

	2-cell	3-6 cell	4-8 cell	5-10 cell
Input voltage	90 - 264VAC / 47 - 63Hz			
Max. output power	17W	42W	42W	42W
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)	6.25V (min 5 cells x min 1.25V 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)
-ΔV sensitivity mV/cell	3mV/cell (approx.)			
SoftStart current	300mA ± 25mA @ Vbat < 2.5V	200mA ± 25mA @ Vbat < 3.75V	200mA ± 25mA @ Vbat < 5.0V	200mA ± 25mA @ Vbat < 6.25V
Fast charge current	5A ± 160mA	4.12A ± 140mA	3.09A ± 110mA	2.47A ± 90mA
Top off charge	590mA ± 100mA	490mA ± 100mA	390mA ± 75mA	330mA ± 60mA
Trickle charge current	100mA ± 25mA			
Efficiency at 100% load	0.7	0.78	0.8	0.84
Average efficency	>63%	>73%	>79%	>81%
No load consumption	NA			
-ΔV mask start timer	3 min, no -ΔV de-tection in this period			
SoftStart Timer	30 minutes	30 min	30 min	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	65kHz.			
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	< 0.5 mA 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 Healthcare 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 (prim-sec)	4000V AC / 5700V DC.			
Input terminals	2-pins IEC 320 connector for exchangeable mains plug (EU, US, UK and AUS).			
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.			
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	IP41 (IP 67 on Request)			
Dimensions	131x 57,5 x 36 mm			
Weight	230g			
Other	Possible options on request: Charger parameters programmable with "Configurator tool". Constant current charge (no battery management). OdV detection for EoC. DoE compliance.			

## SPECIFICATIONS FOR 4041 NiMH

	6-12 cell	10-20 cell	15-30 cell	20-40 cell
Input voltage	90 - 264VAC / 47 - 63Hz			
Max. output power	42W			
Min. output voltage for -ΔV detection	7.8V (min 6 cells x min 1.3V pr. cell)	13V (min 10 cells x min 1.3V pr. cell)	19.5V (min 10 cells x min 1.3V pr. cell)	26V (min 10 cells x min 1.3V pr. cell)
Max. output voltage for -ΔV detection	20.4V (max 12 cells x max 1.7V pr. cell)	34V (max 20 cells x max 1.7V pr. cell)	51V (max 30 cells x max 1.7V pr. cell)	64V (max 40 cells x max 1.7V pr. cell)
-ΔV sensitivity mV/cell	3mV/cell (approx.)			
SoftStart current	150mA ± 25mA @ Vbat < 7.8V	100mA ± 15mA @ Vbat < 13V	80mA ± 15mA @ Vbat < 19.5V	50mA ± 15mA @ Vbat < 26V
Fast charge current	2.06A ± 80mA	1.24A ± 70mA	0.82A ± 50mA	0.66A ± 40mA
Top off charge	290mA ± 50mA	160mA ± 30mA	113mA ± 20mA	82mA ± 15mA
Trickle charge current	100mA ± 25mA	50mA ± 15mA	40mA ± 10mA	25mA ± 6mA
Efficiency at 100% load	0.85			
Average efficency	>82%	>84%	>84%	>84%
No load consumption	NA			
-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	65kHz.			
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	< 0.5 mA 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 Healthcare 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 (prim-sec)	4000V AC / 5700V DC.			
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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	IP41 (IP 67 on Request)			
Dimensions	131x 57,5 x 36 mm			
Weight	230g			
Other	Possible options on request: Charger parameters programmable with "Configurator tool". Constant current charge (no battery management). 0dV detection for EoC. DoE compliance.			