BATTERY CHARGER, 454340-F, LiFePO4

SPECIFICATIONS	4 CELLS	5 CELLS	6 CELLS	7 CELLS	8 CELLS
Cell-Con part number:	454340-FD	454340-FE	454340-FF	454340-FG	454340-FH
Input voltage:	90-264VAC				
Line frequency:	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	CC 300mA, when batt voltage <21.0V
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	CC 2.7A + 0.1/-0.3A, when 21.0V <Vbat <29.2V
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	CV 29.2V ± 0.2V <1.9A until I charge <300mA or max. 1hr
Charge timer (step2, CV):	1h				
Safety timer (all steps) Red (5blinks):	72h				
Step 3. charge completed (Green):	14.0V ± 0.2V	17.5V ± 0.2V	21.0V ± 0.2V	24.5V ± 0.2V	28.0V ± 0.2V
Restart voltage:	13.2V	16.5V	19.8V	23.0V	26.4V
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 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%	>90%
Switch frequency approx.:	65kHz				
Leakage current from battery with mains switched off:	<1mA at nominal battery voltage (<0.72Ah/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	2.2A
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	1.35-108Ah
Dimensions:	172.5×73×42mm				
Weight:	400g				
Other:	**CBC Functionality:** Configurable Battery Charger. **Charging History:** Log of 10 latest charge cycles.				

CELL-CON
Battery & Charger Solutions

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BATTERY CHARGER, 454340-F, LiFePO4

SPECIFICATIONS	10 CELLS	11 CELLS	12 CELLS	13 CELLS	16 CELLS
Cell-Con part number:	454340-FJ	454340-FK	454340-FL	454340-FM	454340-FP
Input voltage:	90-264VAC				
Line frequency:	47-63Hz				
Max output power:	80W				
Step 0. < 30min Yellow:	CC 300mA, when batt voltage <25.0V	CC 200mA, when batt voltage <27.5V	CC 200mA, when batt voltage <30.0V	CC 200mA, when batt voltage <32.5V	CC 200mA, when batt voltage <41.6V
Step 0. > 30min Red (4 blinks):	0A/0V				
Step 1. constant current (Yellow):	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	CC 1.68A ±0.2A, when 32.5V <Vbat <47.45V	CC 1.35A ±0.2A, when 41.6V <Vbat <58.4V
Step 2. constant voltage (Flashing Yellow):	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	CV 47.45 ±0.3V <1.1A until I charge <200mA or max. 1h	CV 58.4V ±0.3V <0.9A until I charge <200mA or max. 1hr
Charge timer (step2, CV):	1h				
Safety timer (all steps) Red (5blinks):	72h				
Step 3. charge completed (Green):	35.0V ±0.2V	38.5V ±0.2V	42.0V ±0.2V	45.5.0V ±0.3V	56.0V ±0.3V
Restart voltage:	33.0V	36.3V	39.6V	42.9V	52.8V
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 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%	>90%	>91%	>91%
Switch frequency approx.:	65kHz				
Leakage current from battery with mains switched off:	<1mA at nominal battery voltage (<0.72Ah/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.:	1.7A	1.6A	1.5A	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)				
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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:	1.1-88Ah	1.0-80Ah	0.9–72Ah	0.84–67Ah	0.68-54Ah
Dimensions:	172.5×73×42mm				
Weight:	400g				
Other:	**CBC Functionality:** Configurable Battery Charger. **Charging History:** Log of 10 latest charge cycles.				

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