

SPECIFICATIONS FOR 4040 NiMH	6-8 cell	8-12 cell	12-20 cell	20-30 cell	25-40 cell
Available versions	x				
Input voltage	90 - 264VAC / 47 - 63Hz				
Max. output power	109W	110W	109W	111W	115W
Min. output voltage for $\Delta V$ detection	7.8V (min 6 cells x min 1.3V pr. cell)	10.4V (min 8 cells x min 1.3V pr. cell)	15.6V (min 12 cells x min 1.3V pr. cell)	26.0V (min 20 cells x min 1.3V pr. cell)	32.5V (min 25 cells x min 1.3V pr. cell)
Max. output voltage for $\Delta V$ detection	13.6V (max 8 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)	51.0V (max 30 cells x max 1.7V pr. cell)	64.0V (max 40 cells x max 1.60V pr. cell)
$\Delta V$ sensitivity mV/cell	3mV/cell (approx.)				
SoftStart current	300mA $\pm$ 50mA2@ Vbat < 7.8V	200mA $\pm$ 50mA2@ Vbat < 10.4V	200mA $\pm$ 50mA2@ Vbat < 15.6V	200mA $\pm$ 50mA2@ Vbat < 26.0V	100mA $\pm$ 25mA2@ Vbat < 32.5V
Fast charge current	8.0A $\pm$ 250mA	5.4A $\pm$ 200mA	3.2A $\pm$ 200mA	2.18A +0.10/-0.2A	1.8A +0.1 /-0.2A
Top off charge	1.0A $\pm$ 100mA	720mA $\pm$ 100mA	500mA $\pm$ 100mA	400mA $\pm$ 50mA	270mA $\pm$ 50mA
Trickle charge current	300mA $\pm$ 50mA	200mA $\pm$ 50mA			100mA $\pm$ 25mA
Efficiency at 100% load	0.89	0.9		0.89	
$\Delta V$ mask start timer	3 min, no $\Delta V$ de-tection in this period				
SoftStart Timer	30 min				
Top-off timer	1 hour				
Safety timer. The charger switch to trickle charge if no $\Delta V$ is detected before the safety timer has run out.	5 hours				
Switch frequency, approx.	45-75kHz				
Temperature range	-20 to +40°C (these values are only for the charger, not for the batteries).				
Charge control	$\Delta V$ principle. Fast charging stops when the voltage has dropped 3mV/cell below its maximum recorded level.				
Voltage changes during charging	$\Delta V$ detection is disabled if the voltage changes quickly. This to avoid false $\Delta V$ if an external load kicks in during charging.				
Leakage current from battery with mains switch off	< 1 mA at nominal battery voltage (< 0.72 Ah/month).				
Insulation class	Class II.				
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.				
NTC input, on request (std is 10kohm, B-value approx. 4000)	+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 mains voltage.				
IP-grade	IP 41. IP44 with mains cable.				
Dimensions	203.5 $\times$ 87 $\times$ 43.5 mm				
Weight	590g				
Other	Possible options on request: Charger parameters programmable with "Configurator tool". Constant current charge (no battery management). 0dV detection for EoC.				