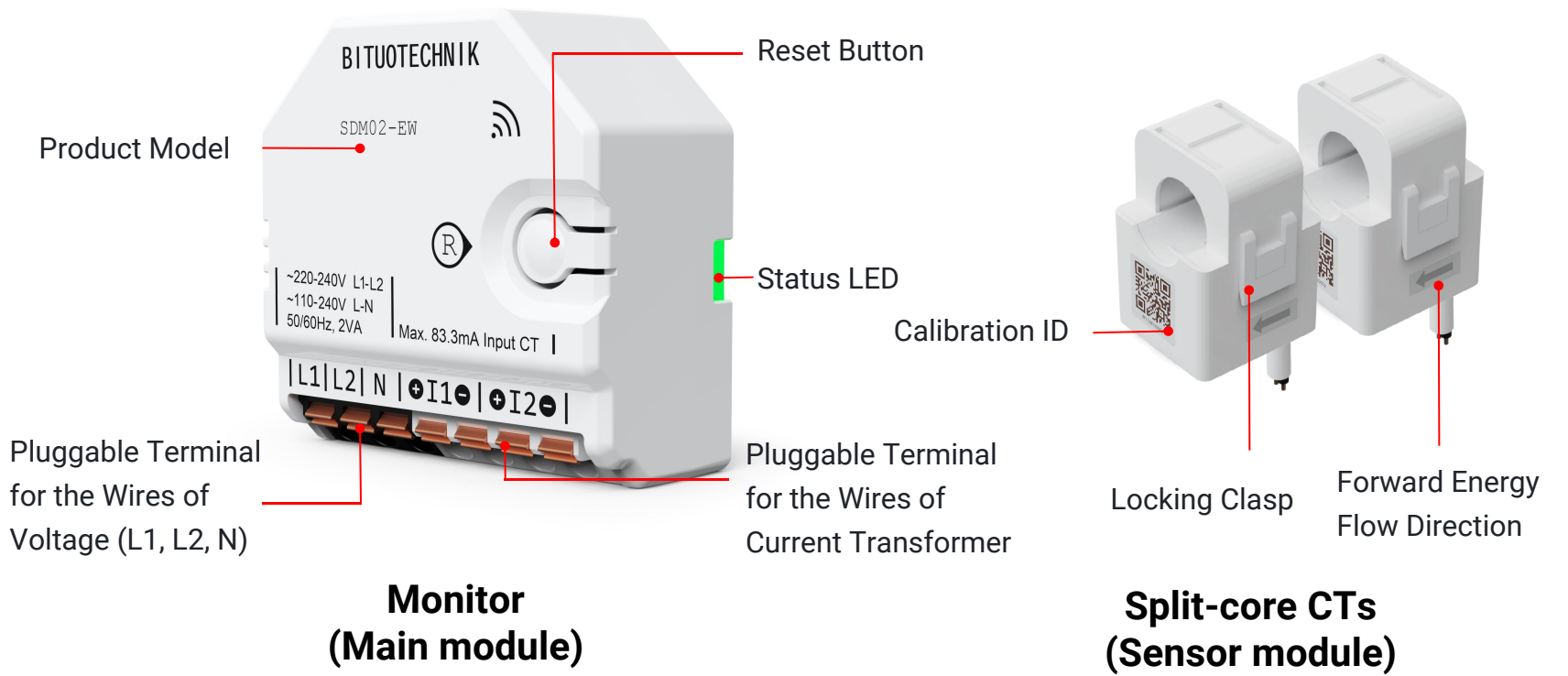


SDM02

Smart Energy Monitor with Split-core Current Transformers

Product Description

The SDM02 is a compact smart energy monitor designed for home split-phase systems in USA and Canada. Using two split-core CTs calibrated with the main module, it provides precise measurement of voltage, current, power, and energy.



Technical Specifications

Rated operating voltage	110~240 VAC L-N, 50/60 Hz 220~240 VAC L1-L2, 50/60 Hz
Maximal monitoring current	120 A (Φ 16mm/0.63in Split-core CT window) 200 A (Φ 20mm/0.787in Split-core CT window)
Over-voltage category	III
Rated insulating voltage	250 V
Rated impulse withstand voltage	4 kV
Pollution degree	3
Protection degree	IP20
Measurement accuracy	Class 1 (IEC61557-12, active energy)
Rated operating temperature	-13°F (-25° C) ~131° F (55° C).
Maximum power consumption	≤ 2 VA
Communication Type	2.4 GHz Wi-Fi

Safety Information



Safety Alert Symbol

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that accompany this symbol to avoid possible injury or death.

Please note: Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel.



DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, CSA Z462, or NOM 029-STPS or local equivalent.
- The SDM02 must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying the SDM02 before working on or inside equipment.
- Always open or disconnect circuit from power distribution system (or service) of building before installing or servicing current transformers.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors and covers before turning on power to this equipment.
- Beware of potential hazards, and carefully inspect the work area for tools and objects that may have been left inside the equipment.
- Secure the current transformer firmly and route conductors so that the CT and conductors maintain a minimum clearance of 15 mm (or more, per applicable standards) from live terminals or bus bars.
- The SDM02 must be installed inside electrical panels or switchboards, behind a door or plate, so that they are inaccessible to unauthorized persons.
- If you are not sure about the SDM02 compatibility with your load centers and CSEDs, please consult with the manufacturer for compatibility.
- If you believe the monitor, sensors, or cables may have been damaged, do not try to use them.
- Do not try to open the equipment, touch any internal parts, or try to repair it.
- Use the SDM02 only in the United States and Canada, and only with a 50/60Hz 120V/240V split phase system.

Failure to follow these instructions will result in death or serious injury.

Legal

The SDM02 has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. Operation is subject to these conditions:

1. It may not cause harmful interference.
2. It must accept any interference received, including interference that may cause undesired operation. If it is not installed and used as per the instructions, it may cause interference which is harmful to wireless communications. While there is no guarantee that interference will not occur in a specific installation, if interference does occur, we recommend reorienting or relocating the device, as it contains a PCB antenna.

Installation

Before you get started

The SDM02 is installed in a home's electrical panel. It will be necessary to turn off power supplying the home's electrical panel. If the home's electrical panel is service equipment, the main breaker should be set to the off position. Please note, setting the main breaker to the off position will only shut off power to the home; the cables feeding the panel will remain energized. The following may help with safe installation.

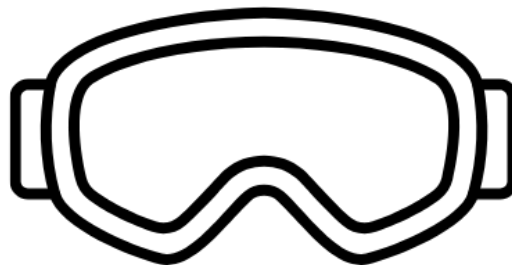
- **Please read and review the "Safety Information" section carefully.**
- Installation should be performed by a qualified personnel only such as a licensed electrician or other qualified professional
- Install in accordance with the regional electrical code where it is being installed
- Ensure that the product specifications of the equipment are compatible with the system and the panel type where it is being installed.
- Identify the location of service disconnect. It may be outside of the panel.
- Ensure the work environment is clean with additional lighting available.
- Identify empty breakers or breakers that can be tapped for voltage monitoring. The number required corresponds to the system phases.
- The following items are recommended:



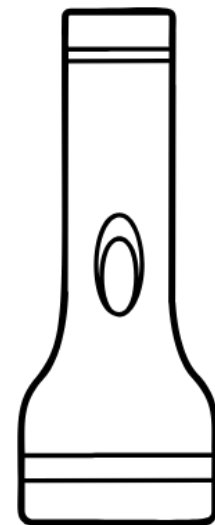
Insulated gloves



Phillips and flathead screwdrivers



Protective eyewear



Alternative light source

- Before installing the Wi-Fi version of this equipment, use a smartphone to check the Wi-Fi signal strength near the electrical panel in your home.



How to Improve Wi-Fi quality

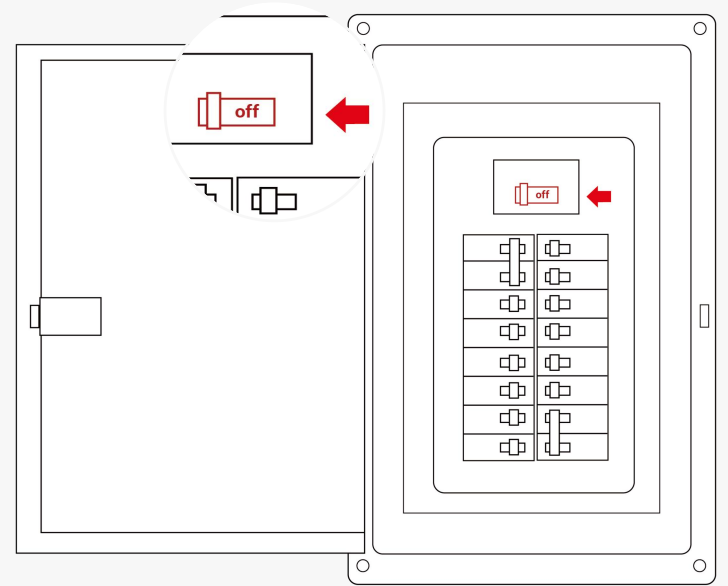
If you notice weak or no Wi-Fi signal near your home's electrical panel, you may need a Wi-Fi repeater or bridge. You can add a new Wi-Fi router and configure it to operate in Repeater Mode or Bridge Mode, depending on your home setup.

Step 1: Turn off power

Installation of the SDM02 requires removal of all power. Be sure to provide an alternate light source before beginning the installation procedures. Do not begin the installation procedures until all power is completely removed from the equipment including any alternate power sources.

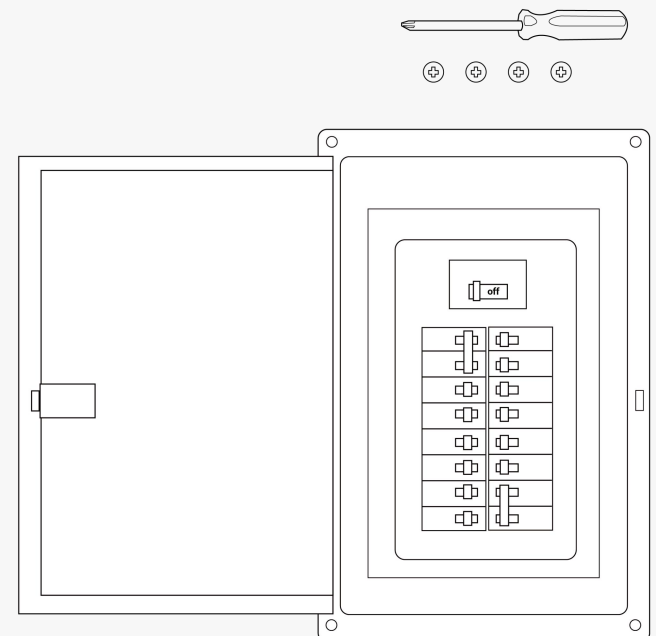
Please note:

1. Turn OFF the main feeder disconnect that supplies power to the equipment, or if the installation uses the revenue meter for isolation, arrange for the utility provider to remove power. If a main feeder disconnect is not present and the revenue meter cannot be used as an isolation device, contact the utility company for removal of power.
2. Turning OFF only the main circuit breaker is insufficient to remove power completely from the panel. Line side connections will still be live.
3. Apply the appropriate lockouts to the disconnecting means.
4. Remove all alternate power sources connected to the equipment, such as solar, battery and generator.



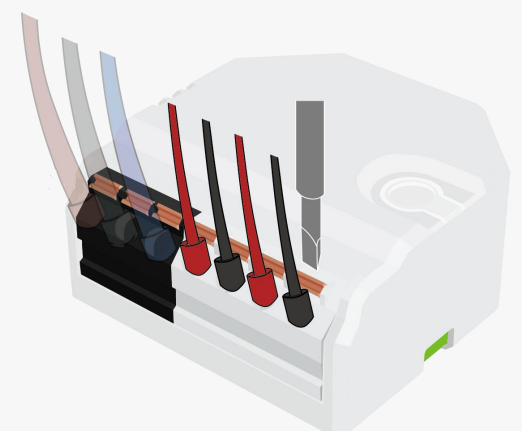
Step 2: Remove panel cover

1. Apply appropriate personal protective equipment.
2. Remove the cover screws and remove the load center cover.
3. Measure the voltage from each line to neutral and from line to line to confirm that all power is OFF.



Step 3 (Optional) : Connect the main module

If the voltage tapping cables are not yet connected to your SDM02 main module, please attach them to the L1, L2, and N terminals. Additionally, ensure that the sensor module wires are securely inserted into the I1 and I2 slots of the SDM02 monitor. (Red/White for "+" and Black for "-").

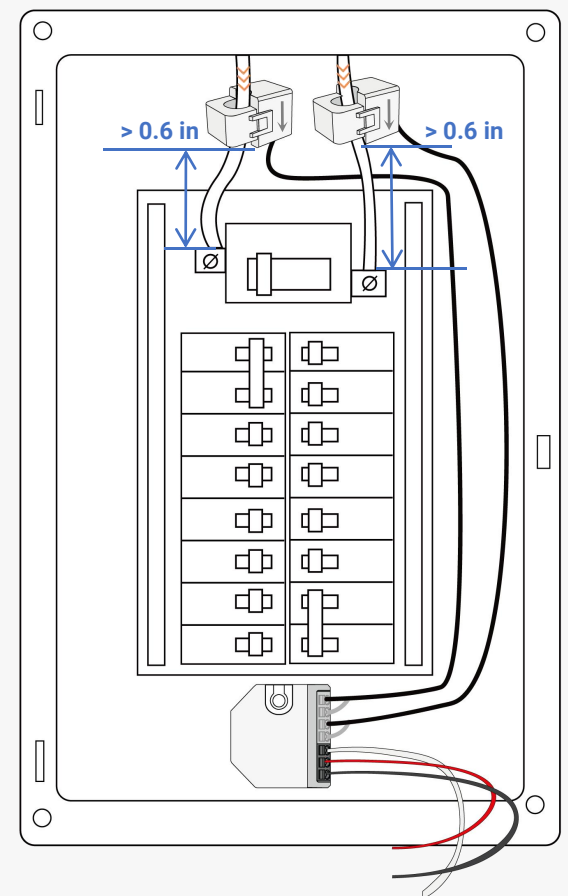


Step 4: Connect the current sensors

Open the clasps on the CTs and place each clamp around one of the main service cables, between the utility meter and the incoming line-side inverter taps. Then, close the clasps to secure the CTs.

IMPORTANT:

1. The energy flowing  in the same direction as the energy flow arrow printed on the sensor housing  is counted as forward energy.
2. Secure the current transformer firmly and route conductors so that the CT and conductors maintain a minimum clearance of 15 mm (or more, per applicable standards) from live terminals or bus bars.



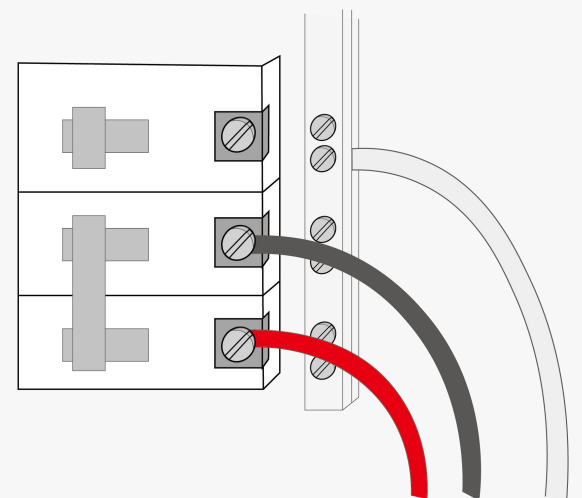
Step 5: Connect the power wires

Connect the power cable L1 and L2 to an empty 240V breaker and the N cable to the neutral bus bar. SDM02 draws less than 0.1A, so you should use the smallest 240V breaker available for your panel.

If no empty breaker slot is available, you may:

- Add a new 240 V breaker;
- Terminate on an existing breaker with a lug rated for two conductors; or
- Use a splice (pigtail) connection to combine conductors.

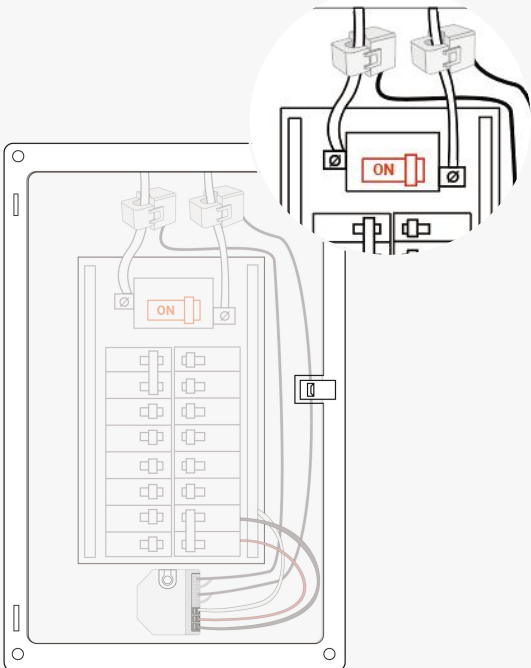
For all wiring methods, ensure compliance with the NEC and the breaker manufacturer's installation requirements.



Step 6: Close the panel, then turn power ON

Replace the panel cover carefully to ensure that there is no pressure on the sensor clamps that would cause them to open. Label the SDM02 circuit breaker with the included sticker.

Once the panel is closed, restore power to the panel. The SDM02 will automatically enter into pairing mode.



Step 7: Use the app to complete setup

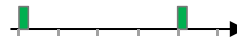
Download the Smart Life App from the App Store or Google Play. Open the app, tap “Home”, then tap the “+” icon in the top right corner to go to the Add Device page. Follow the on-screen instructions to complete Wi-Fi setup and account registration.

IMPORTANT: If you notice weak or no Wi-Fi signal near your home’s electrical panel, you may need a Wi-Fi repeater or bridge. You can add a new Wi-Fi router and configure it to operate in Repeater Mode or Bridge Mode, depending on your home setup.



Smart Life App

Indicator Light Description

 0s	 0s 1s 2s 3s 4s 5s	 0s 1s 2s 3s 4s 5s	 0s 1s 2s 3s 4s 5s	 0s 1s 2s 3s 4s 5s	 0s 1s 2s 3s 4s 5s
Solid ON Device connected - the device is online and functioning normally with cloud connectivity.	Flashing at 2Hz Pairing mode – press and hold the reset button until the LED flashes rapidly.	Flashing at 0.5Hz Reconnecting to network - the device is attempting to reconnect using saved network settings.	Flashing at 1Hz Network connected, cloud unreachable - the device is connected to Wi-Fi, but failed to reach the cloud.	Flashing at 0.25Hz The device failed internal self-check. Please power off, restart, and reconfigure the network settings.	Flashing at 1Hz Alarm reminder - The device has detected a fault. Please check the wiring and power supply.