

	4-cell LiFePO4	5-cell LiFePO4	6-cell LiFePO4	7-cell LiFePO4
Available versions	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 400mA, when batt voltage < 15.0V.	CC 300mA, when batt voltage < 15.0V.	CC 300mA, when batt voltage < 17.5V.
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	CC 4.35A +0.1/-0.3A, when 12.5V < Vbat < 18.25V	CC3.65A +0.1/-0.3A, when 15.0V < Vbat < 21.9V	CC3.1A +0.1/-0.3A, when 17.5V < Vbat < 25.55V
Step 2 (Constant Voltage) Flashing Yellow	CV 14.6V ± 0.2V < 3.8A until I charge < 400mA or max. 1h	CV 18.25V ± 0.2V < 3.0A until I charge < 400mA or max. 1h	CV 21.9V ± 0.2V < 2.5A until I charge < 300mA or max. 1h	CV 25.55V ± 0.2V < 2.2A until I charge < 300mA 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	17.5V ± 0.2V	21.0V ± 0.2V	24.5V ± 0.2V
Restart voltage	13.2V	16.5V	19.8V	23.0V
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%	>89%	>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	3.2A	2.7A	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	IP4X (IP44 on request)			
Rec. battery capacity	2.75 - 220Ah	2.17-174Ah	1.83-146Ah	1.55-124Ah
Dimensions	172.5 x 73 x 42 mm			
Weight	400g			
Other	CBC functionality: Configurable Battery Charger. Charging history: Log of 10 latest charge cycles.			

	8-cell LiFePO4	10-cell LiFePO4	11-cell LiFePO4	12-cell LiFePO4
Available versions	x			
Input voltage: / Line frequency	90-264Vac 47-63Hz			
Max output power	80W			
Step 0 < 30min Yellow	CC 300mA, when batt voltage < 21.0V.	CC 300mA , when batt voltage < 25.0V.	CC 200mA, when batt voltage < 27.5V.	CC 200mA, when batt voltage < 30.0V.
Step 0 > 30min Red (4 blinks)	0A / 0V			
Step 1 (Constant Current) Yellow	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	CC 1.8A ± 0.2A, when 30.0V < Vbat < 43.8V
Step 2 (Constant Voltage) Flashing Yellow	CV 29.2V ± 0.2V < 1.9A until I charge < 300mA 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.	CV 43.8V ± 0.3V < 1.2A 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	28.0V ± 0.2V	35.0V ± 0.2V	38.5V ± 0.2V	42.0V ± 0.3V
Restart voltage	26.4V	33.0V	36.3V	39.6V
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%	>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.	2.2A	1.7A	1.6A	1.5A
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	IP4X (IP44 on request)			
Rec. battery capacity	1.35 - 108Ah	1.1 - 88Ah	1.0 - 80Ah	0.9 – 72 Ah
Dimensions	172.5 x 73 x 42 mm			
Weight	400g			
Other	CBC functionality: Configurable Battery Charger. Charging history: Log of 10 latest charge cycles.			

	13-cell LiFePO4	16-cell LiFePO4
Available versions	x	
Input voltage: / Line frequency	90-264Vac 47-63Hz	
Max output power	80W	
Step 0 < 30min	Yellow	CC 200mA, when batt voltage < 32.5V.
Step 0 > 30min	Red (4 blinks)	0A / 0V
Step 1 (Constant Current)	Yellow	CC $1.68A \pm 0.2A$, when $32.5V < V_{bat} < 47.45V$
Step 2 (Constant Voltage)	Flashing Yellow	$CV 47.45 \pm 0.3V < 1.1A$ 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	$45.50V \pm 0.3V$
Restart voltage		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.		>91%
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 +40°C. Transport and short time storage: -25 to +85°C
Derating at 40°C approx.	1.3A	1.1A
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	0.84 – 67 Ah	0.68 - 54Ah
Dimensions		172.5 x 73 x 42 mm
Weight		400g
Other		CBC functionality: Configurable Battery Charger. Charging history: Log of 10 latest charge cycles.