

Model 3044 LI

2 A max out • 10-30 VDC input

- DC/DC switch mode charger for Li-Ion batteries
- 3-step charge control with current detection as charge termination
- Charging 7-10 cells
- 3-colored LED indicator
- Waterproof (IP67) version available
- Custom specifications on request:

Charging parameters, connectors, cords, logo print, housing/open frame/IP rating and certificates. For more information: [custom design info sheet](#)

Notes:

DC/DC charger, Desktop unit
Exchangeable DC plugs available
Order plugs and mains cord separately



Available versions

7 cell / 2 A

10 cell / 1,5 A

SPECIFICATIONS for Mascot type 3044:	Li-Ion								
	1-cell	2-cell	3-cell	4-cell	5-cell	6-cell	7-cell	8-cell	10-cell
Input voltage	10-30Vdc	10-30Vdc	10-30Vdc	10-30Vdc	10-30Vdc	10-30Vdc	10-30Vdc	10-30Vdc	10-30Vdc
Step 1 Charge current (orange LED):	3A ±0.25A	2.7A ±0.2A	2.3A ±0.2A	2A ±0.15A	1.8A ±0.1A	1.6A ±0.1A	2A ±0.2A	1.8A ±0.1A	1.5A ±0.1A
Step 2 Charge voltage:	29.4V ±0.2V	29.4V ±0.2V	29.4V ±0.2V	29.4V ±0.2V	29.4V ±0.2V	29.4V ±0.2V	29.4V ±0.2V	29.4V ±0.2V	29.4V ±0.2V
Step 2 Current when LED turns to yellow:	< 1.15A ±25%	< 1.15A ±25%	< 0.8A ±25%	< 0.85A ±25%	< 0.7A ±25%	< 0.8A ±25%	< 0.8A ±25%	< 0.4A ±25%	< 0.7A ±25%
Step 3 Current when LED turns to green, Charge termination:	< 0.1A ±25%	< 0.1A ±25%	< 0.1A ±25%	< 0.1A ±25%	< 0.1A ±25%	< 0.1A ±25%	< 0.3A ±25%	< 0.1A ±25%	< 0.1A ±25%
Charge start Vbat <:	4.1V ±0.2V or mains turn-on	4.2V ±0.2V or mains turn-on	4.3V ±0.15V or mains turn-on	4.4V ±0.15V or mains turn-on	4.5V ±0.2V or mains turn-on	4.6V ±0.2V or mains turn-on	28.7V ±0.3V or mains turn-on	32.8V ±0.3V or mains turn-on	41.0V ±0.3V or mains turn-on
Max output power:							60W		63W
Leakage current from battery with no input voltage:	< 1mA	< 1mA	< 1mA	< 1mA	< 1mA	< 1mA	< 1mA	< 1mA	< 1mA
Ripple:	100mV p-p	100mV p-p	100mV p-p	100mV p-p	100mV p-p	100mV p-p	100mV p-p	100mV p-p	100mV p-p
Switch frequency approx.:	40kHz.								
Temperature range:	-20 til +40°C (these values are only for the charger, not for the batteries).								
Storage temperature:	-20 til +85°C								
Efficiency (100% load 13.5V input):	Ca. 80%.								
Fuse:									
EMC standard:	EN 61204-3								
Output terminals:	Secondary cable with exchangeable plugs.								
IP-grade:	IP 41.								
Dimensions:	135 × 80 × 44 mm.								
Weight:	550 g.								
Other:									

DATE: 13.12.16

(versions in grey are on request only)

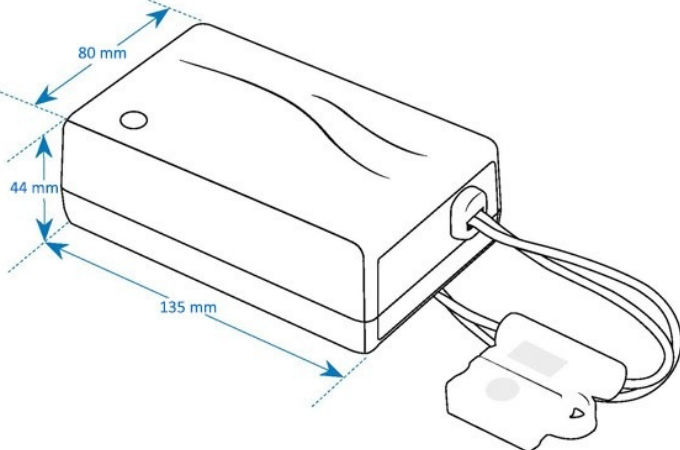
SPECIFICATIONS for Mascot type 3044:	LiFePO ₄ 8-cell
Input voltage	10-30Vdc
Step 1 Charge current (orange LED):	2A ±0.2A
Step 2 Charge voltage:	29.2V ±0.2V
Step 2 Current when LED turns to yellow:	< 0.8A ±25%
Step 3 Current when LED turns to green, Charge termination:	< 0.3A ±25%
Float charge voltage:	28.0V ±0.3V
Max output power:	60W
Leakage current from battery with no input voltage:	< 1mA
Ripple:	100mV p-p
Switch frequency approx.:	40kHz.
Temperature range:	-20 til +40°C (these values are only for the charger, not for the batteries).
Storage temperature:	-20 til +85°C
Efficiency (100% load 13.5V input):	Ca. 80%.
Fuse:	5A fuse on input cable. Polyswitch fuse at the output protects the unit against wrong polarity.
EMC standard:	EN 61204-3
Output terminals:	Secondary cable with exchangeable plugs.
IP-grade:	IP 41.
Dimensions:	135 × 80 × 44 mm.
Weight:	550 g.
Other:	

DATE: 13.12.16

(versions in grey are on request only)

SPECIFICATIONS for Mascot type 3044:	12V LA	24V LA
Input voltage	10-30Vdc	10-30Vdc
Step 1 Charge current (orange LED):	4A ±0.3A	2A ±0.2A
Step 2 Charge voltage:	14.7V ± 0.1V	29.4V ± 0.2V
Step 2 Current when LED turns to yellow:	< 2A ± 25%	< 0.8A ± 25%
Step 3 Current when LED turns to green, Charge termination:	< 1A ± 25%	< 0.3A ± 25%
Float Charge:	13.7V ± 0.2V	27.4V ± 0.3V
Max output power:	60W	60W
Leakage current from battery with no input voltage:	< 1mA	< 1mA
Ripple:	100mV p-p	100mV p-p
Switch frequency approx.:	40kHz.	
Temperature range:	-20 til +40°C (these values are only for the charger, not for the batteries).	
Storage temperature:	-20 til +85°C	
Efficiency (100% load 13.5V input):	Ca. 80%.	
Fuse:	5A fuse on input cable. Polyswitch fuse at the output protects the unit against wrong polarity.	
EMC standard:	EN 61204-3	
Output terminals:	Secondary cable with exchangeable plugs.	
IP-grade:	IP 41.	
Dimensions:	135 × 80 × 44 mm.	
Weight:	550 g.	
Other:		

Technical drawing



Charging method B

STEP 1 - CONSTANT CURRENT CHARGE

To start a charge cycle, connect the charger to the mains.

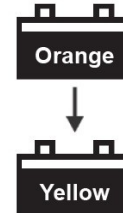
The charger is in constant current mode, charging with the maximum current indicated on the charger, the LED-indication on the charger is ORANGE. This step allows rapid charging of your battery until the battery voltage has increased to a certain set level



STEP 2 - CONSTANT VOLTAGE CHARGE

When the battery voltage has increased to a certain set level the charger enters constant voltage mode, charging with a decreasing current until the current is below the chargers charge termination level (indicated on the charger). The LED-indication on the charger is ORANGE. When the battery has reached typically 90 - 95% of its full capacity the charge current has dropped below a set level and the LED-indication on the charger changes to YELLOW to indicate that the battery is almost fully charged and may be ready for use.

The constant voltage charge continues and the battery reaches its full capacity at the end of this step



STEP 3 - CHARGE COMPLETE

The LED-indication on the charger is GREEN and the battery is fully charged.

For Li-Ion batteries the charge current is zero and the battery has been charged to its full capacity. After end of charge battery voltage will remain at "Step 2" level even if output voltage of charger is indicated as lower in the diagram. The charger will return to Step 1 if the battery is used. A load larger than the cut-off current will initiate a new charge cycle.

