

	1-cell	2-cell	3-cell	4-cell
Available versions	x			
Input voltage: / Line frequency	90 - 264VAC / 47 - 63Hz			
Max output power	10.5W	21W	27.7W	26.9W
Step 0 < 10min Yellow	CC 100mA \pm 25mA, when battery voltage < 3V.	CC 100mA \pm 25mA, when battery voltage < 6V.	CC 100mA \pm 25mA, when battery voltage < 9V.	CC 100mA \pm 25mA, when batt voltage < 12V.
Step 0 > 10min Red (4 blinks)	0A / 0V			
Step 1 (Constant Current) Yellow	CC 2.5A \pm 0.3A, when 3V < Vbat < 4.2V.	CC 2.5A \pm 0.3A, when 6V < Vbat < 8.4V.	CC 2.2A \pm 0.2A, when 9V < Vbat < 12.6V.	CC 1.6A \pm 0.15A, when 12V < Vbat < 16.8V.
Step 2 (Constant Voltage) Flashing Yellow	CV 4.2V \pm 0.05V, until I charge < 100mA or max. 1h.	CV 8.4V \pm 0.1V, until I charge < 100mA or max. 1h.	CV 12.6V \pm 0.1V, until I charge < 100mA or max. 1h.	CV 16.8V \pm 0.1V, until I charge < 100mA or max. 1h.
Charge timer (step2, CV)	1h			
Safety timer (all steps) Red (5 blinks)	72h			
Step 3 (Charge Completed) Green	0A			
Restart voltage	4.1V	8.2V	12.3V	16.4V
Formation Charge (Step 0)	Low current start-up of deeply discharged battery.			
Wake-up of deeply discharged battery.	Yes, will apply voltage which deactivates deep discharge protection in battery pack.			
Indication when "Battery not connected"	Flashing Green (1s/1s)			
NTC input, on request (std is 10kohm, B-value approx. 4000)	0 – 45 °C: Normal charge. Battery temperature < 0 °C (too cold) or > 45°C (too hot): No charge, wait until temp. is OK.			
Ripple	< 100mV p-p			
Efficiency (at 100% load) approx.	0.7	0.85	0.85	0.85
Switch frequency approx.	35kHz			
Leakage current from battery with mains switched off	< 300 μ A at nominal battery voltage (< 0.22 Ah/month)			
Protection	Protected against reversed polarity. Error Indication: Red (2 blinks) Short circuit proof. Error Indication: Red (3 blinks) Charging of wrong lower voltage battery pack will be limited to 100mA and terminated after 10min. Indication: Red (4 blinks) Safety timer. Error Indication: Red (5 blinks) No charge (or charge terminated) if connecting wrong battery pack with higher voltage. Indication: LED is OFF.			
Temperature range	Operating: \pm 25 to +40oC. Storage: \pm 25 to +85oC			
Safety	Medical EN 60601-1 / Home Healthcare EN 60601-1-11 (VNOM \geq 110VAC) / Battery Charger EN 60335-2-29			
Insulation class	Class II			
Insulation voltage: Primary – secondary	4000VAC / 5700VDC			
EMC standards	EN 55014-1 and –2, EN 61000-6-3, EN 61000-6-1, EN 60601-1-2			
Input terminal	2-pins IEC 320 connector for exchangeable mains plug (EU, US, UK and AUS) or mains cord with C7 connector.			
Output terminals	Cord with/without plug. Exchangeable plugs available.			
IP-Grade	IP41			
Rec. battery capacity	2.5 Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 100Ah (utilizing the 1h CV timer as EoC detection)	2.2Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 88Ah (utilizing the 1h CV timer as EoC detection)	1.6 Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 64Ah (utilizing the 1h CV timer as EoC detection)	1.35 Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 54Ah (utilizing the 1h CV timer as EoC detection)
Dimensions	123.5 \times 49.5 \times 37 mm			
Weight	220g			

	5-cell	6-cell	7-cell	8-cell
Available versions	x			
Input voltage: / Line frequency	90 - 264VAC / 47 - 63Hz			
Max output power	28.4W	29W	29.4W	28.6W
Step 0 < 10min Yellow	CC 100mA \pm 25mA, when battery voltage < 15V.	CC 100mA \pm 25mA, when batt voltage < 18V.	CC 100mA \pm 25mA, when batt voltage < 21V.	CC 100mA \pm 25mA, when batt voltage < 24V.
Step 0 > 10min Red (4 blinks)	0A / 0V			
Step 1 (Constant Current) Yellow	CC 1.35A \pm 0.2A, when 15V < Vbat < 21.0V.	CC 1.15A \pm 0.1A, when 18V < Vbat < 25.2V.	CC 1.0A \pm 0.1A, when 21V < Vbat < 29.4V.	CC 0.85A \pm 0.1A, when 24V < Vbat < 33.6V.
Step 2 (Constant Voltage) Flashing Yellow	CV 21.0V \pm 0.1V, until I charge < 100mA or max. 1h.	CV 25.2V \pm 0.2V, until I charge < 100mA or max. 1h.	CV 29.4V \pm 0.2V, until I charge < 100mA or max. 1h.	CV 33.6V \pm 0.2V, until I charge < 100mA or max. 1h.
Charge timer (step2, CV)	1h			
Safety timer (all steps) Red (5 blinks)	72h			
Step 3 (Charge Completed) Green	0A			
Restart voltage	20.5V	24.6V	28.7V	32.8V
Formation Charge (Step 0)	Low current start-up of deeply discharged battery.			
Wake-up of deeply discharged battery.	Yes, will apply voltage which deactivates deep discharge protection in battery pack.			
Indication when "Battery not connected"	Flashing Green (1s/1s)			
NTC input, on request (std is 10kohm, B-value approx. 4000)	0 – 45 °C: Normal charge. Battery temperature < 0 °C (too cold) or > 45°C (too hot): No charge, wait until temp. is OK.			
Ripple	< 100mV p-p			
Efficiency (at 100% load) approx.	0.85			
Switch frequency approx.	35kHz			
Leakage current from battery with mains switched off	< 300 μ A at nominal battery voltage (< 0.22 Ah/month)			
Protection	Protected against reversed polarity. Error Indication: Red (2 blinks) Short circuit proof. Error Indication: Red (3 blinks) Charging of wrong lower voltage battery pack will be limited to 100mA and terminated after 10min. Indication: Red (4 blinks) Safety timer. Error Indication: Red (5 blinks) No charge (or charge terminated) if connecting wrong battery pack with higher voltage. Indication: LED is OFF.			
Temperature range	Operating: \pm 25 to +40oC. Storage: \pm 25 to +85oC			
Safety	Medical EN 60601-1 / Home Healthcare EN 60601-1-11 (VNOM \geq 110VAC) / Battery Charger EN 60335-2-29			
Insulation class	Class II			
Insulation voltage: Primary – secondary	4000VAC / 5700VDC			
EMC standards	EN 55014-1 and –2, EN 61000-6-3, EN 61000-6-1, EN 60601-1-2			
Input terminal	2-pins IEC 320 connector for exchangeable mains plug (EU, US, UK and AUS) or mains cord with C7 connector.			
Output terminals	Cord with/without plug. Exchangeable plugs available.			
IP-Grade	IP41			
Rec. battery capacity	1.15 Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 46Ah (utilizing the 1h CV timer as EoC detection)	1Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 40Ah (utilizing the 1h CV timer as EoC detection)	0.85Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 34Ah (utilizing the 1h CV timer as EoC detection)	0.7Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 28Ah (utilizing the 1h CV timer as EoC detection)
Dimensions	123.5 \times 49.5 \times 37 mm			
Weight	220g			

	10-cell	14-cell
Available versions	x	
Input voltage: / Line frequency	90 - 264VAC / 47 - 63Hz	
Max output power	29.4W	
Step 0 < 10min Yellow	CC 100mA \pm 25mA, when batt voltage < 30V.	CC 60mA \pm 15mA, when batt voltage < 42V.
Step 0 > 10min Red (4 blinks)	0A / 0V	
Step 1 (Constant Current) Yellow	CC 0.7A \pm 0.07A, when 30V < Vbat < 42V.	CC 0.5A \pm 0.05A, when 42V < Vbat < 58.8V.
Step 2 (Constant Voltage) Flashing Yellow	CV 42V \pm 0.3V, until I charge < 100mA or max. 1h.	CV 58.8V \pm 0.5V, until I charge < 75mA or max. 1h.
Charge timer (step2, CV)	1h	
Safety timer (all steps) Red (5 blinks)	72h	
Step 3 (Charge Completed) Green	0A	
Restart voltage	41V	57.4V
Formation Charge (Step 0)	Low current start-up of deeply discharged battery.	
Wake-up of deeply discharged battery.	Yes, will apply voltage which deactivates deep discharge protection in battery pack.	
Indication when "Battery not connected"	Flashing Green (1s/1s)	
NTC input, on request (std is 10kohm, B-value approx. 4000)	0 – 45 °C: Normal charge. Battery temperature < 0 °C (too cold) or > 45°C (too hot): No charge, wait until temp. is OK.	
Ripple	< 100mV p-p	
Efficiency (at 100% load) approx.	0.85	
Switch frequency approx.	35kHz	
Leakage current from battery with mains switched off	< 300 μ A at nominal battery voltage (< 0.22 Ah/month)	
Protection	Protected against reversed polarity. Error Indication: Red (2 blinks) Short circuit proof. Error Indication: Red (3 blinks) Charging of wrong lower voltage battery pack will be limited to 100mA and terminated after 10min. Indication: Red (4 blinks) Safety timer. Error Indication: Red (5 blinks) No charge (or charge terminated) if connecting wrong battery pack with higher voltage. Indication: LED is OFF.	
Temperature range	Operating: \pm 25 to +40oC. Storage: \pm 25 to +85oC	
Safety	Medical EN 60601-1 / Home Healthcare EN 60601-1-11 (VNOM \geq 110VAC) / Battery Charger EN 60335-2-29	
Insulation class	Class II	
Insulation voltage: Primary – secondary	4000VAC / 5700VDC	
EMC standards	EN 55014-1 and –2, EN 61000-6-3, EN 61000-6-1, EN 60601-1-2	
Input terminal	2-pins IEC 320 connector for exchangeable mains plug (EU, US, UK and AUS) or mains cord with C7 connector.	
Output terminals	Cord with/without plug. Exchangeable plugs available.	
IP-Grade	IP41	
Rec. battery capacity	0.5 Ah (1C) to 7.5Ah (<75mA charge current as EoC detection) or up to 20Ah (utilizing the 1h CV timer as EoC detection)	0,3Ah (1C) to 5,6Ah (cut off current as EoC)
Dimensions	123.5 \times 49.5 \times 37 mm	
Weight	220g	