SolarEdge

StorEdge Solution Applications

Connection and Configuration Guide

For North America

Version 1.0

StorEdge™ Solution Applications – Connection and Configuration (North America)

Contents

Introduction

SolarEdge's StorEdge Solution can be used for various applications that enable energy independence for system owners, by utilizing a battery to store power and supply power as needed. The StorEdge Solution is based on and managed by the StorEdge Inverter with Backup (referred to as "StorEdge inverter" or "inverter" throughout the document) for both PV and battery management, and is compatible with the Tesla Powerwall Battery.

This document describes the main operating modes and applications of the StorEdge Solution with Backup.

NOTE

The StorEdge inverter requires CPU version 3.18xx and above. If an upgrade is required contact SolarEdge support for an upgrade file and instructions.

StorEdge Operation Modes

Backup Power with Smart Energy Management

Use some of the stored energy for backup power and the rest for smart energy management applications (detailed below). The StorEdge inverter monitors the grid, and when there is a power outage, it automatically switches to backup mode, disconnecting from the grid and supplying power to backed-up loads.

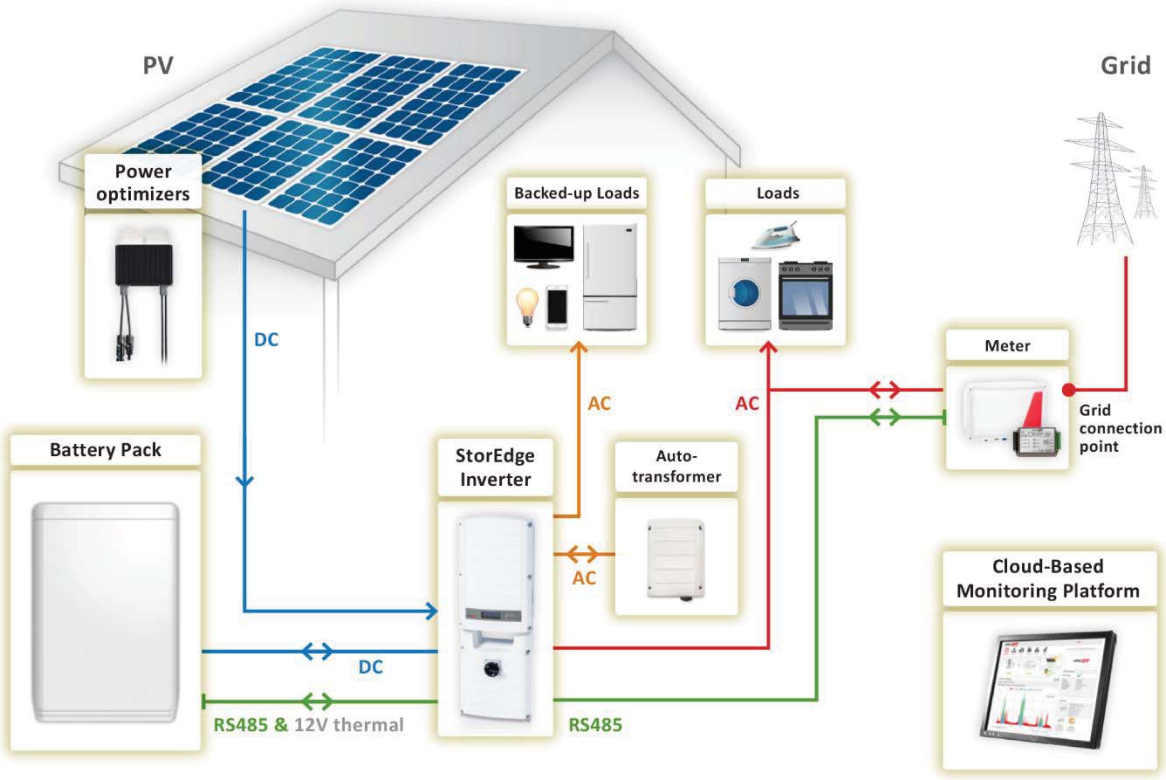


Figure 1: Backup with Smart Energy Management

Backup Power Only

Use stored energy for backup power only. The StorEdge inverter monitors the grid, and when it is down it automatically switches to backup mode, disconnecting from the grid and supplying power to backed-up loads. In cases where battery charging from the grid is permitted, this mode can be used without PV modules.

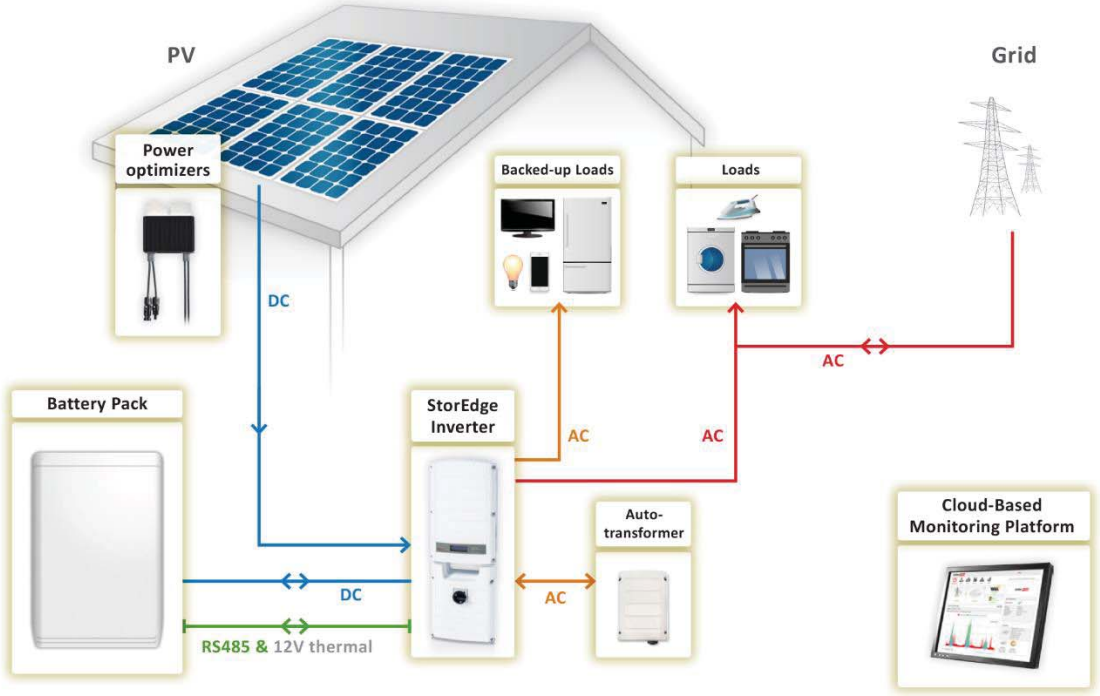


Figure 2: Backup power only

Smart Energy Management Only

Use stored energy for smart energy management applications (detailed below). In cases where battery charging from the grid is permitted, this mode can be used without PV modules.

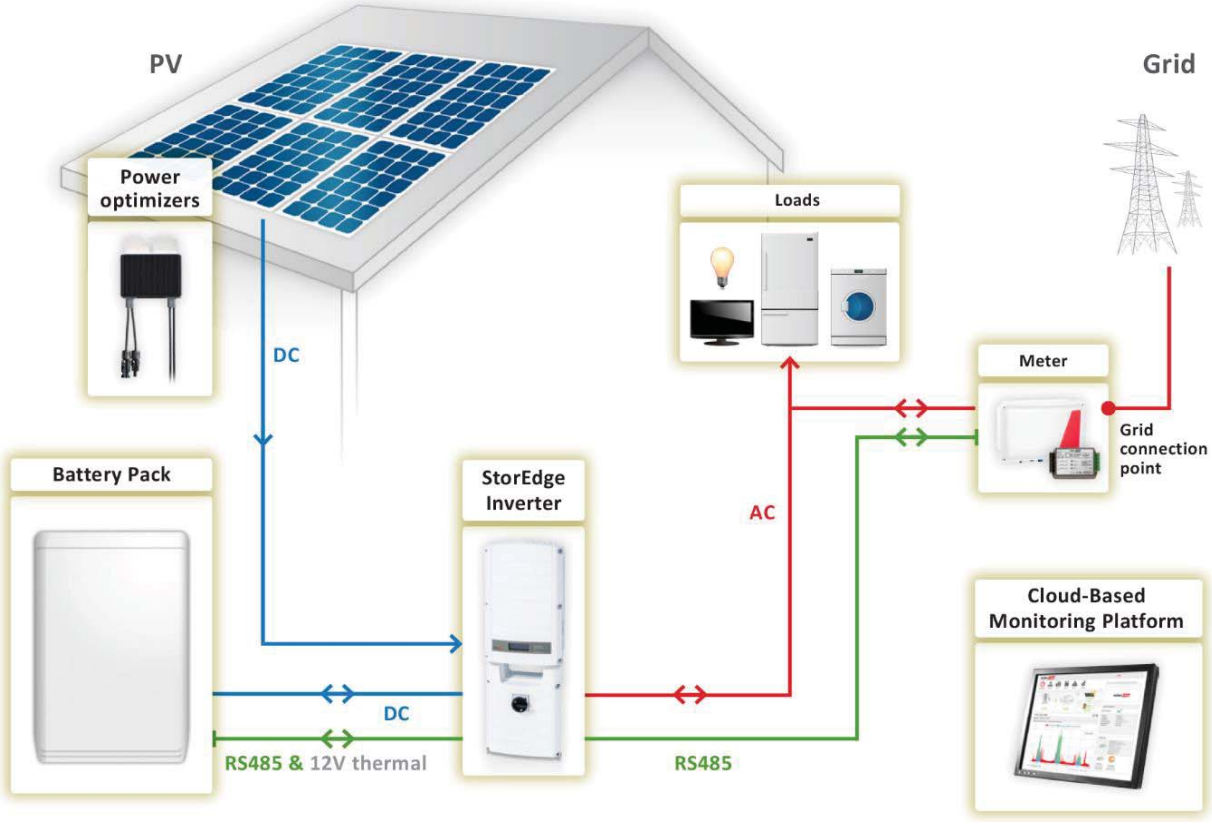


Figure 3: Smart Energy Management only

In addition to these three modes, the StorEdge inverter can be used without a battery as a PV inverter with no StorEdge applications.

NOTE

For configuring the inverter when not using any StorEdge applications, refer to Appendix E - StorEdge Inverter without a Battery.

NOTE

The StorEdge inverter requires CPU version 3.18xx and above. If an upgrade is required contact SolarEdge support for an upgrade file and instructions.

All modes can be used together with the export limitation application. For details on export limitation, refer to http://www.solaredge.com/files/pdfs/export_limitation_application_note_NA.pdf.

Smart Energy Management Applications

Two of the main Smart Energy Management applications are described in this document:

- **Maximize self-consumption** – the battery is automatically charged and discharged to meet consumption needs and reduce the amount of electricity purchased from the grid.
- **Charge/discharge profile programming** – the system operates according to a configurable charge/discharge profile, for example for time of use arbitrage (charge the battery from PV/grid when tariffs are low and discharge it when tariffs are high).

System Components

The StorEdge Solution with Backup comprises the following components:

- **StorEdge Inverter with Backup** – the single phase StorEdge inverter manages battery and system energy in addition to its traditional functionality as a DC-optimized PV inverter. The inverter connects to the battery through fuses and supplies 12V to the battery for thermal control.

  NOTE

  The StorEdge inverter requires CPU version 3.18xx and above. If an upgrade is required contact SolarEdge support for an upgrade file and instructions.

  A **revenue grade StorEdge Inverter with Backup** is available. It includes a built-in revenue grade meter that measures inverter production.

  NOTE

  When using a revenue grade StorEdge inverter :
  - The built-in meter is pre-configured as **Meter 1** and as a **Production** meter.
  - The **Prot** and ## in the Communication status screen will increase by 1. For example, if there is an internal meter, an external meter and a battery, the screen should display Prot=03 and ##=03.
- **Auto-transformer** – The auto-transformer is used for phase balancing in case of backup power: it supplies the inverter's 240V output to the 120V backed-up loads. It is not required if the system is working in Smart Energy Management mode.
- **SolarEdge Electricity Meter** – the meter is used by the inverter for import/export or consumption readings, and manages the battery charge/discharge accordingly for Smart Energy Management applications; the meter readings are displayed in the SolarEdge monitoring portal. The meter is optional for Backup Power only mode.
- **Battery Pack for Daily Cycle Applications** – a DC-coupled battery designed to work with the StorEdge solution
- **Backed-up loads panel** – loads that should be supplied with backup power in case of a power outage should be wired through a separate load panel. In systems with multiple StorEdge inverter, a backed-up loads panel is required for each inverter.
- **Optional: RS485 Expansion Kit** – the kit is used for systems with more than one SolarEdge inverter or systems with a third party controller, and provides an additional RS485 port within the inverter for connection.

System Operating Modes and Configurations

There are various StorEdge system configurations, suitable for different PV systems user needs.

Some system configurations have multiple StorEdge inverters. The inverters are connected to each other with RS485 and appear under a single site in the monitoring portal.

The next chapters describe each of these configurations for each of the three modes described above, and the required system setup via the inverter LCD and internal buttons and via the monitoring portal (where applicable).

Related Documentation

For detailed installation and configuration instructions of the system components, refer to the following installation guides:

- StorEdge inverter and auto-transformer: http://www.solaredge.com/files/pdfs/storedge_backup_installation_guide_NA.pdf
- SolarEdge Electricity Meter: http://www.solaredge.com/files/pdfs/solaredge-meter-installation-guide-na.pdf
- RS485 Expansion Kit: http://www.solaredge.com/files/pdfs/RS485_expansion_kit_installation_guide.pdf

Backup Power with Smart Energy Management - System Configurations

In this mode, some of the battery energy is reserved for backup power and the rest can be used for Smart Energy Management applications. In case of a power outage, the inverter automatically switches to backup mode, disconnecting from the grid and supplying power to backed-up loads.

The configurations described in this section are the following:

Table 1: Backup Power with Smart Energy Management Configurations

Use Case	Description	Page
Basic Configuration	Basic configuration is based on one of each of the StorEdge components and is suitable for most residential systems.	*8*
Large Residential PV Systems	For residential sites with large PV systems, a StorEdge inverter and a SolarEdge single phase inverter may be installed together. The StorEdge inverter manages the battery and functions as a PV inverter, and the second inverter is used for production of the additional PV power. During power outages, the StorEdge inverter provides power to backed-up loads, and the second inverter remains shut down until the grid is back.	*12*
Additional Capacity with Two Batteries	For sites where additional battery capacity is needed (for example, to enable backed-up loads to be powered from the battery for longer periods), two batteries may be connected to a single StorEdge inverter. In this configuration, only one battery operates at any given time – i.e. the two batteries provide additional capacity only, not additional power.	*13*
Additional Capacity and Power	For sites where additional capacity and power are needed (for example, to enable more backed-up loads to be powered simultaneously). In this case two StorEdge inverters and two batteries may be installed[1]. Each battery connects through a separate StorEdge Inverter, and each inverter manages the battery and the PV connected to it. Backed-up loads are connected to each inverter through separate load panels and auto-transformers. The inverter connected to the meter operates as the system manager.	*15*
AC Coupling using a non-SolarEdge Inverter	For sites with an already installed PV system with a non-SolarEdge inverter, the StorEdge inverter can be AC-coupled to the existing inverter, i.e. the StorEdge inverter used to manage the battery is connected to the AC output of the existing inverter and charges the battery using the PV power produced by the non-SolarEdge inverter.	*16*
AC Coupling without a PV System	For backup power with charge/discharge profile programming a StorEdge system may be installed without a PV system. In this case, the battery is charged from the AC grid only.	*17*

[1] Additional capacity and power with one inverter will be supported in H2 2016 and will require new battery and inverter hardware.

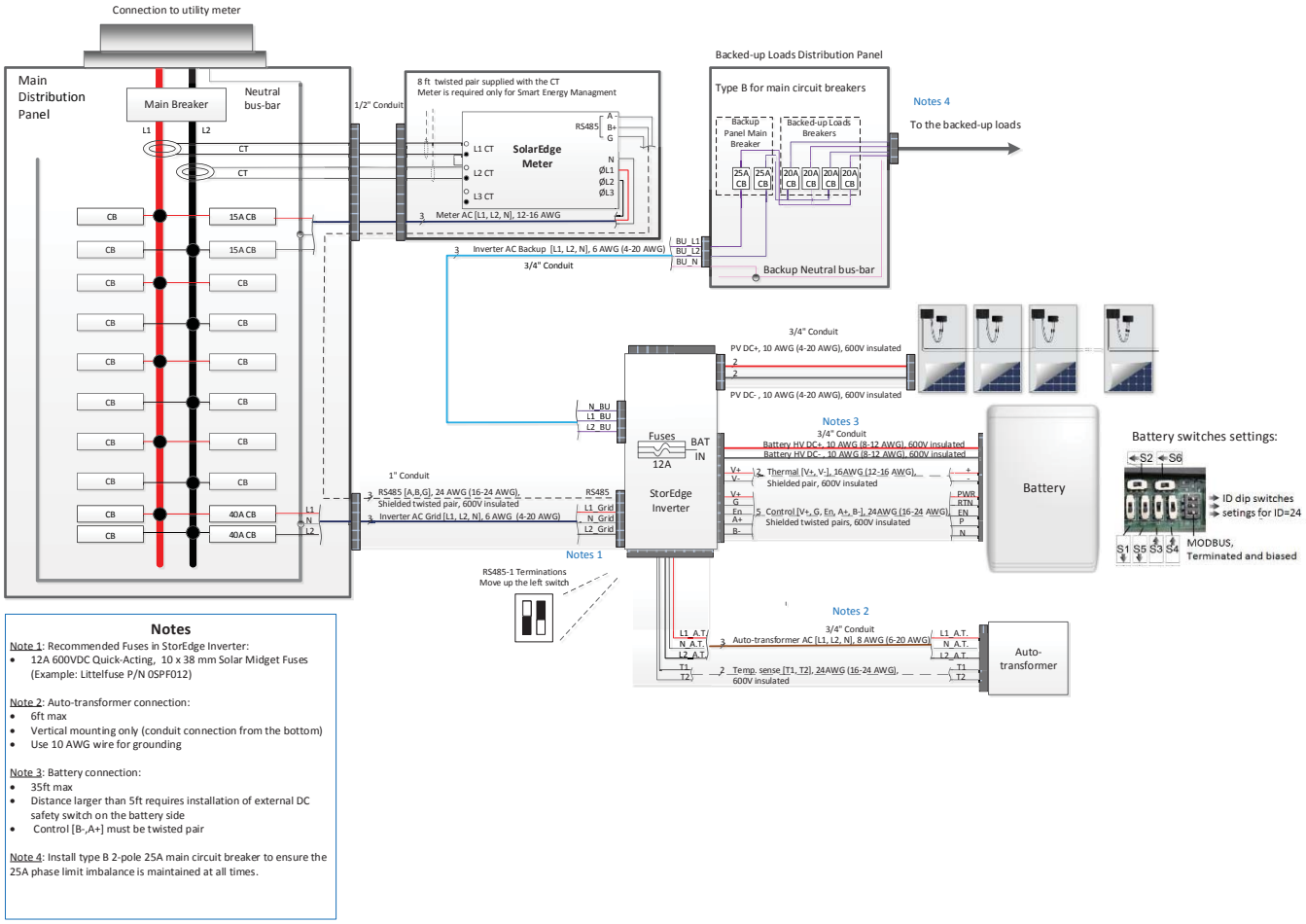
For configurations with more than one SolarEdge inverter, the inverters are connected to each other with RS485, with one inverter configured as the master and connected to the SolarEdge monitoring server. An RS485 Expansion Kit is installed in the inverter for connection of the meter on a second RS485 bus.

System Connection

The following diagram illustrates the connection of the system components when using the basic configuration for backup power with Smart Energy Management: one StorEdge inverter, one auto-transformer, one meter and one battery. For enlarged segments of this diagram, refer to *Appendix D – Detailed System Connection*.

NOTE

Install the GFDI (Ground-Fault Detector Interrupter) in accordance with applicable local standards and directives.



Notes

Note 1: Recommended Fuses in StorEdge Inverter:
- 12A 600VDC Quick-Acting, 10 x 38 mm Solar Midget Fuses (Example: Littelfuse P/N 0SPF012)

Note 2: Auto-transformer connection:
- 6ft max
- Vertical mounting only (conduit connection from the bottom)
- Use 10 AWG wire for grounding

Note 3: Battery connection:
- 35ft max
- Distance larger than 5ft requires installation of external DC safety switch on the battery side
- Control [B-,A+] must be twisted pair

Note 4: Install type B 2-pole 25A main circuit breaker to ensure the 25A phase limit imbalance is maintained at all times.

Figure 4: Backup Power with Smart Energy Management - Basic Configuration

The following diagram shows the RS485 termination switch location on the inverter communication board (SW7) and on the RS485 Expansion Kit (RS485 module).

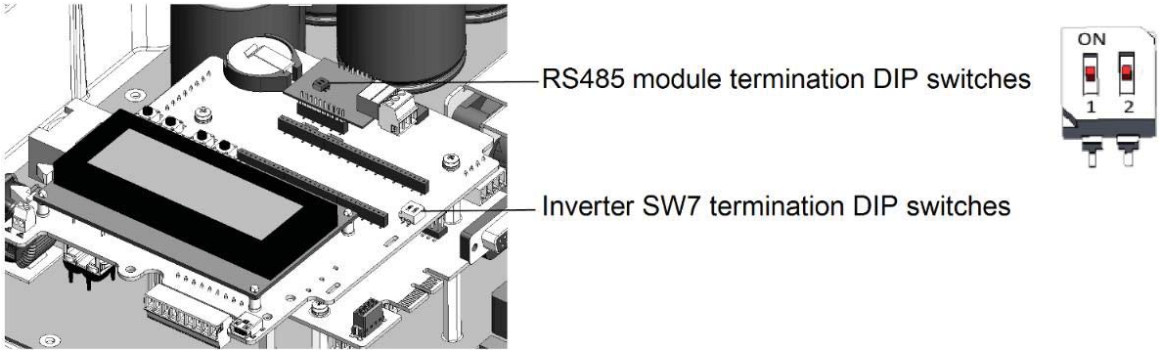


Figure 5: RS485 termination switch location

The following diagram illustrates the connection of the system components when using two batteries. In this case, an external fused combiner box is needed. For enlarged segments of this diagram, refer to *Appendix D – Detailed System Connection*.

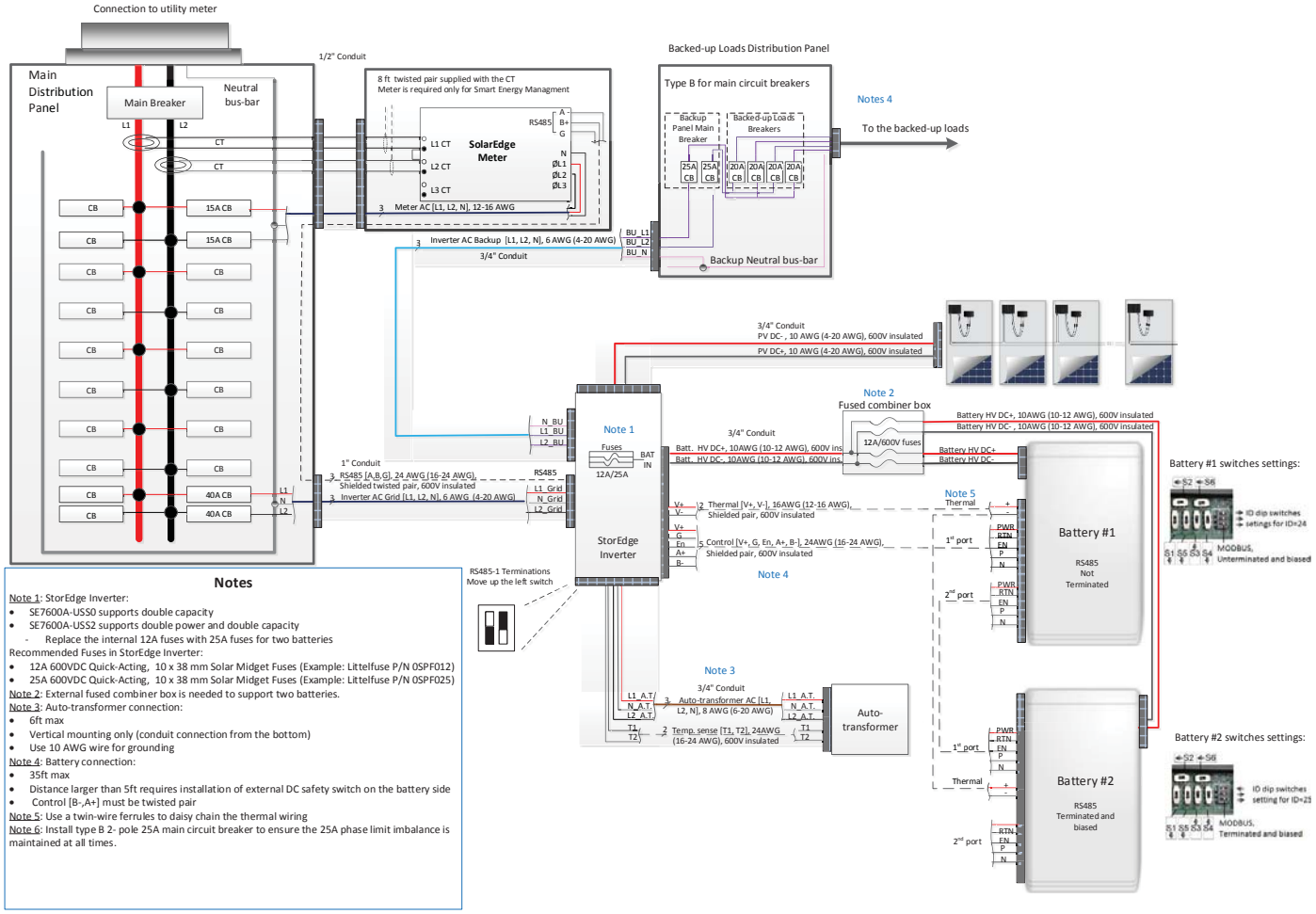


Figure 6: Backup Power with Smart Energy Management - Two-Battery Configuration

Basic Configuration

This configuration is based on one of each of the StorEdge components and is suitable for most residential systems.

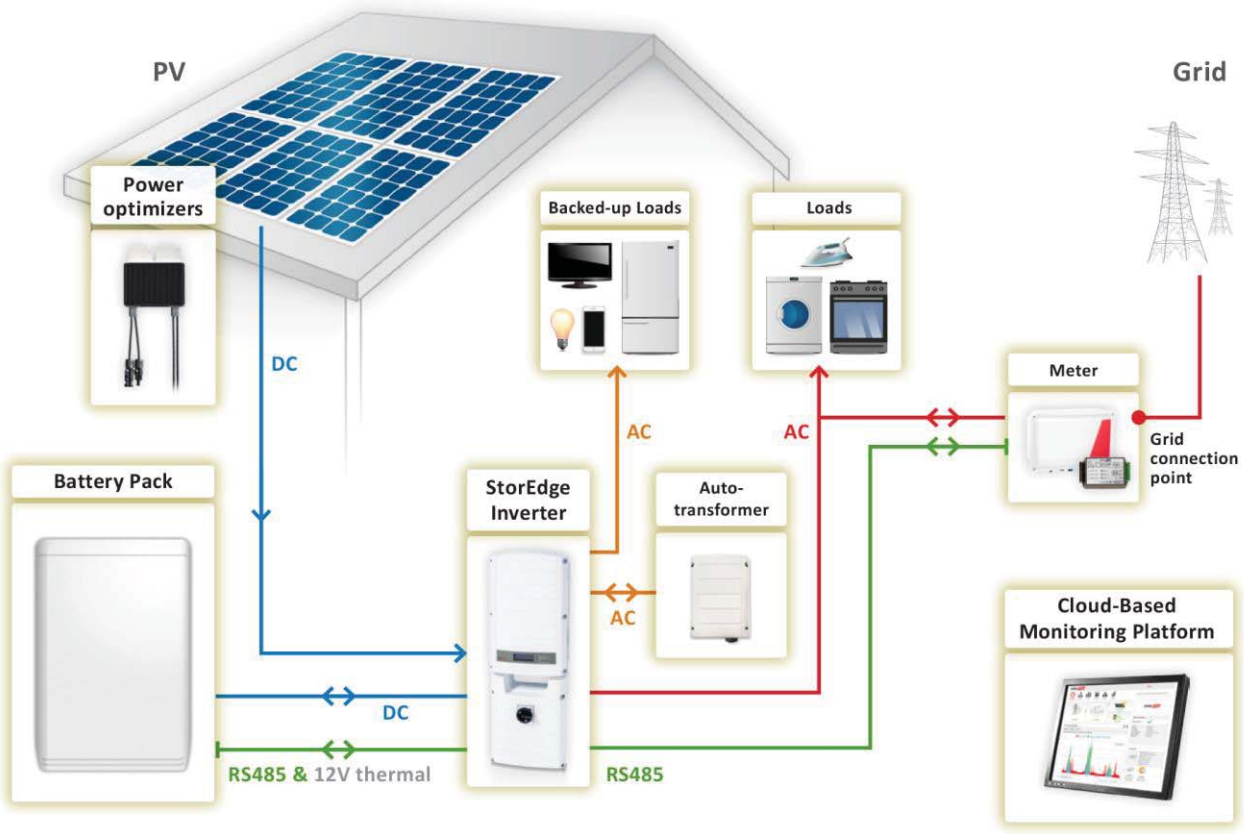
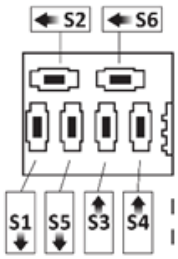


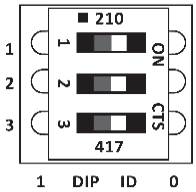
Figure 7: Backup Power with Smart Energy Management - Basic configuration

► To configure the meter and the battery:

1 Terminate the battery connected on the RS485 bus:



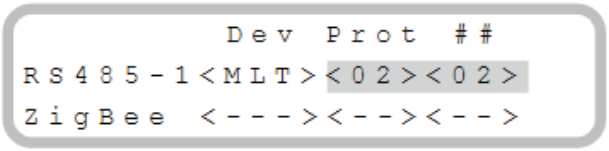
2 Set the battery's dip switches to ID 24: Move all dip switches to position 0 (to the right):



3 Make sure the wiring is connected according to the diagram above.

4 Upgrade the inverter firmware using the card supplied with the StorEdge Inverter. This will also configure the meter and the battery.

5 Check the Communication status screen and verify that the battery and the meter are properly connected and configured:
Prot – Displays how many devices are communicating with the inverter on the RS485-1 bus.
– Displays how many devices are configured to communicate with the inverter on the RS485-1 bus.



6 If **Dev** is not **MLT**, the system is not pre-configured and requires full configuration. Proceed with step 9 below. Otherwise, proceed with steps 6- 8.

- If **## < 02**, the meter and/or the battery are not configured correctly. Check the configuration. Proceed with step 9 below.
- If **Prot < 02,** the meter and/or the battery is not communicating correctly. Check the configuration and wiring connection.
- If **Prot = 02** – the battery and meter are configured and communicating properly. Proceed with step 7 below.

7 Set the meter CT rating to the correct value in order to complete the meter setting. Select **Communication ➔ RS485-1 Conf ➔ Meter 2**. The meter configuration screen is displayed. Configure the meter:

8 Set the CT value that appears on the CT label: **CT Rating ➔** <**xxxxA**> (use the up/down arrows to set each character, press Enter to set the character and move to the next one, long press on Enter to set the value)
Skip steps 9 – 15 and proceed with backup power setup as described below.

9 Select **Communication ➔ RS485-1 Conf ➔ Device Type ➔ Multi-devices**. A list of devices is displayed.

10 Select **Meter 2**. The meter configuration screen is displayed. Configure the meter:

11 Select Device Type ➔ Revenue Meter

12 Set the CT value that appears on the CT label: **CT Rating ➔** <**xxxxA**> (use the up/down arrows to set each character, press Enter to set the character and move to the next one, long press on Enter to set the value)

13 Select **Meter Func.** and select the function according to the meter CT(s) location:

- **Export + Import**: meter CT(s) at grid connection point (as shown in Figure 7: Backup Power with Smart Energy Management - Basic configuration)
- **Consumption**: meter CT(s) at load consumption point

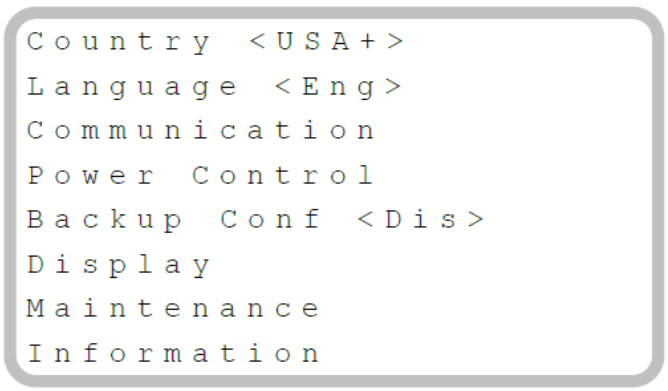
14 Select **Battery 1**. The battery configuration screen is displayed. Configure the battery:

15 Select Device Type ➔ Battery Pack

► To setup Backup Power:

1 To **Enable** backup capability:

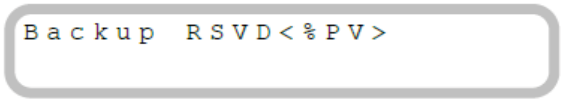
- Enter Setup mode to display the main menu:



- From the main menu, select **Backup Conf**.
- Select **Backup** and set it to **Enable.**

2 To set a minimum battery charge level, so that the battery will always have energy stored in case backup power is needed, do the following:

- Select Power Control ➔ Energy Manager ➔ Storage Control. The following is displayed:



- Select **Backup RSVD** and set the required level as percentage of the battery capacity. Set **%PV** according to user requirement.

3 After configuring the meter, the battery and backup power, proceed with Smart Energy Management application configuration for maximize self-consumption or for charge/discharge profile programming.

▶ To set up Maximize Self-consumption:

1 Select Power Control ➔ Energy Manager ➔ Energy Ctrl ➔ Max Self-Consume.

▶ To set up Charge/Discharge Profile Programming:

1 Select Power Control ➔ Energy Manager ➔ Energy Ctrl ➔ Time of Use.

2 Profile loading can be done remotely from the monitoring portal or locally from the inverter using a micro-SD card. Refer to *Appendix A – Creating a Charge/Discharge Profile* on page 32 for information on creating a charge/discharge profile file.

3 For remote loading:

- In the monitoring portal, click the **Admin** icon and select the **Energy Manager** tab.
- Select **Set profile from server** and from the drop down list select a profile. If no available profile is suitable, contact SolarEdge support.
- Press **Save** and in the pop-up window select **Yes** to apply the profile. The profile will be loaded to the inverter upon next connection (normally within 5 minutes; if communications are down it will be uploaded when communications are restored)

NOTE

If the system is connected to the server with a GSM modem and with a SolarEdge data plan, loading can take place up to 4 hours after applying from portal.

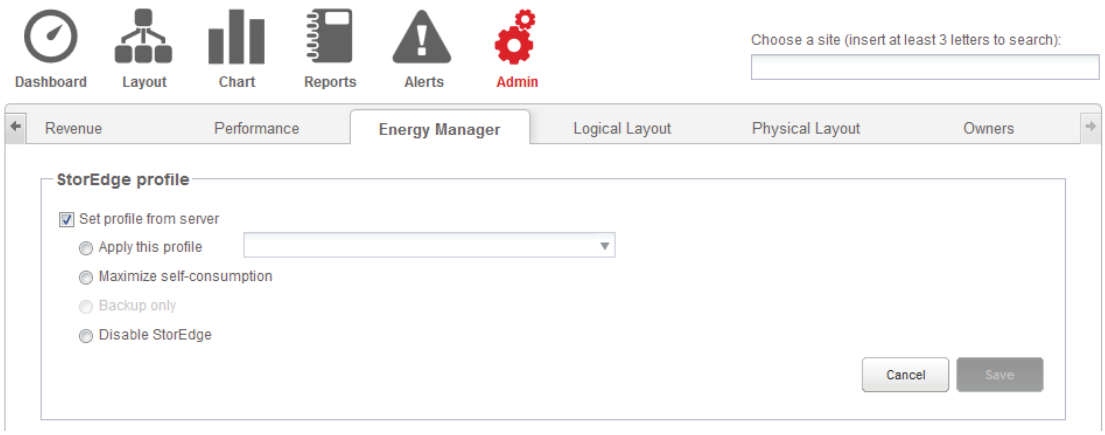


Figure 8: Profile programming screen

4 For local loading using a micro-SD card:

- Select Energy Manager ➔ Set Calendar.
- Insert the card with the profile file to the slot on the inverter communication board.
- Select **Load SD**.

5 If the charge/discharge profile includes battery charge from the AC grid, this must be enabled, either from the inverter or as part of the profile file. Refer to the *Appendix A – Creating a Charge/Discharge Profile* for information on enabling this as part of the file.

NOTE

Use battery charge from AC grid only if permitted by local regulations.

▶ To enable from the inverter:

1 Select Energy Manager ➔ Storage Control.

2 Select AC Charge ➔ Enable.

3 Select **AC Charge Lim ➔ Limit Type** and set one of the limits:

4 Set **%PV** to enter a limit as a percentage of year-to-date energy production.

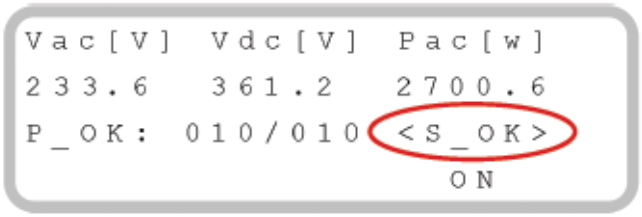
5 Set **kWh** to enter a fixed annual energy limit.

► To verify communication:

After connecting and configuring a communication option, perform the following steps to check that the connection to the monitoring server has been successfully established.

1 Turn on the AC to the inverter by turning ON the circuit breaker on the main distribution panel.

2 Wait for the inverter to connect to the SolarEdge monitoring portal. This may take up to two minutes.
A status screen similar to the following appears on the LCD panel:



S_OK: Indicates that the connection to the SolarEdge monitoring portal is successful.
If S_OK is not displayed and/or errors are displayed on the LCD, refer to Errors and Troubleshooting in http://www.solaredge.com/files/pdfs/products/inverters/se-single-and-three-phase-inverter-user-manual-na.pdf.

3 For additional verification, refer to Appendix C – Verifying StorEdge Functionality on page 35.

Large Residential PV Systems

For residential sites with large PV systems, a StorEdge inverter and a SolarEdge single phase inverter may be installed together. The StorEdge inverter manages the battery and functions as a PV inverter, and the second inverter is used for production of the additional PV power. During power outages, the StorEdge inverter provides power to backed-up loads, and the second inverter remains shut down until the grid is back.

An RS485 Expansion Kit (available from SolarEdge) is installed in the inverter connected to the battery.

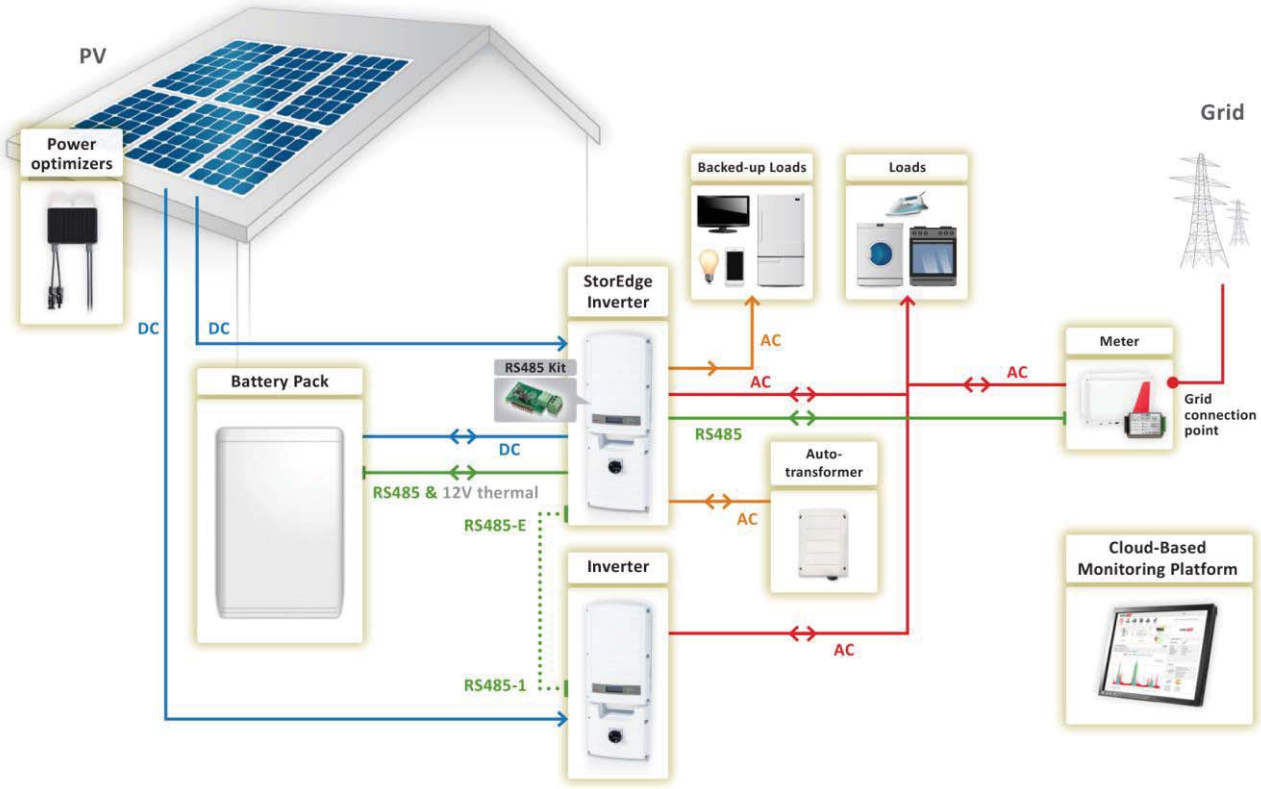


Figure 9: Backup Power with Smart Energy Management - Large residential PV systems

► To configure inverter RS485 Communication:

1. Install the RS485 Expansion Kit in the StorEdge inverter.
2. Connect the StorEdge inverter RS485 Expansion port the second inverter's RS485-1 port using an RS485 twisted pair cable. Terminate both sides. From the StorEdge inverter:
3. Select **Communication ➔ RS485-E Conf ➔ Enable**. Press Enter to continue.
4. Select Protocol ➔ Master
5. Select **Slave Detect**. Verify that the inverter reports the correct number of slaves.

The second inverter does not require communication configuration.

► To configure the system:

1. Configure the meter, battery and backup power of the StorEdge inverter as described in the *Basic Configuration* on page 8.
2. Configure the second inverter as described in http://www.solaredge.com/files/pdfs/products/inverters/se-single-and-three-phase-inverter-user-manual-na.pdf.

► To set up Smart Energy Management:

After configuring the meter, battery and backup power, proceed with maximizing self-consumption or charge/discharge profile programming on StorEdge inverter as described in the *Basic Configuration* on page 10.

► To verify communication:

Verify communication as described in the *Basic Configuration* on page 11.

Additional Capacity with Two Batteries

For sites where additional battery capacity is needed (for example, to enable backed-up loads to be powered from the battery for longer periods), two batteries may be connected to a single StorEdge inverter.

In this configuration, only one battery operates at any given time – i.e. the two batteries provide additional capacity only, not additional power.

The DC connection of the two batteries to the StorEdge Inverter is done in parallel through an external fused combiner box (not provided by SolarEdge), with a fuse rating of 12A/600V.

The control and thermal connection of the second battery is daisy chained to that of the first battery.

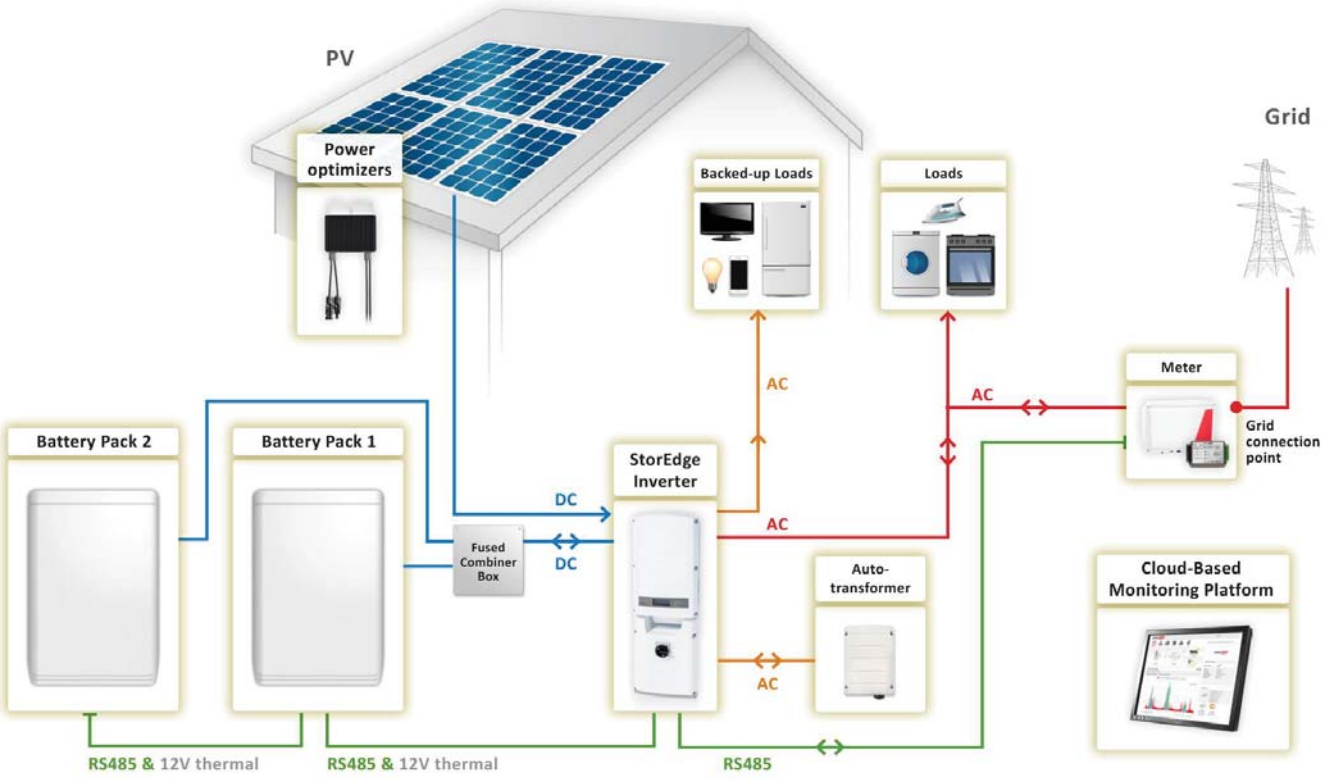


Figure 10: Backup Power with Smart Energy Management - Additional capacity with two batteries

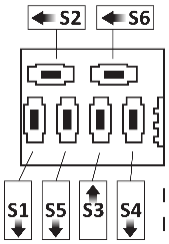
► To configure the system:

For battery RS485 settings:

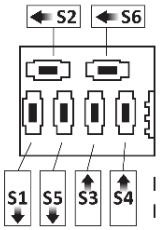
- Battery 1 is not terminated with ID: 24 and
- Battery 2 is terminated with ID: 25

1 Terminate the battery which is connected last on the RS485 bus (battery 2), and make sure the other battery (battery 1) is not terminated:

Battery 1 - Unterminated battery:

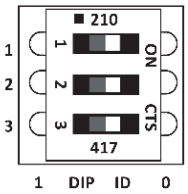


Battery 2 - Terminated battery:

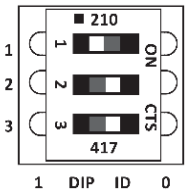


2 Set the dip switches of Battery 2 to ID 25: Move dip switch 1 to position 1 (to the left), move dip switches 2 and 3 to position 0 (to the right).

Battery 1 – ID 24:



Battery 2 - ID 25:



3 Configure the meter, Battery 1 and backup power as described in the *Basic Configuration* on page 8.

4 Configure Battery 2:

5 Select **Communication ➔ RS485-1 Conf ➔ Device Type ➔ Multi-devices**. A list of devices is displayed.

6 Select **Battery 2**. The battery configuration screen is displayed.

7 Configure the battery: Select **Device Type ➔ Battery Pack**.
Battery 2 is pre-configured to Tesla with device ID **25**.

► Set up Smart Energy Management

After configuring the meter, battery and backup power, proceed with maximizing self-consumption or charge/discharge profile programming as described in the *Basic Configuration* on page 10.

► Verifying Communication:

Verify communication as described in the *Basic Configuration* on page 11.

Additional Capacity and Power

For sites where additional capacity and power are needed (for example, to enable more backed-up loads to be powered simultaneously), two StorEdge inverters and two batteries may be installed[2]. Each battery connects through a separate StorEdge Inverter, and each inverter manages the battery and the PV connected to it. Backed-up loads are connected to each inverter through separate load panels and auto-transformers The inverter connected to the meter operates as the system manager.

An RS485 Expansion Kit (available from SolarEdge) is installed in each of the inverters.

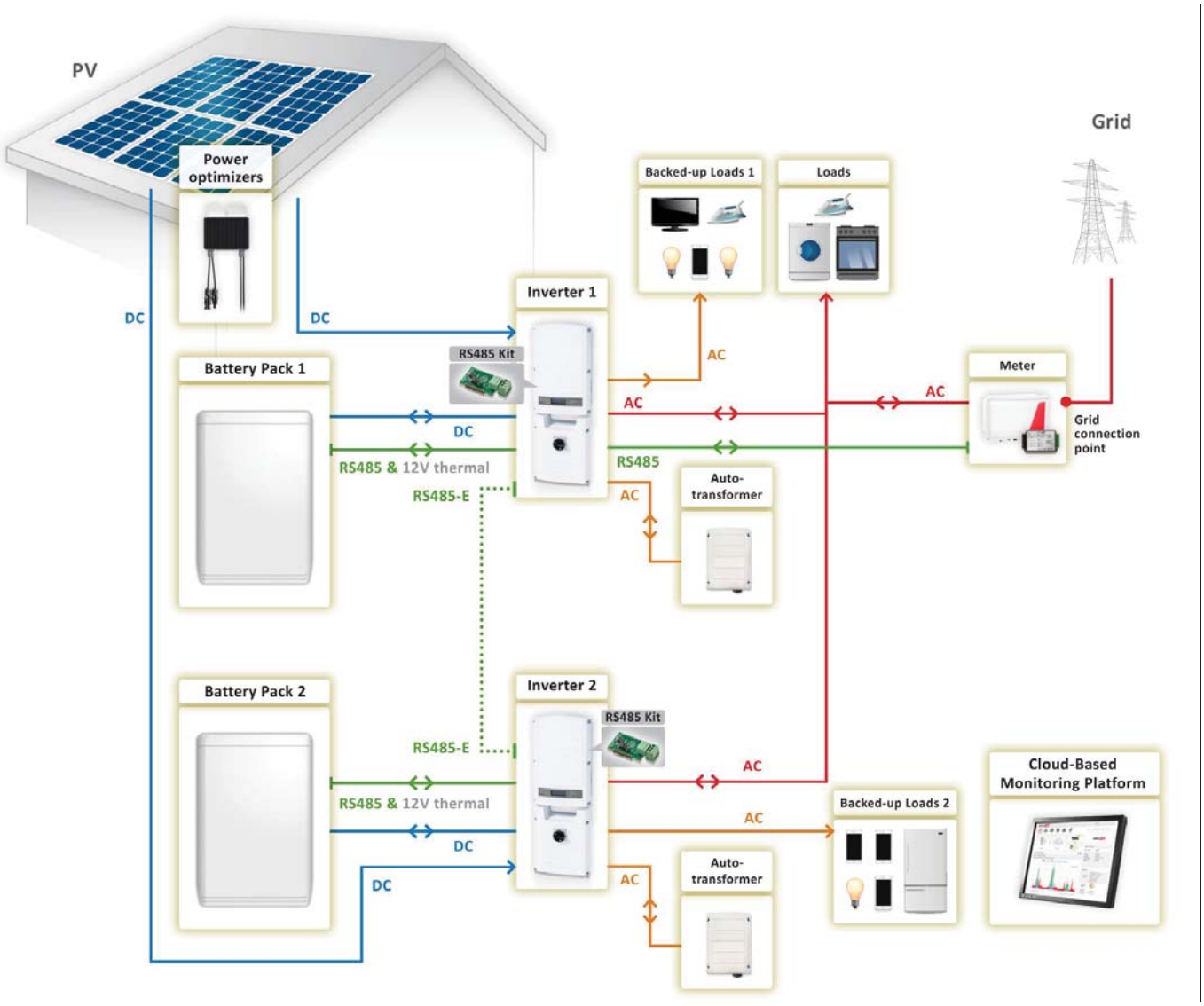


Figure 11: Backup Power with Smart Energy Management - Additional capacity and power

► To configure RS485 Communication:

1. Install an RS485 Expansion Kit in each inverter.
2. Connect inverter 1 RS485 Expansion port to inverter 2 RS485 Expansion port using an RS485 twisted pair cable. Make sure to terminate both sides.
3. Configure inverter 2 RS485 Expansion port: Select **Communication → RS485-E Conf → Enable**.
4. Configure inverter 1 RS485 Expansion port:
   - Select **Communication → RS485-E Conf → Enable**. Press Enter to continue.
   - Select Protocol → Master
   - Select **Slave Detect** on inverter 1. Verify that the inverter reports the correct number of slaves.

[2] Additional capacity and power with one inverter will be supported in H2 2016 and will require new battery and inverter hardware.

► To configure the system:

1 Configure the meter, battery and backup power of inverter 1 as described in the *Basic Configuration* on page 8.

2 Configure the battery and backup power of inverter 2 as described in the *Basic Configuration* on page 8.

3 Make sure that the meter is not configured on inverter 2:

- Select Communication ➔ RS485-1 Conf ➔ Device Type ➔ Multi-devices.
- Select Meter2 ➔ Meter Type ➔ None.

► To set up Smart Energy Management:

After configuring the meter, battery and backup power, proceed with maximizing self-consumption or charge/discharge profile programming as described in the *Basic Configuration* on page 10. Repeat this configuration for each of the inverters.

► To verify communication:

Verify communication of both inverters as described in the *Basic Configuration* on page 11.

AC Coupling using a non-SolarEdge Inverter

For sites with an already installed PV system with a non-SolarEdge inverter, the StorEdge inverter can be AC-coupled to the existing inverter, i.e. the StorEdge inverter used to manage the battery is connected to the AC output of the existing inverter and charges the battery using the PV power produced by the non-SolarEdge inverter. In this configuration StorEdge inverter charges the battery using the PV power produced by a non-SolarEdge inverter.

NOTE

The meter is used for Smart Energy Management and does not measure the non-SolarEdge inverter production. The production and self-consumption information in the moniotring portal does not take into account this production.

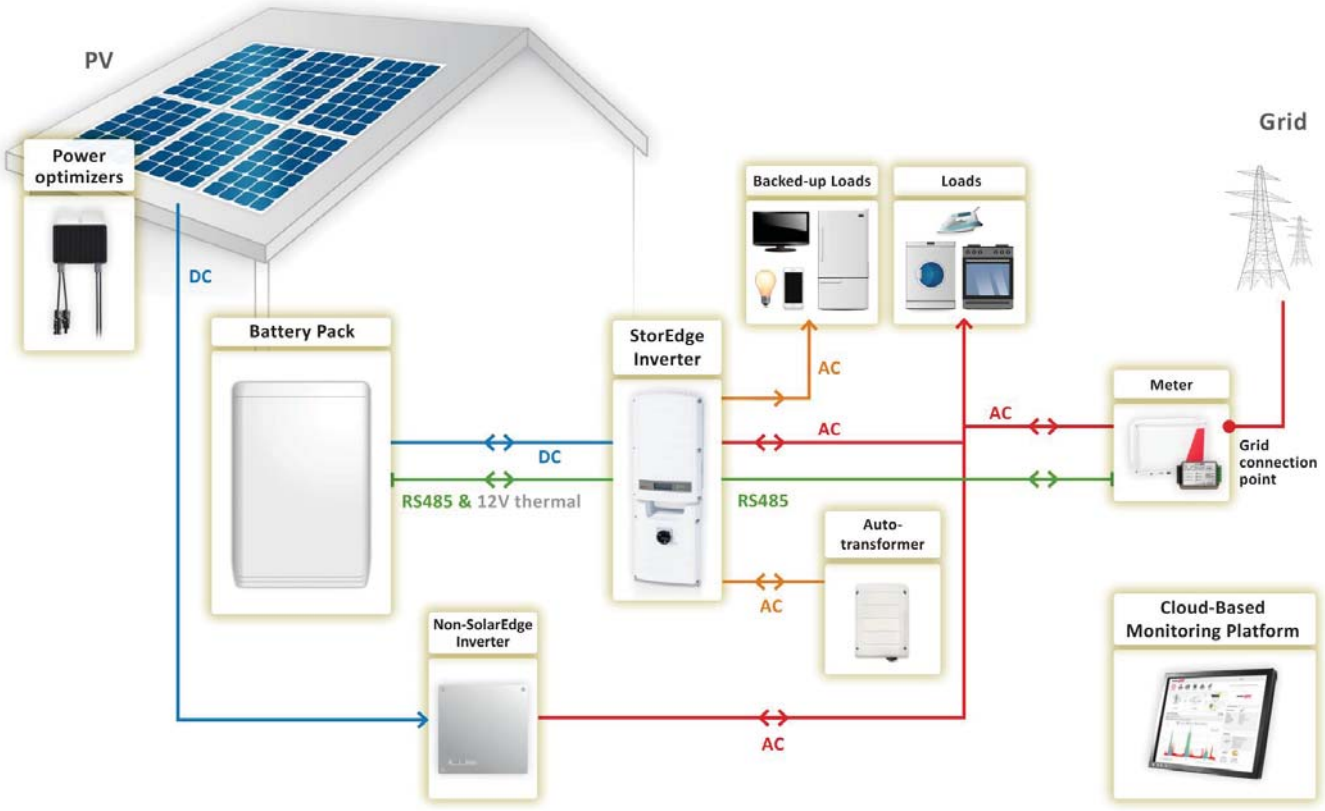


Figure 12: Backup Power with Smart Energy Management - AC Coupling using a non-SolarEdge Inverter

► To configure the meter and the battery:

Configure the meter, battery and backup power as described in the *Basic Configuration* on page 8.

▶ To set up Smart Energy Management:

After configuring the meter, battery and backup power, proceed with maximizing self-consumption or charge/discharge profile programming as described in the *Basic Configuration* on page 10.

▶ To verify communication:

Verify communication as described in the *Basic Configuration* on page 11.

AC Coupling without a PV System

For backup power with charge/discharge profile programming a StorEdge system may be installed without a PV system. In this case, the battery is charged from the AC grid only.

NOTE

For maximizing self-consumption a PV system is required.

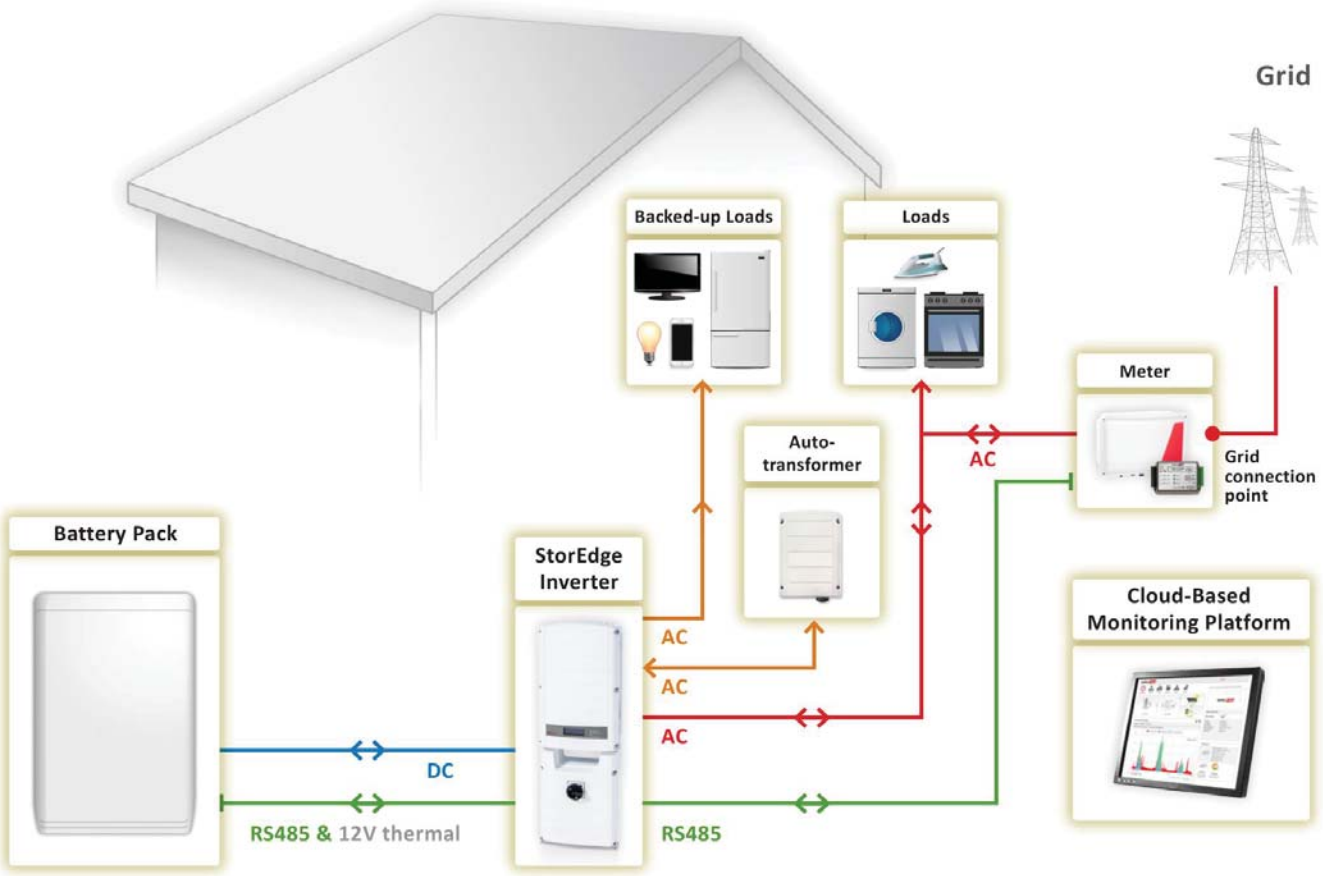


Figure 13: Backup Power with Smart Energy Management - AC coupling without a PV system

▶ To configure the system:

1. Configure the meter, battery and backup power as described in the *Basic Configuration* on page 8.
2. After configuring the meter, battery and backup power, proceed with charge/discharge profile programming as described in the *Basic Configuration* on page 10.

▶ To verify communication:

Verify communication as described in the *Basic Configuration* on page 11.

Backup Power Only - System Configurations

In this mode, stored energy is used for backup power only. In case of a power outage, the inverter automatically switches to backup mode, disconnecting from the grid and supplying power to backed-up loads.

A backup power only system can be upgraded to support Smart Energy Management applications by installing a SolarEdge Electricity Meter and reconfiguring the system as described in *Backup Power with Smart Energy Management - System Configurations* on page 5.

The configurations described in this section are the same as the configurations described above; system diagrams and configuration details are for backup power only (for full descriptions of each configuration refer to *Table 1: Backup Power with Smart Energy Management Configurations* page 5):

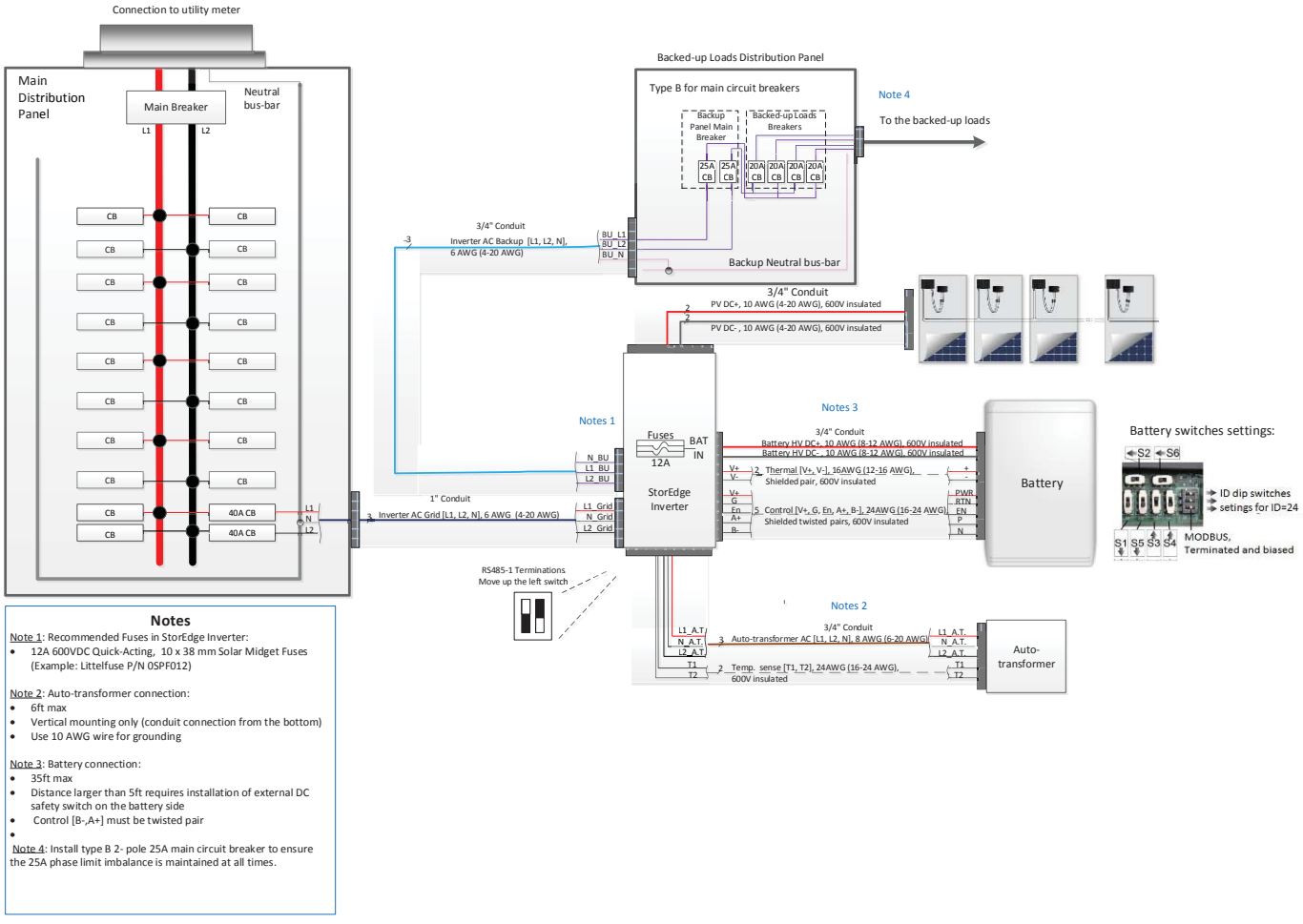
- Basic Configuration
- Large Residential PV Systems
- Additional Capacity with Two Batteries
- Additional Capacity and Power
- AC Coupling using a non-SolarEdge Inverter

System Connection

The following diagram illustrates the connection of the system components when using the basic configuration for backup power only: one StorEdge inverter, one auto-transformer and one battery. For enlarged segments of this diagram refer to Appendix D – Detailed System Connection *on page* 45.

NOTE

Install the GFDI (Ground-Fault Detector Interrupter) in accordance with applicable local standards and directives.



Notes

Note 1: Recommended Fuses in StorEdge Inverter:
- 12A 600VDC Quick-Acting, 10 x 38 mm Solar Midget Fuses (Example: Littelfuse P/N 0SPF012)

Note 2: Auto-transformer connection:
- 6ft max
- Vertical mounting only (conduit connection from the bottom)
- Use 10 AWG wire for grounding

Note 3: Battery connection:
- 35ft max
- Distance larger than 5ft requires installation of external DC safety switch on the battery side
- Control [B-,A+] must be twisted pair

Note 4: Install type B 2- pole 25A main circuit breaker to ensure the 25A phase limit imbalance is maintained at all times.

Figure 14: Backup Power only - Basic Configuration

The following diagram illustrates the connection of the system components when using two batteries. In this case, an external fused combiner box is needed. For enlarged segments of this diagram refer to *Appendix D – Detailed System Connection* on page 45.

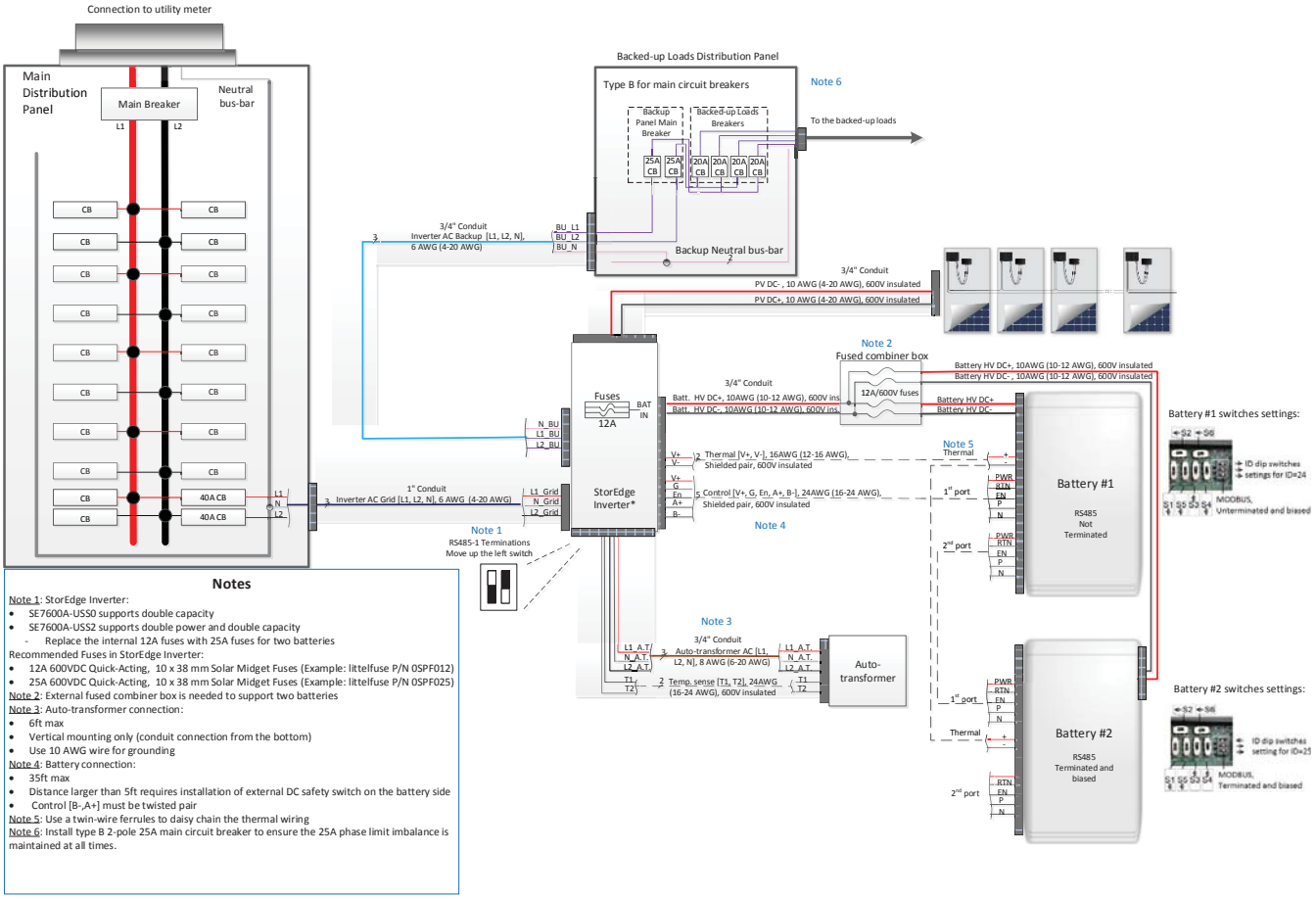


Figure 15: Backup Power only – Two Battery Configuration

Basic Configuration

This configuration is based on one of each of the StorEdge components, other than the SolarEdge Electricity Meter, and is suitable for most residential systems.

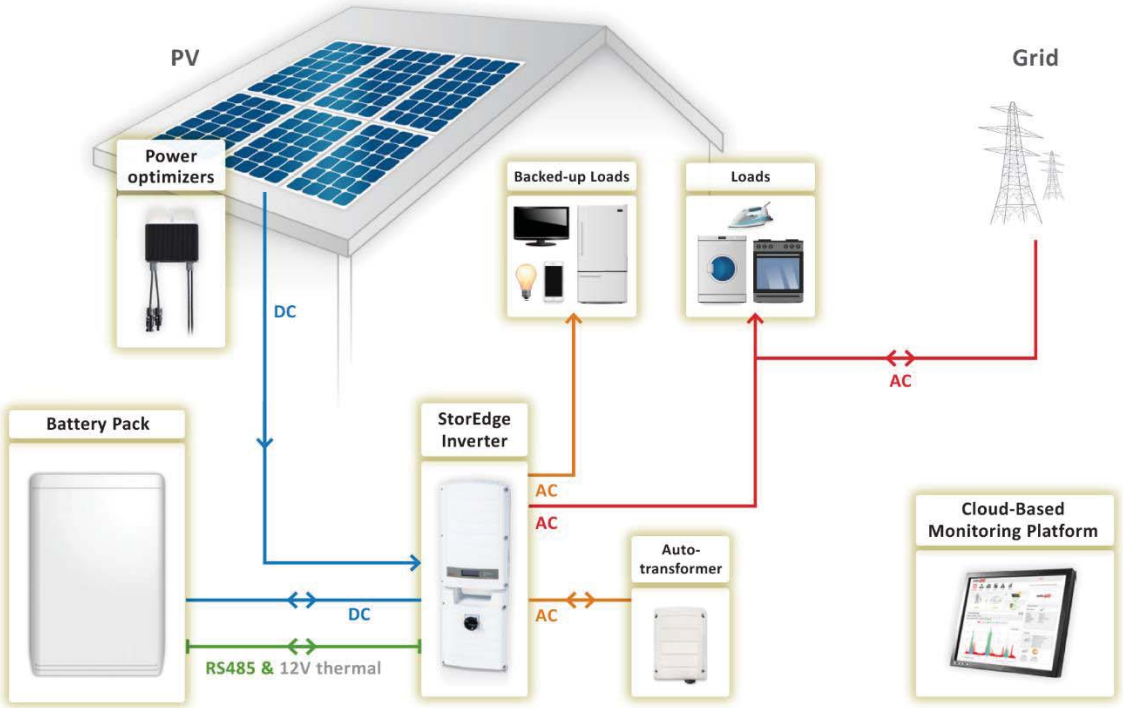
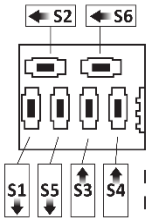


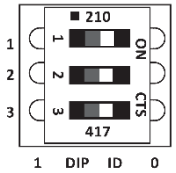
Figure 16: Backup Power only - Basic configuration

► To configure the system:

1 Terminate the battery connected on the RS485 bus:



2 Set the battery's dip switches to ID **24**: Move all dip switches to position 0 (to the right):



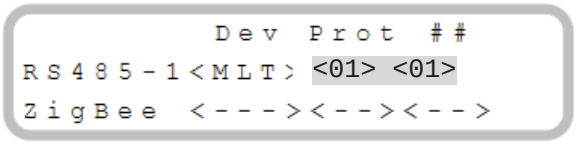
3 Make sure the wiring is connected according to the diagram above.

4 Upgrade the inverter firmware using the card supplied with the StorEdge Inverter. This will also configure the battery.

5 Configure Meter 2 to None:

- Select Communication ➔ RS485-1 Conf ➔ Device Type ➔ Multi-devices.
- Select Meter2 ➔ Meter Type ➔ None.

6 Check the Communication status screen and verify that the battery is properly connected and configured:



7 If Dev is not **MLT**, the system is not pre-configured and requires full configuration. Proceed with step 10 below.

8 If **## ≠ 01 or Prot ≠ 01**, the battery and/or meter are not configured or communicating correctly. Check the configuration. Check the wiring connection. Proceed with step 10 below.

9 If **## = 01 and Prot = 01** – the battery is configured and communicating properly. Skip steps 10 to 13 below and proceed with set up backup power only as described below.

10 Select **Communication ➔ RS485-1 Conf ➔ Device Type ➔ Multi-devices**. A list of devices is displayed.

11 Configure Battery 1:

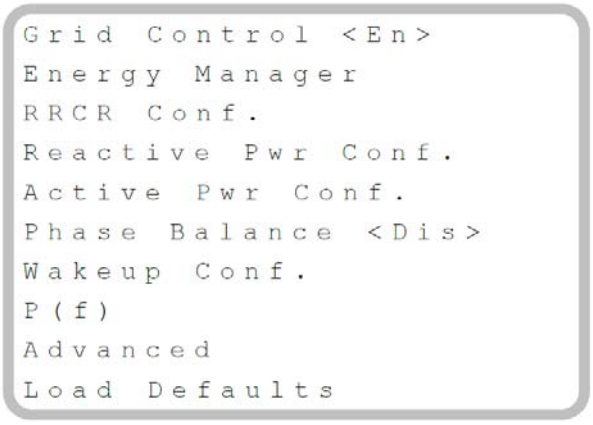
12 Select **Battery 1**. The battery configuration screen is displayed.

13 Configure the battery: **Device Type ➔ Battery Pack**

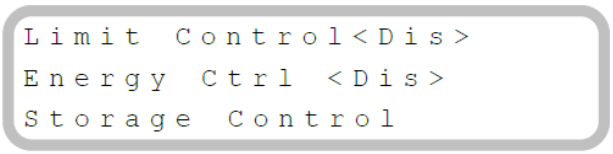
► To set up Backup Power Only:

1 Enter Setup mode to display the main menu.

2 From the main menu, select **Power Control**. A menu similar to the following is displayed:

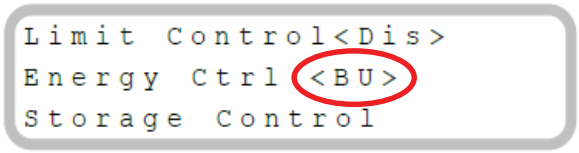


3 Select **Energy Manager**. The following screen is displayed:



4 Select Energy Ctrl.

5 Select **Backup only**. The Energy Manager screen changes to display the following:

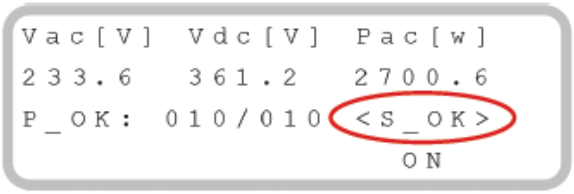


► Verifying Communication:

After connecting and configuring a communication option, perform the following steps to check that the connection to the monitoring server has been successfully established.

1 Turn on the AC to the inverter by turning ON the circuit breaker on the main distribution panel.

2 Wait for the inverter to connect to the SolarEdge monitoring portal. This may take up to two minutes.
A status screen similar to the following appears on the LCD panel:



S_OK: Indicates that the connection to the SolarEdge monitoring portal is successful.
If S_OK is not displayed and/or **errors** are displayed on the LCD, refer to Errors and Troubleshooting in http://www.solaredge.com/files/pdfs/products/inverters/se-single-and-three-phase-inverter-user-manual-na.pdf.

3 For additional verification, refer to *Appendix C – Verifying StorEdge Functionality* on page 35.

Large Residential PV Systems

For residential sites with large PV systems, a StorEdge inverter and a SolarEdge single phase inverter may be installed together. The StorEdge inverter manages the battery and functions as a PV inverter, and the second inverter is used for production of the additional PV power. During power outages, the StorEdge inverter provides power to backed-up loads, and the second inverter remains shut down until the grid is back.

An RS485 Expansion Kit (available from SolarEdge) is installed in the inverter connected to the battery.

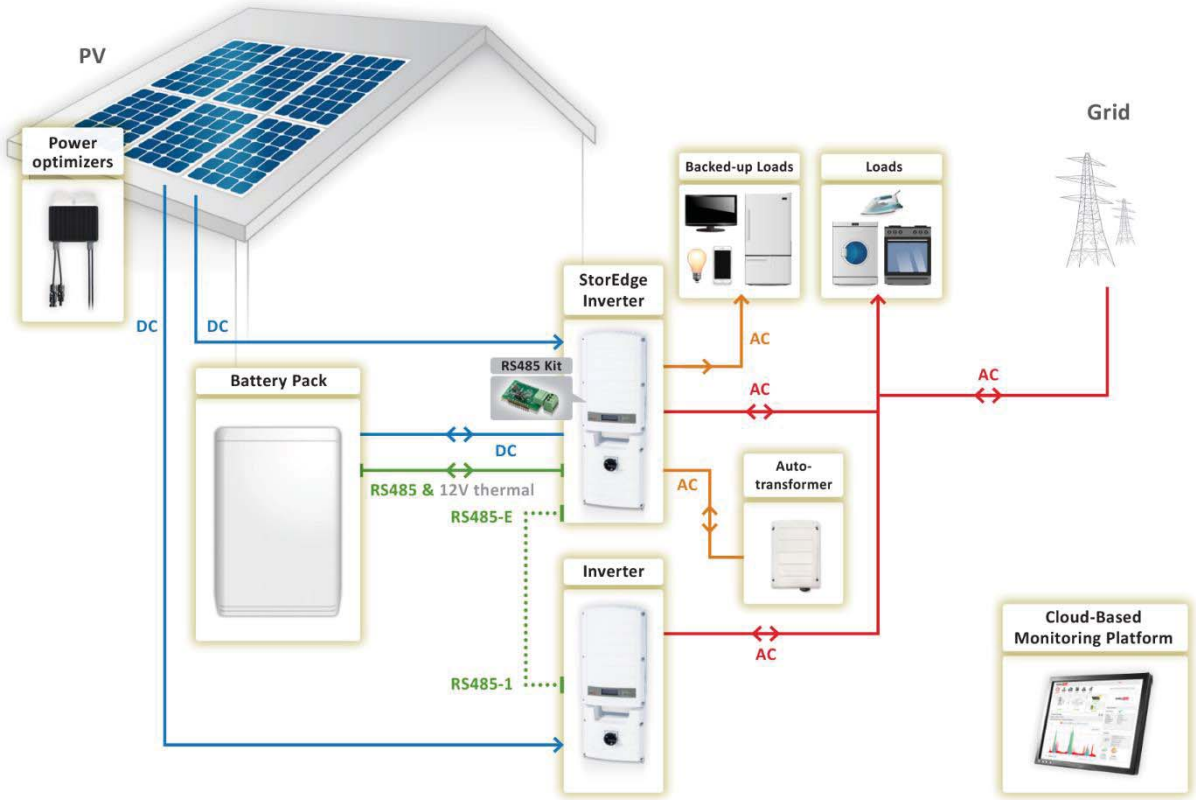


Figure 17: Backup Power Only - Large residential PV systems

► To configure inverter RS485 communication:

1 Install the RS485 Expansion Kit in the inverter connected to the battery (SolarEdge inverter in Figure 17: Backup Power Only - Large residential PV systems).

2 Connect SolarEdge inverter RS485-1 port to SolarEdge standard inverter RS485-1 port using an RS485 twisted pair cable. Terminate both sides.

3 Select **Communication ➔ RS485-E Conf ➔ Enable**. Press Enter to continue.

4 Select Protocol ➔ Master.

5 Select **Slave Detect**. Verify that the inverter reports the correct number of slaves.

6 SolarEdge standard Inverter does not require communication configuration.

► To configure the system:

1 Configure the StorEdge inverter battery and backup power as described in the *Basic Configuration* page 20.

2 Configure the second SolarEdge inverter as described in http://www.solaredge.com/files/pdfs/products/inverters/se-single-and-three-phase-inverter-user-manual-na.pdf.

► To verify communication:

Verify SolarEdge inverter communication as described in the Basic Configuration on page 21.

Additional Capacity with Two Batteries

For sites where additional battery capacity is needed (for example, to enable backed-up loads to be powered from the batteries for longer periods), two batteries may be connected to a single StorEdge Inverter.

In this configuration, only one battery operates at any given time – i.e. the two batteries provide additional capacity only, not additional power.

The DC connection of the two batteries to the StorEdge Inverter is done in parallel through an external fused combiner box (not provided by SolarEdge), with a fuse rating of 12A/600V.

The control and thermal connection of the second battery is daisy chained to that of the first battery.

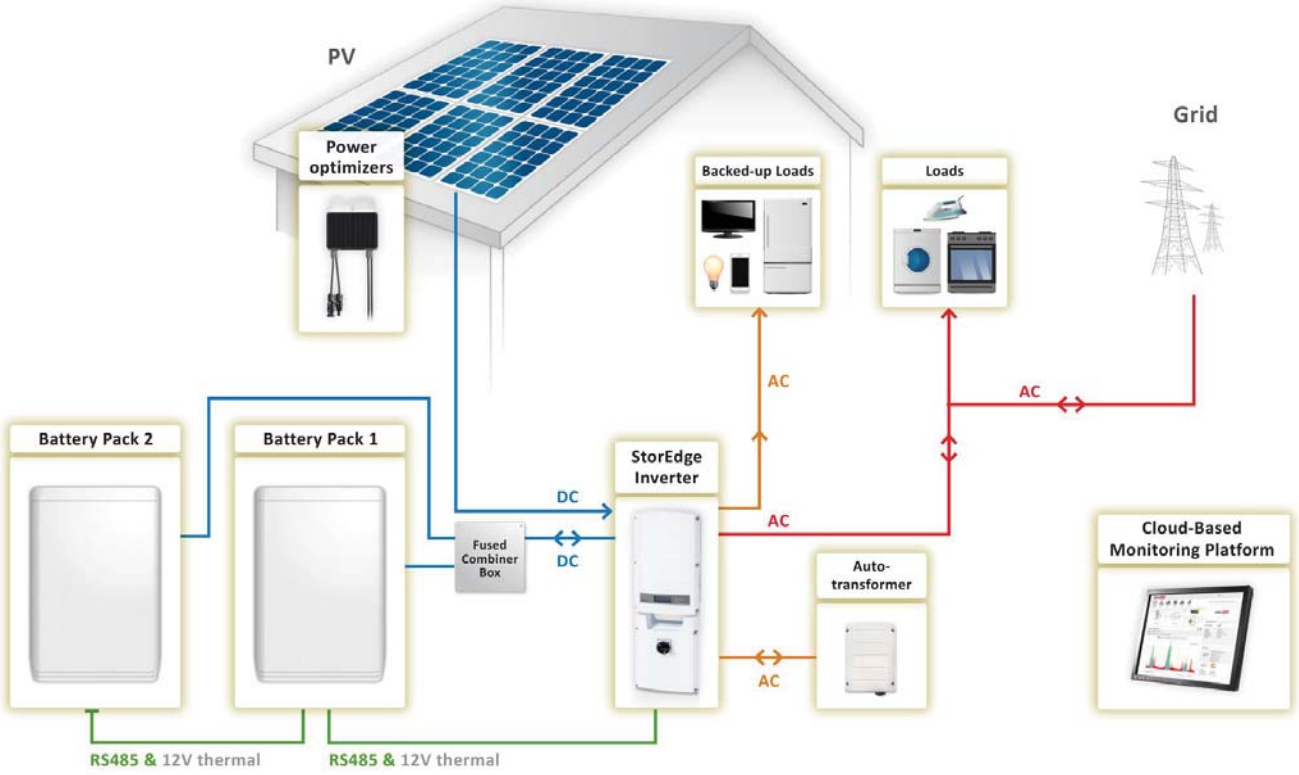
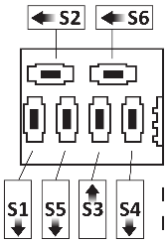


Figure 18: Backup Power Only - Additional capacity with two batteries

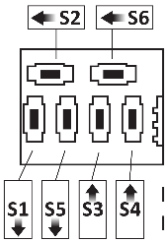
► Configure the System:

1 Terminate the battery which is connected last on the RS485 bus (battery 2), and make sure the other battery (battery 1) is not terminated:

Battery 1 - Unterminated battery:

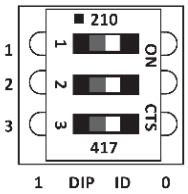


Battery 2 - Terminated battery:

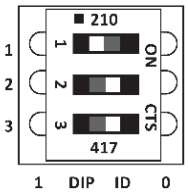


2 Set the dip switches of Battery 2 to ID 25: Move dip switch 1 to position 1 (to the left), move dip switches 2 and 3 to position 0 (to the right).

Battery 1 – ID 24:



Battery 2 - ID 25:



3 Configure Battery 1 and backup power as described in the *Basic Configuration* on page 20.

4 Configure Battery 2:

5 Select **Communication ➔ RS485-1 Conf ➔ Device Type ➔ Multi-devices**. A list of devices is displayed.

6 Select **Battery 2**. The battery configuration screen is displayed.

7 Configure the battery: Select **Device Type ➔ Battery Pack**.
Battery 2 is pre-configured to Tesla with device ID **25**.

► To verifying communication:

Verify communication as described in the *Basic Configuration* of page 20.

Additional Capacity and Power

For sites where additional capacity and power are needed (for example, to enable more backed-up loads to be powered simultaneously), two StorEdge inverters and two batteries may be installed[3]. Each battery connects through a separate StorEdge Inverter, and each inverter manages the battery and the PV connected to it. Backed-up loads are connected to each inverter through separate load panels and auto-transformers The inverter connected to the meter operates as the system manager. An RS485 Expansion Kit (available from SolarEdge) is installed in each of the inverters.

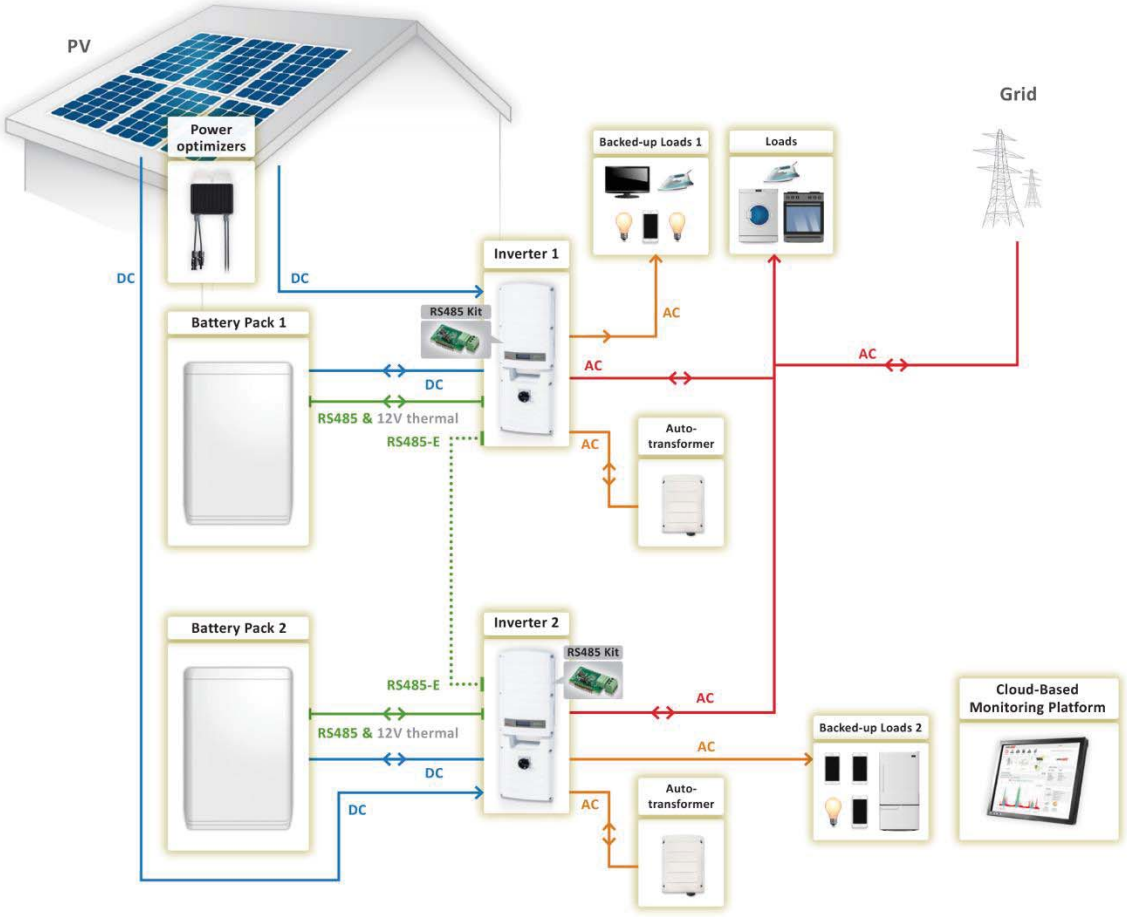


Figure 19: Additional capacity and power

► To configure RS485 Communication:

1. Install an RS485 Expansion Kit in each inverter.
2. Connect inverter 1 RS485 Expansion port to inverter 2 RS485 Expansion port using an RS485 twisted pair cable. Make sure to terminate both sides (see Figure 5).
3. Configure inverter 2 RS485 Expansion port: Select **Communication → RS485-E Conf → Enable**.
4. Configure inverter 1 RS485 Expansion port:
   - Select **Communication → RS485-E Conf → Enable**. Press Enter to continue.
   - Select Protocol → Master.
5. Configure inverter 2 an RS485 Expansion port:
   - Select **Communication → RS485-E Conf → Enable**. Press Enter to continue.
   - Make sure that the connection is configured to Slave. Select **Protocol → Slave**
   - Establish communication between inverter 1 and inverter 2:
   - Select **Slave Detect** on inverter 1. Verify that the inverter reports the correct number of slaves. It needs to be done before configuring slave inverters.

[3] Additional capacity and power with one inverter will be supported in H2 2016 and will require new battery and inverter hardware.

▶ To configure the inverters:

Configure the battery and backup power of both inverters as described in the *Basic Configuration* on page 20..

▶ To verify communication:

Verify communication of both inverters as described in the *Basic Configuration* on page 21.

AC Coupling using a non-SolarEdge Inverter

For sites with an already installed PV system with a non-SolarEdge inverter, the StorEdge inverter can be AC-coupled to the existing inverter, i.e. the StorEdge inverter used to manage the battery is connected to the AC output of the existing inverter and charges the battery using the PV power produced by the non-SolarEdge inverter.

NOTE

The non-SolarEdge inverter production is not measured. The production information in the moniotring portal does not take into account this production.

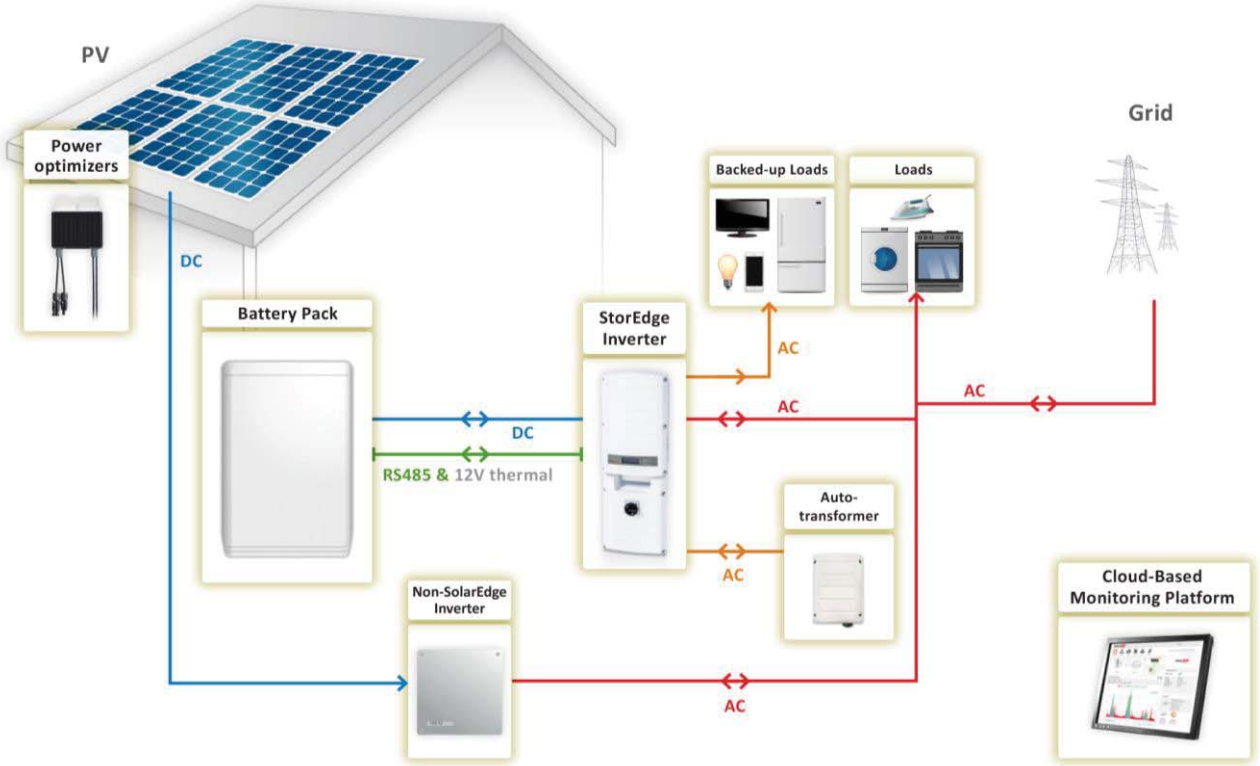


Figure 20: Backup Power Only - AC Coupling using a non-SolarEdge Inverter

▶ To configure the system:

1 Configure the battery and backup power of the StorEdge inverter as described in the *Basic Configuration* on page 20.

▶ To verify the communication:

Verify communication as described in the *Basic Configuration* on page 21.

Smart Energy Management Only - System Configurations

In this mode stored energy is used for Smart Energy Management applications only:

- **Maximize self-consumption** – the battery is automatically charged and discharged to meet consumption needs and reduce the amount of electricity purchased from the grid.
- **Charge/discharge profile programming** – the system operates according to a configurable charge/discharge profile, for example for time of use arbitrage (charge the battery from PV/grid when tariffs are low and discharge it when tariffs are high).

A Smart Energy Management only system can be upgraded to support backup power by installing an auto-transformer and connecting backed-up loads through a separate panel, and reconfiguring the system as described in *Backup Power with Smart Energy Management - System Configurations* on page 5.

Configuration is done as described in the *Backup Power with Smart Energy Management - System Configurations* chapter, without setting up backup power. System diagrams are shown below.

System Connection

The following diagram illustrates the connection of the system components when using the basic configuration for Smart Energy Management only: one StorEdge inverter, one meter and one battery. For enlarged segments of this diagram refer to *Appendix D – Detailed System Connection* on page 53.

.

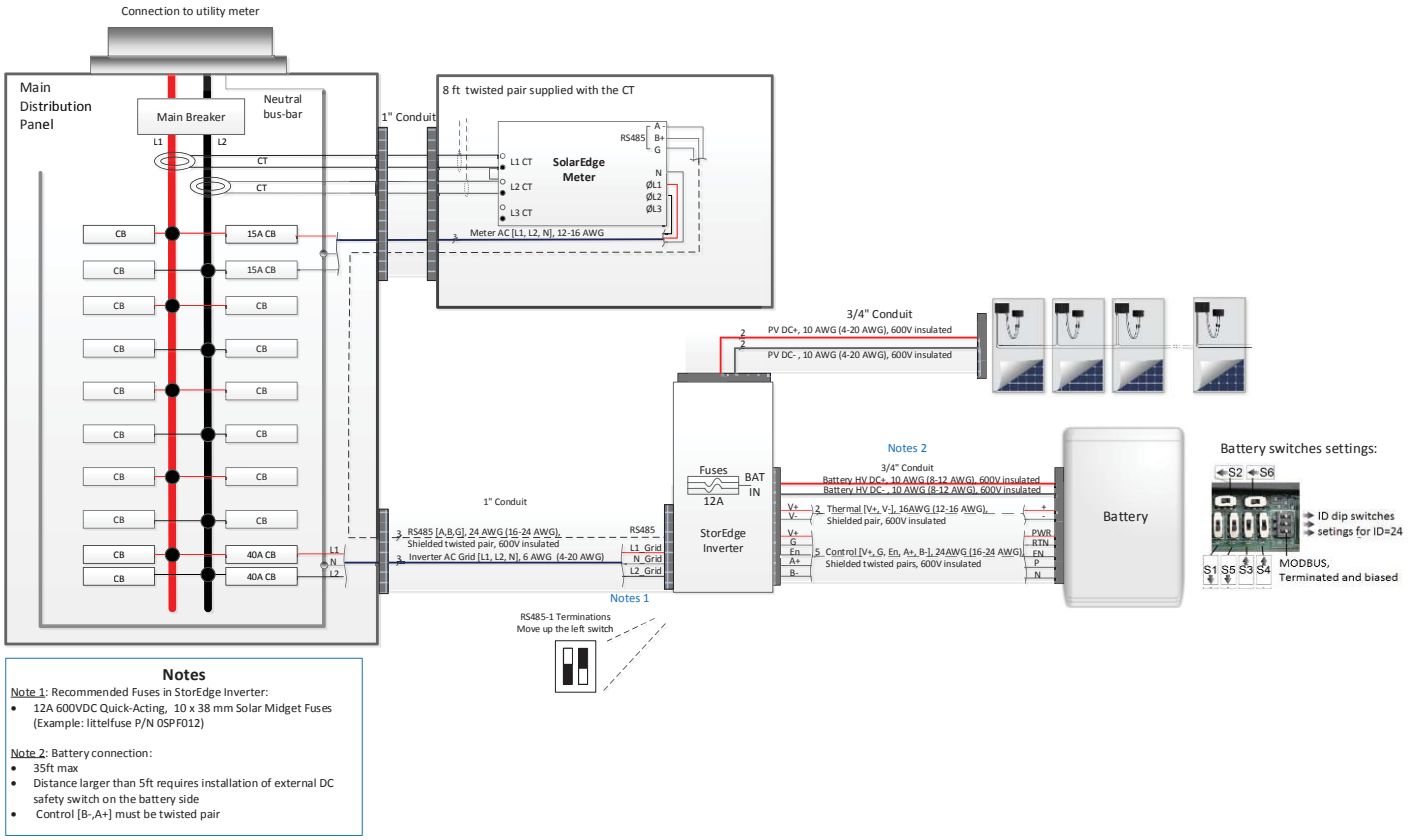


Figure 21: Smart Energy Management only - Basic Configuration

The following diagram illustrates the connection of the system components when using two batteries. In this case, an external fused combiner box is needed. For enlarged segments of this diagram, refer to *Appendix D – Detailed System Connection* on page 53.

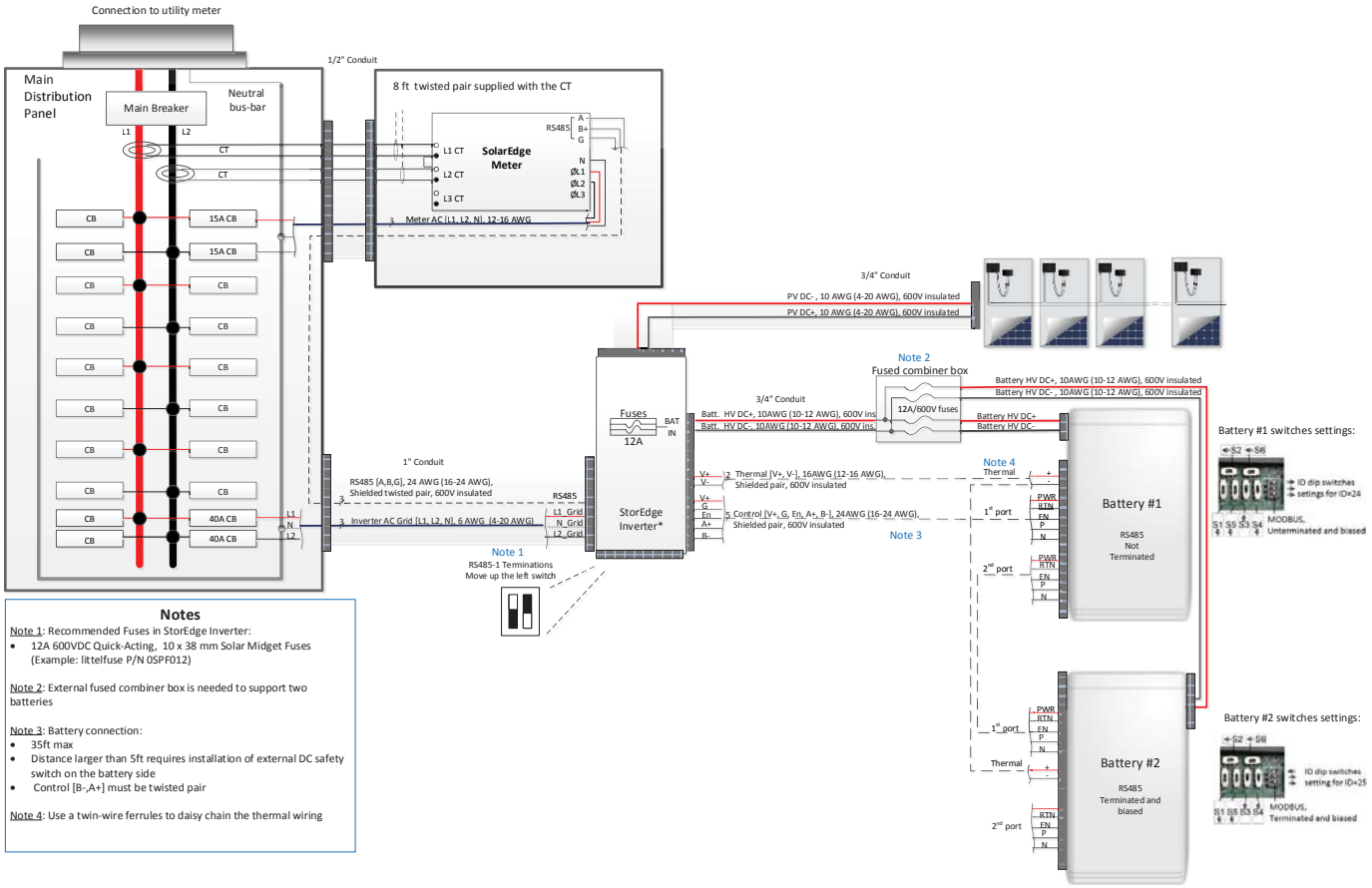


Figure 22: Smart Energy Management only - Two Battery Configuration

Basic Configuration

This configuration is based on one of each of the StorEdge components, other than the auto-transformer, and is suitable for most residential systems.

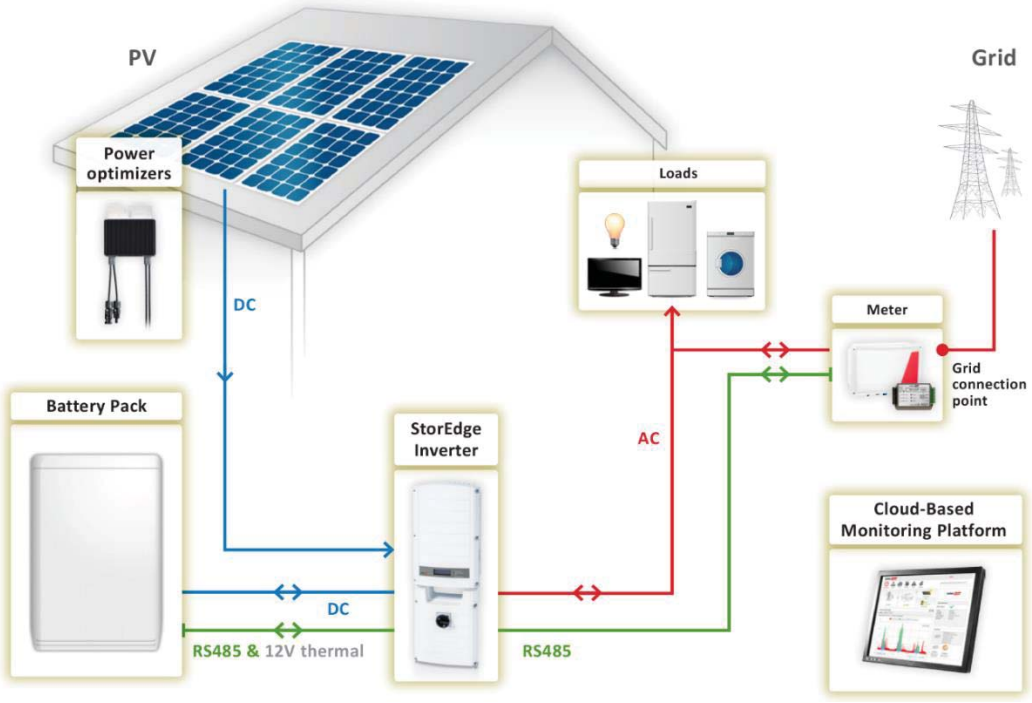


Figure 23: Smart Energy Management only - Basic configuration

Large Residential PV Systems

For residential sites with large PV systems, a StorEdge inverter and a SolarEdge single phase inverter may be installed together. The StorEdge inverter manages the battery and functions as a PV inverter, and the second inverter is used for production of the additional PV power.

An RS485 Expansion Kit (available from SolarEdge) is installed in the inverter connected to the battery.

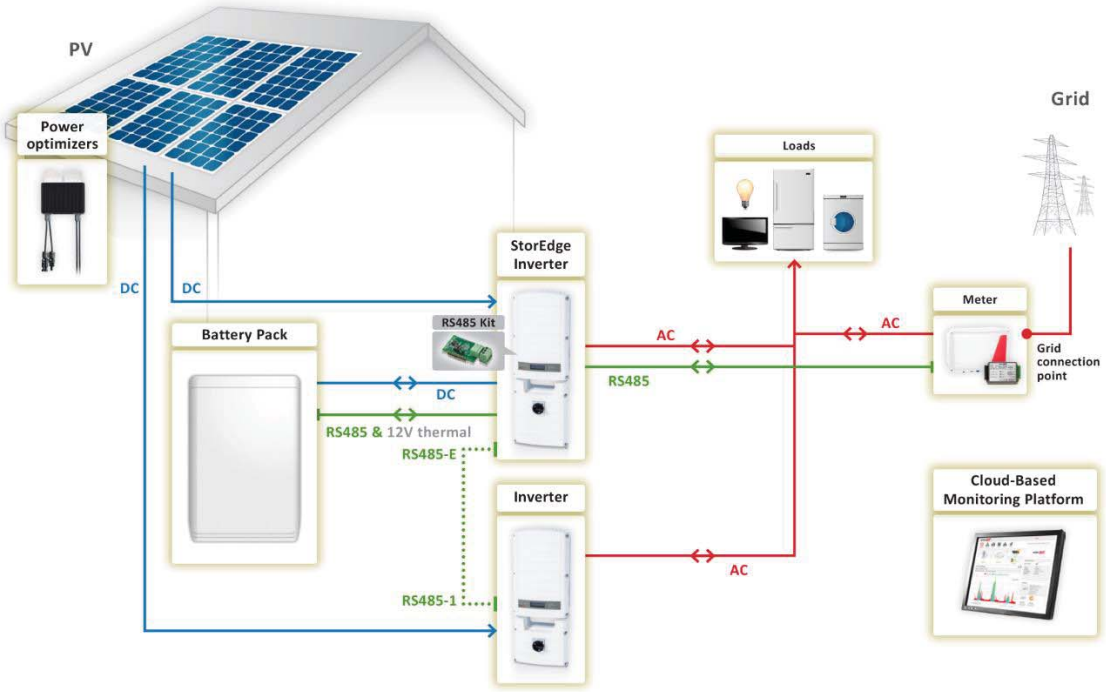


Figure 24: Smart Energy Management only - Large residential PV systems

Additional Capacity with Two Batteries

For sites where additional battery capacity is needed (for example, to enable loads to be powered from the battery for longer periods), two batteries may be connected to a single StorEdge Inverter.

In this configuration, only one battery operates at any given time – i.e. the two batteries provide additional capacity only, not additional power.

The DC connection of the two batteries to the StorEdge Inverter is done in parallel through an external fused combiner box (not provided by SolarEdge), with a fuse rating of 12A/600V.

The control and thermal connection of the second battery is daisy chained to that of the first battery.

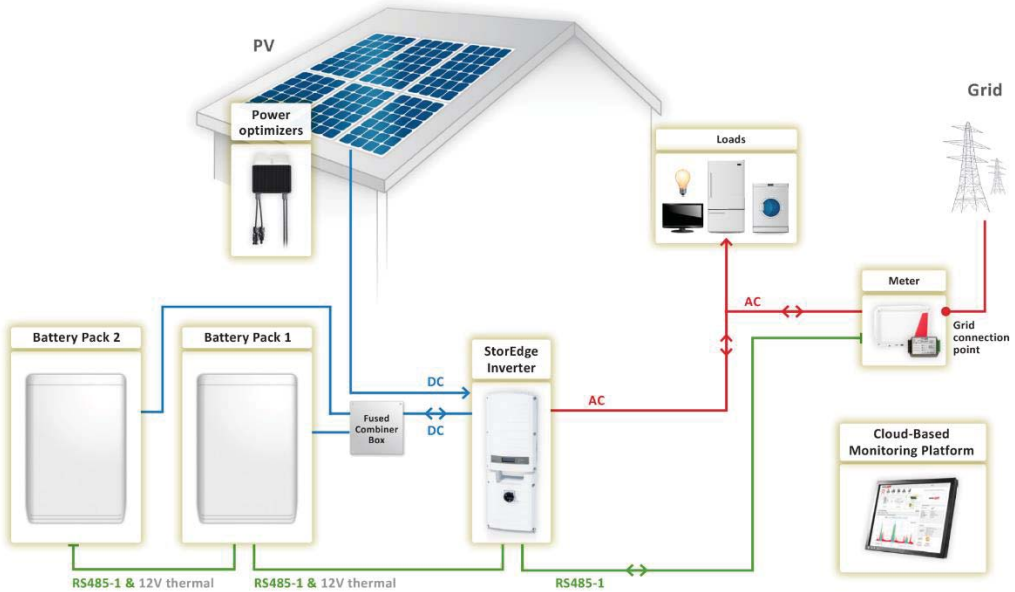


Figure 25: Smart Energy Management only - Additional capacity with two batteries

Additional Capacity and Power

For sites where additional capacity and power are needed (for example, to enable loads to be powered for longer periods and/or to enable more loads to be powered simultaneously), two StorEdge inverters and two batteries may be installed[4]. Each battery connects through a separate StorEdge Inverter, and each inverter manages the battery and the PV connected to it. The inverter connected to the meter operates as the system manager. An RS485 Expansion Kit (available from SolarEdge) is installed in each of the inverters.

The system can be upgraded to work in backup mode.

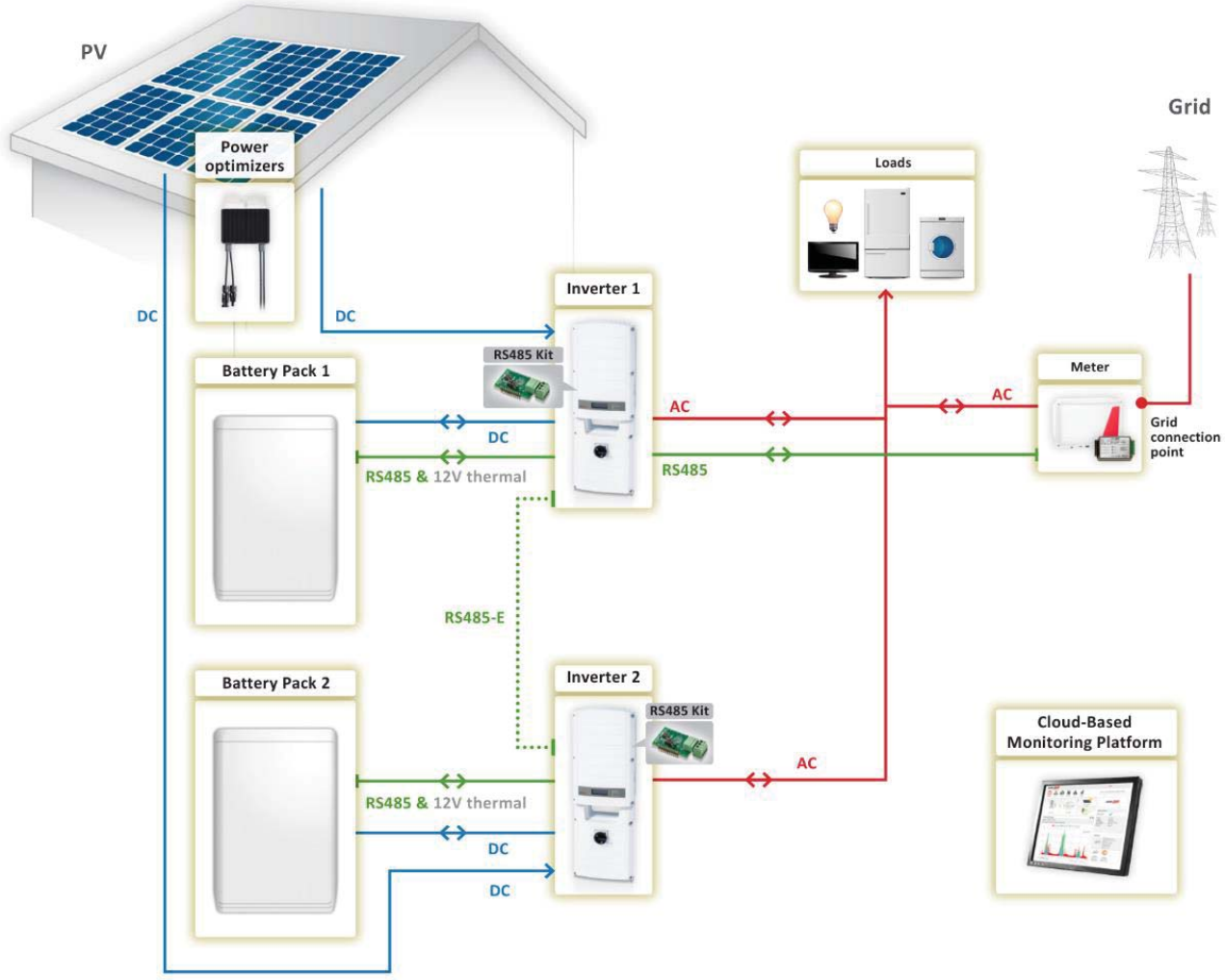


Figure 26: Smart Energy Management only - Additional capacity and power

[4] Additional capacity and power with one inverter will be supported in H2 2016 and will require new battery and inverter hardware.

AC Coupling using a non-SolarEdge Inverter

For sites with an already installed PV system with a non-SolarEdge inverter, the SolarEdge inverter can be AC-coupled to the existing inverter, i.e. the StorEdge inverter used to manage the battery is connected to the AC output of the existing inverter.

NOTE

The meter is used for Smart Energy Management and does not measure the non-SolarEdge inverter production. The production and self-consumption information in the moniotring portal does not take into account this production.

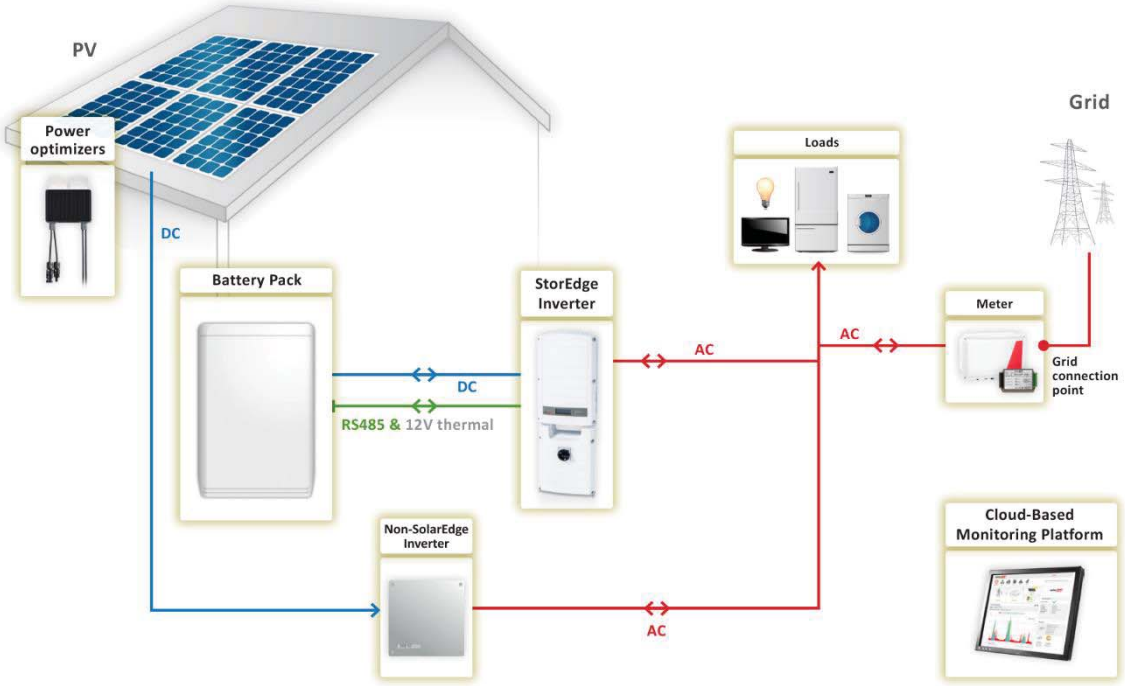


Figure 27: Smart Energy Management only - AC Coupling using a non-SolarEdge Inverter

AC Coupling without a PV System

For charge/discharge profile programming a StorEdge system may be installed without a PV system. In this case, the battery is charged from the AC grid only.

NOTE

For maximizing self-consumption a PV system is required.

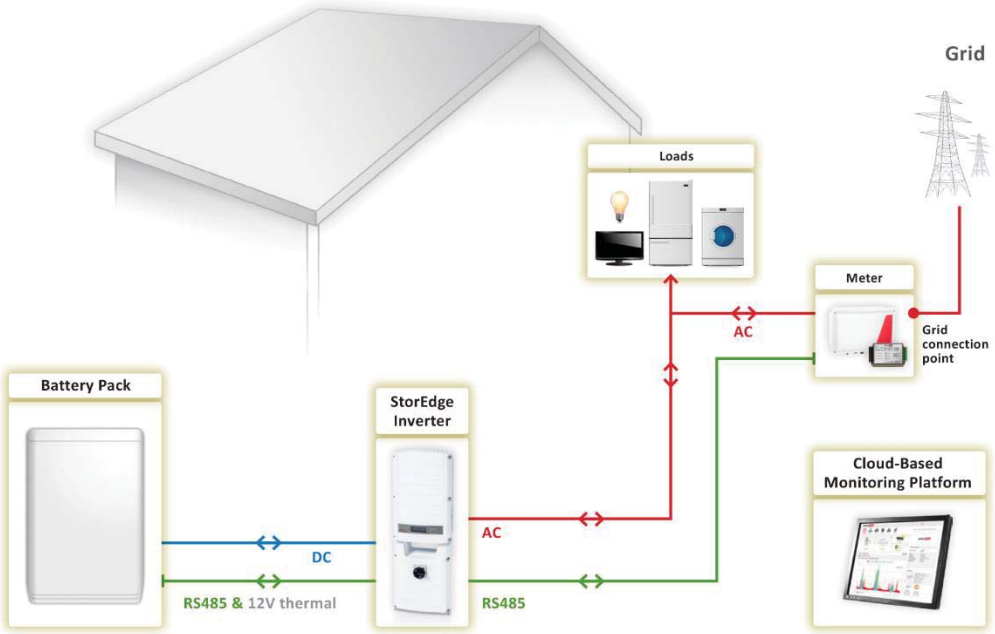


Figure 28: Smart Energy Management only - AC coupling without a PV system

Appendix A – Creating a Charge/Discharge Profile

A charge/discharge profile is created from a yearly calendar, repeated for 20 years as long as no profile changes are made. The yearly calendar is divided into segments, with one of seven charge/discharge modes assigned to each segment.

Charge/Discharge Modes

Table 2: Charge/Discharge Modes

Mode	Description
OFF	No battery charging/discharging; can be used to extend battery lifetime by minimizing the number of shallow discharges (for example at nighttime or during the winter).
CHARGE_EXCESS_PV	Charge battery with PV power, which is not self-consumed.
CHARGE_FULL_PV	Charge battery with all available PV power until it is full, and only then use PV power for self-consumption; useful when import rate is low.
CHARGE_FULL_PV_AC	Charge battery with all available PV power and with grid power until it is full, and only then use PV power for self-consumption; useful when import rate is very low.
DISCHARGE_MAXIMIZE_FEED_IN	Discharge battery until the inverter reaches its AC limit; useful when export rate is high.
DISCHARGE_MINIMIZE_PURCHASED	Discharge battery only for self-consumption, not for export to the grid.
MAXIMIZE_SELF_CONSUMPTION	Charge/discharge battery as needed to maximize self-consumption.

Creating a Profile

To create a profile file that can be loaded to the inverter through the monitoring portal or locally, download the template from www.solaredge.com/files/excel/charge-disharge-profile-programming-template.xlsx.

Use the template to create daily profiles, and then weekly profiles combined from the daily profiles.

NOTE

Creating profiles directly in the monitoring portal is expected to be supported during Q2 2016.

► To fill out a profile template:

1. Select the **Day Types** tab. In this table you can create up to 20 different daily profiles:
2. In **column B** enter a description (optional) for the daily profile (e.g. winter weekday, summer weekend)
3. In **column C** select from the dropdown menu a default charge/discharge mode for that day type; this mode will be used at times of the day where no other mode is defined
4. In **columns D-G** you may define a different charge/discharge mode for a segment of the day:
   - In **column D** enter a description (optional) for the segment
   - In **column E** enter the start time of the segment
   - In **column F** enter the end time of the segment; a segment can be any 15 min multiple, from 15 min to 24 hours
   - In **column G** select from the dropdown menu a default charge/discharge mode for that segment
5. In **columns H** onwards you can define up to 7 additional segments for the day type
6. Select the **Week Plans** tab. In this table you can create up to 13 weekly profiles to be used in different periods throughout the year:
7. In **column B** enter a description (optional) for the weekly profile (e.g. winter 1, winter 2)
8. In **column C** enter the start date of the period when the weekly profile should be used
9. In **column D** enter the end date of the period when the weekly profile should be used
10. In **columns E-K** enter the daily profile that should be used for each day of the week during the defined period (Sunday profile in **column E**, Monday profile in **column F** etc.)
11. In **row 15** enter a default weekly profile; this profile will be used at times when no period was defined

12 Optionally select the **Exceptions** tab. In this tab you can define dates that should have a specific daily profile instead of the profile defined for the relevant period. For example, if you defined a weekly profile for a period from Dec. 15 to Jan. 15 but want the system to have different daily profile for New Years, define it here:

13 In **column A** enter a description (optional) for the day

14 In **column B** enter the date

15 In **column C** enter the daily profile to be used on that day

16 Optionally select the **Global settings** tab. In this tab you can enable battery charge from the AC grid; this can also be done locally from the inverter LCD.

17 In **row 2** select from the drop down menu one of the following options:

- ENABLE: allow unlimited charging from the grid
- FIXED_LIMIT: to allow charging from grid with a fixed annual energy limit
- PERCENT_OF_PROD: to allow charging from grid with a percentage of year-to-date energy production limit

18 If limited charging was selected, in **row 3** enter the limit:

- Enter a limit in kWh if FIXED_LIMIT was selected
- Enter a limit in % if PERCENT_OF_PROD was selected

19 Send the excel file to SolarEdge support and note if you would like to load the profile from the monitoring or if you would like to receive a file to be loaded to the inverter locally.

Appendix B - System Behavior Example

In this example the StorEdge system uses maximize self-consumption mode with zero export limit. The inverter is connected to L1 and L2 in a split phase home. It supplies loads connected to L1 and to L2 load and exports excess PV power to the grid.

The produced PV power is 2kW, and there is 2kW load on L1 and a 1kW load on L2. The StorEdge system supplies 3kW to the loads – including 1kW from the battery - and exports 0kW to the grid.

The meter measures 4.16A on L1 to the grid and senses 120VAC with positive phase between L1 and Neutral, therefore the power import on L1 is 4.16A x 120V = 0.5kW. On L2 the meter measures also 4.16A from the grid and senses 120VAC with negative phase between L2 and Neutral, therefore the power export on L2 is 4.16A x 120V = 0.5kW. Total export power is 0.5kW - 0.5kW = 0kW. Due to the load imbalance between L1 and L2 there is an 8.33A current on the neutral wire between the home and utility transformer.

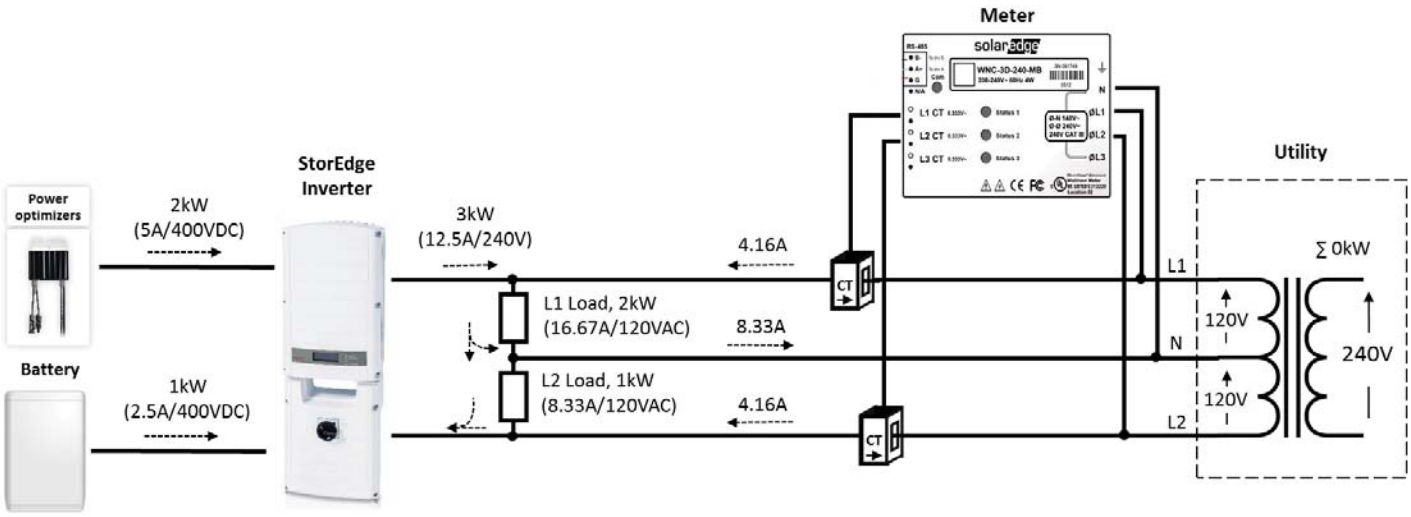


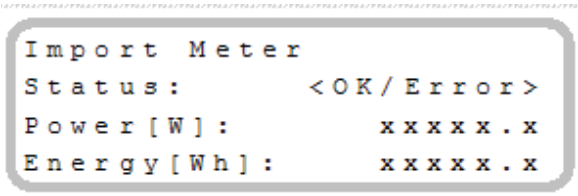
Figure 29: Power Production Flow

Appendix C – Verifying StorEdge Functionality

After system installation and configuration is completed, verify that the system is properly operating:

► To verify the meter:

1. Make sure other power sources (e.g. non-SolarEdge PV inverter) are not producing power.
2. Verify the AC is ON.
3. Check the meter (installed in export or consumption position, CT arrows point to the grid):
4. Turn the inverter ON/OFF switch to OFF.
5. Connect loads on one of the measured phases.
6. Press the external LCD light button to display the Import or Consumption meter status screen, and check that the import or consumption power is greater than zero:

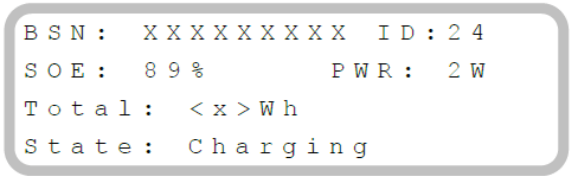


7. Press the LCD light button to display the Export meter status screen, and check that the Export power is equal to zero.

If it is not equal to zero check the CT direction on all connected phases.

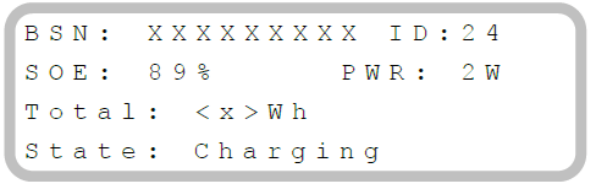
► To verify Maximize Self-consumption:

1. Verify the inverter ON/OFF switch is ON.
2. Turn on as many loads as needed so that consumption will be greater than the inverter's maximum AC power. In the inverter LCD check that the Meter status screen is displaying import power greater than zero.
3. Press the inverter LCD light button to display the Smart Energy Management and the Battery status screens, and check that:
   - **State** = Discharging (assuming consumption > PV production, inverter maximum AC power > PV production)
   - **PWR** > 0



► To verify battery charging:

1. While the PV modules are exposed to sunlight, verify that the battery is charging properly:
2. Minimize consumption by turning off all the load circuit breakers, except for the inverter.
3. In the inverter LCD check that the Meter status screen is displaying import power close to zero.
4. Press the external LCD light button to display the Battery status screen, and check that:
   - **State** = Charging
   - **SOE** percentage is increasing
   - **PWR** > 0



► To find additional troubleshooting:

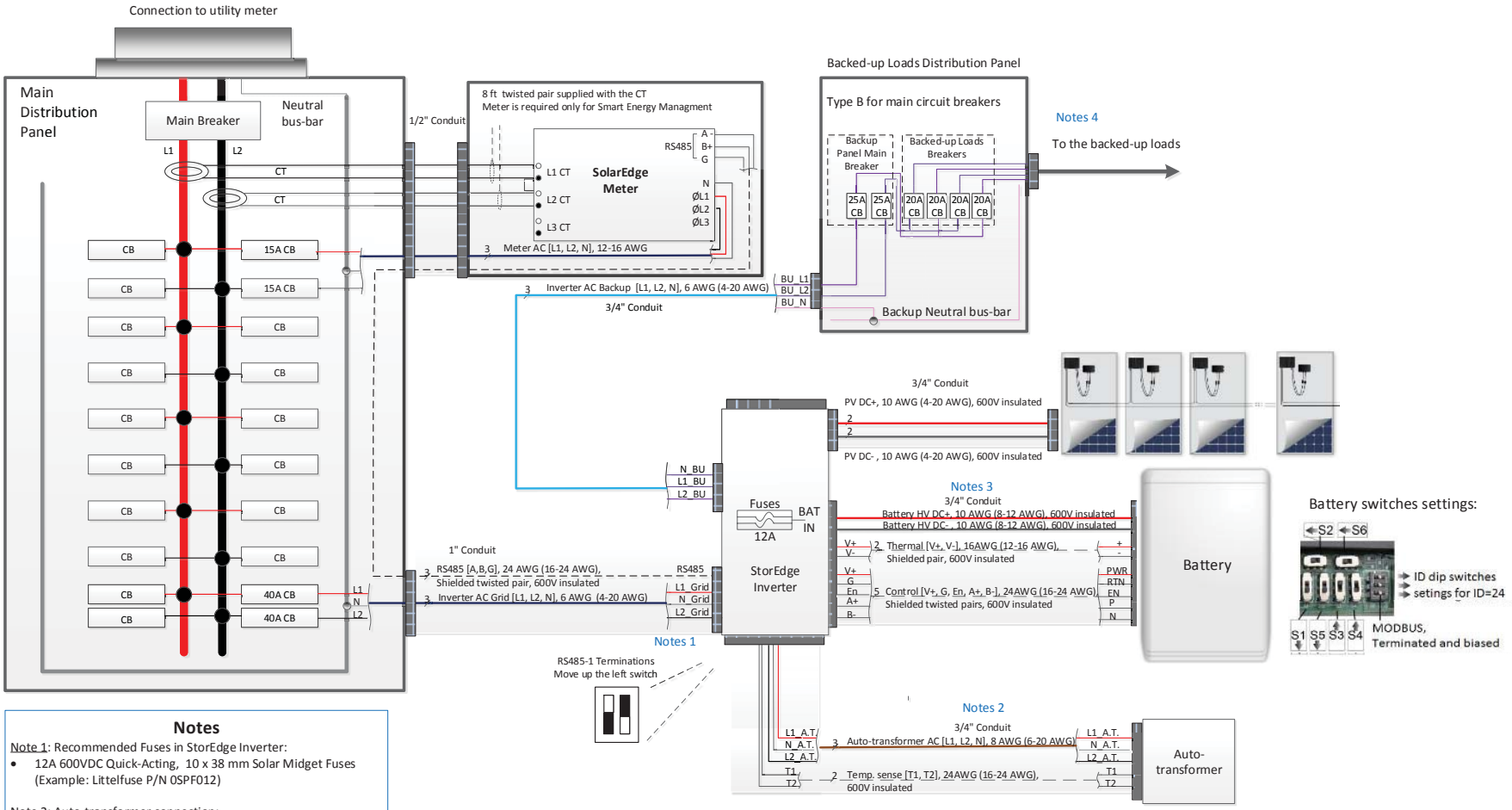
For additional StorEdge troubleshooting, refer to the Troubleshooting appendix in the StorEdge Installation Guide http://www.solaredge.com/files/pdfs/storedge_backup_installation_guide_NA.pdf .

Appendix D – Detailed System Connection

Backup Power with Smart Energy Management

Basic Configuration

The following diagram illustrates the connection of the system components when using the basic configuration for backup power with Smart Energy Management: one StorEdge inverter, one auto-transformer, one meter and one battery. The next diagrams are enlarged segments of this diagram.



Notes

Note 1: Recommended Fuses in StorEdge Inverter:

- 12A 600VDC Quick-Acting, 10 x 38 mm Solar Midget Fuses (Example: Littelfuse P/N 0SPF012)

Note 2: Auto-transformer connection:

- 6ft max
- Vertical mounting only (conduit connection from the bottom)
- Use 10 AWG wire for grounding

Note 3: Battery connection:

- 35ft max
- Distance larger than 5ft requires installation of external DC safety switch on the battery side
- Control [B-,A+] must be twisted pair

Note 4: Install type B 2-pole 25A main circuit breaker to ensure the 25A phase limit imbalance is maintained at all times.

Figure 30: Backup Power with Smart Energy Management - Basic Configuration

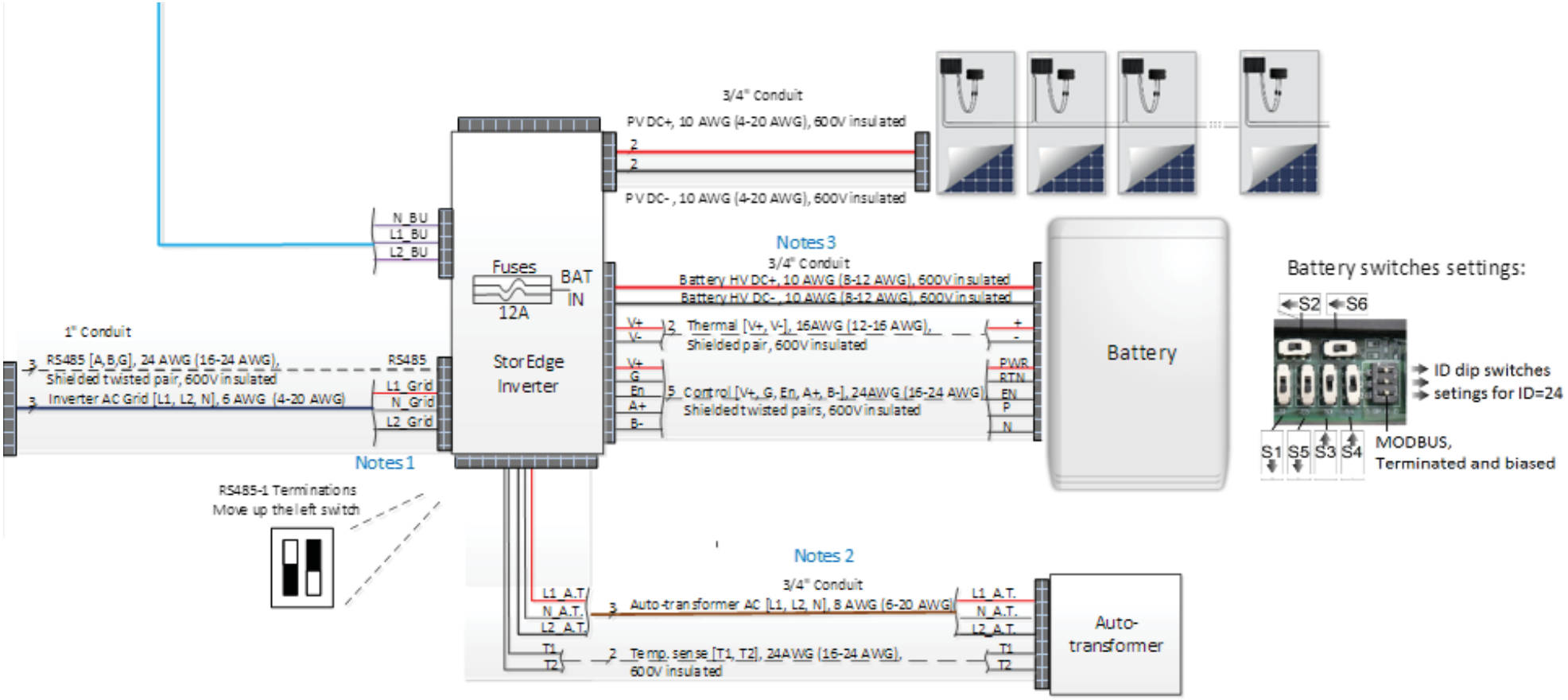


Figure 31: Backup Power with Smart Energy Management - Basic Configuration, Battery - StorEdge Inverter Connection

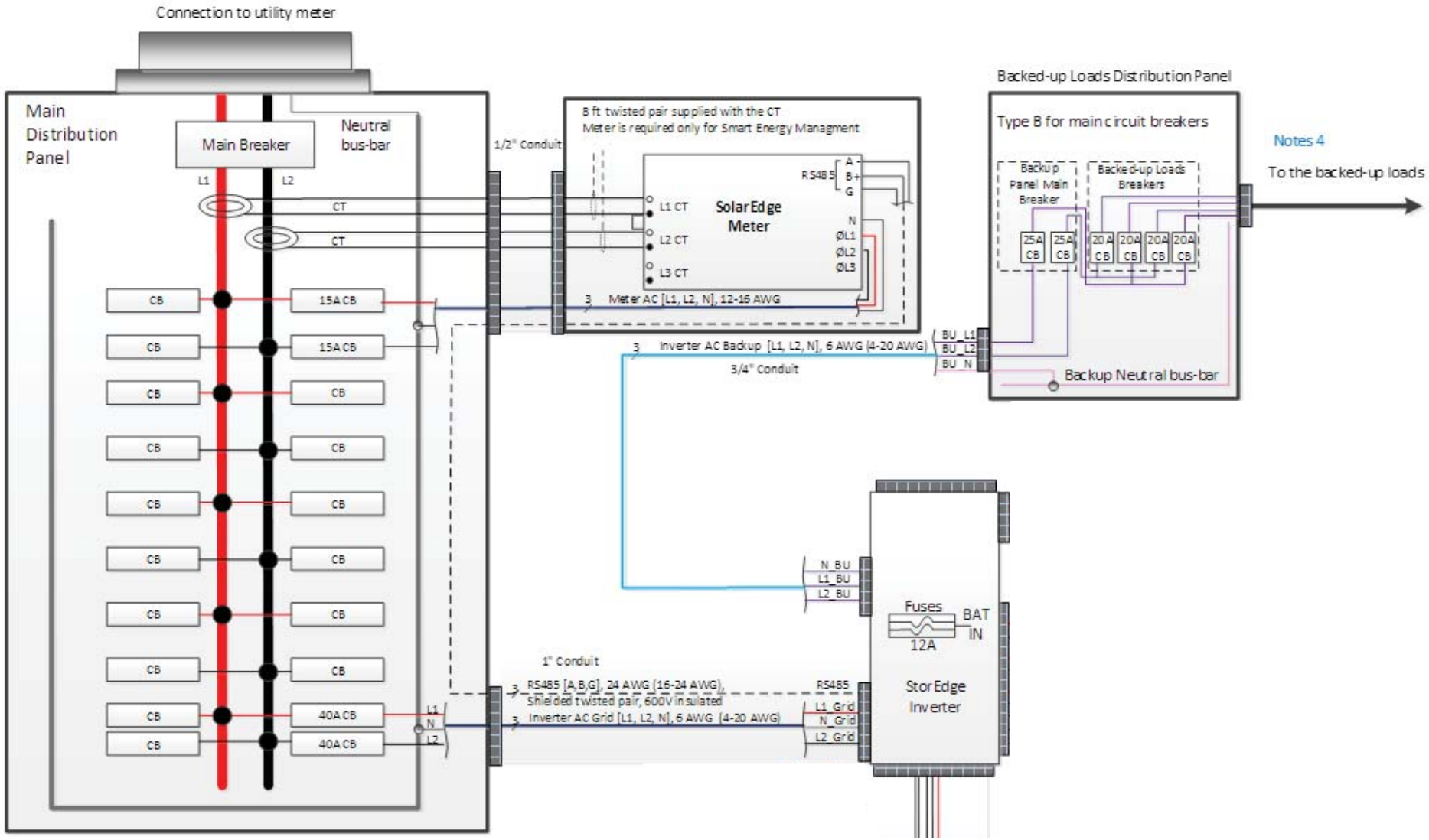


Figure 32: Backup Power with Smart Energy Management - Basic Configuration, Main Distribution Panel – Backed-up Loads Distribution Panel Connection

Table 3: Notes for Backup Power with Smart Energy Management - Basic Configuration Diagram

Note	Description
Note 1	Recommended StorEdge inverter fuses : 12A/600VDC Quick-Acting, 10 x 38 mm Solar Midget Fuses (Example: Littelfuse P/N 0SPF012)
Note 2	Auto-transformer connection: • 6ft max • Use 10 AWG wire for grounding
Note 3	Battery connection: • 35ft max • Distance larger than 5ft requires installation of external DC safety switch on the battery side • Control [B-,A+] must be twisted pair
Note 4	GFDI in backed-up loads distribution panel: • Install the GFDI (Ground-Fault Detector Interrupter) in accordance with applicable local standards and directives.

Two-Battery Configuration

The following diagram illustrates the connection of the system components when using two batteries. In this case, an external fused combiner box is needed. The next diagrams are enlarged segments of this diagram.

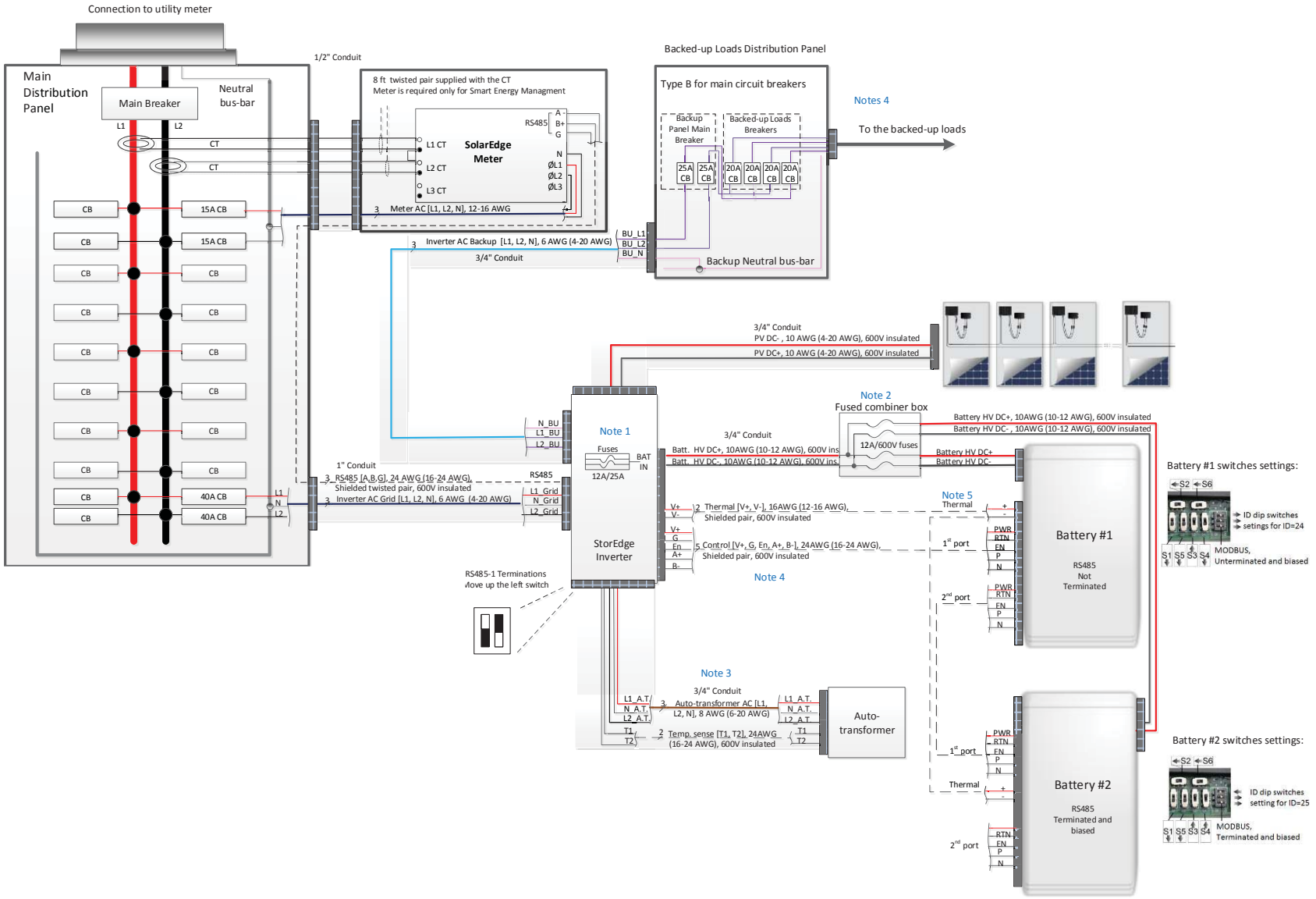


Figure 33: Backup Power with Smart Energy Management - Two-Battery Configuration

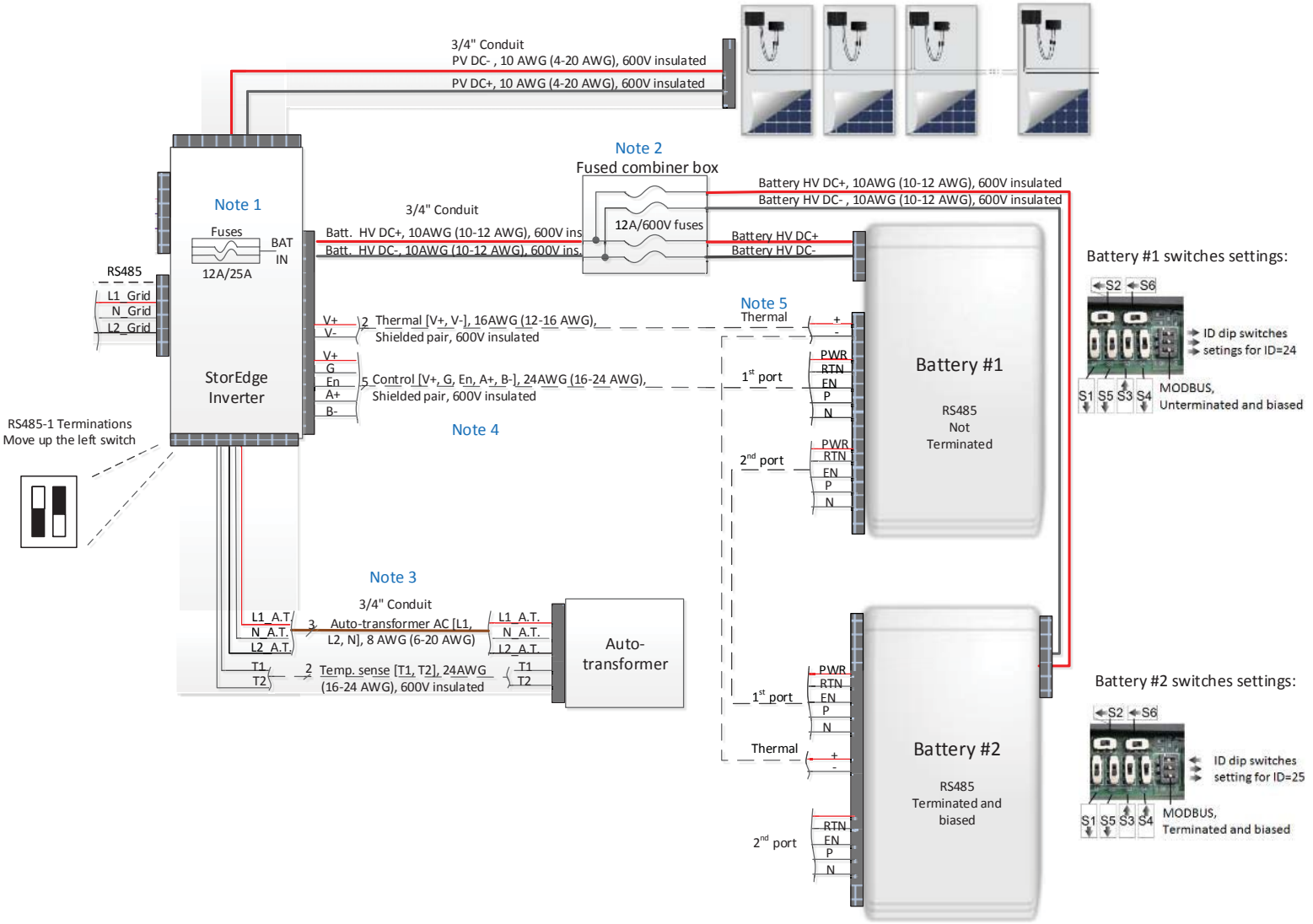


Figure 34: Backup Power with Smart Energy Management - Two-Battery Configuration, Batteries – StorEdge Inverter Connection

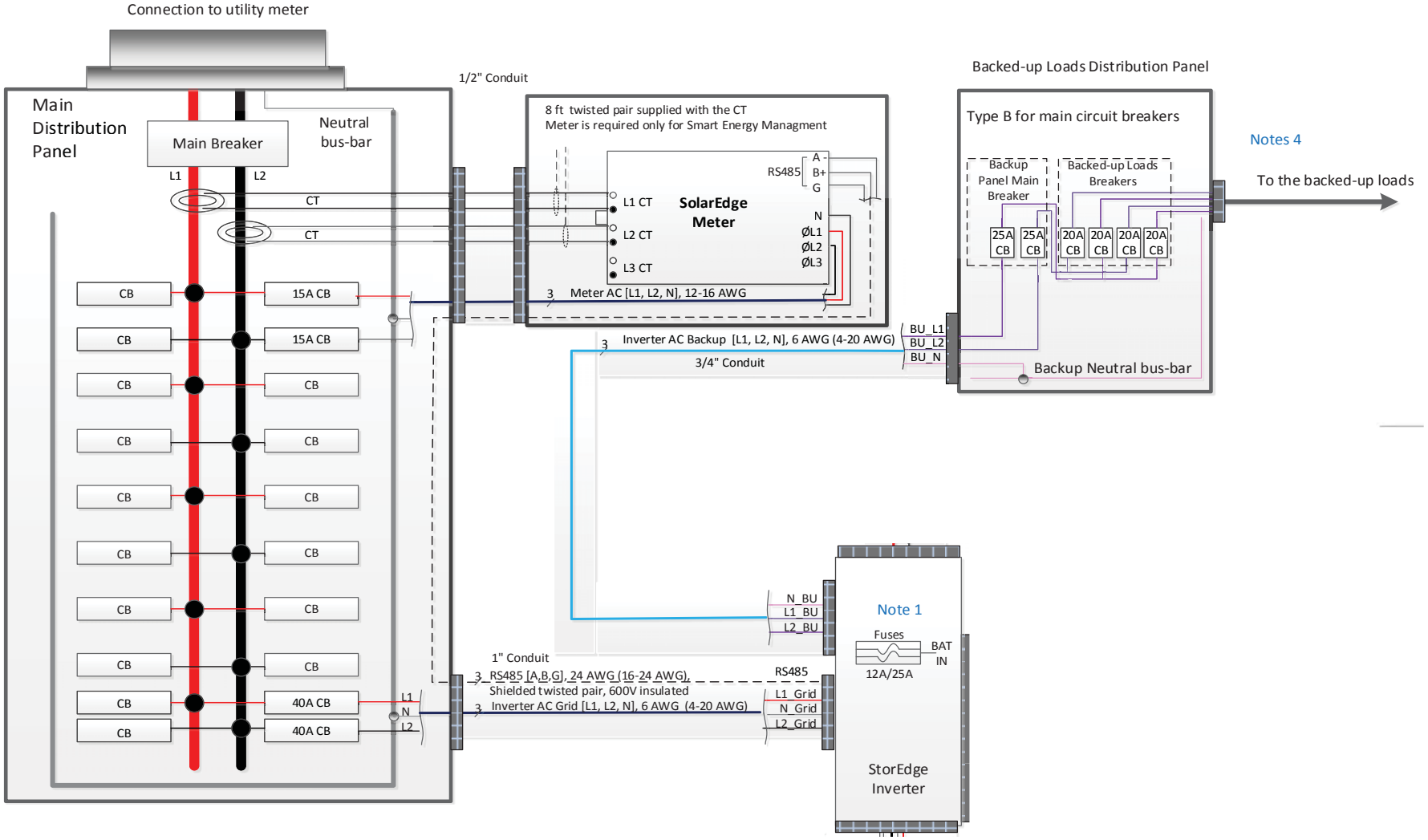


Figure 35: Backup Power with Smart Energy Management - Two-Battery Configuration, Main Distribution Panel – Backed-up Loads Distribution Panel Connection

Table 4: Notes for Backup Power with Smart Energy Management - Two-Battery Configuration Diagram

Note	Description
Note 1	Recommended StorEdge inverter fuses : • 12A 600VDC Quick-Acting, 10 x 38 mm Solar Midget Fuses (Example: Littelfuse P/N 0SPF012)
Note 2	An external fused combiner box is needed to support two batteries
Note 3	Auto-transformer connection: • 6ft max • Use 10 AWG wire for grounding
Note 4	Battery connection: • 35ft max • Distance larger than 5ft requires installation of external DC safety switch on the battery side • Control [B-,A+] must be twisted pair
Note 5	Use a twin-wire ferrules to daisy chain the thermal wiring
Note 6	GFDI in backed-up loads distribution panel: Install the GFDI (Ground-Fault Detector Interrupter) in accordance with applicable local standards and directives.

Backup Power only

Basic Configuration

The following diagram illustrates the connection of the system components when using the basic configuration for backup power only: one StorEdge inverter, one auto-transformer and one battery. The next diagrams are enlarged segments of this diagram.

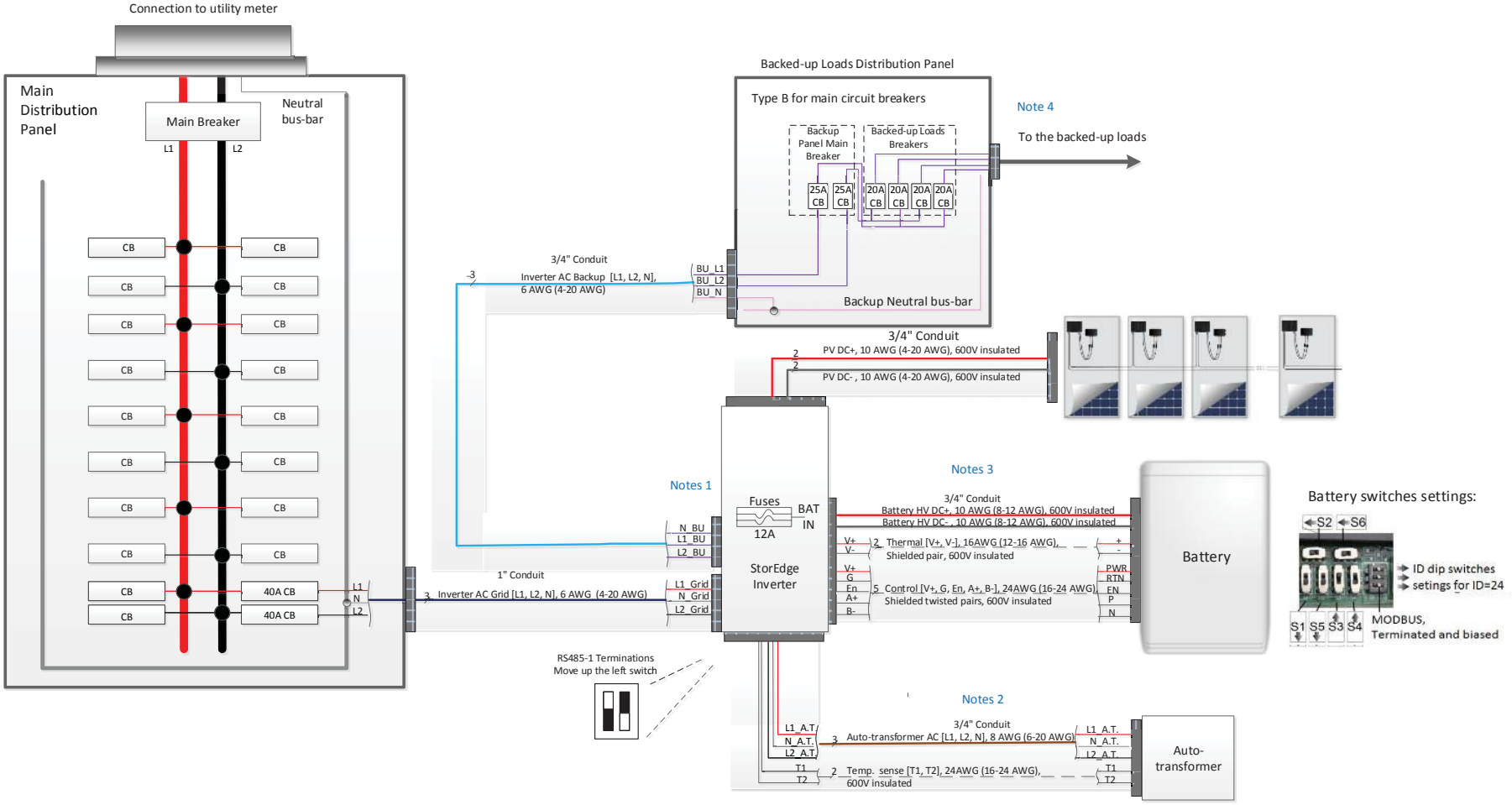


Figure 36: Backup Power Only - Basic Configuration

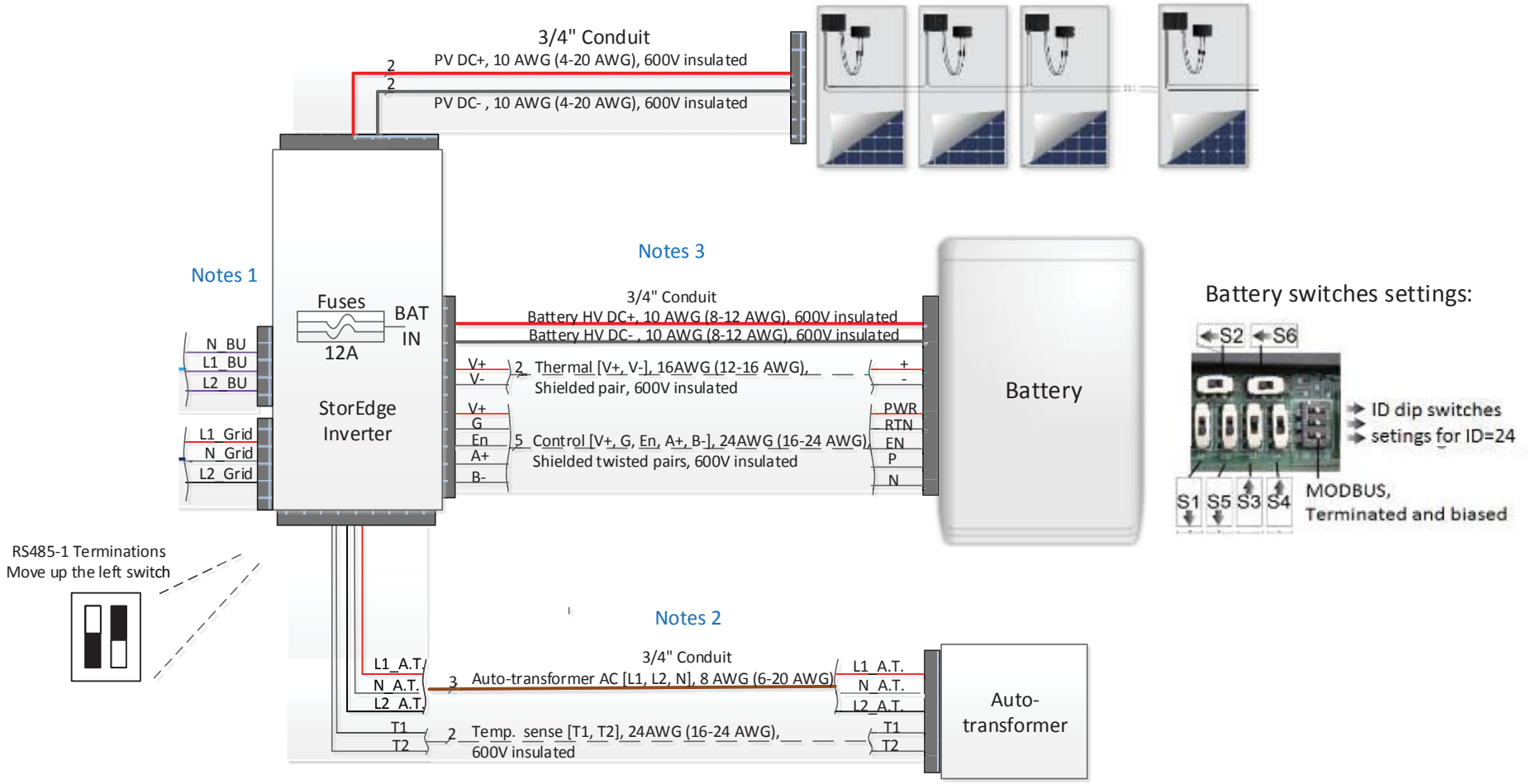


Figure 37: Backup Power Only - Basic Configuration, StorEdge inverter - Battery Connection

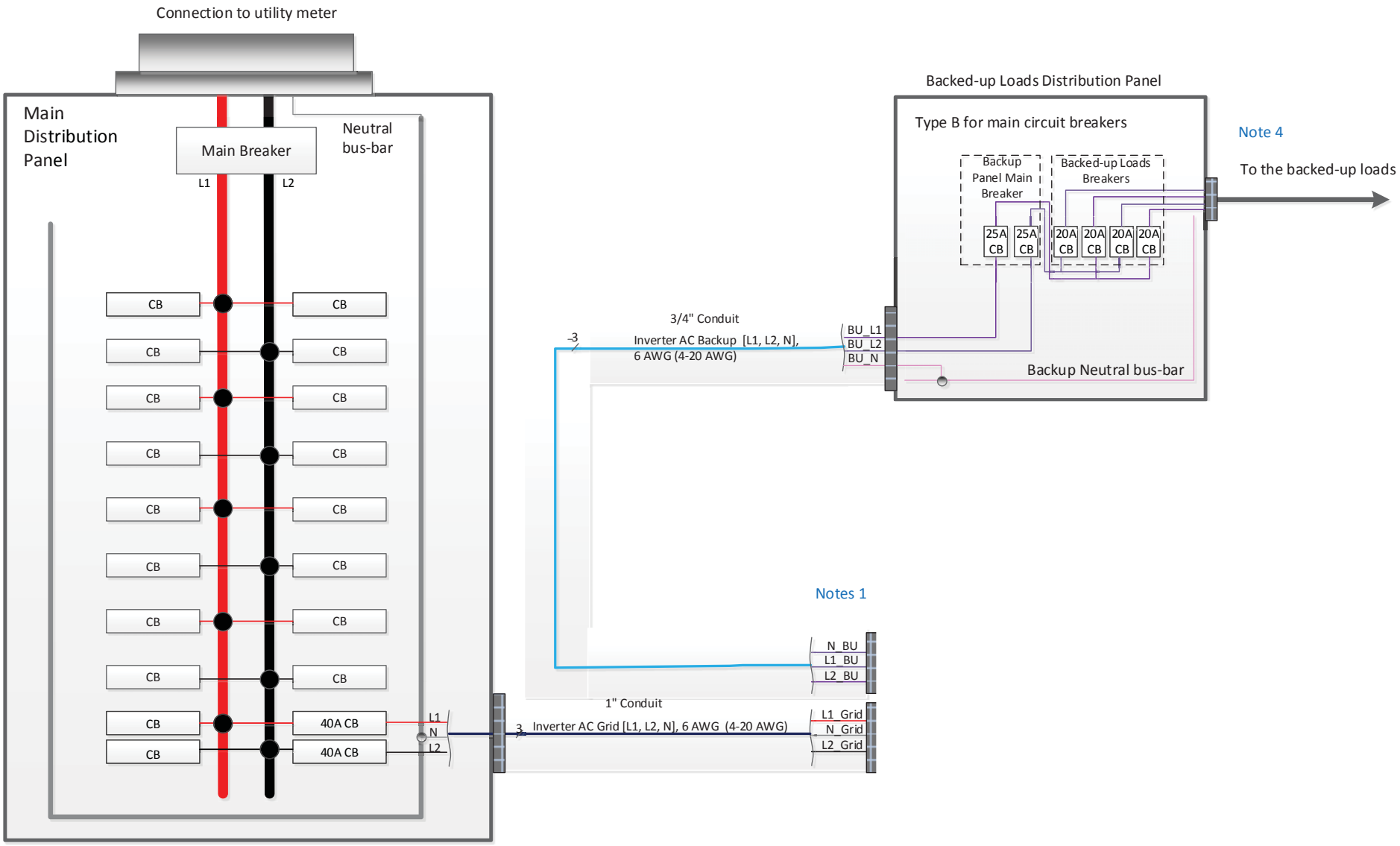


Figure 38: Backup Power Only - Basic Configuration, Distribution Panel – Backed-up Loads Panel Connection

Table 5: Backup Power Only - Basic Configuration notes

Note	Description
Note 1	Recommended StorEdge inverter fusesn: 12A 600VDC Quick-Acting, 10 x 38 mm Solar Midget Fuses (Example: Littelfuse P/N 0SPF012)
Note 2	Auto-transformer connection: • 6ft max • Use 10 AWG wire for grounding
Note 3	Battery connection: • 35ft max • Distance larger than 5ft requires installation of external DC safety switch on the battery side • Control [B-,A+] must be twisted pair
Note 4	GFDI in backed-up loads distribution panel: • Install the GFDI (Ground-Fault Detector Interrupter) in accordance with applicable local standards and directives.

Two Battery Configuration

The following diagram illustrates the connection of the system components when using two batteries. In this case, an external fused combiner box is needed. The next diagrams are enlarged segments of this diagram.

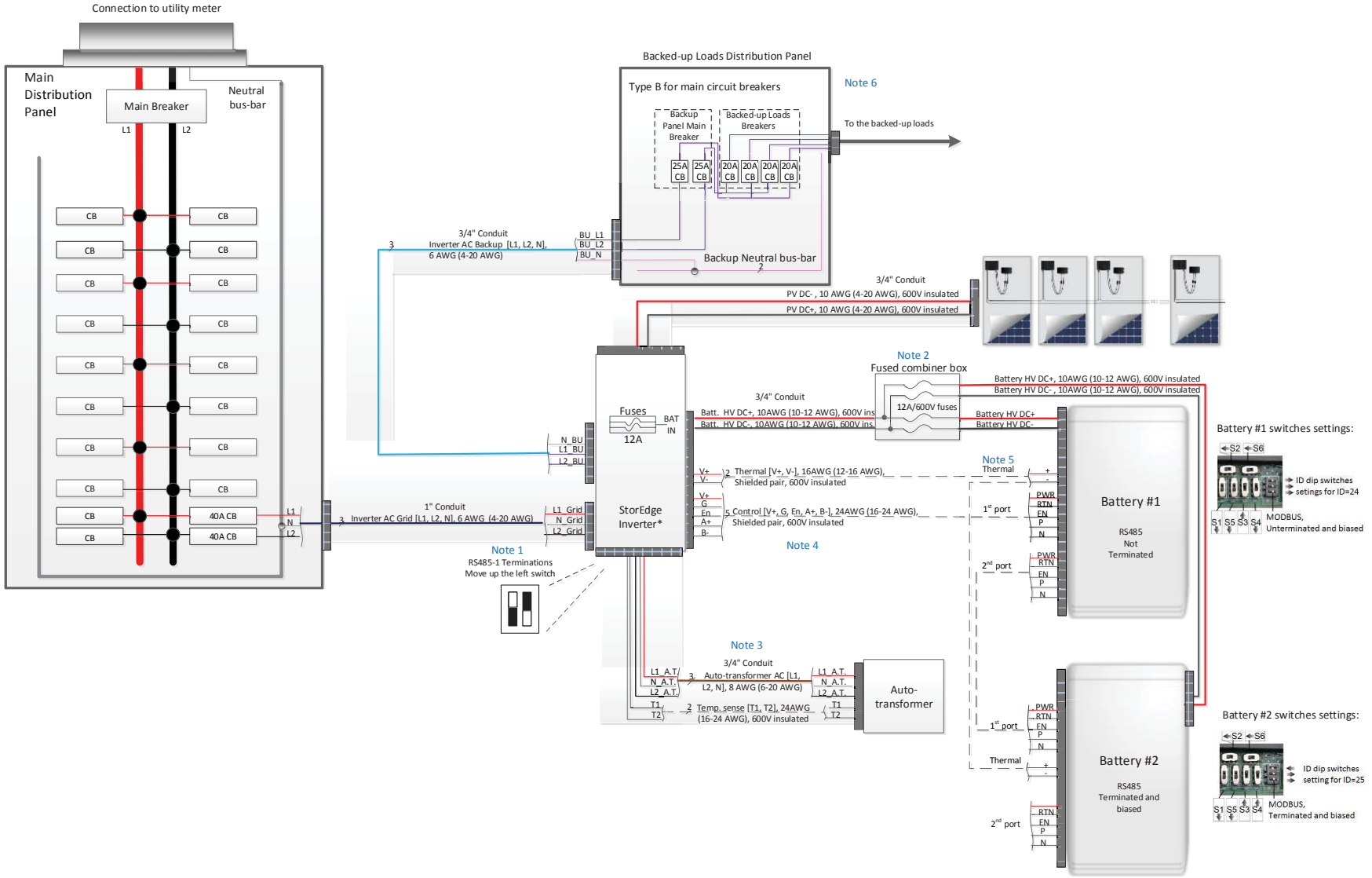


Figure 39: Backup Power Only – Two Battery Configuration

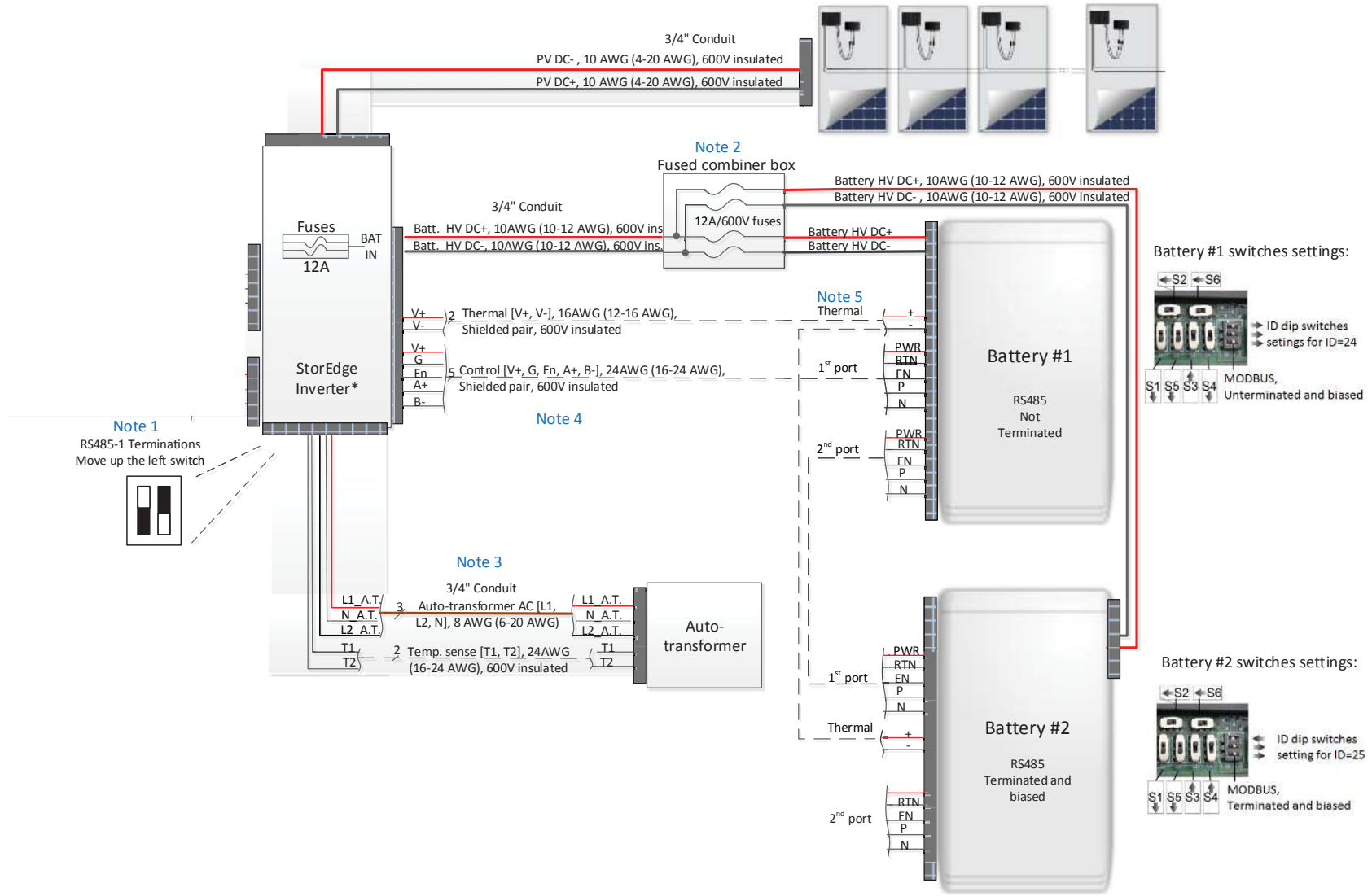


Figure 40: Backup Power Only – Two Battery Configuration, – Batteries - StorEdge Inverter –Connection

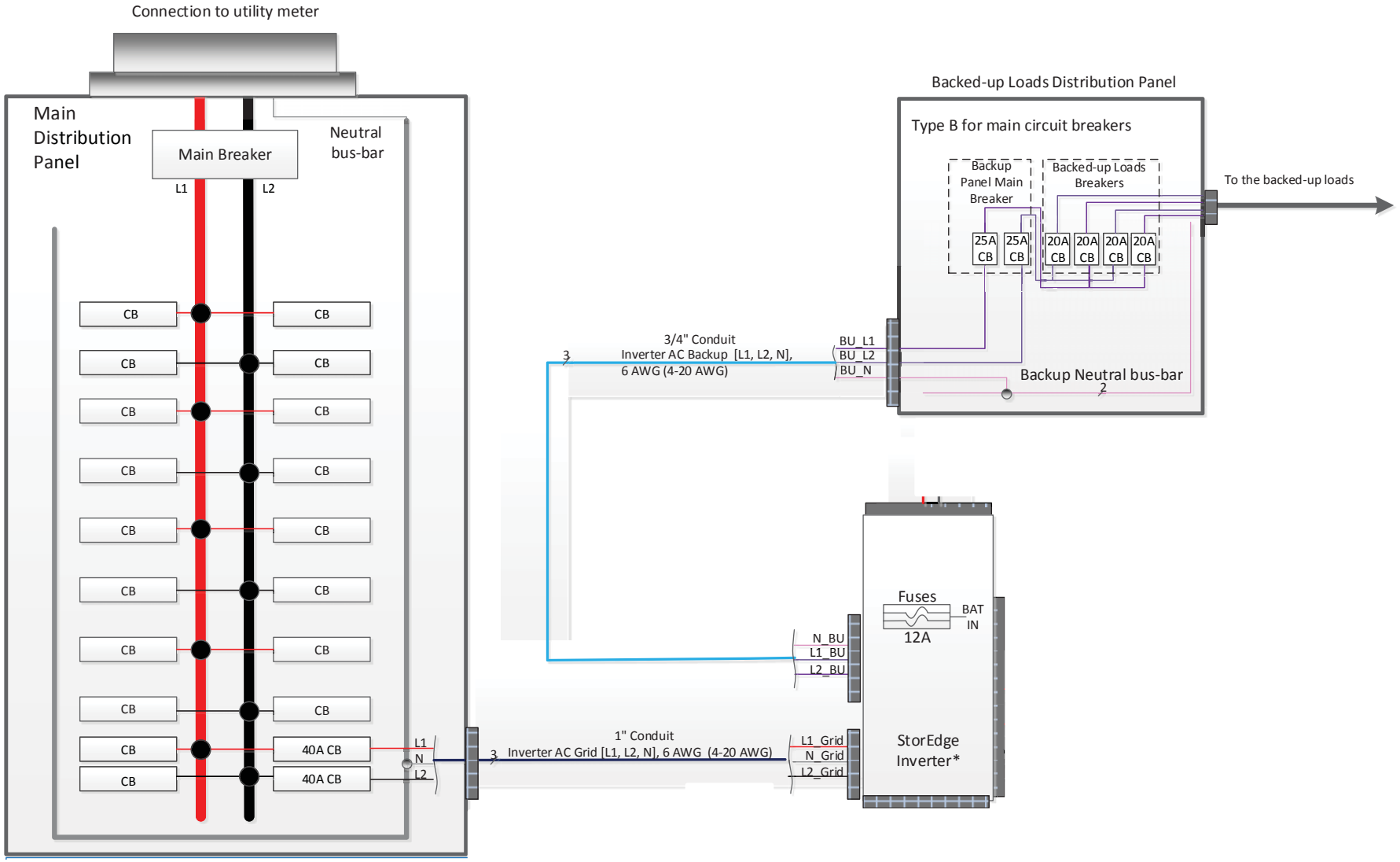


Figure 41: Backup Power Only – Two Battery Configuration, Distribution Panel – Backed-up Loads Panel Connection

Table 6: Backup Power Only – Two Battery Configuration notes

Note	Description
Note 1	Recommended StorEdge inverter fuses in: • 12A 600VDC Quick-Acting, 10 x 38 mm Solar Midget Fuses (Example: Littelfuse P/N 0SPF012)
Note 2	External fused combiner box is needed to support two batteries
Note 3	Auto-transformer connection: • 6ft max • Use 10 AWG wire for grounding
Note 4	Battery connection: • 35ft max • Distance larger than 5ft requires installation of external DC safety switch on the battery side • Control [B-,A+] must be twisted pair
Note 5	Use a twin-wire ferrules to daisy chain the thermal wiring
Note 6	GFDI in backed-up loads distribution panel: Install the GFDI (Ground-Fault Detector Interrupter) in accordance with applicable local standards and directives.

Smart Energy Management Only

Basic Configuration

The following diagram illustrates the connection of the system components when using the basic configuration for Smart Energy Management only: one StorEdge inverter, one meter and one battery. The next diagrams are enlarged segments of this diagram.

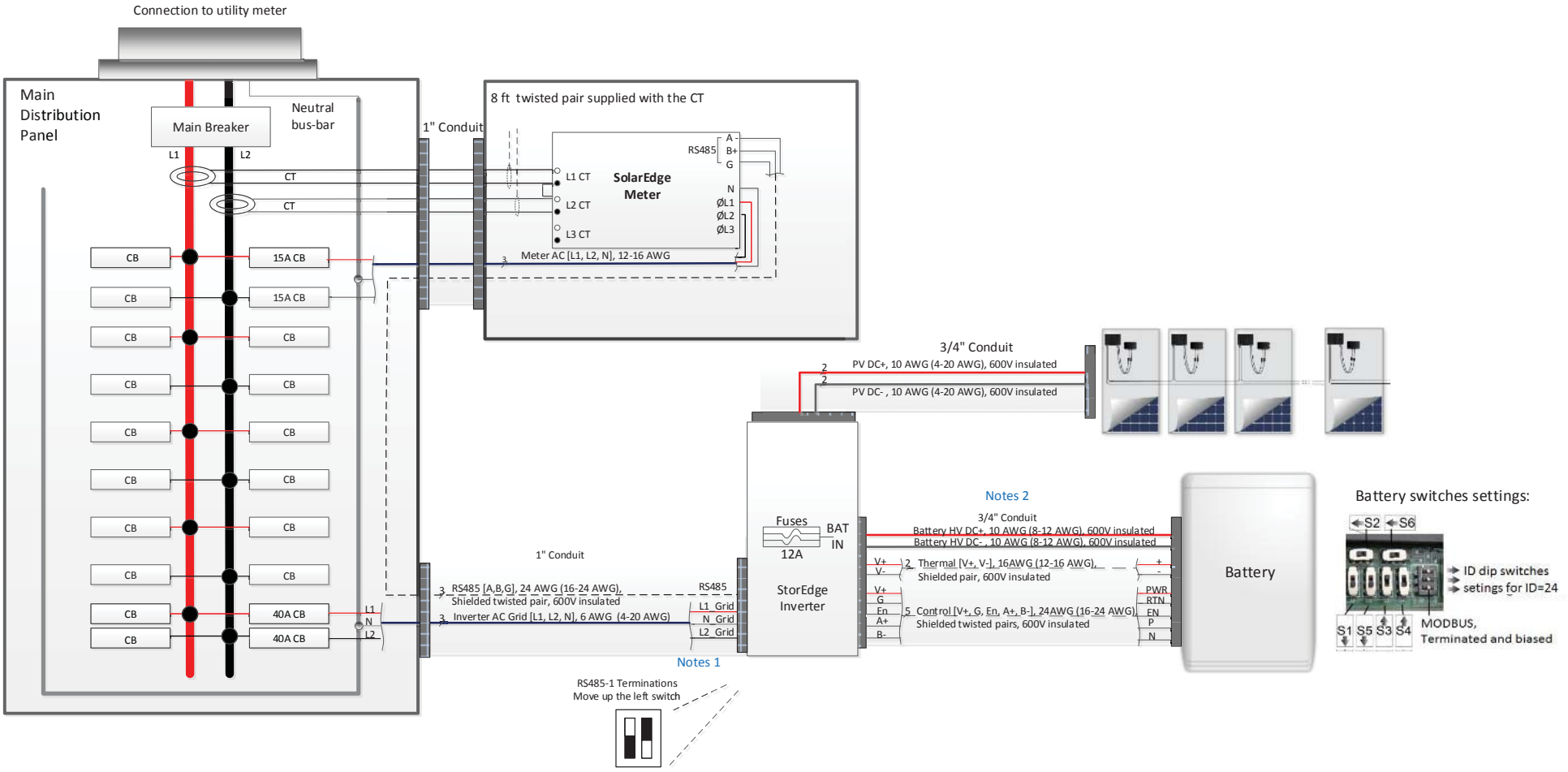


Figure 42: Smart Energy Management Only - Basic Configuration

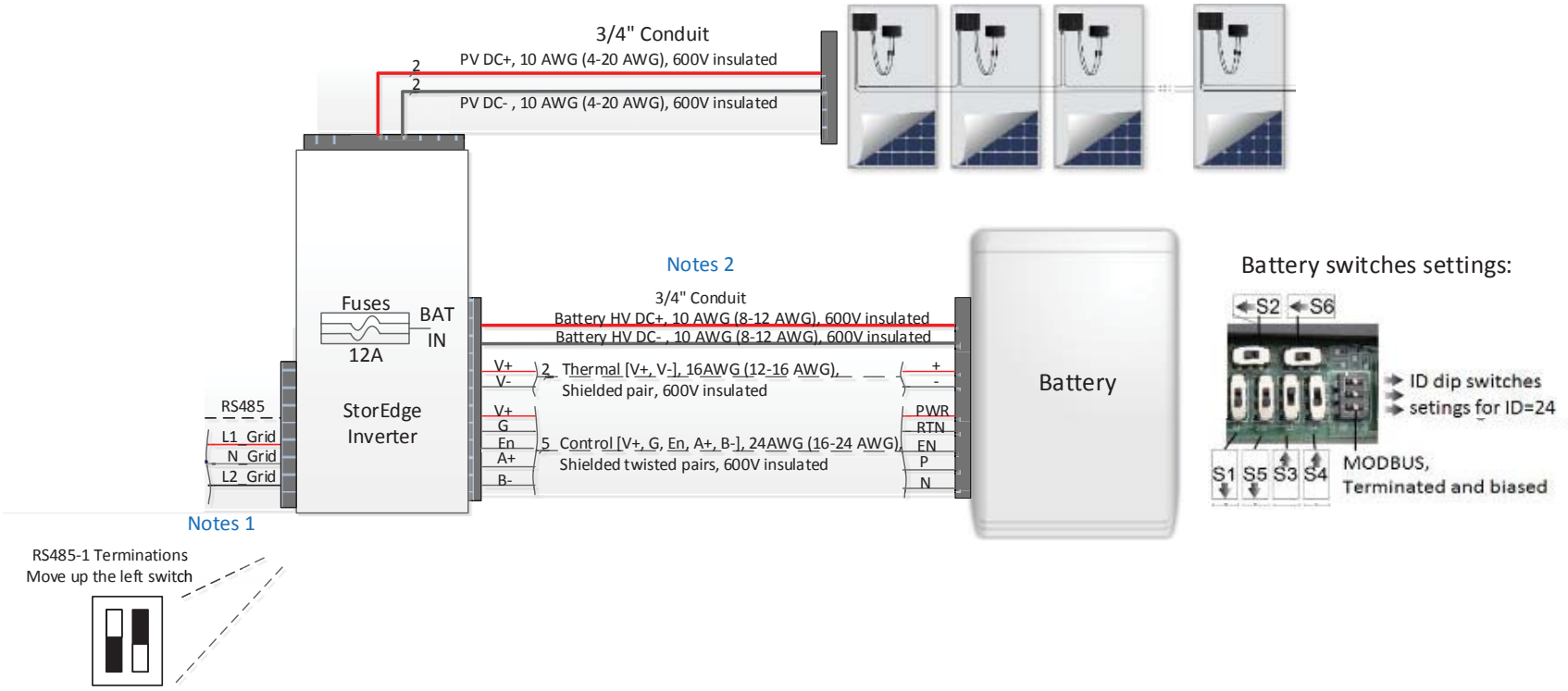


Figure 43: Smart Energy Management Only - Basic Configuration, - StorEdge Inverter – Battery Connection

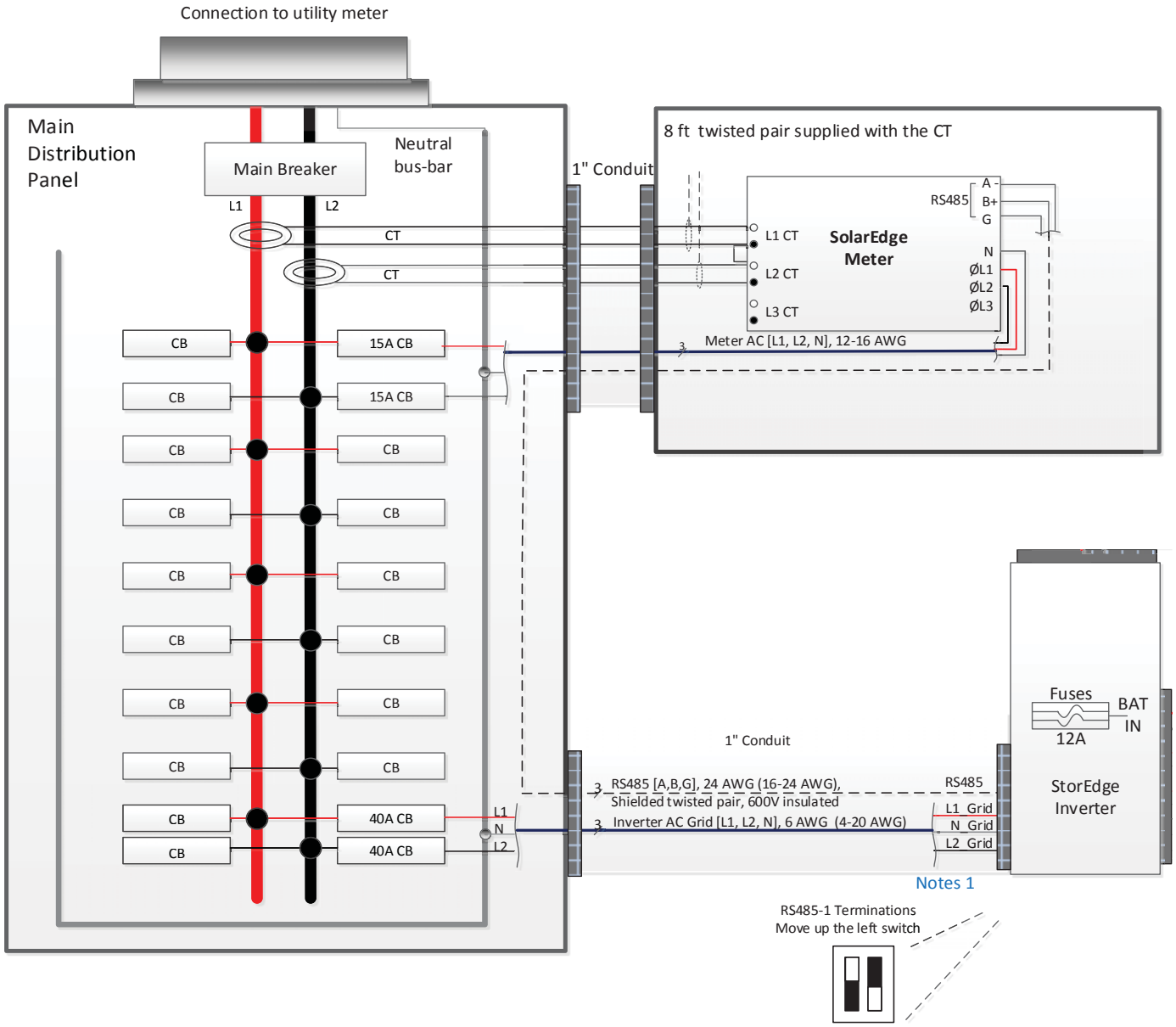


Figure 44: Smart Energy Management Only - Basic Configuration, Main Distribution Panel - Electricity Meter Connection

Table 7: Basic Configuration Smart Energy Management Notes

Note	Description
Note 1	Recommended StorEdge inverter fuses: • 12A 600VDC Quick-Acting, 10 x 38 mm Solar Midget Fuses (Example: Littelfuse P/N 0SPF012)
Note 2	Battery connection: • 35ft max • Distance larger than 5ft requires installation of external DC safety switch on the battery side • Control [B-,A+] must be twisted pair

Two Battery Configuration

The following diagram illustrates the connection of the system components when using two batteries. In this case, an external fused combiner box is needed. The next diagrams are enlarged segments of this diagram.

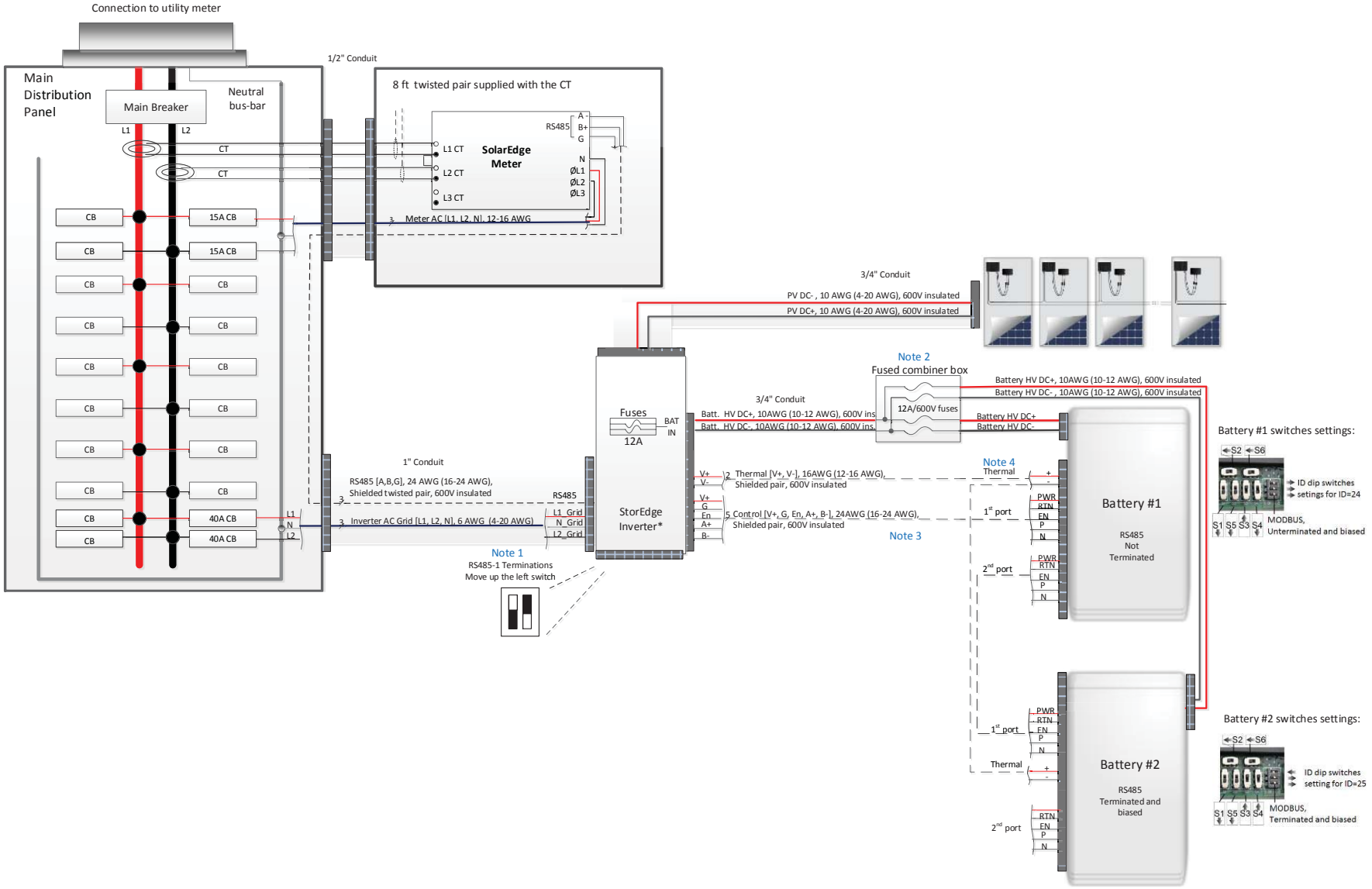


Figure 45: Smart Energy Management Only – Two Battery Configuration

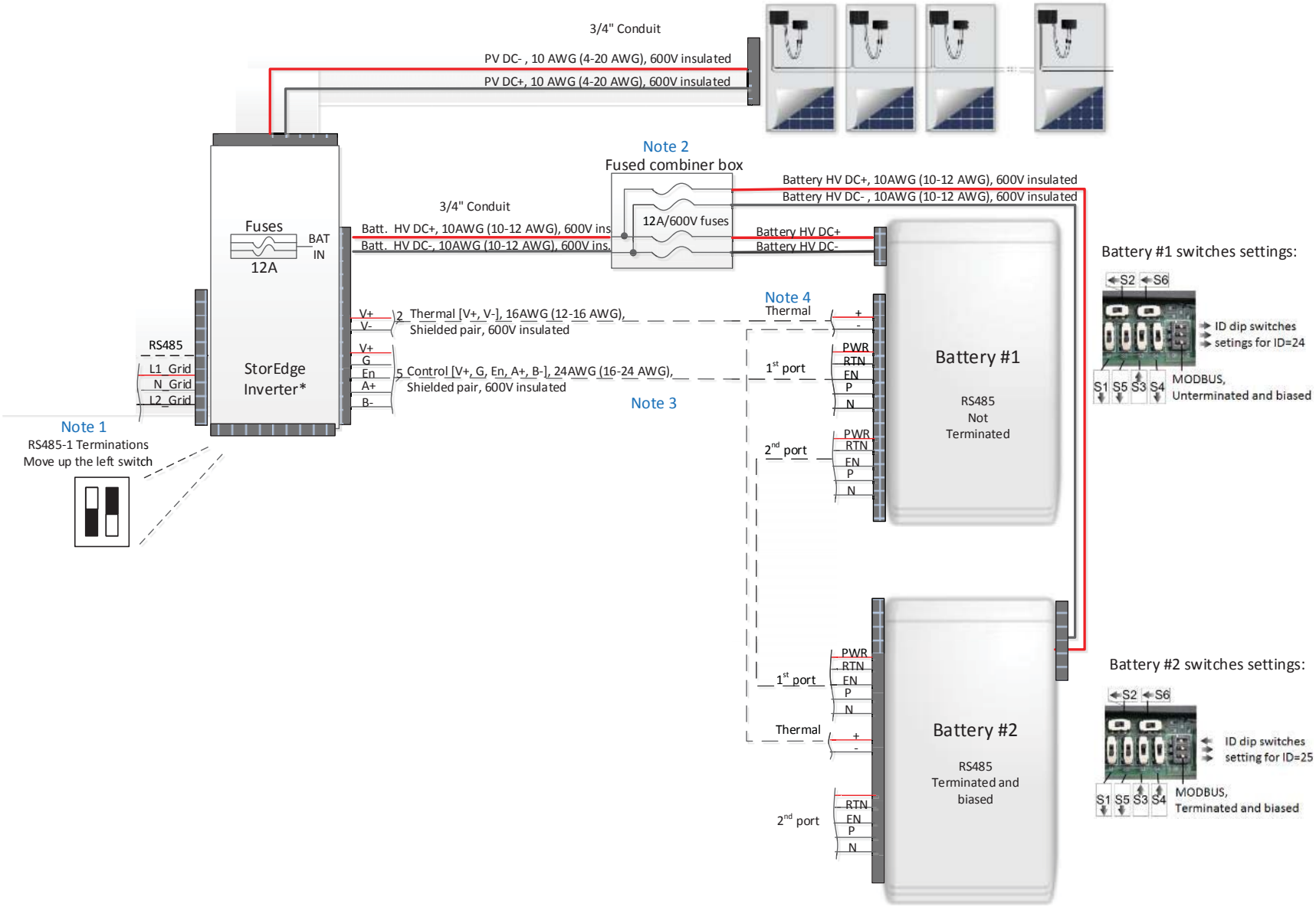


Figure 46: Smart Energy Management Only – Two Battery Configuration, Batteries - StorEdge Inverter Connection

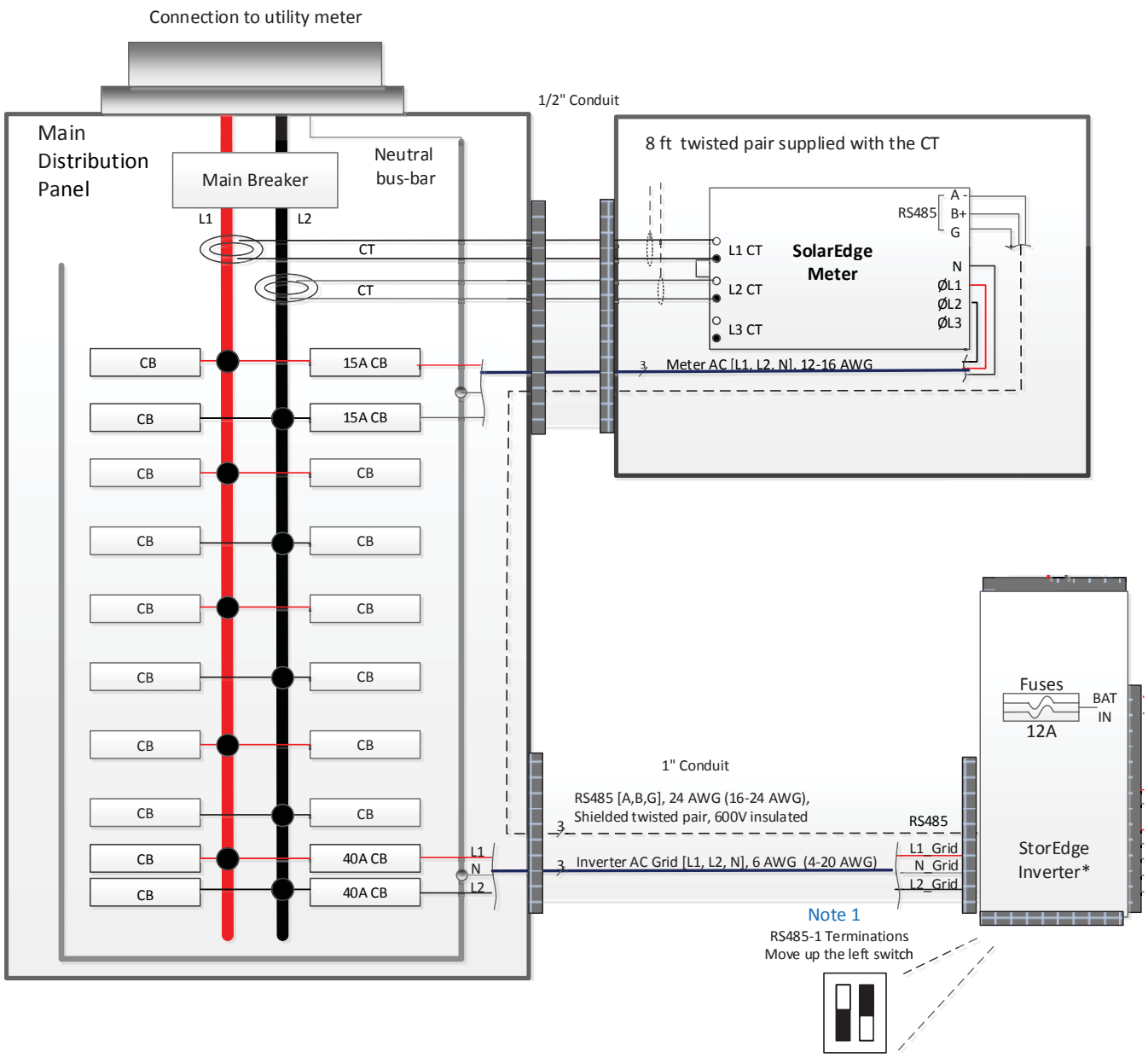


Figure 47: Smart Energy Management Only – Two Battery Configuration, - Main Distribution Panel - Electricity Meter Connection

Table 8: Smart Energy Management Only – Two Battery Configuration Notes

Note	Description
Note 1	Recommended StorEdge inverter fuses : • 12A 600VDC Quick-Acting, 10 x 38 mm Solar Midget Fuses (Example: Littelfuse P/N 0SPF012)
Note 2	External fused combiner box is needed to support two batteries
Note 3	Battery connection: • 35ft max • Distance larger than 5ft requires installation of external DC safety switch on the battery side • Control [B-,A+] must be twisted pair
Note 4	Use a twin-wire ferrules to daisy chain the thermal wiring

Appendix E - StorEdge Inverter without a Battery

The StorEdge inverter can be used without a battery as a PV inverter with no StorEdge applications. The system can be upgraded to support StorEdge applications by adding the remaining system components.

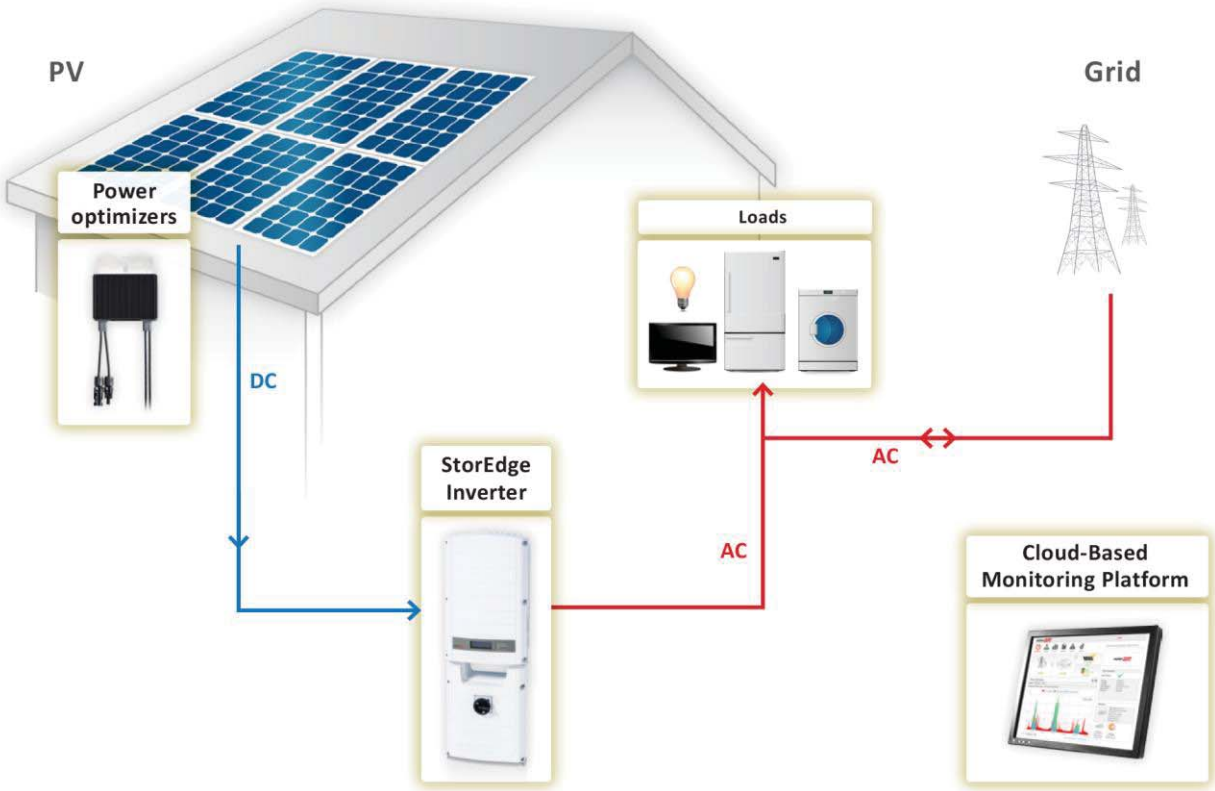


Figure 48: StorEdge inverter without a battery

► To connect and configure the system:

StorEdge inverter installation and AC and DC connections should be done as described in the StorEdge inverter manual supplied with it. StorEdge inverter configuration should be done according to the SolarEdge Installation Guide http://www.solaredge.com/files/pdfs/products/inverters/se-single-and-three-phase-inverter-user-manual-na.pdf.

SolarEdge Support Contact Information

If you have technical queries concerning our products, please contact us:

USA and Canada (+1)	510 498 3200	support@solaredge.us
Worldwide (+972)	(0)73-2403118	
Fax (+1)	530 273-2769	