

SPECIFICATIONS FOR 4040 LI	3-cell Li-Ion	4-cell Li-Ion	5-cell Li-Ion	6-cell Li-Ion	7-cell Li-Ion	8-cell Li-Ion
Available versions	x					
Input voltage: / Line frequency	90-264Vac 47-63Hz					
Active power factor correction:	Yes					
Max output power:	113.4W	117.6W		117.2W	117.6W	
Step 0 < 10min Yellow	CC 500mA ± 50mA, when battery voltage < 9V	CC 500mA ± 50mA, when batt voltage < 12V	CC 500mA ± 50mA, when battery voltage <15V.	CC 300mA ± 25mA, when batt voltage < 18V.	CC 300mA ± 25mA, when batt voltage < 21V.	CC 300mA ± 25mA, when batt voltage < 24V.
Step 0 > 10min Red (4 blinks)	0A / 0V					
Step 1 (Constant Current) Yellow	CC 9.0A ± 0.2A, when 9V < Vbat < 12.6V	CC 7.0A ± 0.2A, when 12V< Vbat < 16.8V	CC 5.6A ± 0.2A, when 15V < Vbat < 21.0V	CC 4.65A ± 0.2A, when 18V < Vbat < 25.2V	CC 4.0A ± 0.2A, when 21V < Vbat < 29.4V	CC 3.5A ± 0.2A, when 24V < Vbat < 33.6V
Step 2 (Constant Voltage) Flashing Yellow	CV 12.6V ±0.1V < 6.3A until I charge < 450mA or max. 1h	CV 16.8V ±0.1V < 4.9A until I charge < 450mA or max. 1h	CV 21.0V ± 0.1V < 3.9A until I charge < 500mA or max. 1h.	CV 25.2V ± 0.2V < 3.3A until I charge < 270mA or max. 1h.	CV 29.4V ± 0.2V < 2.8A until I charge < 270mA or max. 1h	CV 33.6V ± 0.2V < 2.5A until I charge < 270mA or max. 1h.
Charge timer (step2, CV)	1h					
Safety timer (all steps) Red (5 blinks)	72h					
Step 3 (Charge Completed) Green	0A					
Restart voltage	12.3V	16.4V	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 230V 100% load) approx.:	0.91					
Switch frequency approx.:	45-75kHz					
Leakage current from battery with mains switched off:	< 1 mA at nominal battery voltage (< 0.72 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 (See step 0). 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					
Derating at 40oC approx.:	6.6A	5.5A	4.1A	3.8A	3.1A	2.5A
Safety:	Medical EN 60601-1 / Home Health care EN 60601-1-11/ Battery Charger EN 60335-2-29. A/V and Comm. tech: IEC 62368-1					
Insulation class :	Class II. (Class I on request)					
Insulation voltage: Primary – secondary:	4000VAC / 5700VDC					
EMC standards:	EN 55014-1 and –2, Emission EN 61000-6-3, Immunity EN 61000-6-1, EN 60601-1-2					
Input terminal:	2-pins IEC 320 connector, C8 or mains cable (3pins IEC 320 connector, C6 on request)					
Output terminals:	DC connector, Battery clips, Push-on terminals or open ends.					
IP-Grade:	41					
Rec. battery capacity:	9-360Ah	7-280Ah	5.6- 224Ah	4.65 -186Ah	4.0 -160Ah	3.5-140Ah
Dimensions:	203.5 × 87 × 43.5 mm					
Weight:	590g					

SPECIFICATIONS FOR 4040 LI	9-cell Li-Ion	10-cell Li-Ion	11-cell Li-Ion	12-cell Li-Ion	13-cell Li-Ion	14-cell Li-Ion
Available versions	x					
Input voltage: / Line frequency	90-264Vac 47-63Hz					
Active power factor correction:	Yes					
Max output power:	117.2W	117.4W		117.5W	117.4W	
Step 0 < 10min Yellow	CC 200mA ± 25mA, when batt voltage < 27V.	CC 200mA ± 25mA, when batt voltage < 30V.	CC 200mA ± 25mA, when batt voltage < 33V.	CC 200mA ± 25mA, when batt voltage < 36V.	CC 200mA ± 25mA, when batt voltage < 39V.	CC 200mA ± 25mA, when batt voltage < 42V.
Step 0 > 10min Red (4 blinks)	0A / 0V					
Step 1 (Constant Current) Yellow	CC 3.1A ± 0.2A, when 27V < Vbat < 37.8V	CC 2.8A ± 0.2A, when 30V < Vbat < 42V	CC 2.54A ± 0.2A, when 33V < Vbat < 46.2V	CC 2.33A ± 0.2A, when 36V < Vbat < 50.4V	CC 2.15A ± 0.2A, when 39V < Vbat < 54.6V	CC 2.0A ± 0.2A, when 42V < Vbat < 58.8V
Step 2 (Constant Voltage) Flashing Yellow	CV 37.8V ± 0.2V < 2.2A until I charge < 200mA or max. 1h	CV 42.0V ± 0.2V < 1.7A until I charge < 200mA or max. 1h	CV 46.2V ± 0.3V < 1.6A until I charge < 200mA or max. 1h.	CV 50.4V ± 0.3V < 1.6A until I charge < 200mA or max. 1h.	CV 54.6V ± 0.3V < 1.5A until I charge < 200mA or max. 1h.	CV 58.8V ± 0.3V < 1.3A until I charge < 200mA or max. 1h.
Charge timer (step2, CV)	1h					
Safety timer (all steps) Red (5 blinks)	72h					
Step 3 (Charge Completed) Green	0A					
Restart voltage	36.9V	41V	45.1V	49.2V	53.3V	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 230V 100% load) approx.:	0.91					
Switch frequency approx.:	45-75kHz					
Leakage current from battery with mains switched off:	< 1 mA at nominal battery voltage (< 0.72 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 (See step 0). 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					
Derating at 40oC approx.:	2.5A	1.8A	1.5A	1.7A	1.4A	1.3A
Safety:	Medical EN 60601-1 / Home Health care EN 60601-1-11/ Battery Charger EN 60335-2-29. A/V and Comm. tech: IEC 62368-1					
Insulation class :	Class II. (Class I on request)					
Insulation voltage: Primary – secondary:	4000VAC / 5700VDC					
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Input terminal:	2-pins IEC 320 connector, C8 or mains cable (3pins IEC 320 connector, C6 on request)					
Output terminals:	DC connector, Battery clips, Push-on terminals or open ends.					
IP-Grade:	41					
Rec. battery capacity:	3.1 - 124Ah	2.8 -112Ah	2.54 -101Ah	2.33 – 93Ah	2.15 - 86Ah	2 - 80Ah
Dimensions:	203.5 × 87 × 43.5 mm					
Weight:	590g					