1 TECHNICAL SPECIFICATIONS: INTERNAL BATTERY FOR OWA5X:

1.1 MES 100 9020 (3350mAh)

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time to recharge</td>
<td>3.5 hours</td>
</tr>
<tr>
<td>Charging temperature range</td>
<td>0 ⁰C to 45 ⁰C</td>
</tr>
<tr>
<td>Cell type</td>
<td>Lithium Ion 3350mAh</td>
</tr>
<tr>
<td>Discharging temperature range</td>
<td>-20 ⁰C to +60 ⁰C</td>
</tr>
</tbody>
</table>

*Note:* To know how to insert the battery properly and to know the duration of the battery in different modes on its owasys model, please refer to the corresponding integrator’s manual.
2 INTERNAL BATTERY CHARACTERISTICS:

Optional Internal Li-ion batteries are available for OWASYS devices. 3350mAh and 13400mAh high-capacity battery back-up can be installed, which allows continuous operation when the main power is lost. This enables the owa4x to e.g. make a final call before going into low power mode, or a similar procedure, as defined by the customer application software.

Both batteries have internal Protection Circuit Module in order to prevent overcharge, over discharge and overcurrent, and also temperature sensor.

The parameters of Protection Circuit Module as follows (@25°C):
- overcharge protection voltage 4.280±0.025V
- over discharge protection voltage 2.30±0.050V
- overcurrent protection ≤ 4.0A

The owa4x and owa5x Li-ion charger IC checks the temperature-sensor of the battery pack to control that the battery is only charged within the charging temperature range 0 to +45°C. A TTL-level charge-enable input (CE) used to disable or enable the charge process (also available by user with owasys libraries), and two status outputs that indicate charging status.

<table>
<thead>
<tr>
<th>CHARGE STATE</th>
<th>STAT1</th>
<th>STAT2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precharge in progress</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>Fast charge in progress</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>Charge done</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>Charge suspend (temperature)</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>Timer fault</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>Sleep mode</td>
<td>OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

*OFF means the open-drain output transistor on the STAT1 and STAT2 pins is in an off state

<table>
<thead>
<tr>
<th>External battery main features: 3350Ah</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Voltage</td>
<td>2.5V - 4.2V</td>
</tr>
<tr>
<td>Nominal capacity</td>
<td>3.35Ah</td>
</tr>
<tr>
<td>Internal resistance</td>
<td>120mΩ</td>
</tr>
<tr>
<td>Charge Voltage</td>
<td>4.2V</td>
</tr>
<tr>
<td>Charge current</td>
<td></td>
</tr>
<tr>
<td>standard</td>
<td>0.67A</td>
</tr>
<tr>
<td>rapid</td>
<td>1.6A</td>
</tr>
<tr>
<td>Discharge</td>
<td></td>
</tr>
<tr>
<td>standard</td>
<td>3A</td>
</tr>
<tr>
<td>max peak</td>
<td>5A</td>
</tr>
<tr>
<td>NTC</td>
<td>10KΩ</td>
</tr>
<tr>
<td>Watt-hour rating</td>
<td>12Wh</td>
</tr>
<tr>
<td>over voltage (per cell)</td>
<td></td>
</tr>
<tr>
<td>cut off</td>
<td>4215mV</td>
</tr>
<tr>
<td>release</td>
<td>4100mV</td>
</tr>
<tr>
<td>under voltage (per cell)</td>
<td></td>
</tr>
<tr>
<td>cut off</td>
<td>2300mV</td>
</tr>
<tr>
<td>release</td>
<td>2400mV</td>
</tr>
<tr>
<td>Current limit 1 by SU</td>
<td>≤ 4A</td>
</tr>
<tr>
<td>Current limit 2 by SU</td>
<td>≥17.9A</td>
</tr>
<tr>
<td>short circuit protection</td>
<td>≥42.9A</td>
</tr>
<tr>
<td>Power consumption</td>
<td></td>
</tr>
<tr>
<td>active</td>
<td>15uA</td>
</tr>
<tr>
<td>power down</td>
<td>8uA</td>
</tr>
</tbody>
</table>
3  PACKAGING INFORMATION

3.1  PACKAGING FOR PART NUMBERS: MES 100 9003 AND MES 100 9020

Capacity per unit: 3350mAh

Battery weight: 0.061 Kgs/units

60 units per box: 3,660 kgs/box

Dimensions: 28.0 x 21.0 x 11.0 cm