

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 ΔV 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 ΔV 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)
ΔV 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	89%	90%		89%	
ΔV mask start timer	3 min, no ΔV de-tection in this period				
SoftStart Timer	30 min				
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, approx.	45-75kHz				
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	< 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.				