

## Model 2641 LA

4 A max out • 90-264 VAC input

- For optimal charge of 24V (12+12V) and 12V battery systems with one charger
- 3-step charge control with current detection as charge termination
- Universal input voltage (90-264 VAC)
- Order mains cord separately
- Approvals: Complies with medical standard EN 60601

### Notes:

Desktop unit

2 (dual) channel: 12V 2 x 2A



### Available versions

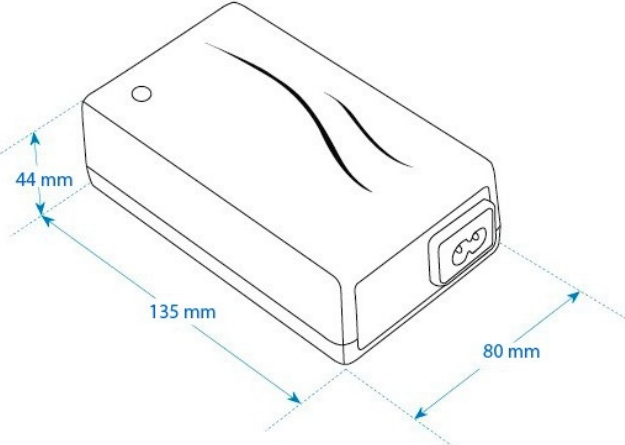
12V / 2x2A

24V / 2x1A

DATE 14.05.07

Specifications for MASCOT type 2641 Lead Acid	2 x 12V	2 x 24V
Input voltage:	90 - 264VAC	90 - 264VAC
Line frequency:	47 - 63Hz	47 - 63Hz
Step 1 Charge current: (ORANGE LED)	2.0A $\pm$ 0.1A	1.0A $\pm$ 0.1A
Step 2 Charge voltage	14.7V $\pm$ 0.1V	29.4V $\pm$ 0.1V
Step 2 Charge current when LED turns YELLOW	0.80A $\pm$ 0.1A	0.40A $\pm$ 0.1A
Step 3 Charge current when LED turns GREEN, charge termination.	250mA $\pm$ 20%	250mA $\pm$ 20%
Standby voltage:	13.7V $\pm$ 0.15V	27.4V $\pm$ 0.3V
Max output power:	60W	60W
Ripple:	<100mV p-p	<100mV p-p
Efficiency (at 100% load, 230V) approx.:	82%	85%
Switch frequency approx.:	40kHz	
Leakage current from battery with mains switched off:	<1mA	
Protection:	Protected against reversed polarity and short circuit proof	
Temperature range: *Operating: *Storage:	+25 to +40°C +25 to +85°C	
Safety:	EN 60950-1, EN 60601-1, EN 60335-2-29	
Insulation class :	Class II	
Insulation voltage: Primary – secondary:	4000VAC / 5700VDC	
EMC standards:	EMC med. EN 60601-1-2 / Emission EN 61000-6-3 / Immunity EN 61000-6-1	
MTBF at Ta = 30°C and full load: Calculated according to MIL – HDBK – 217F	>150 000 hours	
Mains connection:	2-pins IEC 320 connector	
Output terminals:	Cord with/without plug. Exchangeable plugs available. Also available with battery clips.	
IP-Grade:	41	
Dimensions:	135 x 80 x 44mm	
Weight:	390g	

Technical drawing



## Charging method B

### STEP 1 - BOOST CHARGE

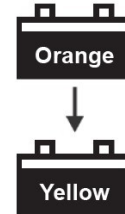
To start a charge cycle, connect the charger to the mains.

The charger is in constant current mode, charging with the maximum current indicated on the charger, the LED-indication on the charger is ORANGE.



### STEP 2 – TOP-UP CHARGE

The charger is in constant voltage mode, charging with a decreasing current until the current is below the charger's charge termination level (indicated on the charger). The LED-indication will turn to YELLOW during Top-up charge. The battery is typically 90-95% fully charged when the LED indicator changes to yellow. The charger stays in this mode until the charge current decreases to charge termination level. The battery is charged to its full capacity at the end of this step.



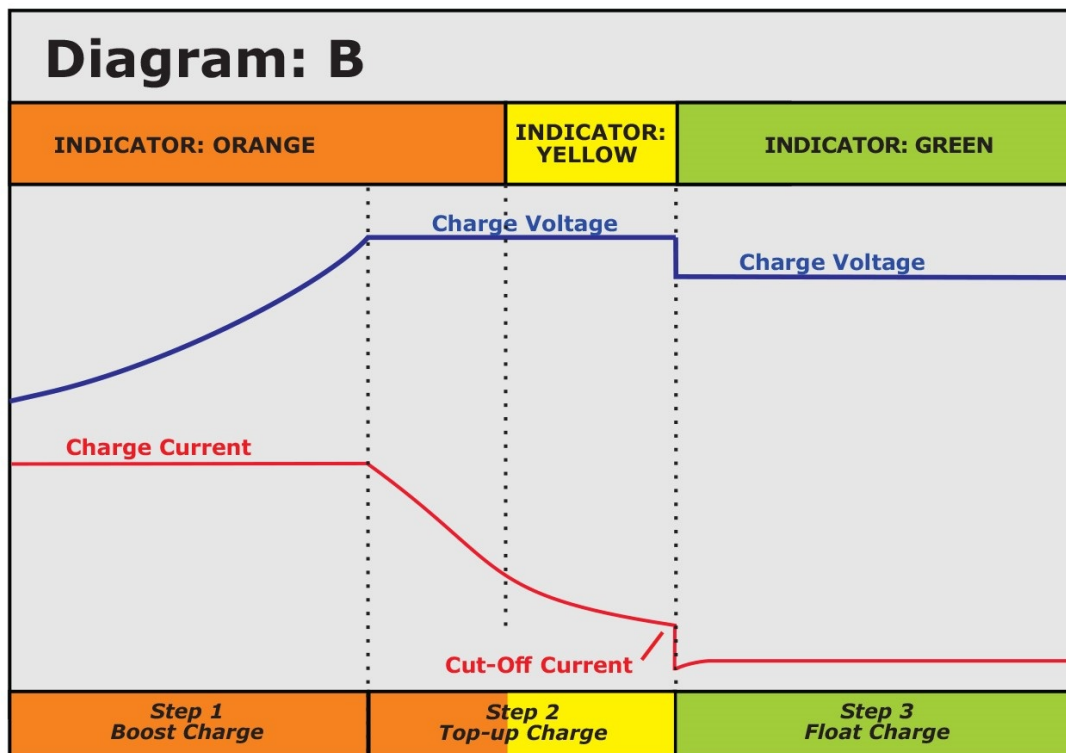
### STEP 3 – FLOAT CHARGE

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

The charger is in standby mode. The charge voltage is at standby level and the charger may remain connected to the battery.

The charger will return to boost charging if the battery is used.

A load larger than the cut-off current will initiate a new charge cycle.




# EU Declaration of Conformity



## We, the responsible manufacturer;

Company Name: **Mascot Electronics AS**  
Postal Address: **P.O.Box 177, N-1601 Fredrikstad, NORWAY**  
Visiting Address: **Mosseveien 109, N-1624 Gressvik, NORWAY**  
Telephone: **(+47) 69 36 43 00** E-mail: **sales@mascot.com** WEB: **www.mascot.com**

declare that this Declaration is issued under our sole responsibility and belongs to the following product(s):

Product: **Dual Output Battery Charger**  
Brand(s): **and/or  and/or **MASCOT** (may also carry additional customer name, logo or trade mark)**  
Type(s)/Model(s): **2641 (may also carry additional customer model name or part number)**  
Description: **Input: max.1.2 A, 100-240 VAC, 50-60 Hz, Class II**  
**Output: for 12V Lead-Acid Batteries: 2 x 14.7/14.85 VDC, max. 2.0 A**  
**for 24V Lead-Acid Batteries: 2 x 29.4 VDC, max. 1.0 A**  
**for 4 cell Li-Ion Batteries: 2 x 16.8 VDC, max. 1.8 A**  
**for 6 cell Li-Ion Batteries: 2 x 25.2 VDC, max. 1.2 A**  
**for 7 cell Li-Ion Batteries: 2 x 29.4 VDC, max. 1.0 A**  
**for 4 cell LiFePO4 Batteries: 2 x 14.4/14.8 VDC, max. 2.0 A**  
**or two outputs that are a combination of the above outputs**

The products are in conformity with the relevant European Union harmonisation legislation:

**2014/35/EU** EU Directive - Safety of electrical equipment ("Low-Voltage Directive") (LVD)  
recast, repealing Directives 2006/95/EC & 73/23/EEC  
**2014/30/EU** EU Directive - Electromagnetic Compatibility (EMC)  
recast, repealing Directives 2004/108/EC & 89/336/EEC  
**2009/125/EC** EU Directive - Energy Related Products, Ecodesign (ERP)  
recast, repealing Directive 2005/32/EC (EUP)  
**2015/863/EU** EU Directive - Restriction on use of Hazardous Substances in EEE ("RoHS3")  
recast, repealing Directives 2002/95/EC, 2008/35/EC & 2011/65/EU

The following harmonised standards and technical specifications have been applied:

### Electrical Safety (to LVD-Directive):

**EN 60335-1** EN 60335-1:2012 + /AC:2014 + /A11:2014 Household and similar appliances-General requirements, Edition 5.0  
(IEC 60335-1:2010 modified, Edition 5.0)(also IEC 60335-1:2010 modified + /A1:2013 + /A2:2016, Edition 5.2)  
**EN 60335-2-29** EN 60335-2-29:2004 + /A2:2010 Household and similar appliances-Requirements for battery chargers, Edition 4.2  
(IEC 60335-2-29:2002 + /A1:2004 + /A2:2009, Edition 4.2) (also IEC 60335-2-29:2016, Edition 5.0)

### Electromagnetic Compatibility (to EMC-Directive):

**EN 55014-1** EN 55014-1:2006 + /A1:2009 & /A2:2011 Emission-household appliances, Edition 5.2  
(CISPR 14-1:2005 + /A1:2008 & /A2:2011, Edition 5.2) (also CISPR 14-1:2016, Edition 6.0, but not yet an EN-norm)  
**EN 55014-2** EN 55014-2:1997 + /AC:1997, /A1:2001, /A2:2008 Immunity-household appliances, Edition 1.2  
(CISPR 14-2:1997 + /A1:2001 & /A2:2008, Edition 1.2) (also CISPR 14-2:2015, Edition 2.0, but not yet an EN-norm)

### Ecodesign (to ERP-Directive):

**Commission Regulation (EC) No 278/2009** implementing Directive 2005/32/EC with regard to eco-design requirements for no-load condition electric power consumption and average active efficiency of external power supplies (Note: not applicable to Battery Chargers, ref. Article 1.2 item c )

### Additional Information:

Compliance with harmonised standards and technical specifications may have been verified by the manufacturer, by third party testing or by a Certification Body (NCB).

The products are produced at production site: Mascot Baltic OÜ, Taevakivi 15, EE-13619 Tallinn, ESTONIA.

The production site is certified to standard EN 29001:2015 (ISO 9001:2015) by: Metrosert, ref. K-144.

Signed on behalf of Mascot Electronics AS

Fredrikstad, Norway

Place of issue

2019-03-06

Date of issue

Jan Fredrik Haugen, R&D Manager

Name, function, signature