BATTERY CHARGER, 454340-L, LI-ION

SPECIFICATIONS	1 CELL	2 CELLS	3 CELLS	4 CELLS	5 CELLS	6 CELLS	7 CELLS
Cell-Con part number:	454340-LA	454340-LB	454340-LC	454340-LD	454340-LE	454340-LF	454340-LG
Input voltage:	90-264VAC						
Line frequency:	47-63Hz						
Max output power:	33.6W	67.2W	80W				
Step 0 < 10min Yellow:	CC 400mA, when battery voltage <3V	CC 500mA, when battery voltage <6V	CC 500mA ±50mA, when battery voltage <9V	CC 400mA, when battery voltage <12V	CC 400mA, when battery voltage <15V	CC 300mA, when battery voltage <18V	CC 300mA, when battery voltage <21V
Step 0 > 10min Red (4 blinks):	0A/0V						
Step 1 (constant current) Yellow:	CC 8.0A +0.15/-0.3A, when 3V <Vbat <4.2V	CC 8.0A +0.15/-0.3A, when 6V <Vbat <8.4V	CC 6.35A +0.15/-0.3A, when 9V <Vbat <12.6V	CC 4.75A +0.15/-0.3, when 12V <Vbat <16.8V	CC 3.8A +0.15/-0.3A, when 15V <Vbat <21V	CC 3.15A +0.15/-0.3A, 18V <Vbat <25.2V	CC 2.70A +0.1/-0.3A, when 21V <Vbat <29.4V
Step 2 (constant voltage) Flashing Yellow:	CV 4.2V ±0.05V <5.6A til I charge <400mA or max. 1h	CV 8.4V ±0.1V <5.6A til I charge <400mA or max. 1h	CV 12.6V ±0.1V <4.4A til I charge <400mA or max. 1h	CV 16.8V ±0.1V <3.3A til I charge <400mA or max. 1h	CV 21.0V ±0.15V <2.6A itl I charge <300mA or max. 1h	CV 25.2V ±0.15V <2.2A til I charge <300mA or max. 1h	CV 29.4V ±0.2V <1.9A til I charge <300mA 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	20.5V	24.6V	28.7V
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						
Switch frequency approx.:	65kHz						
Leakage current from battery with mains switched off:	<1mA 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 +40°C / **Transport and short time storage:** -25 to +85°C						
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 standard:	EN 55014-1 and –2, EN 61000-6-3, 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:	8-320Ah	8-320Ah	6.35-254Ah	4.75-190Ah	3.8-152Ah	3.15-126Ah	2.7-108Ah
Dimensions:	172.5×73×42mm						
Weight:	400g						
Efficiency (at 230V 100% load) approx:		>86%	>90%		>91%	>90%	>91%
Derating at 40oC approx.:		6.0A	4.6A	3.8A	2.8A	2.3A	2.2A

CELL-CON
Battery & Charger Solutions

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BATTERY CHARGER, 454340-L, LI-ION

SPECIFICATIONS	8 CELLS	9 CELLS	10 CELLS	11 CELLS	12 CELLS	13 CELLS	14 CELLS
Cell-Con part number:	454340-LH	454340-LI	454340-LJ	454340-LK	454340-LL	454340-LM	454340-LN
Input voltage:	90-264VAC						
Line frequency:	47-63Hz						
Max output power:	80W						
Step 0 < 10min Yellow:	CC 300mA, when battery voltage <24V	CC 300mA, when battery voltage <27V	CC 200mA, when battery voltage <30V	CC 200mA, when battery voltage <33V	CC 200mA, when battery voltage <36V	CC 200mA, when battery voltage <39V	CC 200mA, when battery voltage <42V
Step 0 > 10min Red (4 blinks):	0A/0V						
Step 1 (constant current) Yellow:	CC 2.35A +0.1/-0.3A, 24V <Vbat <33.6V	CC 2.1A +0.1/-0.3A, when 27V <Vbat <37.8V	CC1.9A +0.1/-0.25A, when 30V <Vbat <42V	CC 1.7A +0.1/-0.25A, when 33V <Vbat <46.2V	CC 1.5A +0.1/-0.25A, when 36V <Vbat <50.4V	CC 1.45A +0.05/-0.2A, when 39V <Vbat <54.6V	CC 1.35A +0.05/-0.2A, when 42V <Vbat <58.8V
Step 2 (constant voltage) Flashing Yellow:	CV 33.6V ±0.2V <1.6A til I charge <300mA or max. 1h	CV 37.8V ±0.2V <1.5A til I charge <200mA or max. 1h	CV 42.0V ±0.2V <1.3A til I charge <200mA or max. 1h	CV 46.2V ±0.3V <1.2A til I charge <200mA or max. 1h	CV 50.4V ±0.3V <1.1A itl I charge <200mA or max. 1h	CV 54.6V ±0.3V <1.0A til I charge <200mA or max. 1h	CV 58.8V ±0.3V <0.9A til I tcharge <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:	32.8V	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						
Switch frequency approx.:	65kHz						
Leakage current from battery with mains switched off:	<1mA 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 +40°C / **Transport and short time storage:** -25 to +85°C						
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						
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EMC standard:	EN 55014-1 and –2, EN 61000-6-3, 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:	2.35-94Ah	2.1-84Ah	1.9-76Ah	1.7-68Ah	1.5-60Ah	1.45-58Ah	1.35-54Ah
Dimensions:	172.5×73×42mm						
Weight:	400g						
Efficiency (at 230V 100% load) approx:	>91%						
Derating at 40oC approx.:	1.7A	1.6A	1.5A	1.3A	1.2A	1.2A	1.1A

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