

	6-8 cell	8-12 cell	12-20 cell	20-30 cell
Available versions	x			
Input voltage	90 - 264VAC / 47 - 63Hz			
Max. output power	109W	110W	109W	111W
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)
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)
-ΔV sensitivity mV/cell	3mV/cell (approx.)			
SoftStart current	300mA ± 50mA2@ Vbat < 7.8V	200mA ± 50mA2@ Vbat < 10.4V	200mA ± 50mA2@ Vbat < 15.6V	200mA ± 50mA2@ Vbat < 26.0V
Fast charge current	8.0A ± 250mA	5.4A ± 200mA	3.2A ± 200mA	2.18A +0.10/-0.2A
Top off charge	1.0A ± 100mA	720mA ± 100mA	500mA ± 100mA	400mA ± 50mA
Trickle charge current	300mA ± 50mA	200mA ± 50mA	200mA ± 50mA	200mA ± 50mA
Efficiency at 100% load	0.89	0.9	0.9	0.89
-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 × 87 × 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.			

	25-40 cell
Available versions	x
Input voltage	90 - 264VAC / 47 - 63Hz
Max. output power	115W
Min. output voltage for $-\Delta V$ detection	32.5V (min 25 cells x min 1.3V pr. cell)
Max. output voltage for $-\Delta V$ detection	64.0V (max 40 cells x max 1.60V pr. cell)
$-\Delta V$ sensitivity mV/cell	3mV/cell (approx.)
SoftStart current	100mA \pm 25mA2@ Vbat < 32.5V
Fast charge current	1.8A +0.1 /-0.2A
Top off charge	270mA \pm 50mA
Trickle charge current	100mA \pm 25mA
Efficiency at 100% load	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 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.