SPECIFICATIONS FOR 4041 LI

	1-cell	2-cell	3-cell	4-cell
Available versions	x			
Input voltage: / Line frequency	90 - 264VAC / 47 - 63Hz			
Max output power	21W	42W	42W	42W
Step 0 < 10min Yellow	CC 300mA when battery voltage < 3V.	CC 300mA when battery voltage < 6V.	CC 300mA when battery voltage < 9V.	CC 300mA when batt voltage < 12V.
Step 0 > 10min Red (4 blinks)	0A / 0V			
Step 1 (Constant Current) Yellow	CC 5A ± 0.36A, when 3V < Vbat < 4.2V.	CC 5A ± 0.36A, when 6V < Vbat < 8.4V.	CC 3.33A ± 0.24A, when 9V < Vbat < 12.6V.	CC 2.5A ± 0.18A, when 12V < Vbat < 16.8V.
Step 2 (Constant Voltage) Flashing Yellow	CV 4.2V ± 0.05V, until I charge < 300mA or max. 1h.	CV 8.4V ± 0.1V, until I charge < 300mA or max. 1h.	CV 12.6V ± 0.1V, until I charge < 300mA or max. 1h.	CV 16.8V ± 0.1V, until I charge < 150mA 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	0.87
Switch frequency approx.	65kHz			
Leakage current from battery with mains switched off	< 300 µA 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 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: -25 to +40oC. Transport and short time storage: -25 to +85oC			
Safety	Medical IEC 60601-1 / Home Health care IEC 60601-1-11, Household IEC60335-1 / Battery Charger IEC 60335-2-29, A/V and Comm. tech: IEC 62368-1,			
Insulation class	Class II			
Insulation voltage: Primary – secondary	4000VAC / 5700VDC			
EMC standards	Household IEC 55014-1 and–2, Emission IEC 61000-6-3, Immunity IEC 61000-6-1, Medical IEC 60601-1-2			
Input terminal	2-pins IEC 320 with C8 connector for exchangeable mains plug (EU, US, UK and AUS) or mains cord with C7 connector.			
Output terminals	DC connector, Battery clips, Push-on terminals or open ends.			
IP-Grade	IP41 (IP 67 on Request)			
Rec. battery capacity	5 Ah (1C) to 30Ah (<300mA charge current as EoC detection) or up to 200Ah (utilizing the 1h CV timer as EoC detection)	5 Ah (1C) to 30Ah (<300mA charge current as EoC detection) or up to 200Ah (utilizing the 1h CV timer as EoC detection)	3.33 Ah (1C) to 30Ah (<300mA charge current as EoC detection) or up to 133Ah (utilizing the 1h CV timer as EoC detection)	2.5 Ah (1C) to 15Ah (<150mA charge current as EoC detection) or up to 100Ah (utilizing the 1h CV timer as EoC detection)
Dimensions	131× 57,5 × 36 mm			
Weight	230g			

SPECIFICATIONS FOR 4041 LI

	5-cell	6-cell	7-cell	8-cell
Available versions	x			
Input voltage: / Line frequency	90 - 264VAC / 47 - 63Hz			
Max output power	42W			
Step 0 < 10min Yellow	CC 150mA when battery voltage < 15V.	CC 150mA when batt voltage < 18V.	CC 150mA when batt voltage < 21V.	CC 150mA when batt voltage < 24V.
Step 0 > 10min Red (4 blinks)	0A / 0V			
Step 1 (Constant Current) Yellow	CC 2A ± 0.17A, when 15V < Vbat < 21.0V.	CC 1.67A ± 0.17A, when 18V < Vbat < 25.2V.	CC 1.43A ± 0.17A, when 21V < Vbat < 29.4V.	CC 1.25A ± 0.15A, when 24V < Vbat < 33.6V.
Step 2 (Constant Voltage) Flashing Yellow	CV 21.0V ± 0.1V, until I charge < 150mA or max. 1h.	CV 25.2V ± 0.2V, until I charge < 150mA or max. 1h.	CV 29.4V ± 0.2V, until I charge < 150mA or max. 1h.	CV 33.6V ± 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.	0.87			
Switch frequency approx.	65kHz			
Leakage current from battery with mains switched off	< 300 µA 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 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: -25 to +40oC. Transport and short time storage: -25 to +85oC			
Safety	Medical IEC 60601-1 / Home Health care IEC 60601-1-11, Household IEC60335-1 / Battery Charger IEC 60335-2-29, A/V and Comm. tech: IEC 62368-1,			
Insulation class	Class II			
Insulation voltage: Primary – secondary	4000VAC / 5700VDC			
EMC standards	Household IEC 55014-1 and–2, Emission IEC 61000-6-3, Immunity IEC 61000-6-1, Medical IEC 60601-1-2			
Input terminal	2-pins IEC 320 with C8 connector for exchangeable mains plug (EU, US, UK and AUS) or mains cord with C7 connector.			
Output terminals	DC connector, Battery clips, Push-on terminals or open ends.			
IP-Grade	IP41 (IP 67 on Request)			
Rec. battery capacity	2 Ah (1C) to 15Ah (<150mA charge current as EoC detection) or up to 80Ah (utilizing the 1h CV timer as EoC detection)	1.67 Ah (1C) to 15Ah (<150mA charge current as EoC detection) or up to 67Ah (utilizing the 1h CV timer as EoC detection)	1.43Ah (1C) to 10Ah (<150mA charge current as EoC detection) or up to 57Ah (utilizing the 1h CV timer as EoC detection)	1.25Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 50Ah (utilizing the 1h CV timer as EoC detection)
Dimensions	131× 57,5 × 36 mm			
Weight	230g			

SPECIFICATIONS FOR 4041 LI

	10-cell	14-cell	9-cell	11-cell
Available versions	x	x		
Input voltage: / Line frequency	90 - 264VAC / 47 - 63Hz			
Max output power	42W			
Step 0 < 10min Yellow	CC 100mA when batt voltage < 30V.	CC 100mA when batt voltage < 42V.	CC 100mA when batt voltage < 27V.	CC 100mA when batt voltage < 33V.
Step 0 > 10min Red (4 blinks)	0A / 0V			
Step 1 (Constant Current) Yellow	CC 1A ± 0.12A, when 30V < Vbat < 42V.	CC 0.71A ± 0.09A, when 42V < Vbat < 58.8V.	CC 1.11A ± 0.13A, when 27V < Vbat < 37.8V.	CC 0.91A ± 0.12A, when 33V < Vbat < 46.2V.
Step 2 (Constant Voltage) Flashing Yellow	CV 42V ± 0.3V, until I charge < 100mA or max. 1h.	CV 58.8V ± 0.5V, until I charge < 100mA or max. 1h.	CV 37.8V ± 0.3V, until I charge < 100mA or max. 1h.	CV 46.2V ± 0.3V, 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	41V	57.4V	36.9V	45.1V
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.	0.87			
Switch frequency approx.	65kHz			
Leakage current from battery with mains switched off	< 300 µA 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 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: -25 to +40oC. Transport and short time storage: -25 to +85oC			
Safety	Medical IEC 60601-1 / Home Health care IEC 60601-1-11, Household IEC60335-1 / Battery Charger IEC 60335-2-29, A/V and Comm. tech: IEC 62368-1,			
Insulation class	Class II			
Insulation voltage: Primary – secondary	4000VAC / 5700VDC			
EMC standards	Household IEC 55014-1 and–2, Emission IEC 61000-6-3, Immunity IEC 61000-6-1, Medical IEC 60601-1-2			
Input terminal	2-pins IEC 320 with C8 connector for exchangeable mains plug (EU, US, UK and AUS) or mains cord with C7 connector.			
Output terminals	DC connector, Battery clips, Push-on terminals or open ends.			
IP-Grade	IP41 (IP 67 on Request)			
Rec. battery capacity	1 Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 40Ah (utilizing the 1h CV timer as EoC detection)	0.71 Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 29Ah (utilizing the 1h CV timer as EoC detection)	1.1 Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 44Ah (utilizing the 1h CV timer as EoC detection)	0.91 Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 36Ah (utilizing the 1h CV timer as EoC detection)
Dimensions	131× 57,5 × 36 mm			
Weight	230g			

SPECIFICATIONS FOR 4041 LI

	12-cell	13-cell
Available versions		
Input voltage: / Line frequency	90 - 264VAC / 47 - 63Hz	
Max output power	42W	
Step 0 < 10min Yellow	CC 100mA when batt voltage < 36V.	CC 100mA when batt voltage < 39V.
Step 0 > 10min Red (4 blinks)	0A / 0V	
Step 1 (Constant Current) Yellow	CC 0.83A ± 0.11A, when 36V < Vbat < 50.4V.	CC 0.77A ± 01A, when 39V < Vbat < 54.6V.
Step 2 (Constant Voltage) Flashing Yellow	CV 50.4V ± 0.5V, until I charge < 100mA or max. 1h.	CV 54.6V ± 0.5V, 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	49.2V	53.3V
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.	0.87	
Switch frequency approx.	65kHz	
Leakage current from battery with mains switched off	< 300 µA 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 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: -25 to +40oC. Transport and short time storage: -25 to +85oC	
Safety	Medical IEC 60601-1 / Home Health care IEC 60601-1-11, Household IEC60335-1 / Battery Charger IEC 60335-2-29, A/V and Comm. tech: IEC 62368-1,	
Insulation class	Class II	
Insulation voltage: Primary – secondary	4000VAC / 5700VDC	
EMC standards	Household IEC 55014-1 and–2, Emission IEC 61000-6-3, Immunity IEC 61000-6-1, Medical IEC 60601-1-2	
Input terminal	2-pins IEC 320 with C8 connector for exchangeable mains plug (EU, US, UK and AUS) or mains cord with C7 connector.	
Output terminals	DC connector, Battery clips, Push-on terminals or open ends.	
IP-Grade	IP41 (IP 67 on Request)	
Rec. battery capacity	0.83 Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 33Ah (utilizing the 1h CV timer as EoC detection)	0.77 Ah (1C) to 10Ah (<100mA charge current as EoC detection) or up to 31Ah (utilizing the 1h CV timer as EoC detection)
Dimensions	131× 57,5 × 36 mm	
Weight	230g	