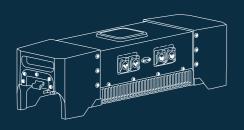


# DC Dock 2000



User Manual Mobile Converter and Charger

EN

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#### Read this user manual carefully before use.

This user manual is part of the product and must be kept for later use or to be passed on to a future owner.

### 1 Overview

#### 1.1 Overview of the DC Dock 2000

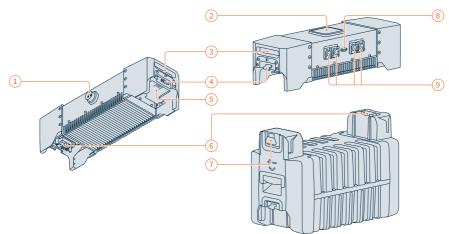


Fig. 1 Overview of the DC Dock 2000

1	Charging connector (with discharge capability)	6	Main connector between DC Dock 2000 and better- Pack 2000
2	Monitoring and controlling unit with LED display and On/Off button	7	Lower security latch
3	Carry handles	8	USB C port
4	Upper security latch	9	48V & 24V output connectors
(5)	GSM stick access plate		

#### 1.2 Scope of delivery

- DC Dock 2000
- · This user manual

#### 1.3 Product line

To use the DC Dock 2000, you need betterPacks 2000, which you can purchase from betteries AMPS GmbH. The DC Dock 2000 operates with betterPacks 2000 type "multi" only. Among others, betterPacks 2000 can also be used with the following devices:

- AC Dock 3000
- Charge 500
- Connect EM
- Charge 1200
- Connect 48

To view the complete list of possible devices, go to **https://betteries.com**.

#### 1.4 Spare parts

Make sure to only use original spare parts. You can order spare parts via the customer service → see "2.4 If a product is broken" on page 5.

Article number	Designation
P/N 06-00095	Dust caps

If required, betteries can provide adaptor cables on special request.

### 2 better be safe

#### 2.1 Intended use

The DC Dock 2000 is a docking platform for using electrical power from up to three betterPacks 2000 indoors and outdoors. Never use any other batteries than betterPacks 2000 with the DC Dock 2000. Never use any charging or discharging device other than the devices listed on <a href="https://betteries.com">https://betteries.com</a>.

The DC Dock 2000 is intended for professional use only and may only be used under the special operating and environmental conditions defined in this user manual → see "3.2 Conditions for the installation site" on page 6 and → see "9 Technical Data" on page 14.

Any further use that deviates from the conditions described in this user manual is considered improper use and is prohibited. Note in particular the following specification:

 Never step on the DC Dock 2000 and never use it as a stepping aid.

#### 2.2 Disclaimer

Failure to follow the instructions in this user manual may result in serious injury or damage to the DC Dock 2000 and the devices used with it. No liability is accepted for any damage to the DC Dock 2000 or the devices that occurs because the instructions in this user manual have not been observed.

#### 2.3 Safety instructions



#### DANGER

#### Danger to life due to electric current!

The DC Dock 2000 is operated with electric current. Contact with live parts and damage to the insulation of the power cable or individual components pose an immediate danger to life.

- Always check that the DC Dock 2000 is undamaged before using it. Never use the DC Dock 2000 if it is damaged.
- Never open, repair or modify the DC Dock 2000. Always contact the manufacturer to have it repaired.
- Never touch the plug of the charging cable or a plug of an appliance with wet hands.
- Never put external conductors into the plugs.
- Never immerse the DC Dock 2000 in water.



#### WARNING

#### Health hazard due to fire!

If the DC Dock 2000 is electrically overloaded, a fire may occur.

- Never use a multiple socket when connecting appliances to the DC Dock 2000.
- Only use the DC Dock 2000 under the specific operating conditions defined in this user manual 

  see "9 Technical Data" on page 14.



#### CAUTION

Injuries due to the DC Dock 2000 tipping over! If the DC Dock 2000 is not standing securely and level or if the betterPacks 2000 are not removed correctly, the DC Dock 2000 may tip over and cause bruising to hands, feet or legs.

- Always handle the DC Dock 2000 with care.
- Always follow the instructions for setting up the DC Dock 2000 and changing the betterPacks 2000 correctly.



#### CAUTION

#### Injuries due to hot surfaces!

While operating, the underside of the DC Dock 2000 can become hot. If the DC Dock 2000 is not handled correctly, this can lead to burns.

- Always handle the DC Dock 2000 with care.
- Always carry the DC Dock 2000 by its handles.



#### NOTICE

### Damage to equipment due to dirty or wet connections and plugs!

If connections and plugs become dirty or wet, the DC Dock 2000 may no longer function correctly.

 Always keep the connections and plugs clean and dry by keeping plugs away from dust and water.

#### 2.4 If a product is broken

Never open, repair or modify the DC Dock 2000 yourself. Always contact the manufacturer to have it repaired.

Phone: +49 152-05735306 E-Mail: info@betteries.com

# 3 Setting up

#### 3.1 Unpacking the DC Dock 2000

- 1. Carefully open the shipping box and take the DC Dock 2000 out. It is ready to use out of the shipping box.
- Keep the packaging for future transport, return or longterm storage.
- Check that the scope of delivery is complete. The shipping box must contain the DC Dock 2000 and the user
- 4. Check that the DC Dock 2000 is undamaged.
- If you notice any missing or damaged parts, please contact the manufacturer → see "2.4 If a product is broken" on page 5.

#### 3.2 Conditions for the installation site

- Always place the betterPack 2000 and the DC Dock 2000 on a firm and even surface. The maximum terrain slope without any risk of tilt is 10%.
- The DC Dock 2000 can be used indoors and outdoors. If you use the DC Dock 2000 outdoors, avoid rain and direct

- sun to extend the life of DC Dock 2000. If you use the DC Dock 2000 indoors, always check that the humidity in the room is below 95%.
- Check that you can meet the requirements for ambient temperature → see "9 Technical Data" on page 14.
- Check that the connected charging cable is not under tension when plugged into a power socket. The recommended length of the charging cable is three metres.
  - Never use the DC Dock 2000 in explosive atmosphere.
- Never use the DC Dock 2000 for an extended period in areas with high salt concentration in ambient air or water, such as on the seaside or in winter on streets on which de-icing salt is used, or in other highly corrosive environments.
- Never position the DC Dock 2000 close to any explosive or dangerous substances, such as petrol.

### 4 Using

#### 4.1 Checking the DC Dock 2000

- 1. Check the DC Dock 2000, including plugs and connections, before using it.

#### 4.2 Stacking the DC Dock 2000



#### CAUTION Injuries due to hot surfaces!

While operating, the underside of the DC Dock 2000 can become hot. If the DC Dock 2000 is not handled correctly, this can lead to burns.

- Always handle the DC Dock 2000 with care.
- Always carry the DC Dock 2000 by its handles
- Remove the dust caps from the connections of the better-Pack and put them aside for later use.

ΕN

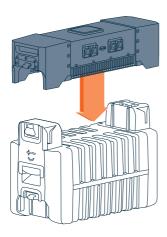


Fig. 2 Stacking the DC Dock 2000 on the betterPack 2000

- Lift the DC Dock 2000 by using both carry handles and align the connection of the DC Dock 2000 and the connection of the betterPack 2000 vertically, one above the other.
- 3. Carefully stack the DC Dock 2000 on the betterPack 2000 without any force.



#### INFO

When charging or using more than one better-Pack 2000 with the DC Dock 2000, always stack the better-Packs first and stack the DC Dock 2000 last.

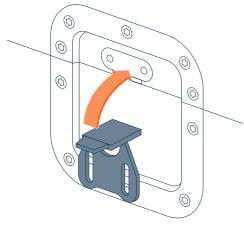


Fig. 3 Lifting the wing screw

4. Lock the DC Dock 2000 on the betterPack 2000. To do so, lift the wing screw and hook the curved top on the upper part of the locking device.

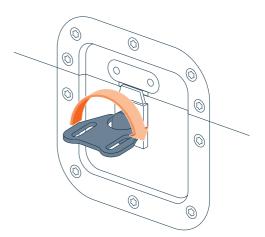


Fig. 4 Turning the wing screw

5. Turn the wing screw 180° in a clockwise direction.

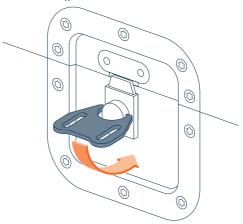


Fig. 5 Folding the wing screw back down

6. Fold the wing screw back down.

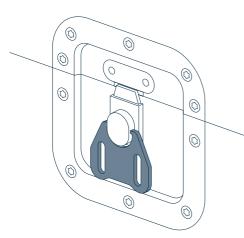


Fig. 6 Locked DC Dock 2000

- 7. If needed, secure the position with a padlock.
- Before using, always check that the betterPack 2000 is properly locked.
- To remove the DC Dock 2000, first unlock the DC Dock 2000 again. To do so, lift the wing screw, turn the wing screw 180° in a counter-clockwise direction and fold it back down.
- 10. Carefully lift the DC Dock 2000 vertically upwards. Set aside the DC Dock 2000 in a safe place.
- 11. If more than one betterPack 2000 is stacked, remove the betterPacks 2000 one by one. Carefully lift the betterPack 2000 vertically upwards with another person.
- To protect the connections, put the dust caps back onto the connections of the betterPack 2000 and the DC Dock 2000.

#### 4.3 Turning the DC Dock 2000 on and off



Fig. 7 On/Off button on the DC Dock 2000 (highlighted)

- 1. Shortly press the On/Off button on the top of the DC Dock 2000.
  - ▶ The DC Dock 2000 is switched on or off.
  - The DC Dock 2000 checks the status of all stacked betterPacks 2000 and indicates this via the status LEDs.

# 4.4 Understanding the LEDs State of charge



Fig. 8 State of charge on the DC Dock 2000 (highlighted)

The LEDs for the state of charge indicate the average of the charging level for all stacked betterPacks 2000. When betterPacks 2000 are being charged, the LED representing the current charging level flashes blue. Depending on the charging status, the LEDs flash blue or red as shown in the list below

• • • • •	< 10 %
• • • • •	10 - 30 %
	30 – 50 %
	50 – 70 %
	70 – 90 %
	90 – 100 %



#### ROTICE Equipment damage due to deeply discharged

**betterPacks 2000!** If betterPacks 2000 are not charged in time, they can become deeply discharged and thus permanently damaged.

 If the leftmost LED lights up red, charge the stacked betterPacks 2000 as soon as possible.

#### Power



Fig. 9 Ratio of the currently available power on the DC Dock 2000

The blue LEDs for power indicate levels as shown in the list below. The last LED lights up yellow if the level of 3.3 kW is exceeded. If the system is operating beyond the recommended ratio for an extended period, the system will turn-off the outputs and/or will shut down automatically in a safe manner.

	00000	0.0 – 0.6 kW
	• 0 0 0 0	0.6 – 1.2 kW
	• • • • •	1.2 – 1.8 kW
	<b>• • •</b> • •	1.8 – 2.4 kW
	• • • • •	2.4 – 3.0 kW
	00000	3.0 – 3.3 kW
1	0 0 0 0 0	> 3.3 kW



#### INFO

Note that the maximum total power limit of the 48VDC outlets and the 24VDC outlets of the DC Dock 2000 will only show maximum of three LEDs.

#### **Status**

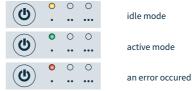


Fig. 10 Status of a stacked betterPack 2000 on the DC Dock 2000 (highlighted)

Each status LED indicates the status of a stacked betterPack

- Green: betterPack 2000 is being charged or used without any errors or warnings.
- Yellow: betterPack 2000 is being initialised or in idle mode. Stacked betterPacks 2000 have different charging levels.
- Red: An error has been detected. Depending on the severity of the error, the system will shut down safely. For more information on the meaning of the LEDs and what actions may be required 

  see "8 Troubleshooting" on page 12.



#### 4.5 Charging betterPacks 2000

#### Prerequisites:

- √ The DC Dock 2000 is securely stacked on the betterPacks 2000.
- √ The DC Dock 2000 is turned off.
- 1. Connect the charging cable to the DC Dock 2000.

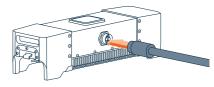


Fig. 11 Plugging charging cable into the DC Dock 2000

- 2. Plug the charging cable into the power socket.
- 3. To turn the DC Dock 2000 on, shortly press the On/Off button.
  - The DC Dock 2000 starts charging the stacked betterPacks automatically.
  - Status LEDs indicate the status of each stacked betterPack 2000 and state-of-charge LEDs indicate the charging level.

### 4.6 Connecting and disconnecting appliances

The DC Dock 2000 is equipped with two different types of sockets to connect appliances to. Two sockets provide a power output of 600 W (each 12.5 amp at 24 V), two sockets provide a power output of 1344 W (each 14 amp at 48 V).

#### Prerequisites:

- √ External appliances have been checked and are undamaged and ready for use.
- betterPacks 2000 are stacked (in case more than one is being used).

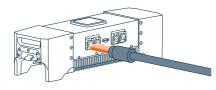


Fig. 12 Plugging power cable into the DC Dock 2000

- Connect the appliance with the DC Dock 2000. Make sure to choose the socket with the suitable pin-out, power consumption and voltage level for the appliance to be connected.
- 2. Turn the connected appliance on.
- If you notice any problem with the appliance, switch off the appliance immediately and disconnect it from the DC Dock 2000.

To disconnect the appliance from the DC Dock 2000, turn off the appliance first and then disconnect it from the DC Dock 2000.

#### 4.7 Changing the location

Changing the location of the DC Dock 2000 can be done separately or with stacked betterPacks 2000.

#### Prerequisites:

- √ The DC Dock 2000 is turned off.
- √ The appliance is disconnected.
- Check that the future location meets all conditions for the installation site 

  see "3.2 Conditions for the installation site" on page 6.
- If the DC Dock 2000 is transported separately, use the carry handles and set it up securely at the future location. Or:
  - If the DC Dock 2000 is transported with a maximum of three stacked betterPacks 2000, use transport equipment e.g. a hand truck.
  - Never lift a DC Dock 2000 connected to a betterPack 2000 with the DC Dock 2000 handles.
- 3. Starting with the betterPacks 2000, carefully stack the betterPacks 2000 one by one on a transport equipment.
- Secure the DC Dock 2000 and the stacked betterPacks 2000 on the transport equipment by using e.g. securing straps.
- 6. Move the DC Dock 2000 and the stacked betterPacks 2000 to the future location and set it up securely → see "4.2 Stacking the DC Dock 2000" on page 6.

#### 4.8 Connecting to WiFi (optional)

You can find a detailed description on how to set up WiFi connectivity on

https://betteries.com/products/technical-specifications.

### 5 Cleaning



#### DANGER

#### Danger to life due to electric current!

The DC Dock 2000 is operated with electric current. Contact with live parts poses an immediate danger to life.

- Always turn off the DC Dock 2000 before cleaning the DC Dock 2000.
- Never immerse the DC Dock 2000 in water.
- Never use a high-pressure water jet to clean the DC Dock 2000 and never spray water directly on it.



#### NOTICE

### Equipment damage due to aggressive cleaning agents!

Using aggressive cleaning agents, solvents or other chemicals for cleaning the DC Dock 2000 may damage it.

- Only use a dry, soft brush or cloth to clean the DC Dock 2000.
- Only use canned air or compressed air that is specifically approved for cleaning or dusting electronic equipment to clean plugs and connections.
- 1. Clean the outer surface of the DC Dock 2000 regularly with a dry, soft brush or cloth.
- Check if plugs or connections are dirty and, if necessary, clean them with approved canned air or compressed air.
- While cleaning, check for visible damage. If you notice any damage, do not use the DC Dock 2000 and contactthe manufacturer → see "2.4 If a product is broken" on page 5.

### 6 Transporting



Fig. 13 Label on the shipping box

There is a danger of breaking when transporting the DC Dock 2000. Do not drop the DC Dock 2000, always handle the DC Dock 2000 with care and always keep the DC Dock 2000 dry. Always carry the DC Dock 2000 in its shipping box or by its handles.

### 7 Storing

- Always handle the DC Dock 2000 with care.
- Store the DC Dock 2000 in a dry room with no risk of flooding.
- Store the DC Dock 2000 in a dry room with a relative humidity (non-condensing) below 50%.
- Never store the DC Dock 2000 in areas with high salt concentration in ambient air or water, such as on the seaside.
- Keep the DC Dock 2000 away from heat sources, such as radiators, flames and sparks.

## 8 Troubleshooting

Issue	Potential cause	Solution
Status LED lights up yellow.	The temperature of one or more betterPacks 2000 has reached 42°C.	Let the betterPacks 2000 cool down to 40°C or below. If you continue using the betterPacks, they will shut down at 45°C.
	betterPacks 2000 with different charging levels are used. When discharging, the betterPack 2000 with the higher charging level is operating. When charging, the betterPack 2000 with the lower charging level is operating.	<ol> <li>In best case always use betterPacks 2000 with the same charging level together.</li> <li>Keep the system charging or discharging until all LEDs turn to green.</li> </ol>
Status LED lights up red.	The battery management system of one or more betterPacks 2000 is reporting an issue.	<ol> <li>Turn off the system, wait at least one minute and then turn on the system again.</li> <li>If the Status LED still lights up red, contact the manufacturer. For details on shipping requirements</li></ol>
Status LEDs change colour.	betterPacks 2000 are initialising.	No action needed. Just wait until the status LEDs light up green.
	The system is out of operational limits.	Ensure that the system runs in its operational limits (e.g. temperature, start-up-/inrush power of connected devices).     Restart the system.
Power LED lights up yellow.	The system is operating beyond the recommended ratio. If this continues for an extended period, betterPacks 2000 will shut down safely.	1. Disconnect the appliance.
Power LED lights up red.	The temperature of the DC Dock 2000 has reached his operating maximum.	Turn off the DC Dock 2000 and disconnect all the connected appliances.     Let the DC Dock 2000 cool down.
The first state-of-charge LED lights up red.	The state of charge of one or more betterPacks 2000 is very low.	Charge betterPacks 2000 as soon as possible. If you continue using the betterPacks 2000, they will shut down to prevent deep discharge.

Issue	Potential cause	Solution
The system does not turn on after pressing the On/Off button.	There is a mechanical fault with the On/ Off button or the internal electronic.	<ol> <li>Contact the manufacturer → see         "2.4 If a product is broken" on page 5.     </li> </ol>
	One or more betterPacks 2000 have been deeply discharged.	<ol> <li>If you have stacked more than one betterPack 2000, check which betterPack 2000 is deeply discharged by stacking only one after another.</li> <li>Observe which betterPack 2000 the system cannot be started with.</li> <li>contact the manufacturer          → see</li></ol>
	DC Dock 2000 is not stacked properly.	<ol> <li>Remove the DC Dock 2000.</li> <li>Securely stack the DC Dock 2000 on betterPacks 2000 by following the introduction → see "4.2 Stacking the DC Dock 2000" on page 6.</li> </ol>
After turning the system on, all status LEDs of the available betterPacks 2000 light up yellow and the system cannot be turned off.	Initialisation failed and the system therefore stays in idle mode.	<ol> <li>Press the On/Off button for a few seconds.</li> <li>This will force the system to turn off.</li> <li>Try again to turn on the system by pressing the On/Off button on the DC Dock 2000.</li> <li>If the system is still not working correctly, contact the manufacturer to have it repaired → see "2.4 If a product is broken" on page 5.</li> </ol>
betterPacks 2000 are stacked but no or not all expected LEDs of the betterUI light up.	The DC Dock 2000 does not recognise betterPacks 2000 because the connections are damaged.	<ol> <li>Check connections for dirt or damage and clean connections if necessary          → see "5 Cleaning" on page 10.</li> <li>Try again to use betterPacks 2000. If the LEDs still fail to light up, contact the manufacturer,          → see "2.4 If a product is broken" on page 5.</li> </ol>
	An LED is damaged.	1. Send the DC Dock 2000 back to the manufacturer for repair → see "2.4 If a product is broken" on page 5.
There are visible cracks or other damage to the DC Dock 2000.	The DC Dock 2000 was dropped or damaged in another way.	<ol> <li>Never use a damaged DC Dock 2000.</li> <li>Send the DC Dock 2000 back to the manufacturer for repair → see "2.4 If a product is broken" on page 5.</li> </ol>

Issue	Potential cause	Solution
There is a noticeable change to the DC Dock 2000, such as an unexpected smell or a deformation of parts.	The DC Dock 2000 was dropped or damaged in another way.	<ol> <li>Turn off the connected appliances and the DC Dock 2000 immediately.</li> <li>Send the DC Dock 2000 back to the manufacturer for repair → see "2.4 If a product is broken" on page 5.</li> </ol>
The DC Dock 2000 is turned on but the connected appliance does not work.	The connected appliance or parts of it are damaged.	Turn off the DC Dock 2000 and disconnect the appliance.     Send the applicance to the manufacturer for repair.

### **Technical Data**

#### Dimensions and weight

Height	151	mm
Width	555	mm
Depth	188	mm
Weight	5.5	kg

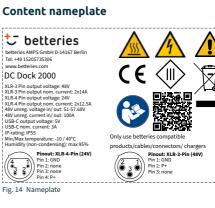
#### 9.2 Electrical values

	48V regulated output voltage	48	V
	48V regulated output power	672	W
- 1	48V regulated output connector	2x 3-Pin-XLR	-
	48V regulated output current	2x 14	A
	24V regulated output voltage	24	V
	24V regulated output power	2x 300	W
	24V regulated output connectors	2x 4-Pin-XLR	-
	24V regulated output current	2x 12.5	А
	48V unregulated output voltage	51-57.68	V
	48V unregulated output power	5000	W
	48V unregulated output connector	1x Amphenol AHDP04-18- 06SN	-
	USB C outlet voltage	5	V
	USB C outlet power	15	W

#### 9.3 Operating conditions

Min./max. operating temperature	-10/40	°C
Max. allowable relative humidity (non-condensing) for operating	95	%
Max. allowable relative humidity (non-condensing) for storing	50	%
Protection class	IP55	-
Pollution degree	3	-
Altitude during operation	2000 or less	m

#### 9.4 Nameplate



The nameplate is located on the back of the DC Dock 2000 and contains the following information:

- · Contact information of the manufacturer
- Description of the product
- · Electrical values
- Required ambient temperature and relative humidity
- Informative labels and warning labels
- Safety-relevant instructions

#### Informative labels



The DC Dock 2000 is a protection class 3 product that operates on DC voltage up to 60 volts.



The CE marking indicates that the manufacturer or his authorised representative is aware of the special requirements for the product they distribute and that the product conforms to these special requirements.



Read this user manual carefully before use.



Do not dispose of the DC Dock 2000 in household

#### 9.5 Warning labels



General warning sign. Always consult the user manual when you see this sign.



The DC Dock 2000 is operated with electric current.



The underside of the DC Dock 2000 may get hot.

#### 9.6 Traceability label



Fig. 15 Traceability label for the DC Dock 2000

Every DC Dock 2000 is equipped with a traceability label that allows to identify a specific DC Dock 2000.

Always keep the traceability label visible and never remove the label. Have the information on the label ready when contacting the manufacturer.

The traceability label contains the following information:

- Serial number
- · Place and date of manufacture

### 10 Disposing

The DC Dock 2000 contains toxic materials. If the DC Dock 2000 is disposed of incorrectly, hazards to the environment may result.

It is important to promote reuse and environmentally appropriate recycling of waste. Therefore, recycle the DC Dock 2000 according to the regulations of your region or country.



Fig. 16 Do not dispose of the DC Dock 2000 in household waste

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