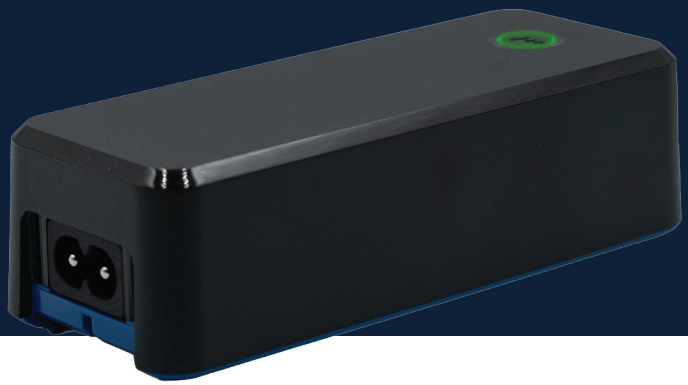

BATTERY CHARGER, 453546-N, NiMH

SPECIFICATIONS	2	3-6	4-8	5-10	6-12	10-20
Cell-Con part number:	453546-NZ	453546-NA	453546-NB	453546-NC	453546-ND	453546-NE
Input voltage:	90-264VAC					
Line frequency:	47-63Hz					
Max output power:	6.8W	22.5W	27.2W		26.5W	27.2W
Min. output voltage for -ΔV detection:	2.5V (min 2 cells x min 1.25V pr. cell)	3.75V (min 3 cells x min 1.25V pr. cell)	5.0V (min 4 cells x min 1.25V pr. cell)	6.2V (min 5 cells x min 1.25V pr. cell)	7.5V (min 6 cells x min 1.25V pr. cell)	13V (min 10 cells x min 1.3V pr. cell)
Max. output voltage for -ΔV detection:	3.4V (max 2 cells x max 1.7V pr. cell)	10.2V (max 6 cells x max 1.7V pr. cell)	13.6V (max 8 cells x max 1.7V pr. cell)	17V (max 10 cells x max 1.7V pr. cell)	20.4V (max 12 cells x max 1.7V pr. cell)	34V (max 20 cells x max 1.7V pr. cell)
-ΔV sensitivity mV/cell:	3mV/cell (approx.)					
SoftStart current:	100mA ±25mA @Vbat <2V	100mA ±25mA @Vbat <3.75V	100mA ±25mA @Vbat <5.0V	100mA ±25mA @Vbat <6.25V	100mA ±25mA @Vbat <7.5V	50mA ±15mA @Vbat <13V
Fast charge current:	2.5A ±100mA	2.2A ±100mA	2.0A ±100mA	1.6A ±100mA	1.3A ±100mA	800mA ±50mA
Top off charge:	300mA ±50mA	310mA ±50mA	290mA ±50mA	250mA ±50mA	220mA ±30mA	125mA ±20mA
Trickle charge current:	100mA ±25mA					50mA ±15mA
Efficiency at 100% load:	0.7	0.78	0.8	0.82	0.83	0.84
Average efficency:	>62%	>72%	>78%	>80%		
No load consumption:	TBD					
-ΔV mask start timer:	3 min, no -ΔV detection in this period.					
SoftStart timer:	30 minutes					
Top-off timer:	1 hour					
Safety timer - The charger switch to trickle charge if no ΔV is detected before the safety timer has run out:	5 hours					
Switch frequency:	35kHz					
Temperature range:	-20 to +40°C (these values are only for the charger, not for the batteries).					
Charge control:	-ΔV principle. Fast charging stops when the voltage has dropped 3mV/cell below its maximum recorded level.					
Voltage changes during charging:	-ΔV detection is disabled if the voltage changes quickly. This to avoid false -ΔV if an external load kicks in during charging.					
Leakage current from battery with mains switch off:	<0.5mA at nominal battery voltage (<0.4 Ah/month)					
Fuses:	Fuse at input. Mosfet switch at the output protects the unit against wrong polarity.					
Insulation class:	Class II					
Electrical safety:	**Medical:** EN 60601-1 / **Home Health Care:** EN 60601-1-11 / **Battery Charger:** EN 60335-2-29					
EMC-standards:	EN 55014-1 and –2, EN 61000-6-3, EN 61000-6-1, EN 60601-1-2					
Insulation voltage (primary-secondary):	4000V AC/5700V DC					
Input terminals:	2-pins IEC 320 connector for exchangeable mains plug (EU, US, UK and AUS) or mains cord with C7 connector.					
Output terminals:	Cord with/without plug. Exchangeable plugs available.					
LED-indication:	SoftStart/Fast charge: Yellow Top off charge: Flashing Yellow Trickle charge: Green Battery not connected: Flashing Green (1s/1s)					
Protection:	Protected against reversed polarity. Error indication: Red (2 blinks). Short circuit proof. Error indication: Red (3 blinks). Low battery voltage (SoftStart timer). Error indication: Red (4 blinks). No charge (or charge terminated) if connecting wrong battery pack with higher voltage. Indication: LED is OFF.					
Thermal control (Optional, requires battery with NTC):	+dT/dt principle. Fast charging stops when the temperature increment is over 0.5°C/min. Battery temperature is too low (<0°C). Wait mode. Indication: Yellow with 1 red blink. Battery temperature is too high (>40°C). Wait mode. Indication: Yellow with 2 red blinks. High temperature (>60°C). Error Indication: Red (5 blinks). NTC missing or shorted. Error Indication: Red (6 blinks).					
Resetting:	A new charging cycle starts by reconnecting a battery at the output, or by disconnecting and connecting the main voltage.					
IP-grade:	IP 41					
Dimensions:	123.5×49.5×37mm					
Weight:	220g					
Other:	Possible options on request: Charger parameters programmable with “Configurator tool”. Constant current charge (no battery management). 0dV detection for EoC. DoE compliance.					

CELL-CON
Battery & Charger Solutions

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