

# BatPac

## User's Guide



## Thank you for choosing Profoto

Thanks for showing us your confidence by investing in a BatPac unit. For more than four decades we have sought the perfect light. What pushes us is our conviction that we can offer even yet better tools for the most demanding photographers.

Before our products are shipped we have them pass an extensive and strict testing program. We check that each individual product comply with specified performance, quality and safety. For this reason our flash equipment is widely used in rental studios and rental houses worldwide, from Paris, London, Milan, New York, Tokyo to Cape Town.

### **Some photographers can tell just from seeing a picture, if Profoto equipment has been used.**

Professional photographers around the world have come to value Profoto's expertise in lighting and light-shaping. Our extensive range of Light Shaping Tools offers photographers unlimited possibilities for creating and adjusting their own light.

Every single reflector and accessory creates its special light and the unique Profoto focusing system offers you the possibility to create your own light with only a few different reflectors.

Enjoy your Profoto product!

# Safety instructions



- Read and follow all safety instructions below carefully to avoid injuries or damages!
- Make sure that this user guide always accompanies equipment!
- Profoto products are intended for professional use – keep away from children!
- Do not place or use the equipment in damp or wet environments.
- Do not place or use the equipment in areas with flammable gases or dust!
- Do not expose the equipment to dripping or splashing.
- Do not place objects filled with liquids on the equipment.
- Do not store the generator close or below the freezing point, which can lead to loss of capacity and risk of condensation when used in a warmer surrounding immediately.
- Do not connect equipment with a rated power consumption of 600W or more unless recommended or approved by Profoto.
- Equipment must only be serviced or repaired by authorised and competent service personnel!
- Reverse polarity of the battery wires can damage the device!
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



## **WARNING – Electrical Shock Hazard – High Voltage!**

- Do not open or disassemble the device. Equipment operates with high voltage.
- Internal capacitors will be electrically charged for a considerable time after device has been turned off.

### NOTICE

## **NOTICE – Equipment Overheating Risk**

- Do not obstruct ventilation. The integrated protective bag shall always be kept open while device is in use.
- Do not expose the device to a heat source (such as direct sunlight). In this way additional heating of the device is avoided.



## **FINAL DISPOSAL**

- Equipment contains electrical and electronic components that are harmful to the environment.
- Equipment may be returned to Profoto distributors free of charge for recycling according to WEEE.
- Do not throw away the packaging material. Ask your local authority for the location of a recycling centre close to you.
- Follow local legal requirements for separate disposal of waste, for instance WEEE directive for electrical and electronic equipment on the European market, when product life has ended!

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# System description

The BatPac is a combined inverter and battery unit, integrated in a special purpose bag

The BatPac is available in two versions, with outlets for 120V or 230V. The maximum power for both versions is 600W.

## Features:

- Switching mode design
- High efficiency, low harmonic distortion
- Pure sine wave output voltage
- 12VDC input and 120VAC 60Hz or 230 VAC 50Hz output
- Power On Indicator (LED)
- Battery Low Indicator (LED)
- Over Temperature Indicator (LED)
- Battery switch

## Protection:

- Input low voltage
- Input over voltage
- Battery Low Indicator
- Over Temperature + Shut Down indicator
- Ground Fault Circuit Interrupter (GFCI)
- Short circuit (by fuse)

The BatPac is compatible with the following Profoto products<sup>1</sup>:

- Profoto D1 (all models)
- Profoto Acute2 (all models)
- Profoto ComPact (all models)

The BatPac can also be used for any peripheral equipment, such as camera chargers, PC, wind machines etc. However, this equipment should not be connected to the same BatPac as a flash generator.<sup>2</sup>

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1 For a list of compatible products and specific performance with Profoto products see section *Product compatibility* and following sections.

2 Always check the manual or ask the manufacturer of the peripheral equipment if it is possible to power it by an inverter before connecting it! The BatPac is able to power loads up to 600W. Do not connect devices with a higher load! Profoto can not be held liable for any damage caused to peripheral equipment when used with BatPac.

# Nomenclature

## BatPac 230V panel



- |    |                       |    |                            |
|----|-----------------------|----|----------------------------|
| 1. | Accessory Pocket      | 5. | Over Temperature Indicator |
| 2. | Power On Indicator    | 6. | Power Outlets              |
| 3. | Battery Low Indicator | 7. | Battery Switch             |
| 4. | On/Off Switch         | 8. | Charge Connector           |

## BatPac 120V panel







- |     |                          |     |                           |
|-----|--------------------------|-----|---------------------------|
| 9.  | Top Lid                  | 15. | Side Pockets (x2)         |
| 10. | Business Card Holder     | 16. | Adjustable Shoulder Strap |
| 11. | Carry Handle             | 17. | Fuse                      |
| 12. | Backpack Straps          | 18. | Fuse Holder               |
| 13. | Front Pocket             | 19. | Sealed Lead Acid Battery  |
| 14. | Battery/Fuse Compartment |     |                           |



# Functionality

## Battery

Only charge the battery using a standard Profoto Battery Charger 2A. For a long battery life, the battery shall be charged as often as possible and preferably before the battery is fully discharged. The battery shall be fully recharged prior to storage. It is no problem to charge the BatPac continuously with the Profoto Battery Charger 2A (during storage). The BatPac can also be charged while in use.

The capacity of the battery decreases dramatically when the battery temperature falls below freezing 0 °C (+32 °F). For optimum performance, try to avoid using the BatPac for longer periods at temperatures below freezing 0 °C (+32 °F).

Defective batteries shall be returned to the dealer for recycling. For details about the battery, see section *Technical data*.

## Battery Low Indicator

The Battery Low Indicator [3] indicates the battery voltage level. When the battery level is low, the Battery Low Indicator [3] will light up in red. If the Battery Low Indicator [3] starts to illuminate during flash recycling, the battery should be recharged.

## Power On/Off

The On/Off Switch [4] is used to switch on/off the BatPac. When the Bat/Pac is switched on, the Power On Indicator [2] has a steady green light.

## Battery Switch

The key to the Battery Switch [7] shall be turned clockwise when the BatPac shall be used. During transport and storage, the key to the Battery Switch [7] shall be turned counter-clockwise and removed to avoid discharging of the battery.

## Over Temperature Indicator

The Over Temperature Indicator [5] indicates the internal temperature of the inverter. If the inverter overheats, the Over Temperature Indicator [5] will have a steady red light and the output power will automatically be disconnected.

## Ground Fault Circuit Interrupter (GFCI)

The BatPac has a built in Ground Fault Circuit Interrupter (GFCI) which shuts down the output in case of short circuit to the chassis in either the BatPac or in the connected device. If the GFCI is activated the Battery Low Indicator [3] will be lit and the output shut down. The BatPac is reset by turning off and on the BatPac .

**Attention!** If the GFCI is activated, that is an indication of an error which is potentially a safety hazard. If the GFCI always activates, contact your nearest Profoto service station for check up and repair.

**BatPac Bag**

The BatPac Bag is an integral part of the BatPac. Never use or transport the BatPac outside of the bag! The bag has a number of convenient features. One special feature is the Backpack Straps [12] that allows the BatPac to be carried as a backpack. The straps can be conveniently tucked away in an integrated storage pocket when not used. The bag can also be carried in its Carry Handle [11] or in the detachable and soft padded Adjustable Shoulder Strap [16]. Accessories can be placed in the Accessory Pocket [1], Front Pocket [13] or in any of the two Side Pockets [15]. A Business Card Holder [10] is placed on top of the Top Lid [9].

# Operating instructions

## Brief instructions

- Open the Top Lid [9] of the BatPac Bag and lock it in opened position with the Carry Handle [11]. *The lid needs to be opened during usage to prevent overheating.*
- Insert the key to the Battery Switch [7] and turn it clockwise.
- Use the On/Off Switch [4] to switch on/off the BatPac.
- If the Battery Low Indicator [3] is illuminated, recharge the battery.
- If the Over Temperature Indicator [5] is illuminated, switch off the BatPac.
- Connect your flash generator/device to one of the Power Outlets [6].<sup>3</sup>
- Start the flash generator/device and you are ready to go!

## Using the BatPac with Profoto D1 flashes

The Profoto D1 is fully compatible for use with BatPac. Up to 2 D1 units can be connected to 1 BatPac. A new D1 firmware (1.2) released in June, 2010, includes a “Bat mode” making it possible to connect up to 4 D1 units to 1 BatPac.<sup>4</sup>

All D1’s are set to “standard mode” as default. In standard mode the D1 maximizes the power consumption to minimize the recycling speed – optimal when connected to the mains.

In “Bat mode” the D1 reduces the power consumption and automatically dims the model light during flash recharge – optimal when connected to a battery power source with a limited continuous output power.

To toggle the battery mode of the D1, go to standby mode and press the “MODEL” button for 10s. The display will toggle between “bt” (Bat mode) or “--” (standard mode). To activate the setting, D1 needs to be restarted by removing and reconnecting the mains supply.

## Battery charging

1. Connect the Profoto Battery Charger 2A to the Charge Connector [8].
2. The LED of the charger has a yellow light while charging and green when the battery is fully charged. There is no risk to overcharge the battery; the charger can still be connected when the LED is green.

We recommend charging the BatPac each and every time it is possible to extend the capacity and lifetime of the lead acid battery. It is possible to charge the BatPac while in use.

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3 Always check the operating voltage of any device before connecting it to the BatPac! Don’t connect devices with a higher load than 600W.

4 Check installed firmware by setting the D1 in standby mode and simultaneously pressing the “setting knob” and “model set” button. Firmware version will be shown in the display Firmware version. 1.2 and above includes “Bat mode”.

## Battery exchange

The battery is accessed by opening the Battery/Fuse Compartment [14] on the BatPac Bag. Only exchange battery by yourself if you are absolutely certain how to do it – otherwise contact your nearest Profoto service station! Only use sealed lead acid batteries recommended or supplied by Profoto.

## Changing fuses

The fuses are accessed by opening the Battery/Fuse Compartment [14] on the bag. The two Fuse Holders [18] are mounted along the cables between the positive battery pole and the battery switch.

1. Ensure that the BatPac is completely switched off by turning the Battery Switch [7] counterclockwise and removing the key.
2. Open the lid of the Fuse Holder [18] and pull out the Fuse [17].
3. Gently push the new Fuse [17] all the way into the Fuse Holder [18]. Only use fuses specified in section *Technical data*.

## Product compatibility

The Profoto BatPac can be used with the following Profoto flashes:

Profoto flash	Max no. of connected flash units	Comments
Profoto D1 (all models) in Bat mode	4	<ul style="list-style-type: none"> <li>Use a power strip to connect more than 2 units.</li> </ul>
Profoto D1 (all models) in standard mode	2	<ul style="list-style-type: none"> <li>Set model light to "DIM" or "OFF".</li> </ul>
Profoto Acute2 generator (all models)	1	<ul style="list-style-type: none"> <li>Check voltage setting before connecting to BatPac</li> <li>Turn off model light</li> </ul>
Profoto ComPact (all models)	2	<ul style="list-style-type: none"> <li>Check voltage setting before connecting to BatPac</li> <li>Turn off model light</li> <li>Use a power strip to connect more than 2 units.</li> </ul>

Furthermore it is possible to use the BatPac to power other equipment like camera chargers, computers, wind machines, constant light sources etc. with a power consumption of max. 600W. For example it is possible to use a 100W halogen lamp on a fully charged BatPac for about 45 minutes or a typical wind machine (150W) for about 30 minutes.

Never connect devices with a power consumption of more than 600W to a BatPac.

Always check the voltage of the equipment before you connect it to the BatPac! Use 100-120V units on the BatPac 120V and 200-240V units on the BatPac 230V only!

Please get in contact with the manufacturer before you use a non Profoto flash with BatPac! Profoto has not tested and cannot guarantee full functionality of flashes made by other manufacturers when used with BatPac.

## Battery capacity with Profoto flash units

The number of flashes depends on the total amount ofWs used. For example, you will get the same amount of flashes no matter if you use 1x D1 1000, 2x D1 500 at full power or 2x D1 1000 at ½ power etc. (model light deactivated).

The use of the model light seriously limits the capacity of the BatPac! The number of flashes specified below should be considered as a guideline.

### **Profoto D1**

*(used in "Bat mode", model light off)*

2000Ws (2x D1 1000 or 1x D1 1000 & 2x D1 500 or 4x D1 500): max. 150 flashes

1000Ws (1x D1 1000 or 2x D1 500 or 1x D1 500 & 2x D1 250 or 4x D1 250): max. 300 flashes

500Ws (1x D1 500 or 2x D1 250): max. 600 flashes

250Ws (1x D1 250): max. 1200 flashes

125Ws: max. 2400 flashes

62,5Ws: max. 4800 flashes

31,25Ws: max. 9600 flashes

### **Profoto Acute2**

*(max. 1 generator, model light off)*

2400Ws: max. 120 flashes

1200Ws: max. 250 flashes

600Ws: max. 500 flashes

300Ws: max. 1000 flashes

150Ws: max. 2000 flashes

75Ws: max. 4000 flashes

37,5Ws: max. 8000 flashes

**Profoto ComPact***(model light off)*

1200Ws (2x ComPact 600 or 1x ComPact 1200): max. 250 flashes

600Ws (1x ComPact 600 or 2x ComPact 300): max. 500 flashes

300Ws (1x ComPact 300): max. 1000 flashes

150Ws: max. 2000 flashes

75Ws: max. 4000 flashes



## Recycling times with Profoto flash units

The recycling time of a flash unit is generally slower when used with the BatPac compared to a similar flash unit powered from the mains. How much slower varies between different flashes and the battery status of the BatPac. The values specified below are to be considered as a guideline.

### BatPac with Profoto D1

A Profoto D1 in “Standard mode” will get approximately 1.5 times longer recycling time compared to a mains powered D1. If more than one D1 in “Standard mode” is connected to the BatPac, the recycling time will slow down further.

A Profoto D1 in “Bat mode” will get approximately 2.5 times longer recycling time compared to a mains powered D1 in standard mode. If more than two D1 flashes in “Bat mode” are connected to one BatPac the recycling time will slow-down even further.

#### *Profoto D1 1000*

Recycling times (120V or 230V, mains powered, standard mode): 2.0-0.2s

Recycling times (120V or 230V, BatPac powered, standard mode): 3.0-0.35s

Recycling times (120V or 230V, BatPac powered, Bat mode): 5.0-0.5s

#### *Profoto D1 500*

Recycling times (120V or 230V, mains powered, standard mode): 0.95-0.2s

Recycling times (120V or 230V, BatPac powered, standard mode): 1.6-0.3s

Recycling times (120V or 230V, BatPac powered, Bat mode): 2.4-0.35s

#### *Profoto D1 250*

Recycling times (120V or 230V, mains powered, standard mode): 0.65-0.2s

Recycling times (120V or 230V, BatPac powered, standard mode): 1.0-0.25s

Recycling times (120V or 230V, BatPac powered, Bat mode): 1.6-0.3s

### BatPac with Profoto Acute2 generator

The Profoto Acute2 has no “Bat mode” available why the recycling time is limited by the built in power limitation in the BatPac.

#### *Profoto Acute2 2400*

Recycling times (120V or 230V, mains powered): 3.0-0.2s

Recycling times (120V or 230V, BatPac): 7.5-0.5s

#### *Profoto Acute2 1200*

Recycling times (120V or 230V, mains powered): 1.6-0.09s

Recycling times (120V or 230V, BatPac): 4.0-0.3s

**BatPac with Profoto ComPact flashes**

The Profoto ComPact series has no “Bat mode” available why the recycling time is limited by the built in power limitation in the BatPac. The specified values are only valid if one ComPact is connected to the BatPac. The specified values will roughly double for each additional ComPact that is connected to the BatPac (max 3 ComPact flashes connected to each BatPac).

*Profoto ComPact 1200*

Recycling times (120V or 230V, mains powered): 2.2-0.4s

Recycling times (120V or 230V, BatPac): 3-0.5s

**18** *Profoto ComPact 600*

Recycling times (120V or 230V, mains powered): 0.8-0.2s

Recycling times (120V or 230V, BatPac): 1.5-0.4s

*Profoto ComPact 300*

Recycling times (120V or 230V, mains powered): 0.8-0.2s

Recycling times (120V or 230V, BatPac): 1.5-0.4s

# Trouble shooting

Symptom	Diagnose	Action
No output voltage, Power On Indicator [2] not illuminated	Bad connection to the battery.	<ul style="list-style-type: none"> <li>• Check the cable connection to the Sealed Lead Acid Battery [19].</li> </ul>
	Internal fuses defect.	<ul style="list-style-type: none"> <li>• Check Fuses [17]. If it still does not work after replacing fuses, contact your nearest Profoto service station.</li> </ul>
No output voltage, Over Temperature Indicator [5] illuminated.	The BatPac has been overheated.	<ul style="list-style-type: none"> <li>• Switch off the BatPac and the power consuming unit(s).</li> <li>• Wait for approx. 5-10 minutes and switch on the BatPac only (disconnect the power consuming unit).</li> <li>• Reduce the loading and ensure better ventilation.</li> <li>• If this is a frequently repeating problem it may be a problem with the internal fan of the BatPac. Contact your nearest Profoto service station for guidance.</li> </ul>
No output voltage, Battery Low Indicator [3] illuminated.	The GFCI has been activated.	<ul style="list-style-type: none"> <li>• Potential safety hazard! Leave the BatPac and the connected unit to your nearest Profoto service station for check-up and repair.</li> </ul>
Battery Low Indicator [3] is illuminated.	Battery voltage is too low.	<ul style="list-style-type: none"> <li>• The battery must be recharged.</li> </ul>
The connected device doesn't work properly or at all.	Energy consumption is too high (more than 600W)	<ul style="list-style-type: none"> <li>• Disconnect the power consuming unit, if possible use a unit with a lower power consumption.</li> </ul>

## Warranty

All Profoto products are individually tested before they leave the company and guaranteed for a period of two years with the exception of flash tubes, glass covers, modeling lamps, batteries and cables. Profoto is not responsible for technical malfunctions created by improper use or accessories made by other companies. If you have any technical problems please get in contact with an authorized Profoto service station.

## Accessories

BatPac Bag

Profoto Battery Charger 2A

Sealed Lead Acid Battery (12V 17Ah)

Please consult with your local dealer or distributor for specific information about BatPac accessories.

## Technical data

Max continuous output power	600 W, power limited output
Battery type	Sealed lead acid battery 12V, 17Ah
Nominal battery capacity	17 Ah
Maximum input current	60 A
Output voltage/frequency	120 VAC $\pm$ 3%, 60Hz or 230 VAC $\pm$ 3%, 50 Hz depending on model
Output wave form	Pure sine wave
Total harmonic distortion	< 3%
Idle current consumption	120 VAC: < 0.6 A 230 VAC: < 0.8 A
Input voltage range	10.5 – 16.5V
Low voltage alarm	10.5V
Low voltage shutdown	10V
Storage temperature range	-10-50°C
Operating temperature range	0-40°C
Dimensions (L x W x H)	25 x 26 x 35 cm incl. bag
Weight	11.2 kg, including bag
Recharging (from empty battery)	8 hours with the Profoto Battery Charger 2A
Ground Fault Circuit Interrupter	Yes
Fuses	ATO® Fuse Fast-Acting Type (2x30A)

All data are to be considered as nominal and Profoto reserves the right make changes without further notice.

# EC Declaration of conformity

In accordance with Low Voltage Directive (LVD) 2006/95/EC and EMC Directive 2004/108/EC.

Manufacturer: Profoto AB

Adress: Box 2021, 128 21 SKARPNÄCK, Sweden

Product: Portable DC to AC inverter including battery and bag

Type: Profoto BatPac 120V  
Profoto BatPac 230V

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Profoto declares that the product complies with the essential requirements of Low Voltage Directive (LVD) 2006/95/EC and EMC Directive 2004/108/EC.

For the evaluation of compliance, applicable parts of the following standards has been applied:

**IEC 60950-1:2005**

**EN 60950-1:2006 + A11:2009**

**IEC 60065:2001 + A1:2005**

**EN 60065:2002**

**EN61000-6-1:2007**

**EN61000-6-3:2007**

Skarpnäck, April 2010



Bo Dalenius, VP Technology and QA, Profoto AB



Technical data and product information are subject to change without notice.

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The Light Shaping Company™