

| SPECIFICATIONS FOR 4040 LiFe                                | 4-cell LiFeP04  | 6-cell LiFeP04   | 8-cell LiFeP04  | 10-cell LiFeP04  |
|---|---|--|---|--|
| Available versions  | x   |  |   |  |
| Input voltage: / Line frequency                             | 90-264Vac 47-63Hz   |  |   |  |
| Active power factor correction:                             | Yes   |  |   |  |
| Max output power:   | 116.8W  | 116W   | 116.8W  |  |
| Step 0 < 30min Yellow                                       | CC 500mA ± 50mA, when batt voltage < 10.5V.   | CC 350mA ± 25mA, when batt voltage < 15.0V.              | CC 350mA ± 25mA, when batt voltage < 21.0V.               | CC 350mA ± 25mA, when batt voltage < 25.0V.              |
| Step 0 > 30min Red (4 blinks)                               | 0A / 0V   |  |   |  |
| Step 1 (Constant Current) Yellow                            | CC 8.0A ± 0.2A, when 10.5V < Vbat < 14.6V   | CC 5.3A ± 0.2A, when 15.0V < Vbat < 21.9V                | CC 4.0A ± 0.2A, when 21.0V < Vbat < 29.2V                 | CC 3.2A ± 0.2A, when 25.0V < Vbat < 36.5V                |
| Step 2 (Constant Voltage) Flashing Yellow                   | CV 14.6V ± 0.2V < 5.5A until I charge < 450mA or max. 1h  | CV 21.9V ± 0.2V < 3.7A until I charge < 350mA or max. 1h | CV 29.2V ± 0.2V < 2.8A until I charge < 350mA or max. 1h. | CV 36.5V ± 0.2V < 2.2A until I charge < 350mA 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   |
| Restart voltage   | 13.2V   | 19.8V  | 26.4V   | 33.0V  |
| 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.:                     | 0.91  |  |   |  |
| Switch frequency approx.:                                   | 45-75kHz  |  |   |  |
| 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.:                                   | 5.5A  | 3.8A   | 3.1A  | 2.3A   |
| 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:   | 41  |  |   |  |
| Rec. battery capacity:                                      | 4-320Ah   | 2.65-212Ah   | 2.0-160Ah   | 1.60-128Ah   |
| Dimensions:   | 203.5 × 87 × 43.5 mm  |  |   |  |
| Weight:   | 590g  |  |   |  |
| Other:  | CBC functionality: Configurable Battery Charger. Charging history: Log of 10 latest charge cycles. Automatic detection of diode in series with battery.   |  |   |  |

| SPECIFICATIONS FOR 4040 LiFe                                | 11-cell LiFeP04   | 12-cell LiFeP04   | 13-cell LiFeP04   | 16-cell LiFeP04   |
|---|---|---|---|---|
| Available versions  |   |   | x   |   |
| Input voltage: / Line frequency                             | 90-264Vac 47-63Hz   |   |   |   |
| Active power factor correction:                             | Yes   |   |   |   |
| Max output power:   | 116.4W  | 116.5W  | 119W  | 117.6W  |
| Step 0 < 30min Yellow                                       | CC 200mA ± 25mA, when batt voltage < 27.5V.   | CC 200mA ± 25mA, when batt voltage < 30.0V.               | CC 200mA ± 25mA, when batt voltage < 32.5V.               | CC 200mA ± 25mA, when batt voltage < 41.6V.               |
| Step 0 > 30min Red (4 blinks)                               | 0A / 0V   |   |   |   |
| Step 1 (Constant Current) Yellow                            | CC 2.9A ± 0.2A, when 27.5V < Vbat < 40.15V  | CC 2.65A ± 0.2A, when 31.2V < Vbat < 43.8V                | CC 2.5A ± 0.2A, when 32.5V < Vbat < 47.45V                | CC 2.0A ± 0.2A, when 41.6V < Vbat < 58.4V                 |
| Step 2 (Constant Voltage) Flashing Yellow                   | CV 40.15V ± 0.3V < 2.0A until I charge < 200mA or max. 1h.  | CV 43.8V ± 0.3V < 1.8A until I charge < 200mA or max. 1h. | CV 47.45V ± 0.3V < 1.7A until I charge < 200mA or max. 1h | CV 58.4V ± 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                             | 38.5V ± 0.2V  | 42.0V ± 0.3V  | 45.5V ± 0.3V  | 56.0V ± 0.3V  |
| Restart voltage   | 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.:                     | 0.91  |   |   |   |
| Switch frequency approx.:                                   | 45-75kHz  |   |   |   |
| 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.:                                   | 2.1A  | 1.9A  |   | 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:   | 41  |   |   |   |
| Rec. battery capacity:                                      | 1.45-116Ah  | 1.33-106Ah  | 1.25-100Ah  | 1-80Ah  |
| Dimensions:   | 203.5 × 87 × 43.5 mm  |   |   |   |
| Weight:   | 590g  |   |   |   |
| Other:  | CBC functionality: Configurable Battery Charger. Charging history: Log of 10 latest charge cycles. Automatic detection of diode in series with battery.   |   |   |   |