

Charging method D

STEP 1 - BOOST CHARGE

LED-indicator: YELLOW

The charger is in constant current mode (CC), charging with the maximum current until battery voltage reach Top-Up level.



STEP 2 – TOP-UP CHARGE

The charger is in constant voltage mode. The LED-indication will be FLASHING YELLOW during Top-up charge. The charger stays in this mode until the charge current decreases to charge termination level or the Top-Up Charge Timer runs out. The battery is charged to its full capacity at the end of this step



STEP 3 – FLOAT CHARGE

The LED-indication on the charger is GREEN and the battery is fully charged.

The charger is in float mode. The charge voltage is at float level and the charger may remain connected to the battery.

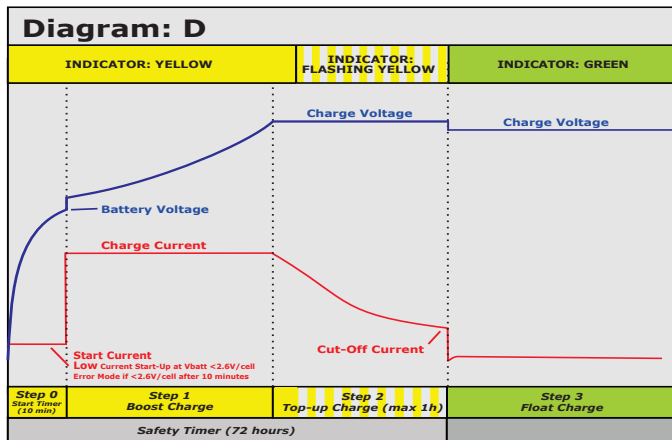
The charger will return to boost charge if the battery is used.

(Model 3540 terminates charge, i.e. no float charge).



BATTERY NOT CONNECTED INDICATIONS

Battery not connected is indicated by FLASHING GREEN



SPECIFICATIONS FOR 3540 LiFe	4-cell	8-cell	9-cell	16-cell
Available versions	x	x	x	x
Input voltage: / Line frequency:	198 - 264VAC / 50Hz	198 - 264VAC / 50Hz	198 - 264VAC / 50Hz	198 - 264VAC / 50Hz
Max output power:	292W	292W	295W	292W
Step 0 < 10min (Yellow)	CC 1.0A ± 0.2A, when batt voltage < 10.5V.	CC 0.8A ± 0.2A, when batt voltage < 21.0V.	CC 0.8A ± 0.2A, when batt voltage < 23.4V.	CC 300mA ± 50mA, when batt voltage < 41.6V.
Step 0 > 10min (Red 4 blinks)	0A / 0V	0A / 0V	0A / 0V	0A / 0V
Step 1 Constant Current (Yellow)	CC 20.0A +0.2/-0.3A, when 10.5V < Vbat < 14.6V.	CC 10A +0.1/-0.3A, when 21.0V < Vbat <29.2V.	CC 9.0A +0/-0.3A, when 23.4V < Vbat < 32.85V.	CC 5.0A +0.1/-0.3A, when 41.6V < Vbat < 58.4V.
Step 2 Const Voltage (Flashing Yellow)	CV 14.6V±0.1V < 14.0A until I charge < 1.0A or max. 1h.	CV 29.2V±0.2V < 8.4A until I charge < 0.8A or max. 1h.	CV 32.85V±0.2V < 7.5A until I charge < 0.8A or max. 1h.	CV 58.4V±0.3V < 3.7A until I charge < 300mA or max. 1h.
Charge timer (step2, CV)	1h	1h	1h	1h
Safety timer all steps (Red 5 blinks)	72h	72h	72h	72h
Step 3 Charge Completed (Green)	0A	0A	0A	0A
Restart voltage	13.2V	26.4V	29.7V	52.8V
Formation Charge (Step 0)	Low current start-up of deeply discharged battery.	Low current start-up of deeply discharged battery.	Low current start-up of deeply discharged battery.	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.	Yes, will apply voltage which deactivates deep discharge protection in battery pack.	Yes, will apply voltage which deactivates deep discharge protection in battery pack.	Yes, will apply voltage which deactivates deep discharge protection in battery pack.
Indication when "Battery not connected"	Flashing Green (1s/1s)	Flashing Green (1s/1s)	Flashing Green (1s/1s)	Flashing Green (1s/1s)
Leakage current from battery with mains switched off:	< 170 µA @ 14.6V	< 160 µA @ 29.2V	< 170 µA @ 32.85V	< 170 µA @ 58.4V
Efficiency (at 100% load, 115V) approx.:	>90%	>92%	>92%	>91%
Switch frequency approx.:	65kHz	65kHz	65kHz	65kHz
Ripple:	< 100mVp-p	< 100mVp-p	< 100mVp-p	< 100mVp-p
NTC input, on request (std. is 10kohm, B-value approx. (4000K)	0 – 45 °C: Normal charge. Battery temperature < 0 °C (too cold) or > 45°C (too hot): No charge, wait until temp. is OK. WAIT MODE INDICATIONS: Yellow with 1 red blink: Battery temperature is too low (<0°C) Yellow with 2 red blinks: Battery temperature is too high (>45°C)	0 – 45 °C: Normal charge. Battery temperature < 0 °C (too cold) or > 45°C (too hot): No charge, wait until temp. is OK. WAIT MODE INDICATIONS: Yellow with 1 red blink: Battery temperature is too low (<0°C) Yellow with 2 red blinks: Battery temperature is too high (>45°C)	0 – 45 °C: Normal charge. Battery temperature < 0 °C (too cold) or > 45°C (too hot): No charge, wait until temp. is OK. WAIT MODE INDICATIONS: Yellow with 1 red blink: Battery temperature is too low (<0°C) Yellow with 2 red blinks: Battery temperature is too high (>45°C)	0 – 45 °C: Normal charge. Battery temperature < 0 °C (too cold) or > 45°C (too hot): No charge, wait until temp. is OK. WAIT MODE INDICATIONS: Yellow with 1 red blink: Battery temperature is too low (<0°C) Yellow with 2 red blinks: Battery temperature is too high (>45°C)
Protection:	Thermal protection. Prevents sparking. Short circuit proof. Error Indication: Red (3 blinks) Safety timer: 72h. Error Indication: Red (5 blinks) Protected against reversed polarity. Error Indication: Red (2 blinks) Charging of wrong lower voltage battery pack (e.g. 2-cell) will be limited to 1.0A and terminated after 10min. 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.	Thermal protection. Prevents sparking. Short circuit proof. Error Indication: Red (3 blinks) Safety timer: 72h. Error Indication: Red (5 blinks) Protected against reversed polarity. Error Indication: Red (2 blinks) Charging of wrong lower voltage battery pack (e.g. 2-cell) will be limited to 1.0A and terminated after 10min. 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.	Thermal protection. Prevents sparking. Short circuit proof. Error Indication: Red (3 blinks) Safety timer: 72h. Error Indication: Red (5 blinks) Protected against reversed polarity. Error Indication: Red (2 blinks) Charging of wrong lower voltage battery pack (e.g. 2-cell) will be limited to 1.0A and terminated after 10min. 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.	Thermal protection. Prevents sparking. Short circuit proof. Error Indication: Red (3 blinks) Safety timer: 72h. Error Indication: Red (5 blinks) Protected against reversed polarity. Error Indication: Red (2 blinks) Charging of wrong lower voltage battery pack (e.g. 2-cell) will be limited to 1.0A and terminated after 10min. 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. Storage: ÷25 to +65oC	Operating: ÷25 to +40oC. Storage: ÷25 to +65oC	Operating: ÷25 to +40oC. Storage: ÷25 to +65oC	Operating: ÷25 to +40oC. Storage: ÷25 to +65oC
Derating:	Charge current automatically reduced to approx.14A at 40°C	Charge current automatically reduced to approx. 7.0A at 40oC	Charge current automatically reduced to approx.5.0A at 40oC	Charge current automatically reduced to approx.3.0A at 40oC
Safety:	EN 60601-1	EN 60601-1	EN 60601-1	EN 60601-1
Insulation class:	Double insulated (Class II)	Double insulated (Class II)	Double insulated (Class II)	Double insulated (Class II)
Insulation voltage: Primary – secondary:	4000VAC / 5700VDC	4000VAC / 5700VDC	4000VAC / 5700VDC	4000VAC / 5700VDC
EMC standards:	EN 60601-1-2: 2015 (Edition 4)	EN 60601-1-2: 2015 (Edition 4)	EN 60601-1-2: 2015 (Edition 4)	EN 60601-1-2: 2015 (Edition 4)
Input terminal:	2 pin IEC60320 or mains cable	2 pin IEC60320 or mains cable	2 pin IEC60320 or mains cable	2 pin IEC60320 or mains cable
Output terminals:	Cord with open ends or XLR plug	Cord with open ends or XLR plug	Cord with open ends or XLR plug	Cord with open ends or XLR plug

Protection against ingress (IP-code):	IP44	IP44	IP44	IP44
Recommended battery capacity:	10 - 800Ah	5 - 400Ah	4.5 - 360Ah	2.5 - 200Ah
Dimensions:	210 × 113 × 53 mm	210 × 113 × 53 mm	210 × 113 × 53 mm	210 × 113 × 53 mm
Weight approx.:	With mains cable 1400g. With IEC60320 1150g	With mains cable 1400g. With IEC60320 1150g	With mains cable 1400g. With IEC60320 1150g	With mains cable 1400g. With IEC60320 1150g