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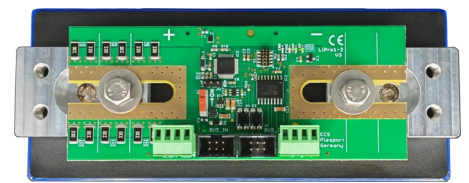
Unsere neuen LiMAX Zellen, bieten sehr hohe Kapazität auf kleinsten Raum. Mit zwei Gewinden zum Anschluss von Hochstromverbindern, sowie der **separaten** Verschraubung für das BMS, bieten sie extrem hohe Zuverlässigkeit und einfachen Anschluss. Die separate Verbindung für das BMS ermöglicht eine genaue Spannungsmessung direkt an der Zelle, ohne Spannungsabfälle durch hohe Ströme. Entgegen der geringen Einschraubtiefe von lediglich 5-6 mm bei manchen Herstellern, bietet die LiMAX eine Gewindetiefe von 10 mm und damit sicheren Halt, auch bei Vibrationen und harten Umgebungsbedingungen!

LiMAX - Qualität. Keine Kompromisse.

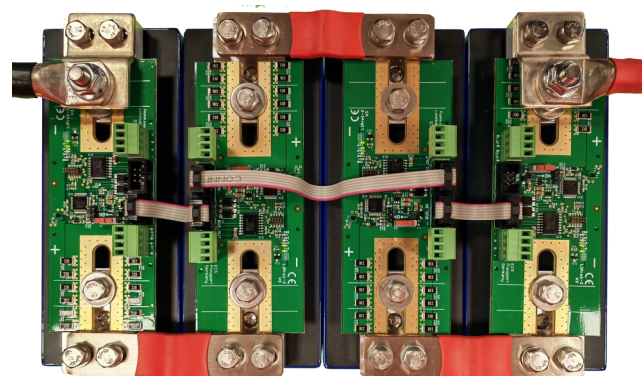

LiMAX-304



Ansicht von oben



Ansicht mit BMS (Hier LiPro1-2 V3)



Saubere, einfache und robuste Montage

Produktmerkmale und Vorteile:

- ◆ Bauhöhe der Zelle mit Terminals 219 mm. Gesamthöhe mit Kabelschuhe < 250 mm (Montage wie im Bild unten rechts)
- ◆ Umfangreiches Montagematerial für jeden Anwendungsfall verfügbar
- ◆ 304 AH Kapazität
- ◆ Maximaler Ladestrom 250 A
- ◆ Maximaler Entladestrom 250 A
- ◆ 2x M6 Verschraubung für die Hochstromverbinder mit einer Gewindelänge von 10 mm. aus einer Aluminium-Magnesium-Silizium Legierung, dadurch besonders hart und widerstandsfähig.
- ◆ Separate M6 Verschraubung für BMS
- ◆ Anschlusspolversteifung
- ◆ Platzsparende BMS Befestigung direkt zwischen den Polen
- ◆ Genaue BMS Spannungsmessung und Temperaturmessung durch separate Schraubverbindung



PRODUKTINFORMATION

LiMAX-304

LiFePO4 Zelle

ECS
*...weil es uns Spaß
 macht das
 Unmögliche zu tun*

Mechanische Daten:

- ◆ Abmessungen Länge: 173,5 mm; Breite: 72 mm; Höhe: **219 mm**
- ◆ Gewicht 5,5 kg
- ◆ Terminal 2 x M6, Gewindelänge 10,0 mm
1 x M6, Gewindelänge 8,4 mm (BMS)
- ◆ Kontaktfläche Hochstromverbinder 20 mm x 35 mm

Elektrische Daten:

- ◆ Nennspannung 3,2 V
- ◆ Ladeendspannung 3,65 V
- ◆ Entladeschlussspannung 2,5 V
- ◆ Kapazität typisch 304 Ah (bei 0,5 C und 25 °C)
- ◆ Wh Wirkungsgrad 93,5 % (bei 0,5 C und 25 °C)
- ◆ Ah Wirkungsgrad 99,2 % (bei 0,5 C und 25 °C)
- ◆ Gehäuse Aluminium
- ◆ Maximaler Ladestrom < 250 A (10 °C bis 45 °C)
< 60 A (0 °C bis 9 °C)
- ◆ Empfohlener Ladestrom < 150 A (10 °C bis 50 °C)
< 30 A (0 °C bis 9 °C)
- ◆ Maximaler Entladestrom < 250 A
- ◆ Empfohlener Entladestrom < 150 A
- ◆ Arbeitstemperaturbereich 0 °C bis 50 °C (Ladung)
-30 °C bis 50 °C (Entladung)
- ◆ Beste Lagerungstemperatur 20 °C +/- 5 °C
- ◆ Cycle Life > 3500 bei DOD: 100 % / 25 °C,
Ladung u. Entladung < 0,5 C/0,5 C

Zubehör:

- ◆ Zellverbinder Querrichtung
- ◆ Montageset
- ◆ BMS
- ◆ Zellheizung
- ◆ Isolierplatten

| Item | Rated Discharge Capacity | Test Condition | ① Environment : 25±2°C ② Charge : CC/CV 1.0C/3.65V, 0.05C cut-off ③ Discharge : CC xC, 2.5V cut-off | | | | | | | | | | | | | | | | | |
|--------------------|--------------------------|-------------------------|--|--|--------------------------|--|----------------|-------------------------|------|--------|---------|------|--------|---------|------|--------|---------|------|--------|---------|
| Test Result | | | Remark | | | | | | | | | | | | | | | | | |
| | | | <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Rated Discharge Capacity</th> </tr> <tr> <th>Discharge (Ah)</th> <th>Discharge (%.vs. CC-CV)</th> </tr> </thead> <tbody> <tr> <td>0.1C</td> <td>318.10</td> <td>101.32%</td> </tr> <tr> <td>0.3C</td> <td>316.57</td> <td>100.70%</td> </tr> <tr> <td>0.5C</td> <td>314.76</td> <td>100.20%</td> </tr> <tr> <td>1.0C</td> <td>315.14</td> <td>100.06%</td> </tr> </tbody> </table> | | Rated Discharge Capacity | | Discharge (Ah) | Discharge (%.vs. CC-CV) | 0.1C | 318.10 | 101.32% | 0.3C | 316.57 | 100.70% | 0.5C | 314.76 | 100.20% | 1.0C | 315.14 | 100.06% |
| | Rated Discharge Capacity | | | | | | | | | | | | | | | | | | | |
| | Discharge (Ah) | Discharge (%.vs. CC-CV) | | | | | | | | | | | | | | | | | | |
| 0.1C | 318.10 | 101.32% | | | | | | | | | | | | | | | | | | |
| 0.3C | 316.57 | 100.70% | | | | | | | | | | | | | | | | | | |
| 0.5C | 314.76 | 100.20% | | | | | | | | | | | | | | | | | | |
| 1.0C | 315.14 | 100.06% | | | | | | | | | | | | | | | | | | |

| Item | Rated Charge Capacity | Test Condition | ① Environment : 25±2°C ② Charge : CC/CV xC/3.65V, 0.05C cut-off ③ Discharge : CC 1.0C, 2.5V cut-off | | | | | | | | | | | | | | | | | |
|--------------------|-----------------------|-------------------------|--|--|-----------------------|--|-------------|-------------------------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Test Result | | | Remark | | | | | | | | | | | | | | | | | |
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| | Rated Charge Capacity | | | | | | | | | | | | | | | | | | | |
| | Charge (Ah) | CC Charge (%.vs. CC-CV) | | | | | | | | | | | | | | | | | | |
| 0.1C | 315.67 | 99.39% | | | | | | | | | | | | | | | | | | |
| 0.3C | 315.20 | 99.39% | | | | | | | | | | | | | | | | | | |
| 0.5C | 316.60 | 99.61% | | | | | | | | | | | | | | | | | | |
| 1.0C | 316.97 | 99.65% | | | | | | | | | | | | | | | | | | |

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| Item | Resistance | Test Condition | ① Environment : 25±2°C ② HPPC & DC IR (Discharge 1.0C, Charge 1.0C), 2.5~3.65V ③ SOC 0%~ 100%, 10sec | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--------------|--|--|-------|--------------|-----------|-----|------|---|----|------|------|----|------|------|----|------|------|----|------|------|----|------|------|----|------|------|----|------|------|----|------|------|----|------|------|----|------|------|---|------|------|---|---|------|
| Test Result | | Remark | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th>SOC/%</th> <th>Discharge/mΩ</th> <th>Charge/mΩ</th> </tr> </thead> <tbody> <tr><td>100</td><td>0.48</td><td>/</td></tr> <tr><td>95</td><td>0.36</td><td>0.43</td></tr> <tr><td>90</td><td>0.37</td><td>0.45</td></tr> <tr><td>80</td><td>0.38</td><td>0.45</td></tr> <tr><td>70</td><td>0.39</td><td>0.38</td></tr> <tr><td>60</td><td>0.41</td><td>0.37</td></tr> <tr><td>50</td><td>0.39</td><td>0.37</td></tr> <tr><td>40</td><td>0.40</td><td>0.36</td></tr> <tr><td>30</td><td>0.42</td><td>0.35</td></tr> <tr><td>20</td><td>0.44</td><td>0.35</td></tr> <tr><td>10</td><td>0.49</td><td>0.35</td></tr> <tr><td>5</td><td>0.58</td><td>0.33</td></tr> <tr><td>0</td><td>/</td><td>0.39</td></tr> </tbody> </table> | | SOC/% | Discharge/mΩ | Charge/mΩ | 100 | 0.48 | / | 95 | 0.36 | 0.43 | 90 | 0.37 | 0.45 | 80 | 0.38 | 0.45 | 70 | 0.39 | 0.38 | 60 | 0.41 | 0.37 | 50 | 0.39 | 0.37 | 40 | 0.40 | 0.36 | 30 | 0.42 | 0.35 | 20 | 0.44 | 0.35 | 10 | 0.49 | 0.35 | 5 | 0.58 | 0.33 | 0 | / | 0.39 |
| SOC/% | Discharge/mΩ | Charge/mΩ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | 0.48 | / | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 95 | 0.36 | 0.43 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | 0.37 | 0.45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | 0.38 | 0.45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | 0.39 | 0.38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | 0.41 | 0.37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 0.39 | 0.37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 0.40 | 0.36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 0.42 | 0.35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 0.44 | 0.35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 0.49 | 0.35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 0.58 | 0.33 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | / | 0.39 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Item | Temperature Discharge Capacity | Test Condition | ① Environment : x±2°C ② Charge : CC/CV 1.0C/3.65V, 0.05C cut-off ③ Discharge : CC 1.0C, 2.5V or 2.0v cut-off | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--------------------------------|--|--|-------------|----------------|--------------------------|--|----------------|----------------------|-------|------------|--------|--------|--------|--------|--------|--------|--------|--------|-----|------------|--------|--------|--------|--------|------|------------|--------|---------|
| Test Result | | Remark | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th rowspan="2">Temperature</th> <th rowspan="2">Discharge Rate</th> <th colspan="2">Rated Discharge Capacity</th> </tr> <tr> <th>Discharge (Ah)</th> <th>Discharge (%vs. 25C)</th> </tr> </thead> <tbody> <tr> <td rowspan="4">-30°C</td> <td rowspan="4">DC to 2.0V</td> <td>301.25</td> <td>96.10%</td> </tr> <tr> <td>300.83</td> <td>96.58%</td> </tr> <tr> <td>303.51</td> <td>97.37%</td> </tr> <tr> <td>305.43</td> <td>98.79%</td> </tr> <tr> <td rowspan="2">0°C</td> <td rowspan="2">DC to 2.5V</td> <td>304.91</td> <td>97.48%</td> </tr> <tr> <td>309.62</td> <td>99.79%</td> </tr> <tr> <td>45°C</td> <td>DC to 2.5V</td> <td>312.61</td> <td>100.04%</td> </tr> </tbody> </table> | | Temperature | Discharge Rate | Rated Discharge Capacity | | Discharge (Ah) | Discharge (%vs. 25C) | -30°C | DC to 2.0V | 301.25 | 96.10% | 300.83 | 96.58% | 303.51 | 97.37% | 305.43 | 98.79% | 0°C | DC to 2.5V | 304.91 | 97.48% | 309.62 | 99.79% | 45°C | DC to 2.5V | 312.61 | 100.04% |
| Temperature | Discharge Rate | Rated Discharge Capacity | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Discharge (Ah) | Discharge (%vs. 25C) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -30°C | DC to 2.0V | 301.25 | 96.10% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 300.83 | 96.58% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 303.51 | 97.37% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 305.43 | 98.79% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0°C | DC to 2.5V | 304.91 | 97.48% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 309.62 | 99.79% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45°C | DC to 2.5V | 312.61 | 100.04% | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|-------------|---|--|--|
| Item | Cycle Life - SC@25°C Cycle Life - 0.5C/1C@25°C | Test Condition | ① Environment : 25±2°C ② Step Charge : CC 1.0C, 80%C0 cut-off; CC 0.8C, 3.5V cut-off; CC 0.5C, 3.6V cut-off; CC 0.1C, 3.65 cut-off ③ Discharge : CC 1.0C, 2.5V cut-off |
| Test Result | | Remark | |
| | | <ul style="list-style-type: none"> CV voltage on charge steps : 3.65V Cutoff voltage on discharge : 2.5V | |

| | | | |
|-------------|--|--|---|
| Item | Cycle Life - 1.0C/1.0C@45°C Cycle Life - 0.5C/0.5C@45°C | Test Condition | ① Environment : 45±2°C ② Charge : CC/CV 1.0C/3.65V, 0.05C cut-off ③ Discharge : CC 1.0C, 2.5V cut-off |
| Test Result | | Remark | |
| | | <ul style="list-style-type: none"> CV voltage on charge steps : 3.65V Cutoff voltage on discharge : 2.5V | |

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