



Installation Manual

Smart Hybrid Battery Enclosure BCL0096 v1.0



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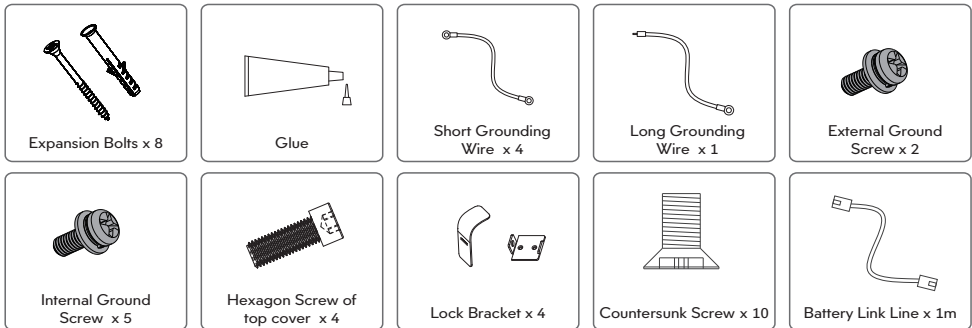
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Parts list



Tools required

- Spirit level
- Battery drill with Phillips tec bit
- Assorted screw drivers
- Allen key set

Location and environmental requirement

- The Battery Enclosure is rated IP54, so it can be installed indoors or outdoors.
- If installed outdoors, the enclosure should not be mounted on a north or west facing wall or in a location that exposes the enclosure to a direct sunlight. It should also be mounted underneath an eave to protect it from the weather.
- The Battery Enclosure should be mounted against a reasonably flat, structurally sound wall and it needs to be standing on a level surface.
- There should be no flood risk at the location selected for the Battery Enclosure installation.
- There should be ample room (min 150mm) for air circulation around the Battery Enclosure, as the Battery Enclosure uses fans to circulate air. The air intake and expulsion grills on the right and left hand side of the Battery Enclosure should not be blocked at any time.

Dimensions

The Battery Enclosure dimensions are: width 535mm, depth 280mm, height 1155mm (without the feet installed) and width 535mm, depth 280mm, height 1205mm (with the feet installed).

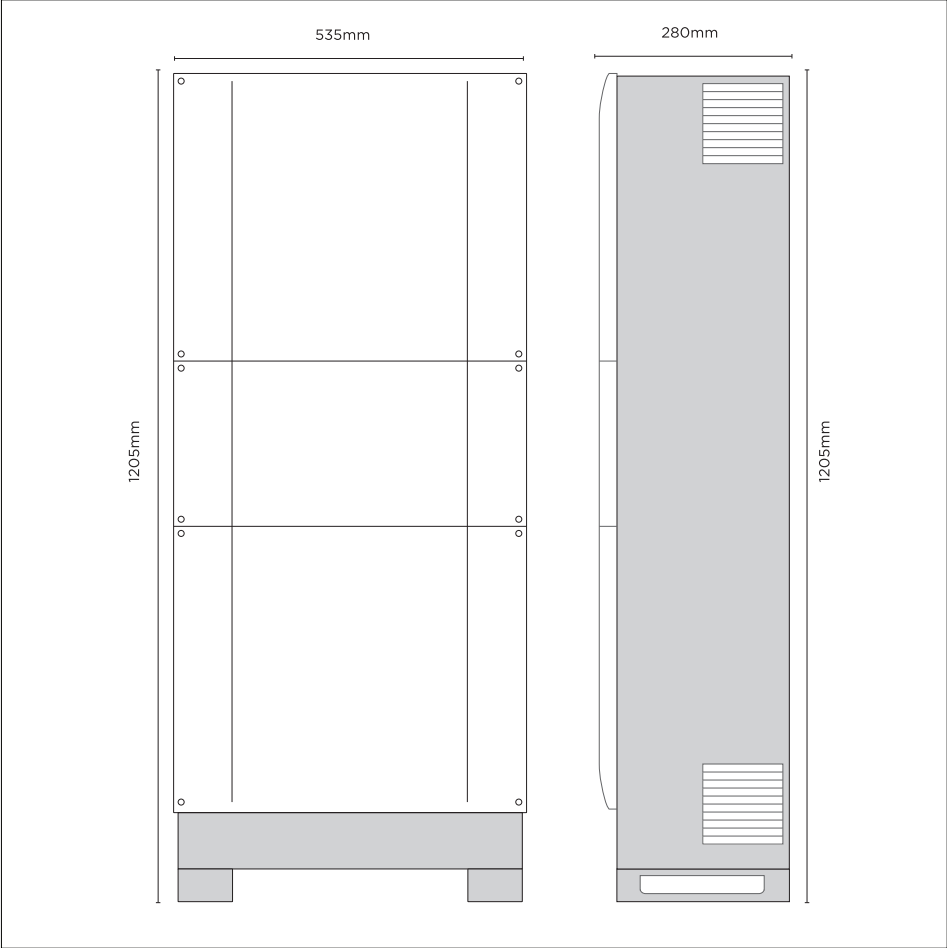


Figure 1: Dimensions.

Preparation

1. In preparation for the installation of the enclosure take off the three front covers of the Battery Enclosure by removing the 12 screws.

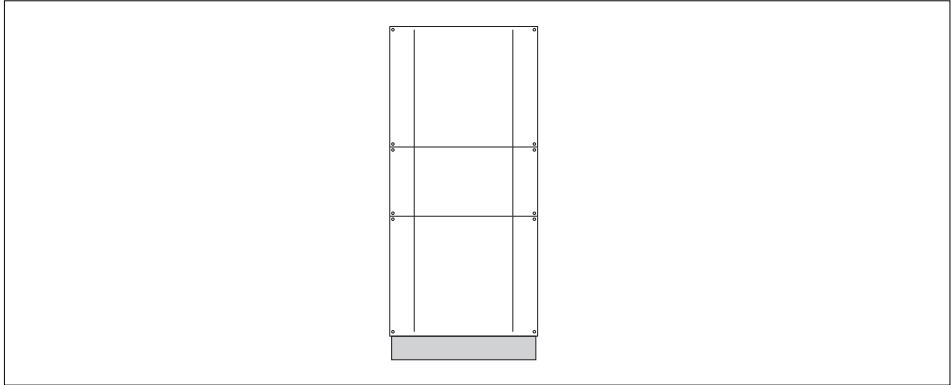


Figure 2: BCL0096 out of the packing box.

2. Screw the two feet to the base of the Battery Enclosure, using the three screws provided.

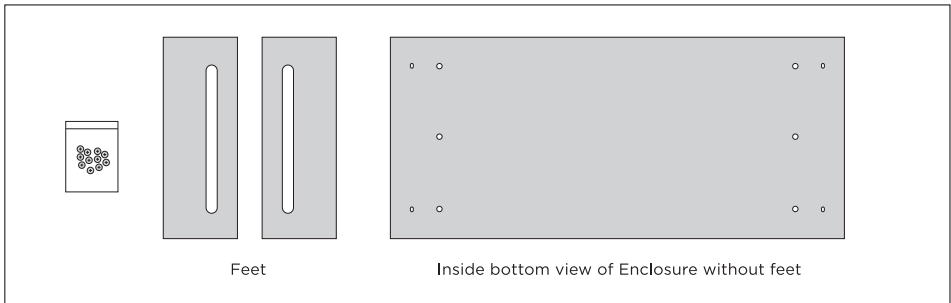


Figure 3: Battery Enclosure feet and mounting screws.

3. Once the feet are fixed, the Battery Enclosure is ready for installation as shown in Figure 4.

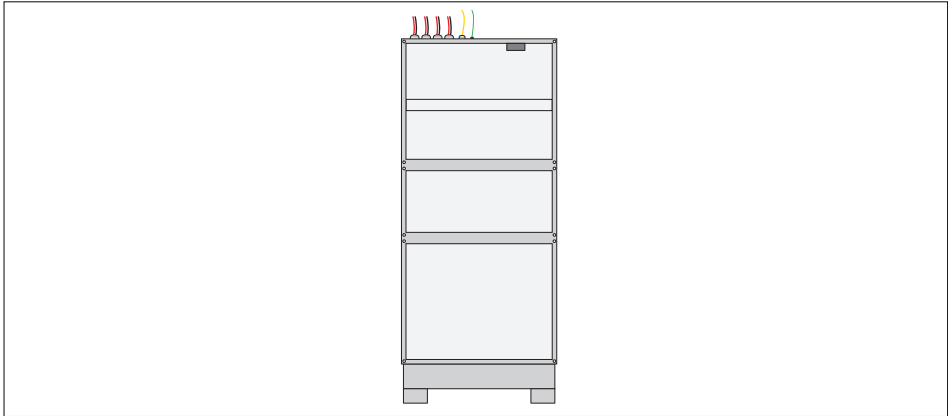


Figure 4: Battery Enclosure with the feet attached and ready for installation.

Mounting the enclosure

The Battery Enclosure is designed to be installed below the Inverter and comes prewired for easy integration with a GoodWe Inverter.

1. Set the Battery Enclosure against the wall. Ensure that the floor where the Battery Enclosure is to be installed is level.
2. Use the supplied fixing screw and plug set to fix the enclosure to the wall. An alternate fixing mechanism can be employed if the supplied screw and plug set is not appropriate for the wall.

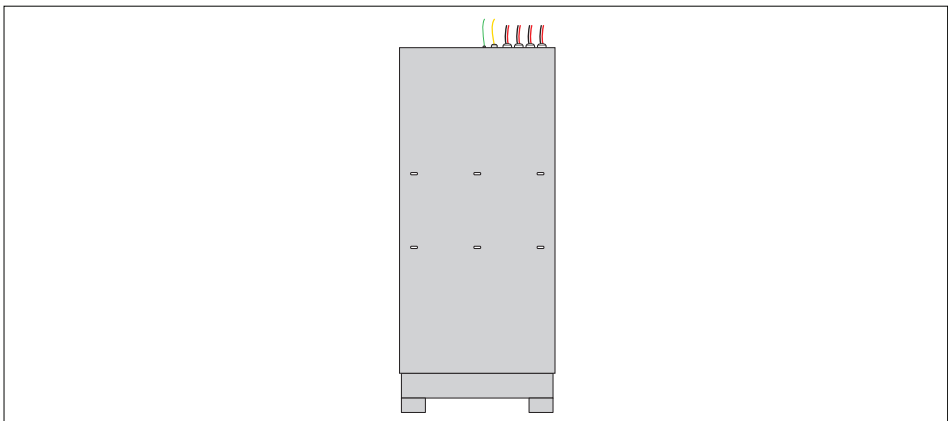


Figure 5: BCL0096 wall mounting holes.

3. Once the enclosure is fixed against the wall, apply generous amount of the supplied sealant on the six screw holes to seal off any moisture ingress points.

Inserting the batteries

Note: The battery switch should remain off during the installation process.

The enclosure can be used to house Li-ion battery types , the following installation uses Pylontech US2000 battery as an example.

- Up to four Pylontech US2000 (2.4 kWh) battery packs with a total storage capacity of 9.6 kWh.
1. Insert the batteries onto the shelves one at a time by inserting the battery pack bottom first into the cabinet. Please fill the cabinet from bottom to top, i.e. insert battery 4 first, then 3, 2 and finally 1 (see figure 8). If using the Pylon US2000 batteries, you will need to remove the handles from the batteries as shown in Figure 6.

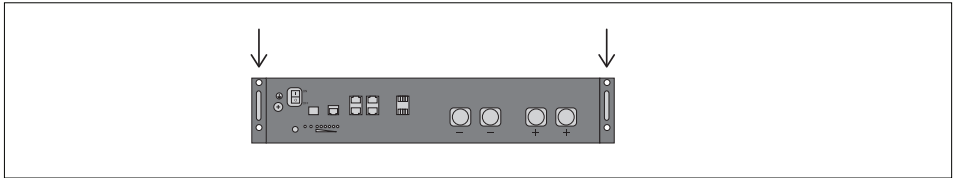


Figure 6: Pylontech US2000 battery front handles.

2. Once the batteries are placed into position, plug the respective power leads into the power connectors on the batteries observing polarity. Ensure that the battery 4 lead which has the power connector for the Fan Controller is plugged into one of the batteries.

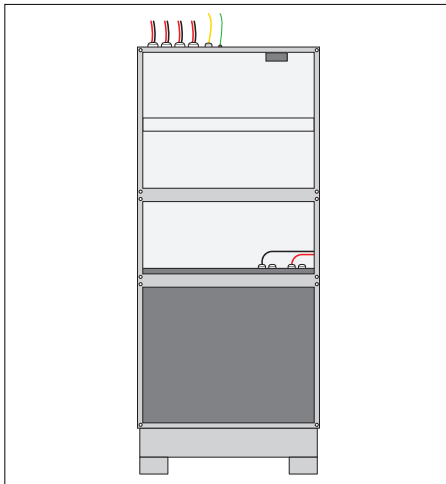


Figure 7: BCL0096 with the bottom battery inserted.

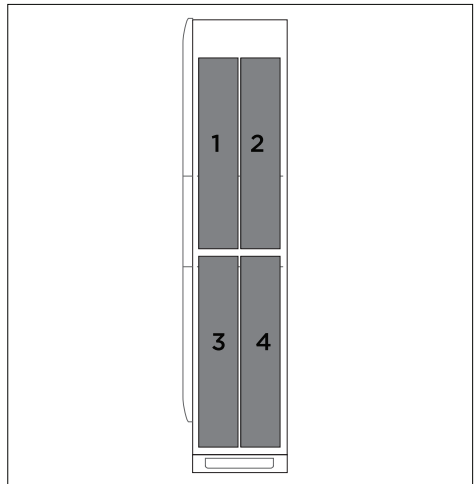


Figure 8 : Inside view of BCL0096 with four Pylontech US2000 batteries.

3. If you are using Pylontech US2000 battery packs, connect the bonding leads between each battery and the earthing studs inside the enclosure.

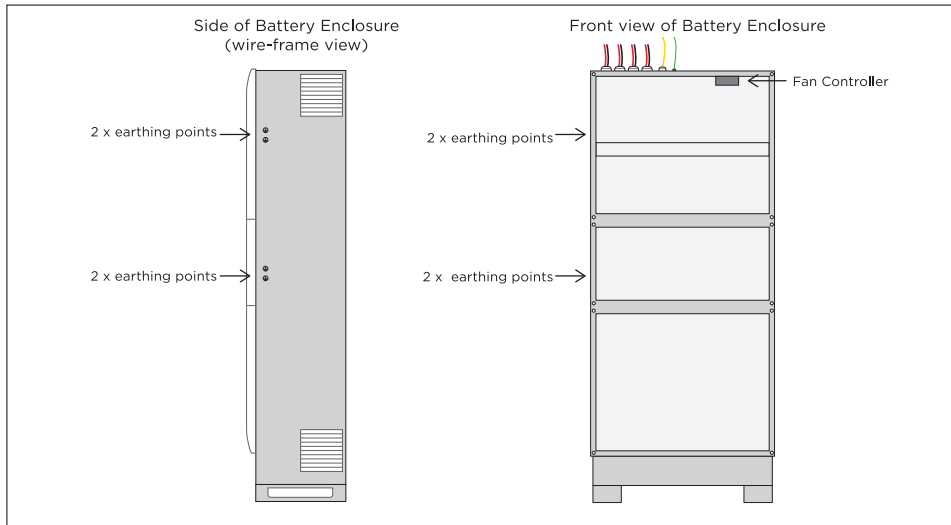


Figure 9 : BCL0096 earthing connection points.

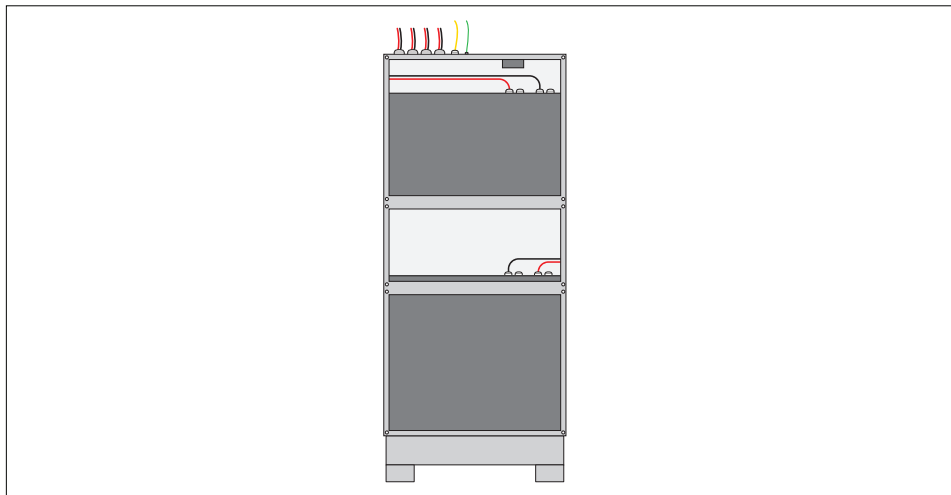


Figure10:BCL0096 with batteries inserted and connected (Pylontech US2000).

At this stage the preliminary installation of the Battery Enclosure is complete. The next step is the connection of the BMS cables.

BMS connection

The BMS communication for Pylontech US2000 battery is as follows:

Pylontech US2000

1. Connect the BMS cable on top of the Battery Enclosure to the BMS port at the bottom of the BoS (Inverter), and the other end of the cable into the 'CAN' port of the master battery.
2. If there are more than two battery packs used in the installation, a daisy chain BMS link needs to be created between the batteries. To create this link, connect the 'Link' cable between 'Link Port 1' of the master and 'Link Port 0' of the first slave, 'Link Port 1' of the first slave and 'Link Port 0' of the second slave and so on until all batteries are linked together.

Once the commissioning steps are complete, you can put the covers back on the Inverter and the Battery Enclosure. The installation is now complete.

BMS battery connections table

Description	From	To	Cable label
Pylon Gen 2 (US2000) (Figure 11)	BMS feed through port	Master battery CAN port To Inverter port	To Inverter
	Link Port 1 of the master battery	Link port 0 of the slave battery	Link

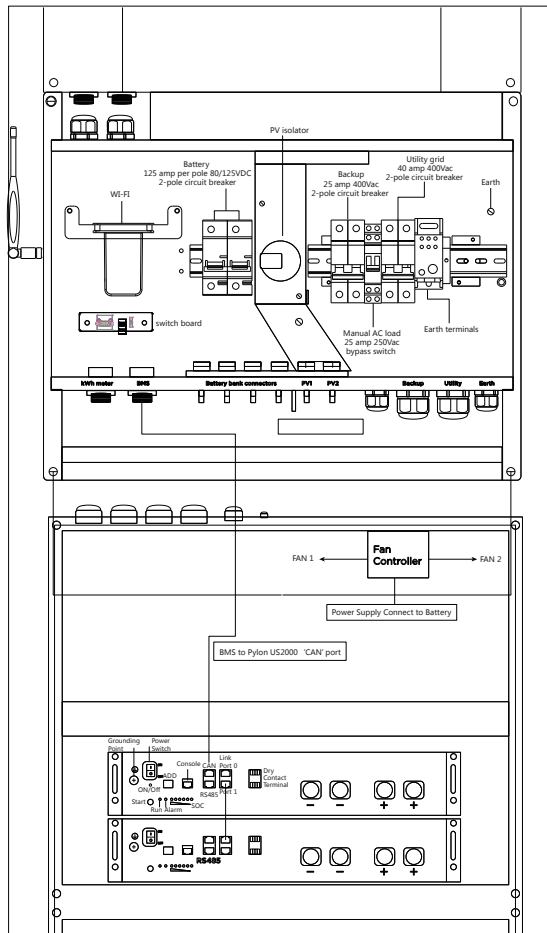


Figure 11: Pylon Gen 2 (US2000).

Connecting the Battery Enclosure to the Inverter



CAUTION!

The Inverter should be powered down during this process. Please refer to the Inverter's installation Manual for the shutdown sequence.

The Battery Enclosure is now ready to be connected to the Inverter mounted on the same wall above the Battery Enclosure as per figure 12.

Please note you should refer to the Inverter's installation manual for details on how to mount the Inverter.

1. Connect the Amphenol connectors, on the top of the Battery Enclosure, to the matching battery connectors at the base of the Inverter.

Note: You need to check the Inverter's commissioning steps to complete the commissioning of the whole system.

2. Connect the Battery Enclosure's earth lead to the earth terminal inside the Inverter.
3. With the Inverter's BOS box and the Battery Enclosure's front cover still open, turn on the Inverter and subsequently close the battery breaker in preparation for the commissioning process.

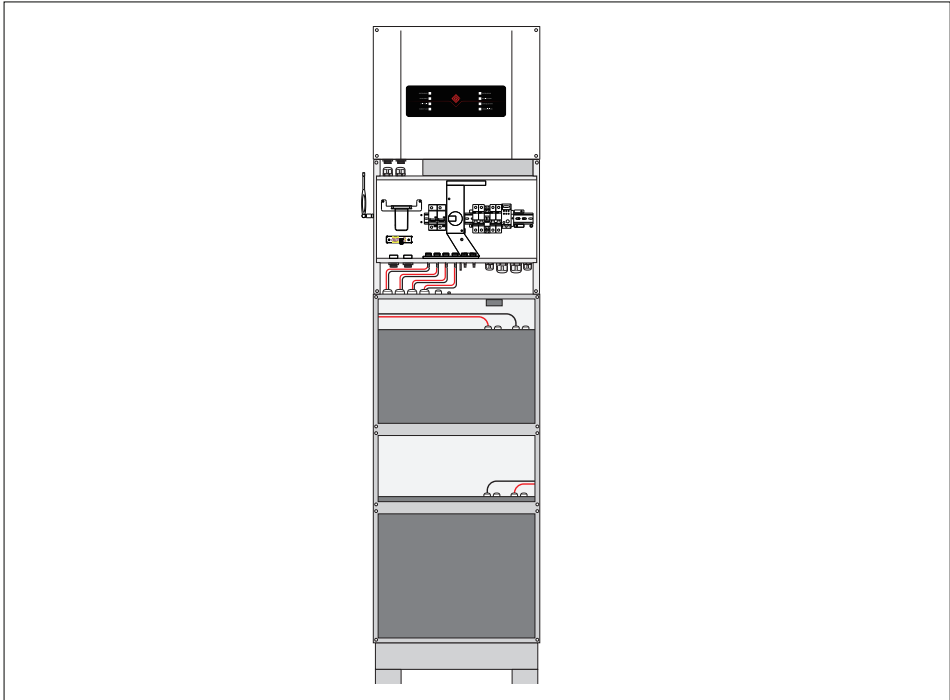


Figure 12: BCL0096 Battery Enclosure connected to Inverter (Pylontech US2000).

Commissioning

Pylontech Battery (US2000)

1. Ensure all the BMS connections is have been done as per the instruction provided in this installation manual (page 10)
2. You don't need to assign the battery (ADD) addresses manually because the master battery will do this for you (provided the BMS wiring is done per the instruction in this installation manual).
3. Press the 'Power' button on all batteries. The green LED light below the 'Power' button should come on please note that the batteries won't be giving any power at this stage.
4. Press the red button labelled 'SW' on the master battery. That will start all batteries.
5. The 'Battery' light on the Control Board should be on, indicating that BMS communication has been established between the master battery and the Inverter and at this stage you should be able to see the battery on the portal and in the App.

Note: You need to check the Inverter's commissioning steps to complete the commissioning of the whole system as per the Inverter manual.



Figure13: The completed installation of BCL0096 and ESA5000.

