

	2-cell	3-6 cell	4-8 cell	5-10 cell
Available versions	x			
Input voltage	90-265VAC, 50-60Hz			
No-load voltage	6.3V $\pm$ 0.7V	12.8V $\pm$ 0.7V	16.5V $\pm$ 1V	21V $\pm$ 1.2V
Max. output power	8.2W	16W	16W	16W
Min. output voltage for $-\Delta V$ detection	2.5V (min 2 cells $\times$ min 1.25V pr. cell)	3.7V (min 3 cells $\times$ min 1.25V pr. cell)	5.0V (min 4 cells $\times$ min 1.25V pr. cell)	6.2V (min 5 cells $\times$ min 1.25V pr. cell)
Max. output voltage for $-\Delta V$ detection	5.4V (max 2 cells $\times$ max 1.8V pr. cell)	10.8V (max 6 cells $\times$ max 1.8V pr. cell)	14.4V (max 8 cells $\times$ max 1.8V pr. cell)	18V (max 10 cells $\times$ max 1.8V pr. cell)
$-\Delta V$ sensitivity mV/cell	10mV/0.6% at 2 cells.	10mV/0.6% at 6 cells.	8mV / 0.5% for 4-8 cells	8mV / 0.5% for 5-10 cells
Fast charge current	1.3A $\pm$ 100mA	1.3A $\pm$ 100mA	1.0A $\pm$ 100mA	0.8A $\pm$ 100mA
Top off charge (duration 1h after $-\Delta V$ detection)	160mA $\pm$ 30mA	160mA $\pm$ 30mA	130mA $\pm$ 30mA	110mA $\pm$ 30mA
Trickle charge current	30mA $\pm$ 15mA (continuously)			
Leakage current from battery with mains switch off	< 1mA			
Start timer	3 min, no $-\Delta V$ detection in this period			
Top-off timer	1 hour	1hour	1hour	1hour
Safety timer The charger switch to trickle charge if no $\Delta V$ is detected before the safety timer has run out.	2 h			
Switch frequency	40kHz.			
Temperature range	-20 to +40oC (these values are only for the charger, not for the batteries).			
Charge control	$-\Delta V$ principle. Fast charging stops when the voltage has dropped 0.5% 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.			
Battery analyzing	Max. 20 sec after mains connection / battery connection (yellow LED).			
Efficiency	Appr. 80%.			
Fuses	Fusible resistor at input. Polyswitch fuse at the output protects the unit against wrong polarity.			
Insulation class	Class II.			
Electrical safety	EN 60601-1, EN 60950, EN 60335-2-29, UL 60601-1			
EMC-standards	EN 61000-6-3, EN 61000-6-1, EN 60601-1-2.			
Insulation voltage (prim-sec)	4000V AC / 5700V DC.			
Mains connection	2-pins IEC 320 mains connector.			
Output terminals	Secondary cable with exchangeable plugs.			
LED-indication	Yellow: Initialization/no batt. Orange: Fast charge Green with short yellow flashes: Top off charge: Green: Trickle charge Red-Green flashing (error mode): Battery voltage low			
Resetting	A new charging cycle starts by reconnecting a battery at the output, or by disconnecting and connecting the mains voltage.			
IP-grade	IP4X			
Dimensions	90 x 45 x 32mm.			
Weight	125g.			
Other	Possible options on request: +dT/dt, 0dV and timer charge. The charger may be both software and hardware programmable.			

	6-12 cell	10-20 cell
Available versions	x	
Input voltage	90-265VAC, 50-60Hz	
No-load voltage	24.7V $\pm$ 1.5V	41V $\pm$ 2V
Max. output power	16W	
Min. output voltage for - $\Delta$ V detection	7.5V (min 6 cells x min 1.25V pr. cell)	12.5V (min 10 cells x min 1.25V pr. cell)
Max. output voltage for - $\Delta$ V detection	21.6V (max 12 cells x max 1.8V pr. cell)	36V (max 20 cells x max 1.8V pr. cell)
- $\Delta$ V sensitivity mV/cell	8mV / 0.5% for 6-12 cells	8mV / 0.5% for 10-20 cells
Fast charge current	0.7A $\pm$ 100mA	400mA $\pm$ 50mA
Top off charge (duration 1h after -dV detection)	100mA $\pm$ 30mA	65mA $\pm$ 20mA
Trickle charge current	30mA $\pm$ 15mA (continuously)	
Leakage current from battery with mains switch off	< 1mA	
Start timer	3 min, no - $\Delta$ V detection in this period	
Top-off timer	1hour	
Safety timer The charger switch to trickle charge if no $\Delta$ V is detected before the safety timer has run out.	2 h	
Switch frequency	40kHz.	
Temperature range	-20 to +40oC (these values are only for the charger, not for the batteries).	
Charge control	- $\Delta$ V principle. Fast charging stops when the voltage has dropped 0.5% 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.	
Battery analyzing	Max. 20 sec after mains connection / battery connection (yellow LED).	
Efficiency	Appr. 80%.	
Fuses	Fusible resistor at input. Polyswitch fuse at the output protects the unit against wrong polarity.	
Insulation class	Class II.	
Electrical safety	EN 60601-1, EN 60950, EN 60335-2-29, UL 60601-1	
EMC-standards	EN 61000-6-3, EN 61000-6-1, EN 60601-1-2.	
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