

	2-cell	3-6 cell	4-8 cell	5-10 cell
Available versions		x	x	x
Input voltage	90 - 264VAC / 47 - 63Hz			
Max. output power	6.8W	22.5W	27.2W	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)
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	100mA ± 25mA @ Vbat < 2V	100mA ± 25mA @ Vbat < 3.75V	100mA ± 25mA @ Vbat < 5.0V	100mA ± 25mA @ Vbat < 6.2V
Fast charge current	2.5A ± 100mA	2.2A ± 100mA	2.0A ± 100mA	1.6A ± 100mA
Top off charge	300mA ± 50mA	310mA ± 50mA	290mA ± 50mA	250mA ± 50mA
Trickle charge current	100mA ± 25mA			
Efficiency at 100% load	0.7	0.78	0.8	0.82
Average efficiency	>62%	>72%	>78%	>80%
No load consumption	TBD			
-ΔV mask start timer	3 min, no -ΔV detection 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	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	< 0.5 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	IP 41.			
Dimensions	123,5 x 49,5 x 37 mm			
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.			

	6-12 cell	10-20 cell
Available versions	x	
Input voltage	90 - 264VAC / 47 - 63Hz	
Max. output power	26.5W	27.2W
Min. output voltage for $-\Delta V$ detection	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 $-\Delta V$ detection	20.4V (max 12 cells x max 1.7V pr. cell)	34V (max 20 cells x max 1.7V pr. cell)
$-\Delta V$ sensitivity mV/cell	3mV/cell (approx.)	
SoftStart current	100mA \pm 25mA @ Vbat < 7.5V	50mA \pm 15mA @ Vbat < 13V
Fast charge current	1.3A \pm 100mA	800mA \pm 50mA
Top off charge	220mA \pm 30mA	125mA \pm 20mA
Trickle charge current	100mA \pm 25mA	50mA \pm 15mA
Efficiency at 100% load	0.83	0.84
Average efficency	>80%	
No load consumption	TBD	
$-\Delta V$ 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 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	$-\Delta V$ 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	< 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.	
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Resetting	A new charging cycle starts by reconnecting a battery at the output, or by disconnecting and connecting the mains voltage.	
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