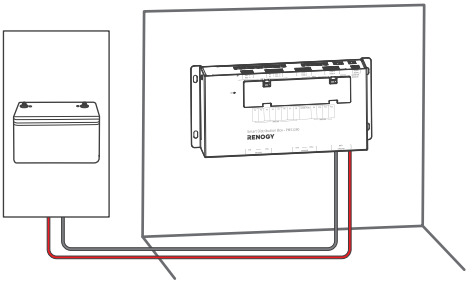
There are two reserved fuse holders between F8 and F9. You can place extra fuses in case of a fuse failure.

Refer to the fuse holder dimensions to make a wise choice.



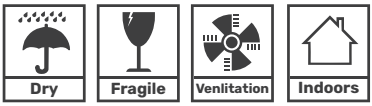
3.2. Plan an Installation Site

The distribution box requires adequate clearance for installation, wiring and ventilation. It should be installed on a flat surface indoors protected from direct sunlight. In addition, it should be mounted as close to the battery as possible to avoid voltage drop due to long cables (up to 32.8 ft or 10 m).



-4°F to 122°F
(-20°C to 50°C)

0% to 95%



3.3. Check the Distribution Box

Inspect the distribution box for any visible damage including cracks, dents, deformation, and other visible abnormalities. All connector contacts shall be clean, free of dirt and corrosion, and dry.

⚠ Do not use the distribution box if there is any visible damage. For a damaged issue, please contact Renogy customer service via renogy.com/contact-us.

3.4. Check the Battery

The distribution box can be connected to 12V/24V deep-cycle gel-sealed lead-acid batteries (GEL), flooded lead-acid batteries (FLD), sealed lead-acid batteries (AGM), or lithium iron phosphate batteries (LI).

Inspect the battery for any visible damage including cracks, dents, deformation, and other visible abnormalities. All connector contacts shall be clean, free of dirt and corrosion, and dry.

⚠ Do not use batteries if there is any damage.

⚠ Do not touch the exposed electrolyte or powder if the battery is damaged.

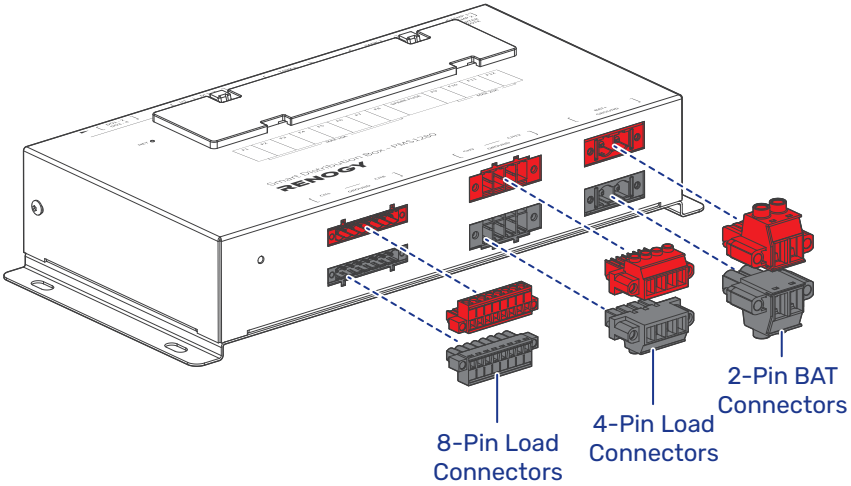
⚠ Do not install the distribution box in a confined area where battery gases can accumulate.

ℹ Wear protective goggles when installing large capacity lead-acid batteries. If electrolyte accidentally drips into your eyes, rinse them immediately with clean water.

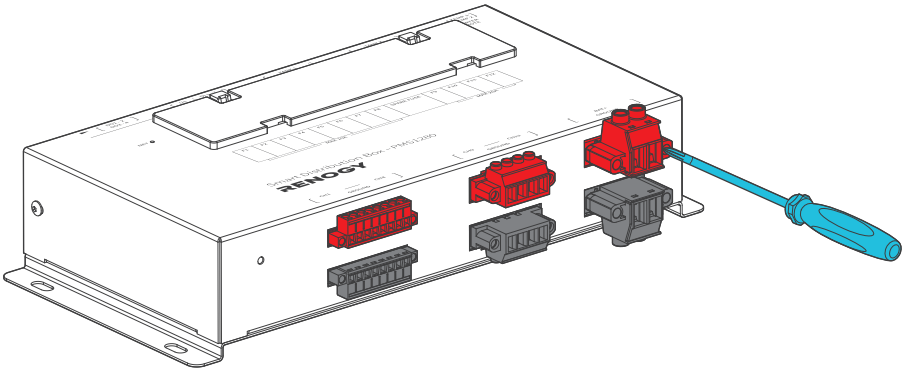
3.5. How to Install and Wire BAT/Load Connectors?

Installation

1. Insert connectors vertically into relative holders, as shown below:



2. Fasten the connectors by turning the fixing screws clockwise.



Wiring

1. Use a screwdriver to rotate the wire retainer screw counterclockwise, ensuring the wire retainer is in the open position.
2. Remove some insulation from one end of a cable based on the length of the connection hole with a wire stripper.

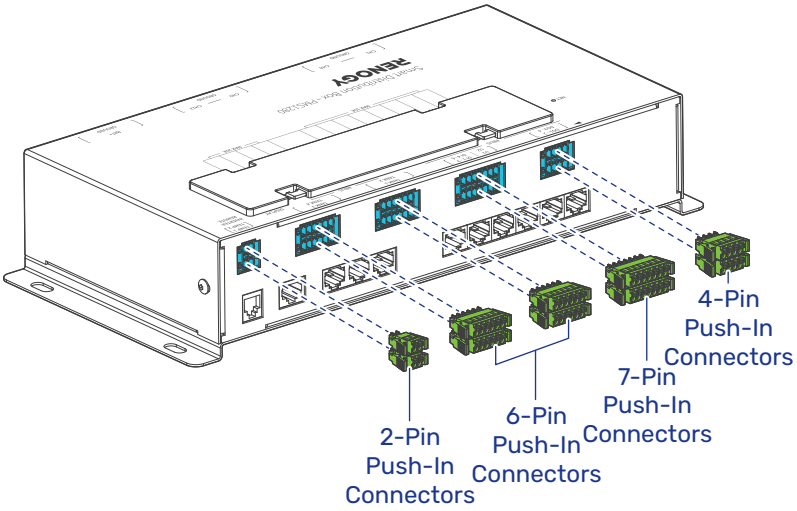
3. Insert the cable into the connection hole.
4. Fasten the wire retainer by turning the screw clockwise.
5. Check and confirm all wires are firmly fastened to the connector.

> For the exposed length of the bare cable, see "4. Installation".

3.6. How to Install and Wire Push-In Connectors?

Installation

Insert push-in connectors vertically into relative holders until you hear a "click" sound, as shown below:



To disconnect a push-in connector, push and hold the clamps on the connector, and unplug the connector from the port.

> You can either plug the push-in connector to the port first or finish the wiring on the push-in connector first specific to your needs.

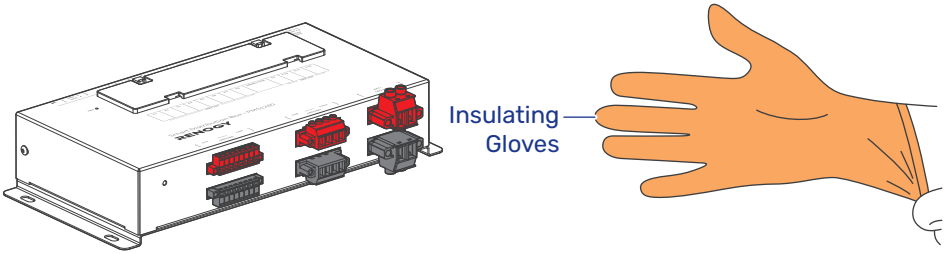
Wiring

1. Remove some insulation from one end of a cable based on the length of the connection hole with a wire stripper.
2. Push and hold the wire retainer on the connector.
3. Insert the cable into the connection hole.
4. Release the wire retainer.
5. Check and confirm all wires are firmly fastened to the connector.

> For the exposed length of the bare cable, see "4. Installation".

4. Installation

4.1. Wear Insulating Gloves



4.2. Connect to a Battery (BAT+/GROUND)

Always connect the negative before the positive end. A reverse polarity contact can result in damage to the distribution box, thus voiding the warranty.

Step 1: Connect a negative cable from the GROUND terminal on the distribution box to the negative port of the battery.

Step 2: At the positive end, connect a positive cable from the BAT+ terminal on the distribution box to the positive port of the battery.

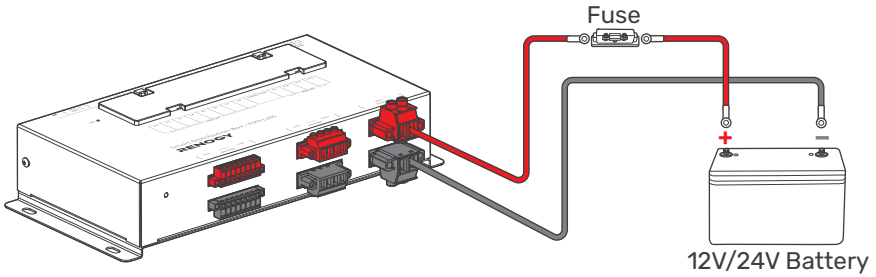
Step 3: Ensure system safety by installing an appropriate fuse. The fuse amperage should equal the total load current multiplied by 1.25.

Risk of electric shock! Make sure that the battery output is powered off.

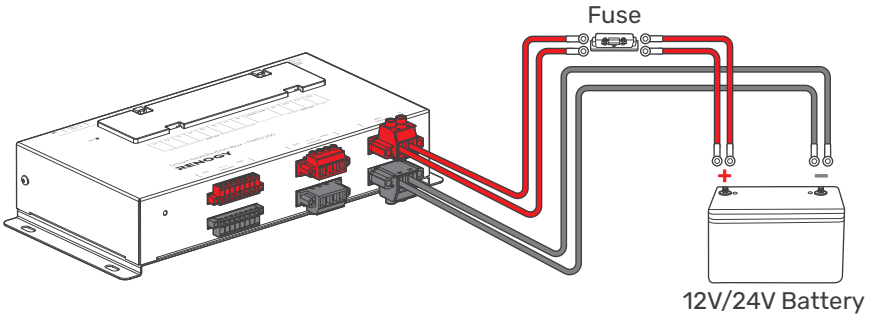
Connector	2-Pin BAT Connector BAT+: Red GROUND: Black	**Maximum Cable Gauge**	6 AWG / 16 mm²
Screw Size	M4	**Wire Retainer Torque**	1.2 N•m to 1.5 N•m
Fixing Screw Torque	0.5 N•m	**Exposed Length**	0.55 in to 0.59 in (14 mm to 15 mm)

To mitigate voltage drop caused by long cables, you have the option to use either a single-cable or a dual-cable wiring method. The cable gauges listed in the table above are applicable to both methods.

Single-Cable Wiring



Dual-Cable Wiring

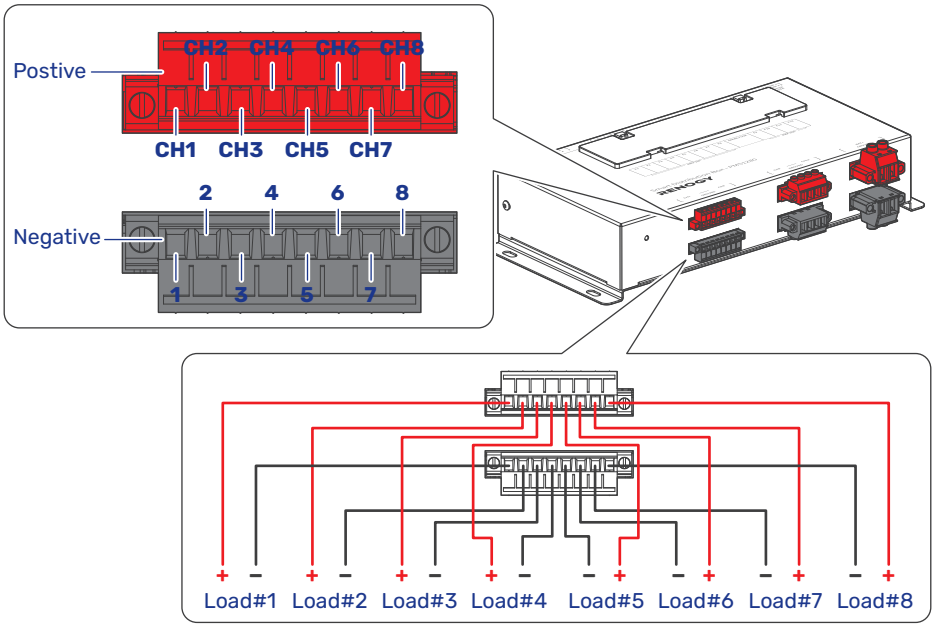


4.3. Connect to DC Loads

Prior to connecting DC loads to the distribution box, ensure that the DC load voltage ratings align with the battery discharging voltage range as the output voltage of the distribution box is contingent upon the discharging voltage of the battery. Failure to adhere to this may cause damage to the loads.

10A DC Loads (CH1–CH8)

The distribution box supports up to eight 10A DC loads via CH1-CH8 channels on 8-Pin Load Connectors with each channel outputting up to 10A. Ensure each of the load works no higher than 10A.

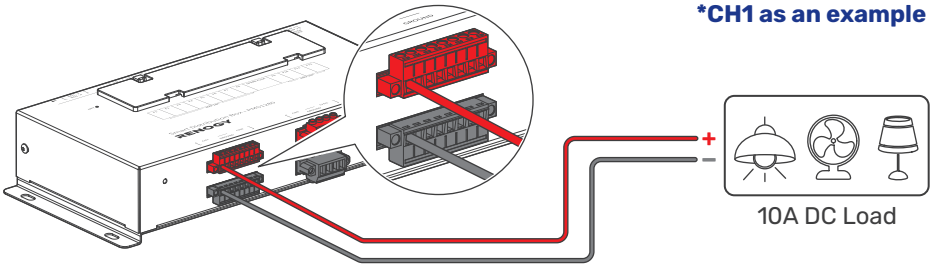


Connector	8-Pin Load Connector CH1–CH8: Red GROUND: Black	**Maximum Cable Gauge**	12 AWG / 4 mm²

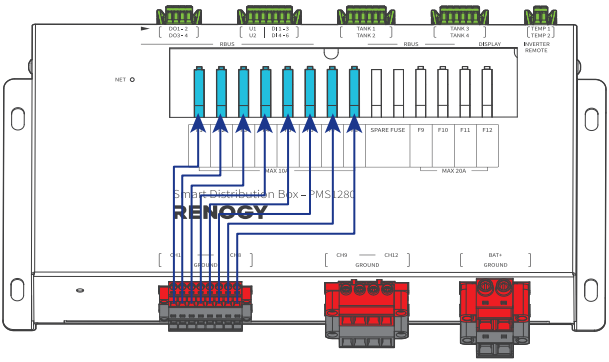
Screw Size	M4	Wire Retainer Torque	1.2 N•m to 1.5 N•m
Fixing Screw Torque	0.5 N•m	Exposed Length	0.55 in to 0.59 in (14 mm to 15 mm)

Step 1: Always connect the negative before the positive end. Connect a negative cable from the GROUND terminal on the distribution box to the negative port of a load.

Step 2: Connect a positive cable from a red CH terminal to the positive port of the load.



Step 3: Insert a blade fuse into the corresponding fuse holder. The load and fuse mapping is shown in the picture below. For details about how to choose a proper fuse size, see "Section 3.1. Recommended Tools & Accessories".

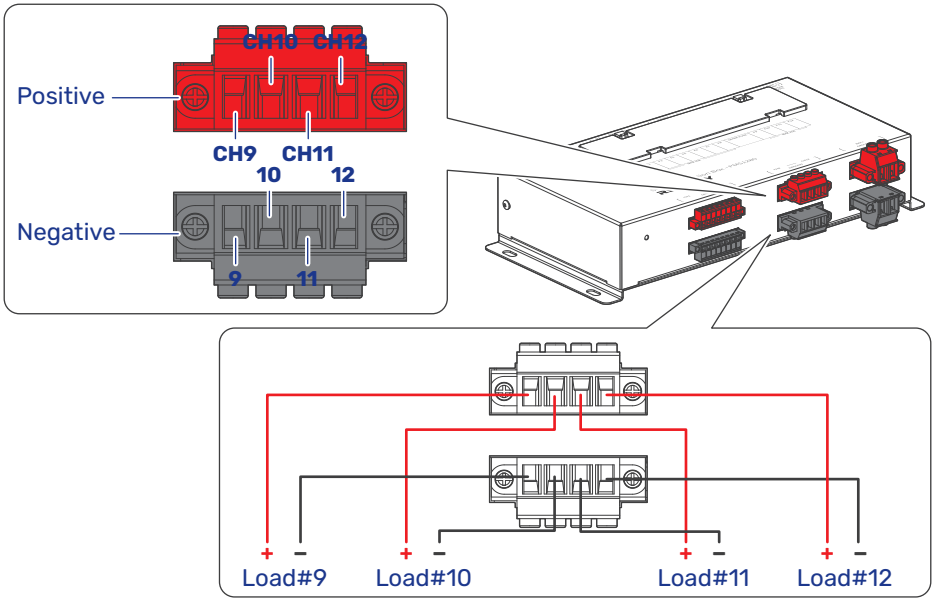


On Renogy ONE Vision, go to ⚙ > **Ports** > **DC Load** to rename the load, select a load icon, as well as set the control mode and overcurrent protection value for each load.

The Diming function is only applicable to adaptive DC lights.

20A DC Loads (CH9–CH12)

The distribution box supports up to four 20A DC loads via CH9-CH12 channels on 4-Pin Load Connectors with each channel outputting up to 20A. Ensure each of the load works no higher than 20A.

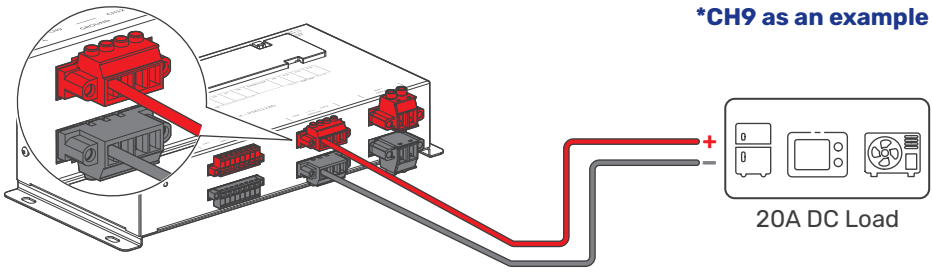


Connector	4-Pin Connector CH9–CH12: Red GROUND: Black	**Maximum Cable Gauge**	10 AWG / 6 mm²
Screw Size	M4	**Wire Retainer Torque**	1.2 N•m to 1.5 N•m
Fixing Screw Torque	0.5 N•m	**Exposed Length**	0.55 in to 0.59 in (14 mm to 15 mm)

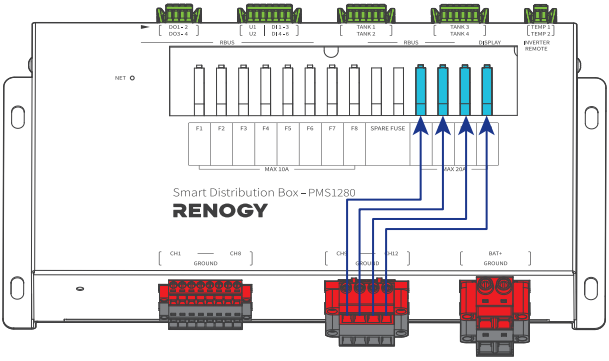
Step 1: Always connect the negative before the positive end. Connect a negative cable from the GROUND terminal on the distribution box to the negative port of a load.

Step 2: Connect a positive cable from a red CH terminal to the positive port of a load.

***CH9 as an example**



Step 3: Insert a blade fuse into the corresponding fuse holder. The load and fuse mapping is shown in the picture below. For details about how to choose a proper fuse size, see "Section 3.1. Recommended Tools & Accessories".

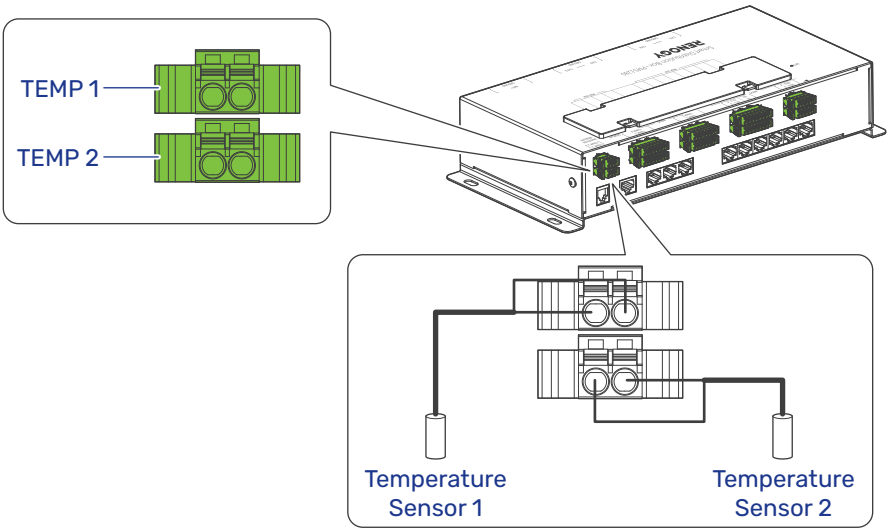


On Renogy ONE Vision, go to ⚙ > **Ports** > **DC Load** to rename the load, select a load icon, as well as set the control mode and overcurrent protection value for each load. For details, see Renogy ONE Vision User Manual.

4.4. Install a Temperature Sensor

The two included NTC-type temperature sensors help detect the outdoor, indoor, and other area temperature.

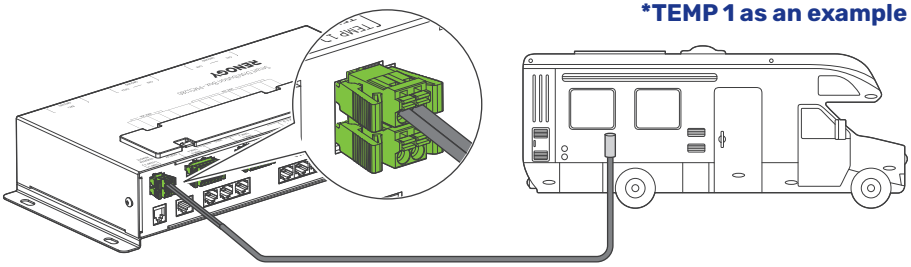
The included temperature sensor can detect temperatures within the range of -4°F to 176°F (±37.4°F) or -20°C to 80°C (±3°C).



Connector	2-Pin Push-In Connector (Green)	**Exposed Length**	0.55 in to 0.59 in (14 mm to 15 mm)

Insert the bare end of a temperature senor into either the TEMP 1 or TEMP 2 connector, and fix the probe at a desired location using insulation tape.

***TEMP 1 as an example**



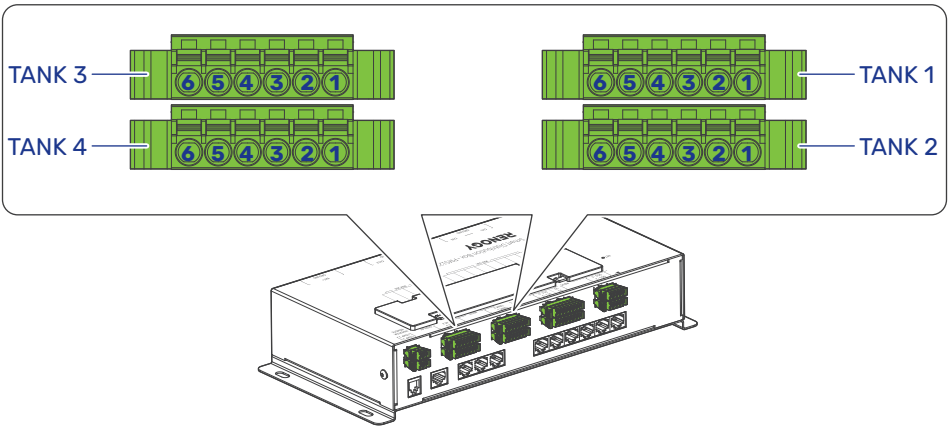
On Renogy ONE Vision, go to ⚙ > **Ports** > **Temperature** to rename the temperature sensor, set the status display, and configure temperature alarms. For details, see Renogy ONE Vision User Manual.

ℹ The bare wire ends of the temperature sensor are not polarized. You can connect either wire to either pin of the 2-pin push-in connector.

4.5. Install a Water Level Sensor

You can connect up to four water level sensors to the distribution box to detect the water levels of grey water tanks, fresh water tanks, humidifiers, and more. Supported water level sensors include five-wire capacitive liquid level sensors, two-wire resistive level sensors, and 0V to 2.5V analog voltage liquid level sensors.

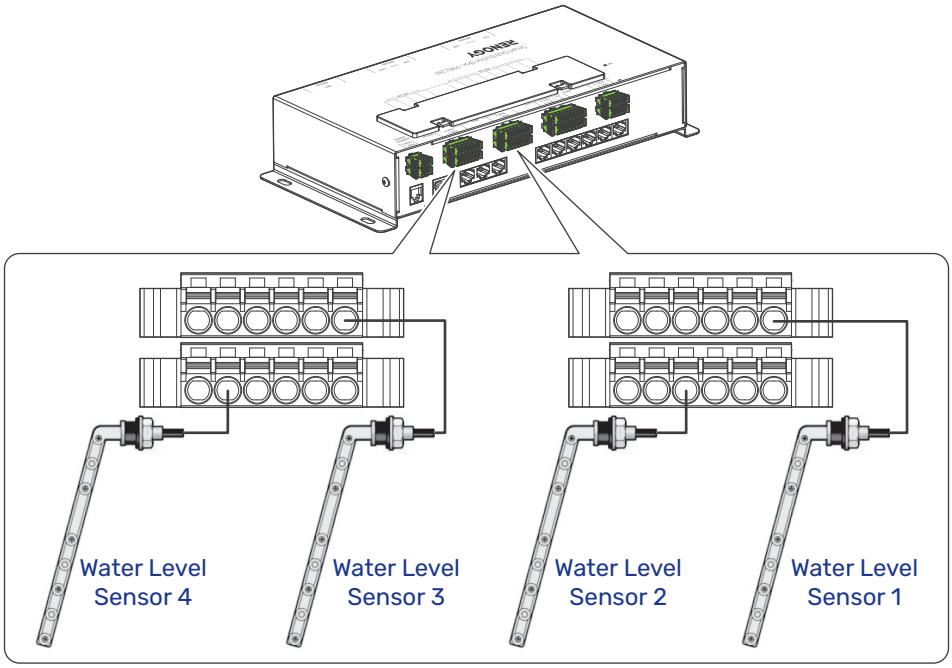
ℹ The illustrations below are for demonstration purposes only. For detailed wiring instructions, see the user manual of the specific water level sensor.



Connector	6-Pin Push-In Connector Green	**Exposed Length**	0.55 in to 0.59 in (14 mm to 15 mm)

Insert the bare end of a water level senor into any of the following push-in connectors (TANK 1, TANK 2, TANK 3, and TANK 4) on the distribution box, and place the probe in

the water tank. For instruction details, see the user manual of the specific water level sensor.



Capacitive Water Level Sensor

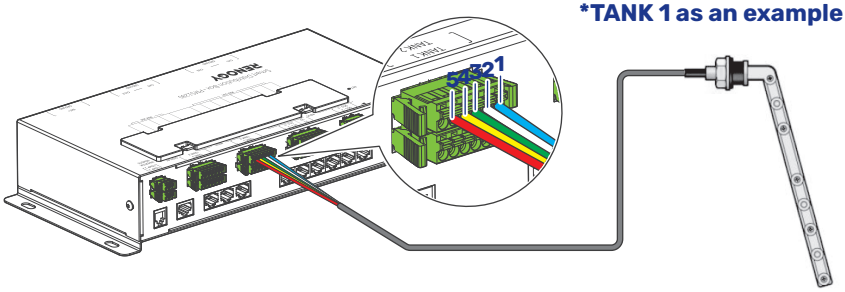
The distribution box supports five-wire capacitive water level sensors.

Connect the sensor cables to the Water Level Sensor Port (6-Pin Push-In Connector on the distribution box. Follow the cable and pin mapping:

- Pin 1: blue
- Pin 2: white
- Pin 3: green
- Pin 4: yellow
- Pin 5: red
- Pin 6: reserved

Cable colors may vary depending on the level sensor. For detailed instructions, see the user manual of the level sensor or contact renogy.com/contact-us for help.

***TANK 1 as an example**



Resistive Water Level Sensor

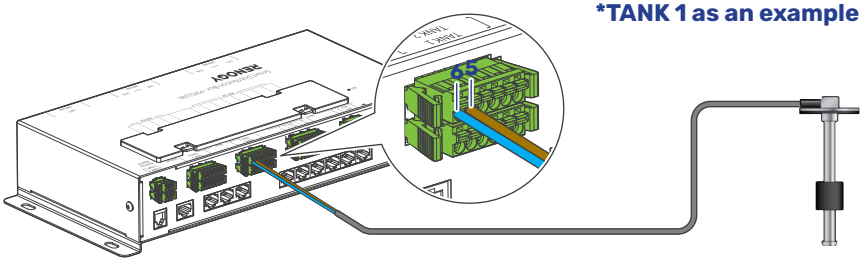
The distribution box supports two-wire resistive water level sensors.

Follow the cable and pin mapping:

- Pin 5: brown
- Pin 6: blue
- Other pins: reserved

Cable colors may vary depending on the level sensor. For detailed instructions, see the user manual of the level sensor or contact renogy.com/contact-us for help.

***TANK 1 as an example**

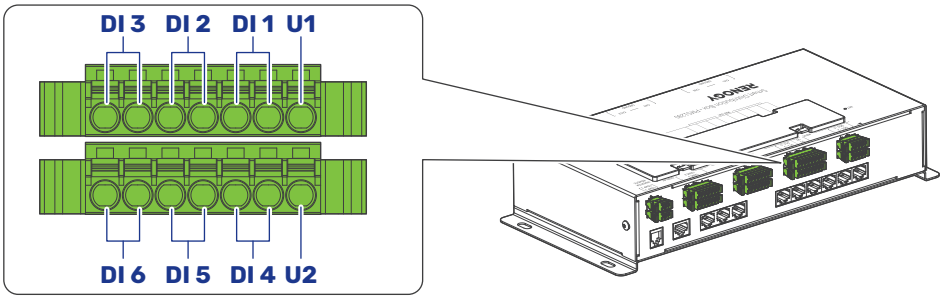


For non-Renogy water level sensors and 0V to 2.5V analog voltage sensors, please contact Renogy technical support to confirm compatibility to avoid damaging the distribution box or water level sensor.

On Renogy ONE Vision, go to ⚙ > **Ports** > **Tank Level** to rename the water level sensor as well as set the water level type, liquid type, and liquid level alarms.

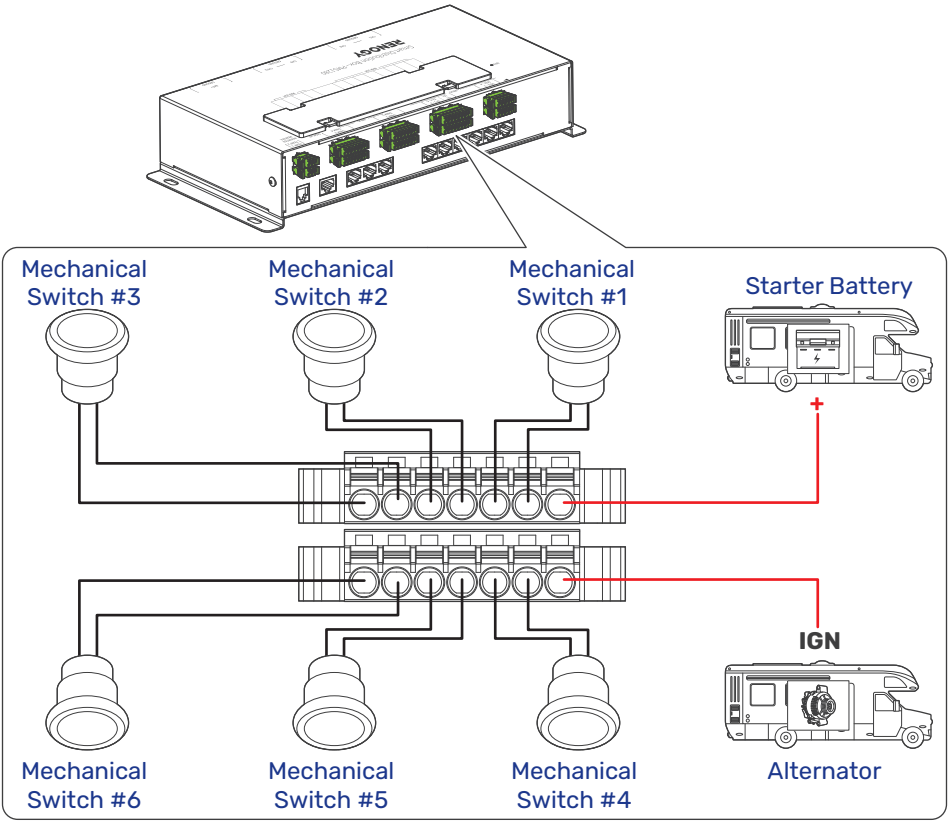
4.6. Analog Voltage and Digital Input Wiring

The distribution box incorporates two analog voltage detection channels and six digital inputs. It detects the voltage (1VDC to 60VDC) of a starter battery or the ignition signal of an alternator via the U1 and U2 pins and controls up to six load switches via the DI 1 to DI 6 pins on the Analog and Digital Port.



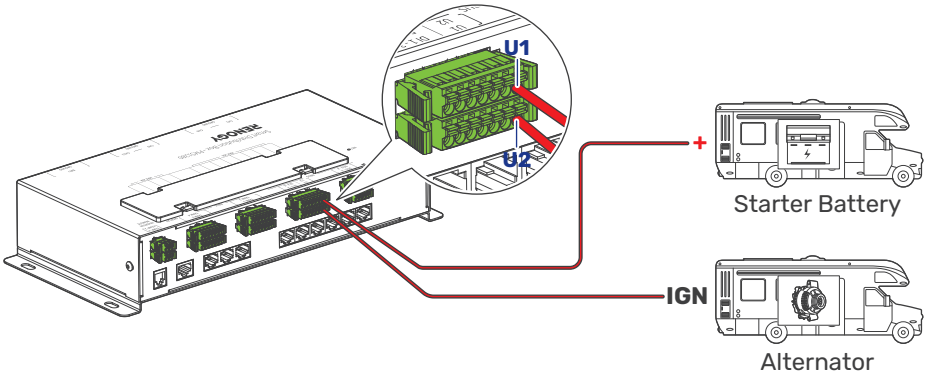
Connector	7-Pin Push-In Connector (Green)	**Exposed Length**	0.55 in to 0.59 in (14 mm to 15 mm)

On Renogy ONE Vision, go to ⚙ > **Ports** > **Battery Voltage** or **Switch** to check analog voltage parameters and configure digital input channels.



Analog Voltage Channels

The U1 and U2 pins of the Analog and Digital Port capture the starter battery voltage and vehicle ignition signals, aiding in safe control of the vehicle's motion device for secure operation during driving.



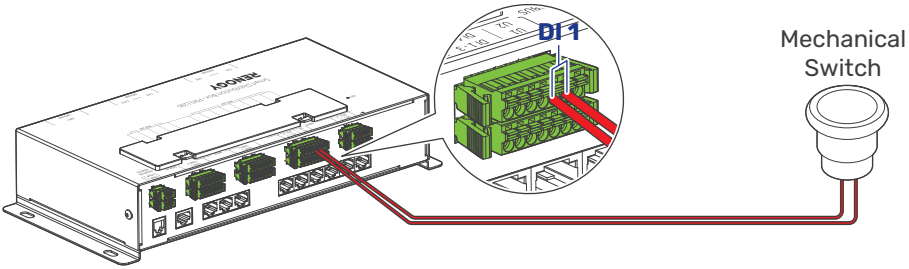
Digital Inputs

The distribution box incorporates six digital input channels that can be connected to up to six mechanical switches via DI 1 to DI 6 pins on the Analog and Digital Port. This enables you to easily control the devices connected to the mechanical switches (customization is required on Renogy ONE Vision).

Selection of mechanical switches varies depending on your application scenario.

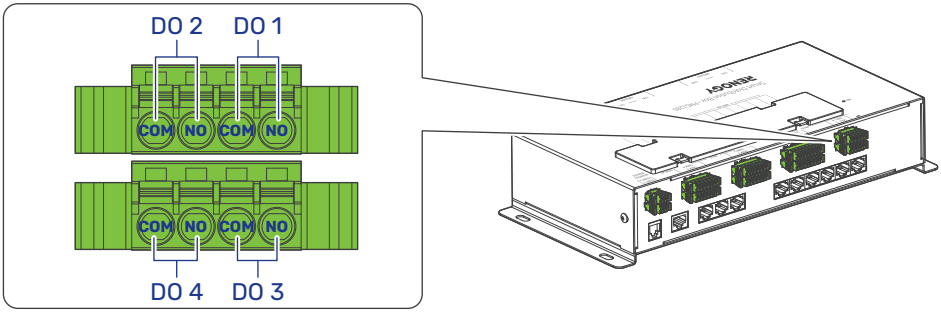
- When only a Control Panel is involved, use the panel to turn on or off the connected device.
- When both a Control Panel and a mechanical switch are involved, use either the Control Panel or the mechanical switch to turn on or off the connected device.
- When neither a Control Panel nor a mechanical switch is involved, use Renogy ONE Vision to turn on or off the connected device.

A mechanical switch should be connected to a pair of pins to the Analog and Digital Port. The illustration below takes DI 1 pair pins as an example.

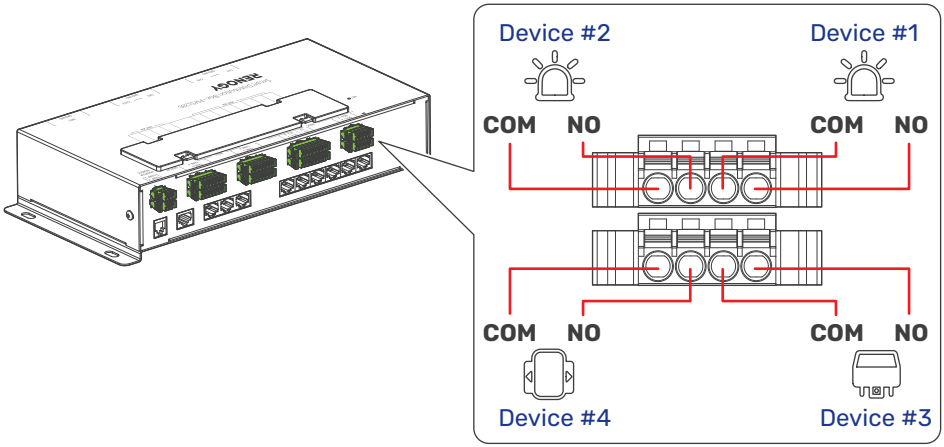


4.7. Digital Output Wiring

The distribution box integrates four digital output channels (DO 1 to DO 4 pins) on the Digital Output Port. The four channels serve as normally open relays with each relay operating up to 2A @ 60VDC.



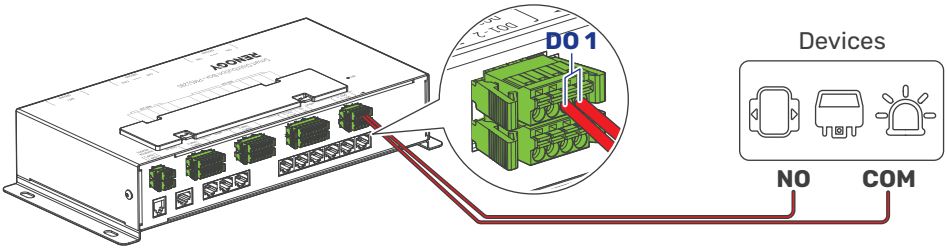
The relays can connect to various control signals, such as signals from expansion controllers, electric foot pedal controls, and alarms.



Connector	4-Pin Push-In Connector (Green)	**Exposed Length**	0.55 in to 0.59 in (14 mm to 15 mm)

For special relay requirements, please contact renogy.com/contact-us for help.

The cable and pin mapping is illustrated below. Take DO 1 pins as an example. The left pin is NO while the right pin serves as the COM signal.



4.8. Remote Inverter Control Wiring

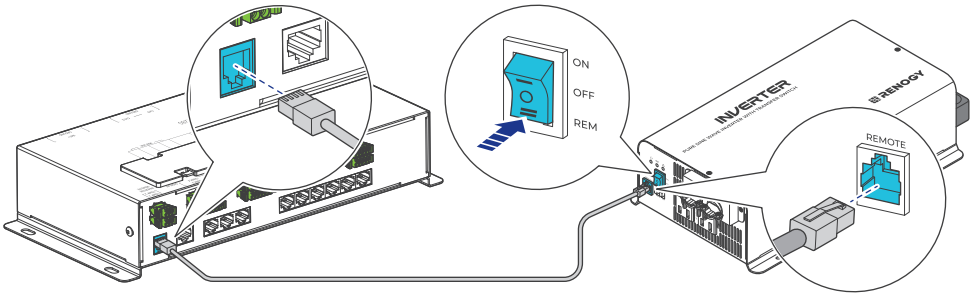
The distribution box allows you to power a Renogy inverter on or off remotely via the Remote Inverter Control Port. Follow the steps below to complete the wiring:

Step 1: Connect a RJ12 Ethernet cable (not included) from an inverter to the Remote Inverter Control Port on the distribution box.

Step 2: Rock the ON/OFF/REM Switch of the inverter to the REM position. For details, see the user manual of the specific inverter.

Alternatively, you can control the inverter through Renogy ONE Vision, Control Panel, or the Renogy app.

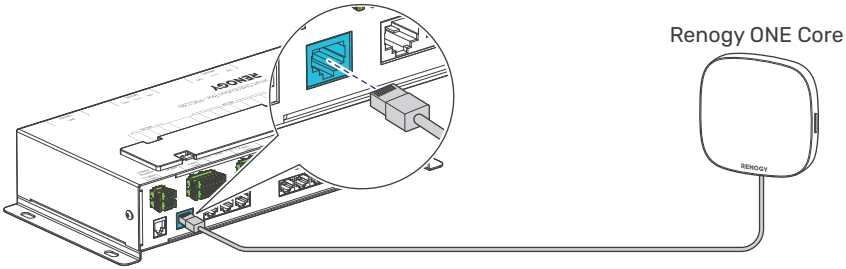
The Remote Inverter Control port pins are defined differently for different brands of inverters. For instruction details, please contact renogy.com/contact-us for help.



4.9. Connection to Renogy ONE Core

You can connect the distribution box to Renogy ONE Core through the Display Port to monitor its operational status and customize operating parameters.

Connect a Category 5 and above RJ45 Ethernet cable from Renogy ONE Core to the Display Communication Port on the distribution box. Renogy ONE Core is powered through the Display Communication Port, so no additional power supply cable is required.



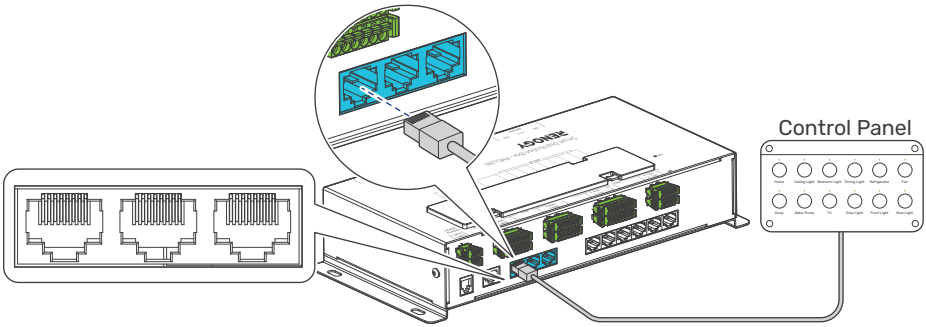
4.10. RBUS COM Port Wiring

The distribution box provides nine RBUS communication ports for RS-485 or CAN communication with Renogy power supply and monitoring devices, such as charge controller, battery, and battery charger. The RBUS communication ports comprise three ports supplying small current and six for communication only.

For interoperability suggestions concerning non-Renogy power devices and other technical support issues, please contact Renogy customer service via renogy.com/contact-us.

Ports with Power Supply Capabilities

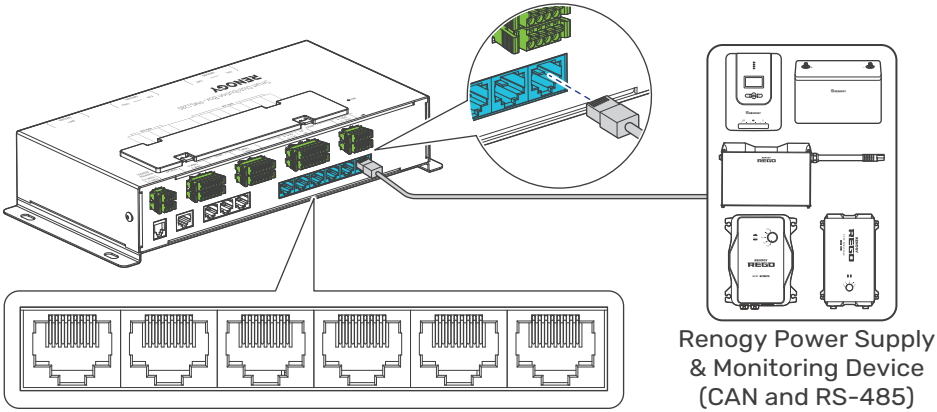
For ports with power supply capabilities, connect a Category 5 and above RJ45 Ethernet cable from a power supply or monitoring device, such as Control Panel to the distribution box. The power supply device is powered through the RBUS COM Port, so no additional power supply cable is required. Renogy Control Panel is a smart scene and load control panel designed for RV and motorhome scenarios.



Renogy Control Panel supports personalization and customization. For details, contact renogy.com/contact-us.

Communication-Only Ports

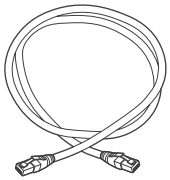
The rest six RBUS communication ports only support intra-device communication between power supply and monitoring devices that support CAN and RS-485 communication. The connection makes safe operation, intelligent control, remote monitoring, and custom configuration possible.



Renogy Power Supply & Monitoring Device (CAN and RS-485)

RS-485 Communication Wiring

Recommended Accessories

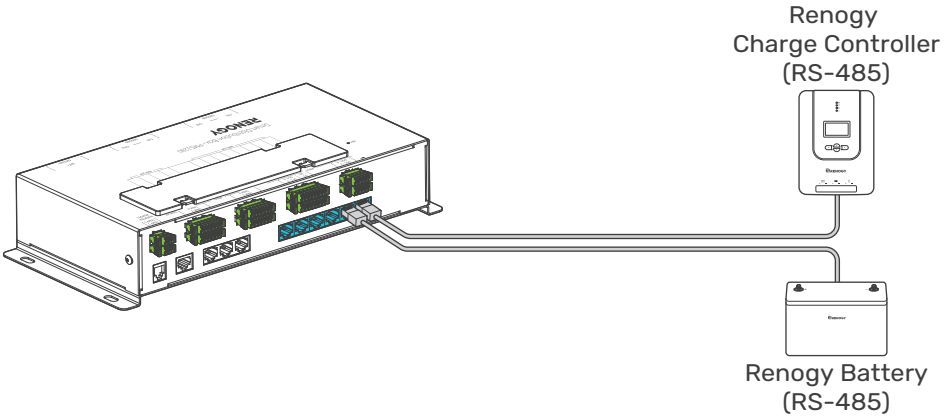


*RJ45 Ethernet Cable (CAT 5 and above)

Components and accessories marked with "*" are available on renogy.com.

A RJ45 Ethernet cable shall not exceed 19.6 feet (6 m).

Connect a RJ45 Ethernet cable from the RS-485 communication port on a power supply device to either of the RBUS COM Ports on the distribution box.



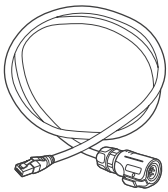
CAN Communication Wiring

Utilize a proper communication cable specific to the CAN port on the connected power supply device. The listed below are typical communication cables for most Renogy devices. For details, see the user manual of the specific power supply device.

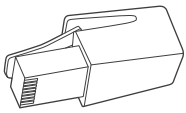
- Renogy ONE Core: RJ45 Ethernet cable
- REGO series device: RJ45 to LP16 Adapter Cable (7-pin)
- Renogy 12V/24V IP67 50A DC-DC Battery Charger with MPPT: RJ45 to 7-Pin CAN Adapter Cable
- Renogy 500A Combiner Box: RJ45 to 7-Pin CAN Adapter Cable

This section takes a RJ45 to LP16 Adapter Cable (7-pin) connecting the distribution box to a REGO device as an example.

Recommended Accessories



*RJ45 to LP16 Adapter Cable (7-pin)



*RJ45 CAN Termination Resistor

Components and accessories marked with "*" are available on renogy.com.

A communication cable shall not exceed 19.6 feet (6 m).

The RJ45 CAN Termination Resistor listed above applies to Renogy Smart Distribution Box PMS1280 only when it is located at either the first or the last position in a daisy chain network. For other devices, please choose appropriate CAN terminal plugs.

The quantity of adapter cables and termination resistors varies based on the position of the distribution box in a daisy chain network.

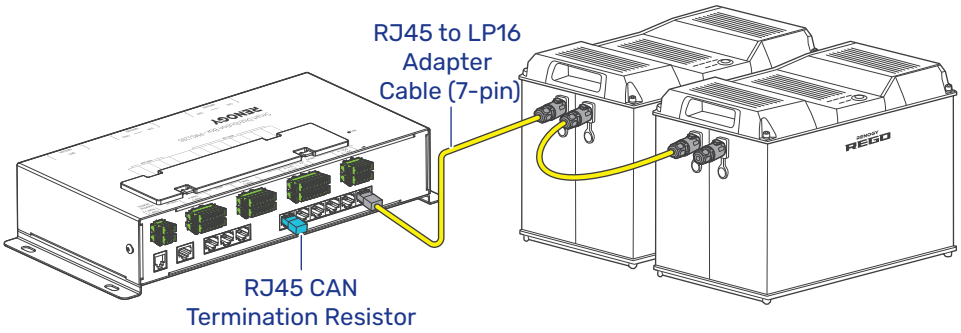
Distribution Box at First or Last Position

When the distribution box is positioned at either the first or the last device in the daisy chain network, one RJ45 CAN Termination Resistor and one RJ45 to LP16 Adapter Cable are required.

Step 1: Connect the RJ45 CAN Termination Resistor to either of the RBUS COM Ports on the distribution box.

Step 2: Connect power supply devices in series via proper communication cables.

Step 3: Connect the supply devices to the other RBUS COM Port.



Distribution Box in the Middle

In scenarios where the distribution box is located in the middle of the network, two adapter cables are needed.

Step 1: Connect the distribution box to other power supply devices in series via two adapter cables.

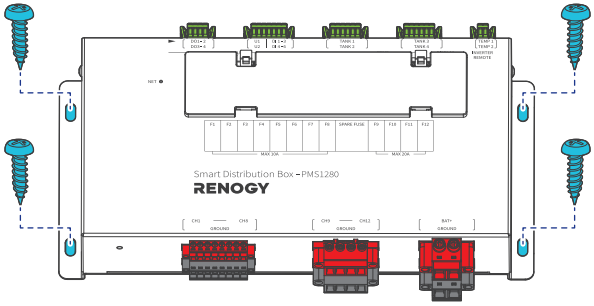
Step 2: Install a RJ45 CAN termination resistor (depending on the power supply device) to the first power supply device.

Step 3: Install a RJ45 CAN termination resistor (depending on the power supply device) to the last power supply device.

4.11. Wire Inspection and Mounting

Verify that all cable connections are firmly and securely fastened. This step is essential to prevent any loose or unstable connections that could lead to operational issues or safety concerns.

Mount the distribution box to a desired location with the four mounting screws (included). Ensure there is enough space to replace fuses in case of power failures.



Please ensure the distribution box is firmly secured to the mounting location to prevent from falling off.

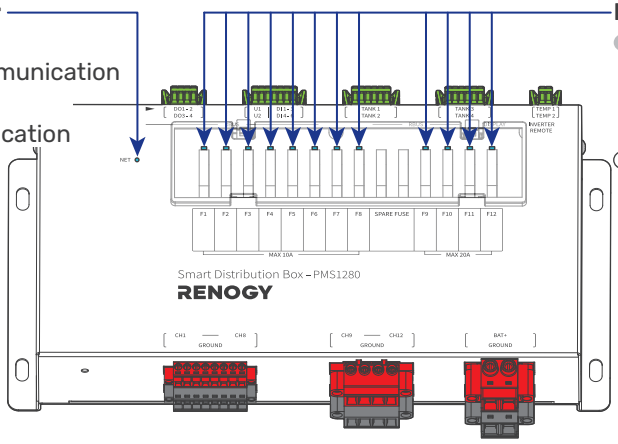
5. LED Indicators

NET Indicator

- Solid green: Normal communication
- Off: No communication

Fuse Indicator

- Solid White: No fuse detected or the fuse is blown
- Off: Fuse in normal operation



LED Indicator Status	Solution
NET Indicator off	Ensure all communication cables are properly connected with no loose or false wiring.
Fuse Indicator in solid white	Ensure the fuse is properly installed, and replace any blown fuses.

For other troubleshooting issues, please contact renogy.com/contact-us.

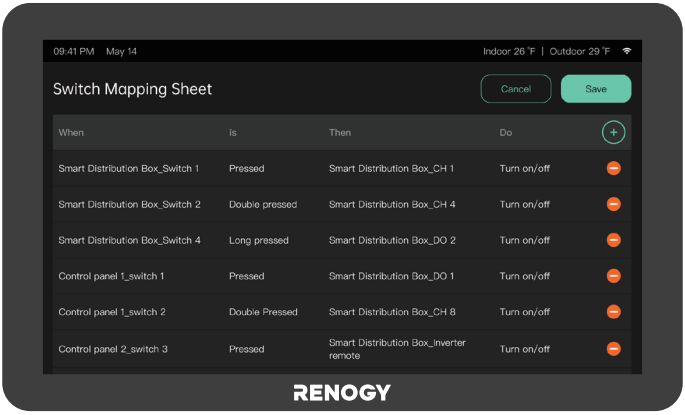
6. Operation

6.1. Power On/Off DC Loads

You can turn on or off DC loads by using mechanical switches connected to the Digital Inputs or simply on Renogy ONE Vision.

Mechanical Switch

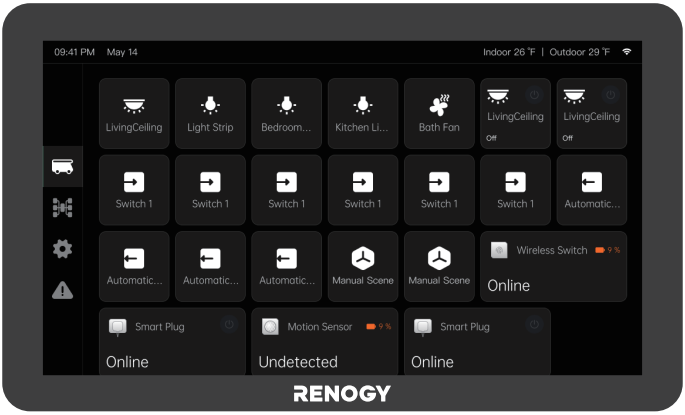
Configure the conditions for power-on or power-off actions for a mechanical switch on Renogy ONE Vision when it is connected to a Control Panel. A switch mapping example is provided below.



For detailed technical support, contact the RV dealer or renogy.com/contact-us.

Renogy ONE Vision

You can directly turn on or off loads through Renogy ONE Vision.



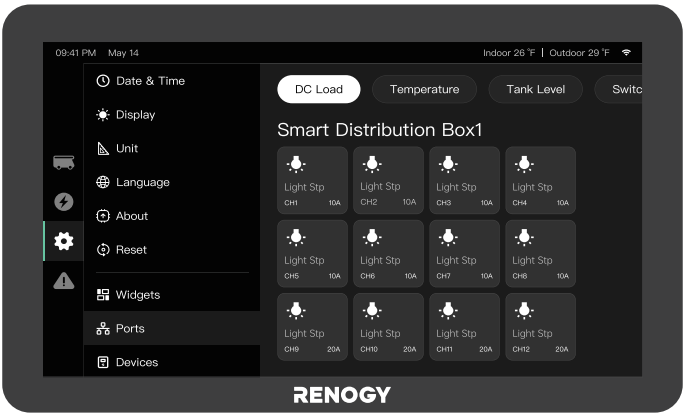
The version of the Renogy ONE Vision might have been updated. Illustrations in the user manual are for reference only. The actual Renogy ONE Vision in use prevails.

6.2. Check Operational Status

You can check the operational status and parameters of devices connected to the distribution box through Renogy ONE Vision, Renogy ONE Core, and/or the Renogy app.

> The version of the Renogy app, Renogy ONE Core, and Renogy ONE Vision might have been updated. Illustrations in the user manual are for reference only. The actual app in use prevails.

Renogy ONE Vision

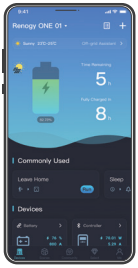


Renogy ONE Core

On Renogy ONE Core, tap the distribution box widget to check the details.

Renogy App

To ensure the optimal system performance, please download and log in to the latest Renogy app. To ensure the optimal monitoring performance, please download and log in to the latest Renogy app.



Renogy App

GTE IT ON Google Play

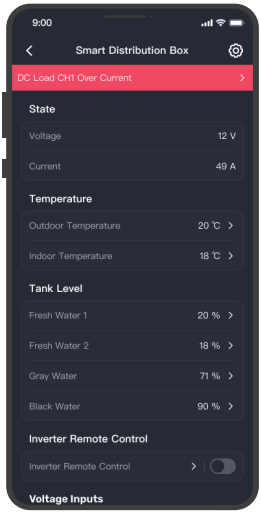
Download on the App Store

- Make sure the Bluetooth of your phone is turned on.
- Make sure that the distribution box is properly installed and powered on before it is paired with the Renogy app.
- To ensure optimal system performance, keep the phone within 10 feet (3 m) of the distribution box.

Step 1: Open the Renogy app. Tap **+** to search for new devices.

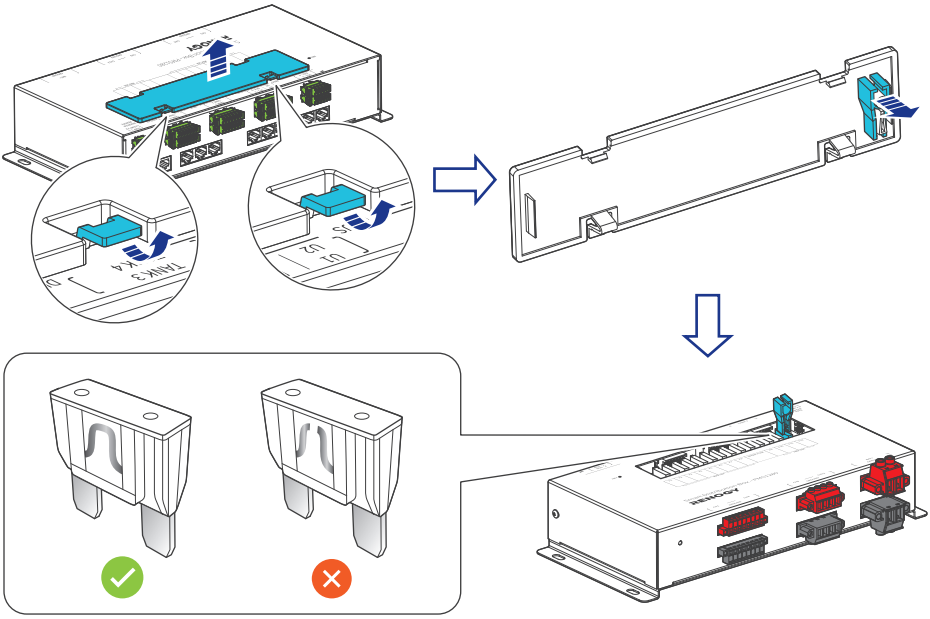
Step 2: Tap **Confirm** to add the distribution box to the device list.

Step 3: Tap the distribution box widget to see the details.



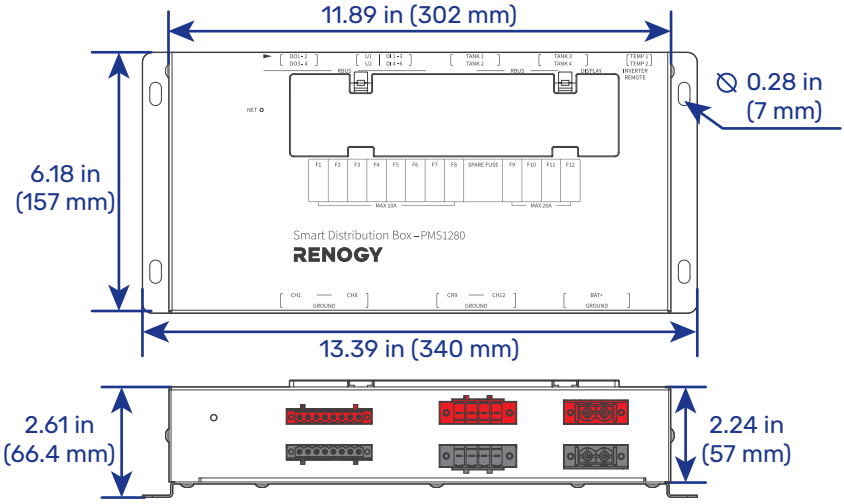
6.3. Check and Replace Blade Fuses

A white Fuse Indicator denotes a blown fuse is detected or no fuse is installed on the holder. For blown fuses, disconnect the fuse and replace a new one. A fuse disconnection tool is required if necessary.



7. Dimensions & Specifications

7.1. Dimensions



Dimension tolerance: ±0.2 in (0.5 mm)

7.2. Technical Specifications

Model	RSHCB-C02P-G1
System Voltage	12V / 24V DC
Self-consumption	1.2W @12VDC (standby mode)
Maximum Load Amps	80A
Maximum Load Output Amps	8 x 10A & 4 x 20A
Communication	CAN & RS-485
Analog Voltage Range	0V to 60V (±0.2V)
Current Detection Tolerance	±2%
Detected Temperature Range	-4°F to 176°F (±37.4°F) / -20°C to 80°C (±3°C)
Water Level Sensor	Capacitive, resistive, and voltage water level sensors x 4
Digital Channels	Digital input x 6; Digital output x 4
Remote Inverter Control	Yes
Operating Temperature	-4°F to 122°F / -20°C to 50°C
Operating Humidity	0% to 95%, RH, no condensation
Operating Altitude	< 16,404 ft / < 5,000 m
Dimensions	13.39 x 6.18 x 2.61 in / 340 x 157 x 66.4 mm
Weight	4.36 lbs / 1.98 kg
Certification	RCM & RoHS
Warranty	2 years

8. Maintenance

8.1. Inspection

For optimum performance, it is recommended to perform these tasks regularly.

- Ensure there is no damage or wear on the cables.
- Ensure the distribution box is installed in a clean, dry, and ventilated area.
- Ensure the firmness of the connectors and check if there are any loose, damaged or burnt connections.
- Make sure the indicators are in proper condition.
- Ensure there is no corrosion, insulation damage, or discoloration marks of overheating or burning.

In some applications, corrosion may exist around the terminals. Corrosion can loosen springs and increase resistance, leading to premature connection failure. Apply dielectric grease to each terminals contact periodically. Dielectric grease repels moisture and protects the terminals contacts from corrosion.

Risk of electric shock! Make sure that all power supplies are turned off before touching terminals on the distribution box.

8.2. Cleaning

Follow the steps below to clean the distribution box regularly.

- Disconnect all cables connected to the distribution box.
- Wipe the housing and connector contacts of the distribution box with a dry cloth or nonmetallic brush. If it is still dirty, you can use household cleaners.
- Dry the distribution box with a clean cloth and keep the area around the distribution box clean and dry.
- Make sure the distribution box is completely dry before reconnecting it to relevant devices.
- Follow the instructions in sequence during wiring.

8.3. Storage

Follow the tips below to ensure that the distribution box is stored well.

- Disconnect all cables connected to the distribution box.
- Apply dielectric grease to each terminals to repel moisture and protect the connector contacts from corrosion.
- Store the distribution box in a well-ventilated, dry, and clean environment with the temperature between -22°F to 158°F or -30°C to 70°C.

8.4. Disposal

- Do not dispose of the distribution box as household waste. Comply with local, state, and federal laws and regulations, and use recycling channels as required.
- Do not dispose of the distribution box into a fire or an environment with a risk of explosion.

9. Emergency Responses

In the event of any threat to health or safety, always begin with the steps below before addressing other suggestions.

- Immediately contact the fire department or other relevant emergency response team.
- Notify all people who might be affected and ensure that they can evacuate the area.

⚠ Only perform the suggested actions below if it is safe to do so.

9.1. Fire

1. Disconnect all cables connected to the distribution box.

2. Disconnect all cables connected to the distribution box if feasible, ensuring your safety on the premises. Put out the fire with a fire extinguisher. Acceptable fire extinguishers include water, CO_2, and ABC.

⚠ Do not use type D (flammable metal) fire extinguishers.

9.2. Flooding

1. If the distribution box is submerged in water, stay away from the water.

2. Disconnect all cables connected to the distribution box.

9.3. Smell

1. Ventilate the room.

2. Disconnect all cables connected to the distribution box.

3. Ensure there is no discoloration marks of overheating or burning.

9.4. Noise

1. Disconnect all cables connected to the distribution box.

2. Make sure no foreign objects are stuck in the distribution box.

10. Important Safety Information

10.1. General Safety

- Wear proper protective equipment and use insulated tools during installation and operation. Do not wear jewelry or other metal objects when working on or around the distribution box.
- Keep the distribution box out of the reach of children.
- Do not dispose of the distribution box as household waste. Comply with local, state, and federal laws and regulations and use recycling channels as required.
- In case of fire, put out the fire with a FM-200 or CO2 fire extinguisher.
- If the distribution box is installed improperly on a boat, it may cause damage to components of the boat. Have the distribution box by a qualified electrician.
- Do not expose the distribution box to flammable or harsh chemicals or vapors.
- Clean the distribution box regularly.
- Do not puncture, drop, crush, penetrate, shake, strike, or step on the distribution box.
- Always connect the negative before the positive.
- It is recommended that no cable should exceed 10 meters (32.8 feet) because excessively long cables result in a voltage drop.

10.2. Distribution Box Safety

- There are no serviceable parts in the distribution box. Do not open, dismantle, repair, tamper with, or modify the distribution box.
- Keep the distribution box away from any heater.
- Do not insert foreign objects into the distribution box.
- Confirm the polarities of the devices before connection. A reverse polarity contact can result in damage to the controller and other connected devices, thus voiding the warranty.
- Do not touch the connector contacts while the distribution box is in operation.
- Disconnect all connectors from the distribution box before maintenance or cleaning.

10.3. Battery Safety

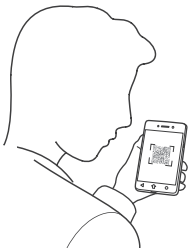
- The distribution box can only be connected to deep-cycle gel-sealed lead-acid batteries (GEL), flooded lead-acid batteries (FLD), sealed lead-acid batteries (AGM) or lithium iron phosphate batteries (LI).
- Do not use batteries if there is any damage. Do not touch the exposed electrolyte or powder if the battery is damaged.
- Prior to installing the distribution box, ensure all battery groups are installed properly.

Renogy Support

To discuss inaccuracies or omissions in this quick guide or user manual, visit or contact us at:

renogy.com/support/downloads

contentservice@renogy.com



Questionnaire Investigation

To explore more possibilities of solar systems, visit Renogy Learning Center at:

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For technical questions about your product in the U.S., contact the Renogy technical support team through:

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