# **CL4.2VDC-1.2A**

automatic charger for lithium-ion battery cell

#### **FEATURES:**

- standard charging mode: first charging with constant current (CC), then keeping constant voltage (CV)
- reliable and efficient
- compliance with standards
- fully protected
- high efficiency and low stanby power

#### **APPLICATIONS:**

- DC power backup systems
- uninterruptable power systems
- emergency lighting systems
- mobile and transportation devices
- automotive



The **CL4.2VDC-1.2A** is a high-performance and efficient 1.2 A charger for lithium-ion batteries in a small desktop enclosure. It supports 1S packets (single 3,7 V cell) and is designed to be charged at normal speed and to keep the batteries ready. Its design is based on high-quality electronic components that allow for continuous, long-term operation in all conditions. The range of supported battery capacities for standard charging is 4 Wh (1C) - 8 Wh (0,5C).

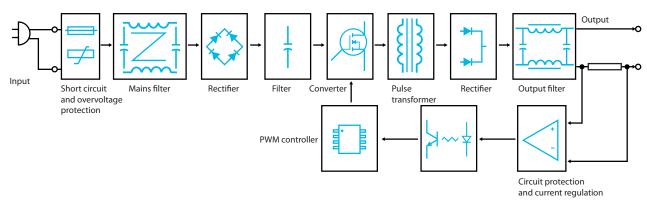
## **TECHNICAL CHARACTERISTICS**

Group	Parameter	Value	Conditions
Input	Rated input voltage	230 VAC	
	Input voltage range	100-240 VAC	
	Mains frequency range	50-60 Hz	
	AC current (max.)	0.2 A	At 240 VAC and full load
	Inrush current (max.)	30 A	At 240 VAC and full load
	Input leakage current (max.)	Max. 0.25 mA	At 264 VAC
	No-load power consumption	Max. 0.15 W	
	Efficiency (typ.)	76%	
Output	Charging method	CC/CV	
	Rated output voltage	4.2 V	With no load
	Minimum CV mode output voltage	4.1 V	With no load
	Maximum CV mode output voltage	4.3 V	With no load
	Rated output current	1.2 A	
	Lowest CC mode current	1.05 A	
	Highest CC mode current	1.3 A	
	Rated output power	6 W	
	DC voltage rise time (max.)	Up to 40 ms	At 100 VAC and full load
	Hold up time (max.)	5 ms	At 100 VAC and full load
	Turn on delay time (max.)	Up to 3 s	At 100 VAC and full load
Environmental	Working temperature	0°C to +50°C	
	Working humidity	5% to 90% RH	Without condensation
	Storage temperature	-10°C to +80°C	
	Cooling method	Free air circulation	
Short circuit  Protection Overcurrent Automatic recovery on	Short circuit	Yes	
	Overcurrent	Yes	Rectangular characteristic
	Automatic recovery on fault remove	Yes	
	Withstand isolation voltage	3 kVAC (input to output)	5 mA, 1 min
	Isolation class	2	Grounding is not required
Safety and EMC	Safety compliance	EN60950, EN60335	
	EMC compliance	EN55022, class B	
	Marking	RoHS, CE	
	Dimension	60 × 39 × 25 mm	L×W×H
	Enclosure	Black ABS plastic	Plug type
	Weight	70 g	
	Input connector	EU plug	
Mechanical	Output connector	DC Jack 2.1 × 5.5 × 11 mm	Plus in the middle
	Output cable	1.5 m	0.32 mm <sup>2</sup>
	Single package	75 × 48 × 68 mm	
	Packing	405 × 260 × 300 mm	100 pieces
	Country of manufacturing	China	

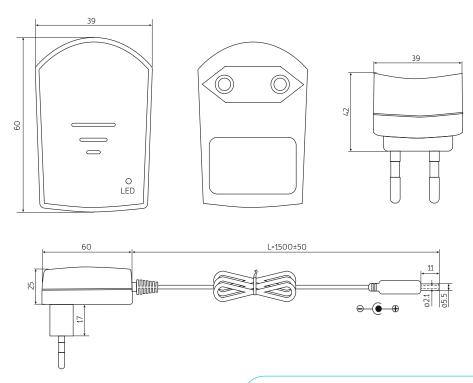
#### Notes

Unless otherwise stated, all parameters are specified at 230 VAC input voltage, 50 Hz, ambient temperature 25°C and relative humidity 70% for rated load output. The values of parameters related to the output voltage regulation is measured from low to high line or for load changes from 0 to 100%, respectively. The power supply (charger) is considered as an independent unit, but the final equipment still need to reconfirm that the whole system complies with the EMC directives. If the PSU is installed in the final device as a subassembly, the tests should be repeated to verify that the system has been met compliance. Detailed technical data are available on request.

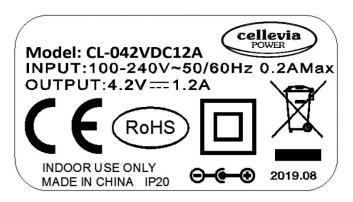
#### **BLOCK DIAGRAM**



#### **MECHANICAL SPECIFICATION**



# **PRODUCT LABEL**



**Attention.** The charger is designed to work with a lithium-ion battery pack with a built-in balancer system. Its use for charging packages without a balancing system is only possible if the cell manufacturer allows such a possibility, e.g. for cells of the same type and from the same batch, and for charging with low current. If in doubt, please check the cell manufacturer's recommendations (datasheet) and follow the recommendations contained therein.

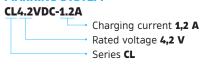
## Legend to the label icons:

- Il safety class: no grounding is required, no dangerous voltage even in an emergency situation will appear on output
- ullet polarization: plus in the middle, minus outside
- $\overline{\mathbb{X}}$  the product must not be disposed of in normal waste containers

## **LED STATUS INDICATORS**

State	Conditions	LED red	LED green
No battery	No battery connected to charger	0	•
Charging	Output current over 1050 mA	•	0
Battery charged	Output current below 120 mA and battery voltage over 4 V	0	•

## **MARKING SYSTEM**



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