The **SMart Two+™** reads the data stored in the SMBus battery, calculates the previous power delivered and compares it with the charger's target capacity setting. Adjustable to 60%, 70% or 80%, the target capacity acts as quality control system and identifies batteries that do not meet performance standards.

When a battery gets weak and falls below target, the **SMart Two+™** triggers the condition light after inserting the battery. The user is prompted to press the condition button to cycle the battery and calibrate the internal fuel gauge. If the battery does not recover, the Fail light illuminates.

A battery with sufficient capacity is fast-charged with the Reverse Load Charge method. Full-charge is indicated with a solid Ready light, indicating the battery is certified to perform and ready for use.
**SPECIFICATIONS**

**DESCRIPTION**
Two-bay fast charger for simultaneous service of two batteries; supports SMBus Level 3 and non-intelligent (dumb) batteries; evaluates battery state-of-health by comparing performance with the target capacity setting which can be set to 60%, 70% and 80% with a slide-switch. Failing to meet target, the user is prompted to condition the battery by pressing the *condition* button. Condition consists of charge/discharge/charge and is most effective on NiCd and NiMH batteries. If the battery does not recover, a fail light illuminates.

Battery state-of-health applies only to batteries with SMBus. Dumb batteries can also be charged but no state-of-health status is provided and full-charge is indicated with a flashing *Ready* light. The charger accommodates any battery that fits the connector.

**BATTERIES SUPPORTED**
210, 202, 201, 36, 35, 30, 17, 15 or equivalent

- **Smart Battery**: Li-ion (14.4V max. nominal); NiCd/NiMH (12V max.)
- **Dumb Battery**: NiCd/NiMH (7.2V-12V)

**CHARGING**
Automatic battery recognition; applies *Reverse Load Charge*, a brief discharge pulse between the charge pulses to prolong battery life and improve performance (NiCd and NiMH only)

- **Charge rate**
  - **Smart Battery**: controlled by battery, up to 2.5A;
  - **Dumb Battery**: 1.8A fixed

- **Charge termination**
  - **Smart Battery**: controlled by battery or time-out timer
  - **Dumb Battery**: dT/dt; 1° C min. rise or neg. slope

- **Charge time**: 2.5 - 4h for two batteries (depending on battery type)

**DISCHARGING**
If target capacity is not met, charger applies charge/discharge/charge cycle to restore nickel-based batteries and re-calibrate fuel gauge.

**TARGET CAPACITY SELECTOR**
User-selectable to 60%, 70% and 80% with slide-switch

**POWER SUPPLY**
60 watts continuous, intelligent power management adjusts current demand to prevent overload.
Charge time may be longer with two large batteries

**SIGNAL INDICATORS**
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow RUN</td>
<td>Flashing</td>
<td>Initializing battery (only with SMBus batteries)</td>
</tr>
<tr>
<td></td>
<td>ON</td>
<td>Charging</td>
</tr>
<tr>
<td>Amber CONDITION</td>
<td>Flashing</td>
<td>Conditioning required (manually activated)</td>
</tr>
<tr>
<td></td>
<td>ON</td>
<td>Discharging to condition and re-calibrate battery</td>
</tr>
<tr>
<td>Green READY</td>
<td>Flashing</td>
<td>Charge completed (no performance check taken)</td>
</tr>
<tr>
<td></td>
<td>ON</td>
<td>Capacity meets target (performance check passed)</td>
</tr>
<tr>
<td>Red FAIL</td>
<td>Flashing</td>
<td>Charger fault or over-temperature</td>
</tr>
<tr>
<td></td>
<td>ON</td>
<td>Capacity below target after condition, or other faults</td>
</tr>
</tbody>
</table>

**ELECTRICAL**
- **Power requirements**: 90-250 VAC, 47-63 Hz, 65 watts maximum
- **Operating temperature**: Recommended +5 to +30 °C; 40 °C maximum
- **Temperature Protection**: Over-temperature control on battery and circuit; halts service if hot
- **Power Supply**: Built-in; detachable North American AC cord included; other AC cords available on request

**PHYSICAL**
- **W-D-H**: 140 mm, 224 mm, 65 mm [5.5”, 8.8”, 2.5”]

**APPROVALS**
Products tested and approved by ITS to comply with CSA\UL\CE standards.

Cadex Electronics Inc. has, to the best of its ability, verified the proper operation of the charger with regards to the above stated battery(ies). Cadex Electronics Inc. is not responsible in any way for changes, additions or revisions which the battery manufacturers may make to their products subsequent to the testing and approval of the battery pack at time of manufacturing of the charging device.

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