



DCS PV Series RESU

Residential Energy Storage Unit
PV 5.0(W) & PV 10.0(W) Battery Packs

INSTALLATION MANUAL

Introduction:

The DCS PV Series packs are designed primarily for efficiently storing photovoltaic energy produced by solar systems.

BATTERY MANAGEMENT SYSTEM (BMS):

All DCS PV Series battery packs feature an advanced internal BMS. The BMS constantly monitors the packs operation and prevents the battery from operating outside design parameters.

DCS batteries do not require a communication link to operate correctly.

Supercharging BMS capability allows the batteries to be recharged at up to 3 times the recommended charging current but must never exceed 100Amps.

EXPANDABILITY:

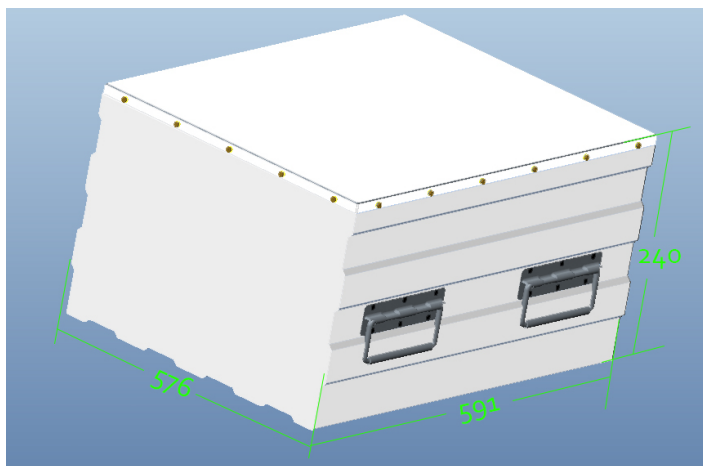
The battery packs can be easily expanded by making additional parallel connections across the battery connection terminals. Up to 3 parallel connections can be made across each positive and negative set of terminals.

SPECIFICATIONS - Dimensions and weight of each model:

DCS PV 5.0 - Free standing battery design (not suitable for wall mounting)

Length: 591mm, Width: 576mm, Height: 240mm

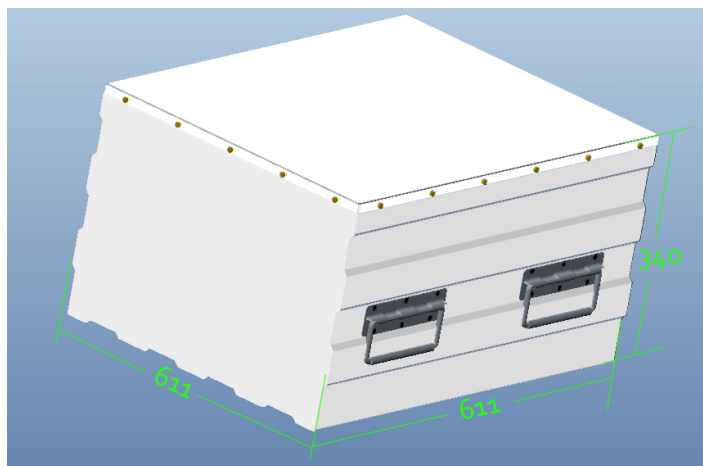
Weight: 48Kgs



DCS PV 10.0 - Free standing battery design (not suitable for wall mounting)

Length: 611mm, Width: 611mm, Height: 340mm

Weight: 98Kgs



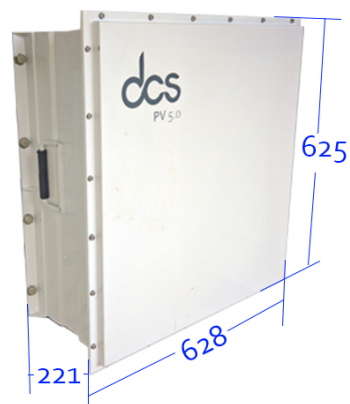
DCS PV 5.0W - Wall mount battery design (not suitable for free standing)

Length: 625mm

Width: 628mm

Depth: 221mm

Weight: 48Kgs



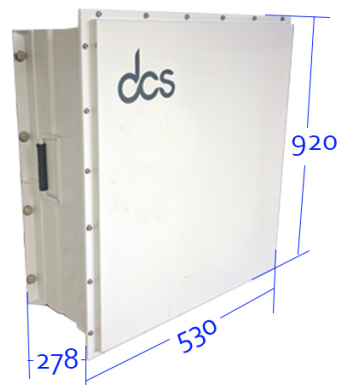
DCS PV 10.0W - Wall mount battery design (not suitable for free standing)

Length: 920mm

Width: 530mm

Depth: 278mm

Weight: 98Kgs



Performance specifications & charging currents:

Refer to the label on the side of the battery pack to confirm the model and specifications.

DCS PV 5.0 / DCS PV 5.0W

Recommended charging current 40Amps when connecting a single PV 5.0 (100Ah) battery to an inverter.

If a second PV 5.0 (100Ah) battery is added in parallel making the combined total capacity (200Ah) the charging current can be doubled and increased to 80Amps.

If the combined capacity of the batteries will be equal to or over (300Ah) than the charging current can be set to 100Amps.

The maximum charging and discharging current can never exceed 100Amps.

DCS PV 10.0 / DCS PV 10.0W

Recommended charging current 80Amps when connecting a single PV 10.0 (200Ah) battery to an inverter.

If a second PV 5.0 (100Ah) OR PV 10.0 (200Ah) battery is added in parallel making the combined total capacity equal to or over (300Ah) the charging current can be set to 100Amps.

The maximum charging and discharging current can never exceed 100Amps.



Lithium Ion Storage (LiFePO₄)

deepcyclesystems.com.au

1300 795 327

Model: DCS PV 5.0W

Nominal Voltage: 48V

Capacity: 5.12kWh (100Ah)

Cycling Voltage: 44.5 - 58.4V

Max Charge/Discharge: 100A

Protection Class: IP 67

Operating Temperature: -20 to +65 Degrees C

Advanced BMS no communication required



RoHS

Transport Regulation Compliance UN38.3

Cell Safety IEC 62133 - Pack Safety IEC 62619



Lithium Ion Storage (LiFePO₄)

deepcyclesystems.com.au

1300 795 327

Model: DCS PV 10.0W

Nominal Voltage: 48V

Capacity: 10.24kWh (200Ah)

Cycling Voltage: 44.5 - 58.4V

Max Charge/Discharge: 100A

Protection Class: IP 67

Operating Temperature: -20 to +65 Degrees C

Advanced BMS no communication required



RoHS

Transport Regulation Compliance UN38.3

Cell Safety IEC 62133 - Pack Safety IEC 62619

Installation

Cable requirements: minimum 4 AWG (21mm²) or minimum continuous rating 130Amps

Cable Ring Terminals/Lugs: M8

Cable length: keep under 3.0 meters, position battery as close to the charge controller as possible to minimise any voltage drop in the cables.

Installation location & environment: the optimal temperature range for the battery pack to operate and to maximise the lifespan is between 0 to 45 degrees Celsius.

However the battery pack will continue to operate between -20 to 65 degrees Celsius temperatures. If ambient temperatures are outside the -20 to 65 operating range, the battery will automatically stop operating and go into protection mode. Once the correct operating temperature range is again present the battery pack will begin to operate correctly.

International Protection Rating: IP-67

6 = Dust tight

7 = Immersion, up to 1m depth

Due to the design of the batteries being fully sealed against dust and water, this provides many installation possibilities. Whenever possible the best practice is to have the batteries positioned in well ventilated cool locations. Such as those found on the south-facing walls of buildings and houses. Avoid direct sunlight. When installing batteries under houses or verandas/deckings ensure the environment is dry and free from dampness. Always position the batteries on top of pavers and don't just leave them in the dirt.

When installing indoors avoid rooms that experience a high daily change in ambient temperature. Such as non-insulated or non-ventilated sheds or garages.

Installing the battery packs: mounting to a wall, only the DCS PV W series of batteries can be wall mounted. The W series batteries have an internal passive thermodynamic architecture that provides superior cooling capabilities and will only work when these batteries are wall mounted.

There are M10 predrilled and slotted holes along each edge of the batteries for correct wall installation. Use M10 bolts for solid walls (masonry/brick) that are at least 50mm in overall length and drill suitable holes.

For installation into timber walls or studs use couch screws that are minimum of 50mm in length. Predrill hardwood with M4 - M8 drill size to ensure the timber doesn't split when the bolts are fastened.

Secure/drive the M10 bolts through the predrilled slotted battery holes using washers into the prepared surface holes.

Tighten the bolts or nuts using a 8Nm torque wrench.

Connecting the battery pack to the inverter:

1. Make sure the inverter/charge controller is turned off before connecting the battery pack to the inverter.
2. To connect the power cables coming from the inverter/charge controller remove the protective terminal plate covers located on the battery packs. Note the positive and negative terminals marked with "+" "-" and their corresponding cable gland colors "red" and "black"
3. Feed each positive and negative power cables through the cable gland entries, pull through about 30cm of cable length to make it easier to clean the insulation and prepare the terminals.
4. Strip back around 12mm of insulation from the cables or enough to make sure the copper reaches the very tip of the ring terminals/cable lugs. Crimp the ring terminals/lugs using the correct sized crimping tool and finish with some insulation tape to ensure none of the copper is exposed to atmosphere.
5. Remove the battery terminal hex screws/washers and pull the cables back to locate the ring terminals/lugs centrally onto the battery terminals.
6. Tighten the hex terminal screws to a torque of 6Nm and restore the terminal plate covers.
7. Tighten the cable glands securely to ensure a water/dust tight finish.
8. Ensure the inverter/charge controller is setup using a lithium charging profile with the correct cycling voltages enabled **44.5V ~ 58.4V** and correct charging/discharging currents before switching it on.

Expanding the battery packs:



The battery packs can be easily expanded by making additional parallel connections across the battery connection terminals. Up to 3 parallel connections can be made across each positive and negative set of terminals.

1. Make sure any existing batteries are disconnected/isolated from the inverter/charge controller.
2. Loosen the cable glands, remove the terminal plate covers and remove any existing cables/ring terminals from the connection boxes.
3. Using a stepped drill bit, drill an additional hole along one of the free side walls of the connection boxes which would be 90 degrees to any existing connections. Drill the correct sized hole so that the new M25 cable glands fit snug.
4. Remove any metal filings from the connection boxes using a pressurised air canister.
5. Create any new connections and restore any existing connections, tighten the connection terminal screws, restore the plate covers and tighten all cable glands securely to ensure a water/dust tight finish.

Warranty Coverage:

DCS protects this product under warranty when this product is installed and used as detailed in this manual. Violating the installation procedure or using this product in any way not described in this manual immediately voids all warranties on this product.

Limitation of Liability:

DCS does not provide warranty or assume liability for direct or indirect damages or defects that result from the following causes: Transportation or storage, incorrect installation, operating the product in an inappropriate environment, incorrect or inappropriate operation, insufficient ventilation, repairs or modifications performed by unauthorised personnel, rectifier failure or overcurrent, force majeure events, external influences, such as unusual physical or electrical stress and use of a rectifier that fails to meet the requirements.

DCS

The worlds most advanced lithium ion energy storage battery unit



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