

SPECIFICATIONS FOR 4340 LiFe	4-cell LiFeP04	6-cell LiFeP04	8-cell LiFeP04	10-cell LiFeP04	11-cell LiFeP04
Available versions	x		x		
Input voltage: / Line frequency	90-264Vac 47-63Hz				
Max output power:	80W				
Step 0 < 30min Yellow	CC 500mA, when batt voltage < 10.5V.	CC 300mA, when batt voltage < 15.0V.	CC 300mA, when batt voltage < 21.0V.	CC 300mA , when batt voltage < 25.0V.	CC 200mA, when batt voltage < 27.5V.
Step 0 > 30min Red (4 blinks)	0A / 0V				
Step 1 (Constant Current) Yellow	CC 5.5A + 0.15A/-0.3A, when 10.5V < Vbat < 14.6V	CC3.65A +0.1/-0.3A, when 15.0V < Vbat < 21.9V	CC 2.7A +0.1/-0.3A, when 21.0V < Vbat < 29.2V	CC 2.2A ± 0.2A, when 25.0V < Vbat < 36.5V	CC 2.0A ± 0.2A, when 27.5V < Vbat < 40.15V
Step 2 (Constant Voltage) Flashing Yellow	CV 14.6V ± 0.2V < 3.8A until I charge < 400mA or max. 1h	CV 21.9V ± 0.2V < 2.5A until I charge < 300mA or max. 1h	CV 29.2V ± 0.2V < 1.9A until I charge < 350mA or max. 1h.	CV 36.5V ± 0.2V < 1.5A until I charge < 300mA or max. 1h	CV 40.15V± 0.3V < 1.4A 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	14.0V ± 0.2V	21.0V ± 0.2V	28.0V ± 0.2V	35.0V ± 0.2V	38.5V ± 0.2V
Restart voltage	13.2V	19.8V	26.4V	33.0V	36.3V
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 too high >60°C: Error Red (7 blinks) 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.:	>89%		>90%		
Switch frequency approx.:	65kHz				
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 30min. (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.:	4.2A	2.7A	2.2A	1.7A	1.6A
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:	IP4X (IP44 on request)				
Rec. battery capacity:	2.75 - 220Ah	1.83-146Ah	1.35 - 108Ah	1.1 - 88Ah	1.0 - 80Ah
Dimensions:	172.5 × 73 × 42 mm				
Weight:	400g				
Other:	CBC functionality: Configurable Battery Charger. Charging history: Log of 10 latest charge cycles.				

SPECIFICATIONS FOR 4340 LiFe	12-cell LiFeP04	16-cell LiFeP04	5-cell LiFeP04	13-cell LiFeP04
Available versions		x		
Input voltage: / Line frequency	90-264Vac 47-63Hz			
Max output power:	80W			
Step 0 < 30min Yellow	CC 200mA, when batt voltage < 30.0V.	CC 200mA, when batt voltage < 41.6V.	CC 400mA, when batt voltage < 15.0V.	CC 200mA, when batt voltage < 32.5V.
Step 0 > 30min Red (4 blinks)	0A / 0V			
Step 1 (Constant Current) Yellow	CC 1.8A ± 0.2A, when 30.0V < Vbat < 43.8V	CC 1.35A ± 0.2A, when 41.6V < Vbat < 58.4V	CC 4.35A +0.1/-0.3A, when 12.5V < Vbat < 18.25V	CC 1.68A ± 0.2A, when 32.5V < Vbat < 47.45V
Step 2 (Constant Voltage) Flashing Yellow	CV 43.8V ± 0.3V < 1.2A until I charge < 200mA or max. 1h.	CV 58.4V ± 0.3V < 0.9A until I charge < 200mA or max. 1h.	CV 18.25V ± 0.2V < 3.0A until I charge < 400mA or max. 1h	CV 47.45 ± 0.3V < 1.1A 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	42.0V ± 0.3V	56.0V ± 0.3V	17.5V ± 0.2V	45.5.0V ± 0.3V
Restart voltage	39.6V	52.8V	16.5V	42.9V
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 too high >60°C: Error Red (7 blinks) 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.:	>90%		>89%	>90%
Switch frequency approx.:	65kHz			
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 30min. (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.:	1.5A	1.1A	3.2A	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			
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:	IP4X (IP44 on request)			
Rec. battery capacity:	0.9 – 72 Ah	0.68 - 54Ah	2.17-174Ah	0.84 – 67 Ah
Dimensions:	172.5 × 73 × 42 mm			
Weight:	400g			
Other:	CBC functionality: Configurable Battery Charger. Charging history: Log of 10 latest charge cycles.			