

Switch mode Lithium Ion chargers are designed to effectively charge Lithium Ion batteries while protecting the batteries from overcharging. All charger ratings are based on a nominal input of 90-264 VAC. The output current ranges from 700mA to 2.5A.

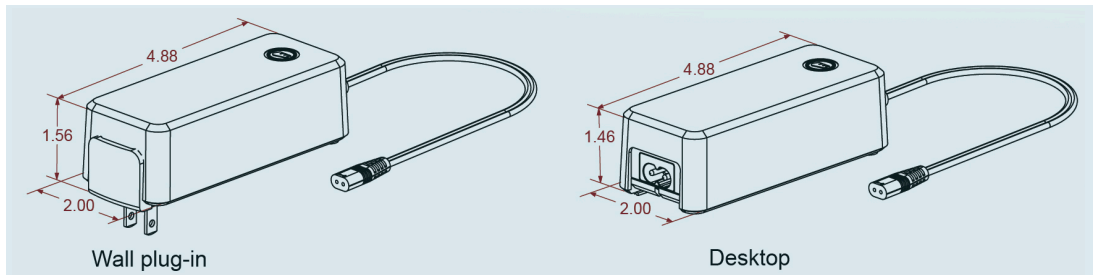


LITHIUM ION CHARGER, 28W

**Features:**

- Medically certified / UL approved
- Safety: EN 60601-1 ed. 3.1
- EMC: EN 60601-1-2 ed. 4
- Universal input voltage (90-264VAC)
- Wake up and low current start-up of deeply discharged batteries
- ECO-design compliance: DoE & CEC
- 3 step charge control with current detection as charge termination
- Error indication for reverse polarity, short circuit, charging battery packs with wrong number of cells, and safety timer run out
- With NTC input on request

**Use as a wall plug-in or desktop charger**



Category	Specifications
Model number	453546-L Series
Input rating	Nominal 90-264VAC/47-63Hz
Cell counts	2, 3, 4, 7, 10
Switch frequency	≈ 40kHz
Leakage current from battery	<0.4mA @ nominal battery voltage
Operating/storage temp.	-25°C - +40°C / -25°C - +85°C
Ripple	< 100 mV p-p
Insulation class	Class II
Insulation voltage	4000VAC (primary) / 5700VDC (secondary)
Electrical safety approvals	UL 60601-1, EN / IEC 60335-2-29, EN / IEC / ANSI 60601-1
EMC standards	EN 60601-1-2 (Medical), EN 61000-6-3 / EN55014-1 (Emission), EN55014-2 / EN 61000-6-1 (Immunity)
IP-code	4X
Input connection	2 pin IEC 320-C7 (input cordset not included)
Output connection	2.5mm x 5.5mm x 9.5mm barrel plug, center positive*
Dimensions / weight	4.88" x 2.00" x 1.46" (124 x 50 x 37mm) / .48 lbs. (220g)

\* Other output connections available upon request

## Charger Specifications

Versions			Charge control				
			Step 0 * (yellow)	Step 1 (yellow)	Step 2 (flash yellow)	Step 3 (green)	
Model #	Cell count	Max output power (W)	Low Current startup for deeply discharged batt.	Charge Current	Charge Voltage	Charge term when current is:	Restart
453546-LB	2	23W	CC 100mA+/-25mA when batt. < 6V	2.5A +/- 0.3A	8.4V +/- 0.1V	< 100mA or max. 1 hr.	8.2V
453546-LC	3	28W	CC 100mA+/-25mA when batt. < 9V	2.2A +/- 0.2A	12.6V +/- 0.1V		12.3V
453546-LD	4	28W	CC 100mA+/-25mA when batt. < 12V	1.6A +/- .15A	16.8V +/- 0.1V		16.4V
453546-LG	7	29W	CC 100mA+/-25mA when batt. < 21V	1.0A +/- 0.1A	29.4V +/- 0.2V		28.7V
453546-LJ	10	29W	CC 100mA+/-25mA when batt. < 30V	0.7A +/- 0.7A	42V +/- 0.3V		41V

\* If step 0 is >10 minutes, the LED will flash red 4x indicating a low battery voltage. Zero current / voltage flows.

\*\* When specifying product, please consult with Cell-Con to verify that the specifications identified on this data sheet are current.

### Charging characteristics and LED indication

#### BATTERY NOT CONNECTED INDICATIONS

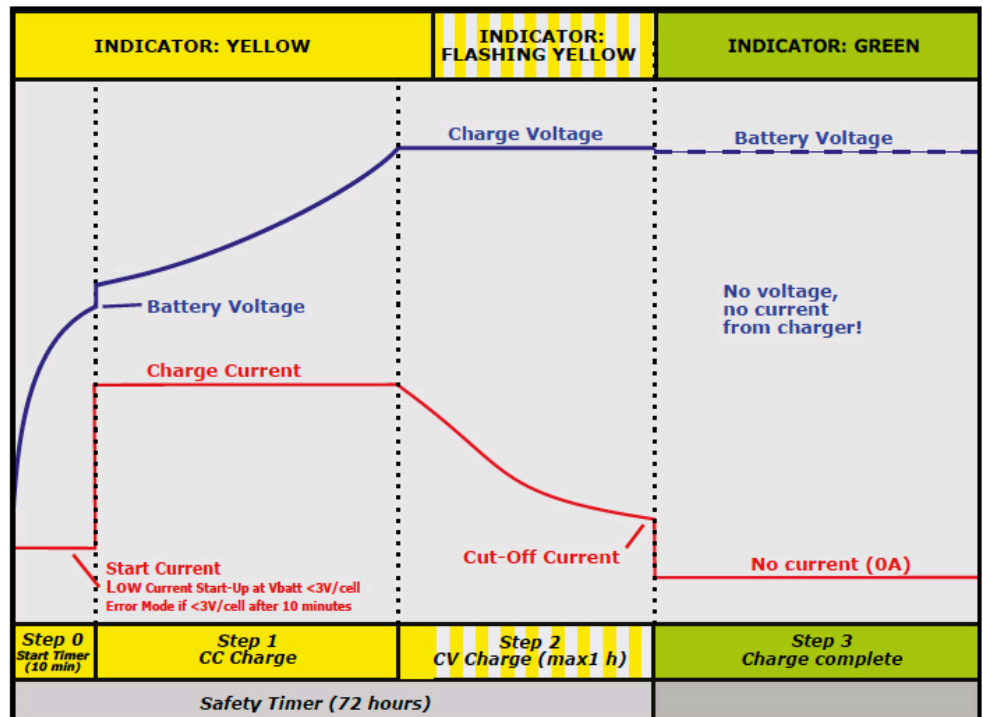
Battery not connected is indicated by flashing green. In this mode charger will apply short pulses attempting to wake up deeply discharged batteries.

#### ERROR INDICATIONS (in flashing red)

- 2 red flashes: Battery is connected to charger with wrong polarity.
- 3 red flashes: Charger output is shorted. Check output cable connection.
- 4 red flashes: Battery voltage is low. Check battery status or voltage.
- 5 red flashes: Safety timer has run out. Check battery status or capacity.
- LED off: Battery voltage is too high. Check battery voltage.

#### WAIT MODE INDICATIONS

- Yellow with 1 red flash: Battery temperature is too low (<0°C)
- Yellow with 2 red flashes: Battery temperature is too high (>45°C)



### AC plug / cordset options

- Removeable AC blades for wall plug-in chargers, or 6' long input cordsets for desktop chargers

Version	USA	European	UK	Australian
Desktop #	470001	470003	470006	470002
WPI #	470209	470210	470211	470212

- Cordsets for other countries available upon request