Description
Unit disconnects non-critical loads when battery voltage falls below threshold, reconnects when battery is recharged.

Unit is auto-ranging: identifies whether system is 12V or 24V, and automatically establishes thresholds. One part number; two voltages.

Eliminates dead battery service calls and lost time. Extends battery life by preventing irreversible damage due to excessive discharge.

No action is required by vehicle operator to protect the batteries – unit automatically disconnects and reconnects, giving operator a warning one minute before disconnect. 250mA alarm signal can drive audible or visual systems or any large device via a relay. Optional manual override feature.

Electronics are sealed to IP67, see Installation Instructions IF-173 for mounting and wiring details. Solid state reliability and resistance to vibration – replaces vulnerable conventional solenoids. Unit exceeds one million cycles and is protected from overcurrent, overvoltage, and under-voltage. Minimal draw on battery (only 1mA standby).

Features and Benefits
- Electronically senses battery level and conserves starting power
- Prolongs battery life by preventing battery damage.
- Unit works with 12V or 24V DC systems
- Metric tin-plated copper terminals

Specifications Overview
Voltage: 12/24V DC (Auto Ranging)
Operating Voltage: 12V DC: 9V Min, 12V Typical, 16V Max
24V DC: 18V Min, 24V Typical, 32V Max
Disconnect & Connect Voltage: See table on page 2
Overcurrent Protection: 260A
Ingress Protection: IP67
Operating Temp Range: -40° to +85°C (-40° to +185°F)
Dimensions: 6.57” x 4.80” x 2.36”

Web Resources
Download technical resources at: littelfuse.com/48514

Ordering Information

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>48514</td>
<td>Unit Only</td>
</tr>
<tr>
<td>48714</td>
<td>Programmable Unit Only</td>
</tr>
</tbody>
</table>

Associated Items

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>12804</td>
<td>Plug &amp; Harness</td>
</tr>
<tr>
<td>58326-06</td>
<td>Rocker Switch</td>
</tr>
<tr>
<td>55088</td>
<td>Toggle Switch</td>
</tr>
</tbody>
</table>

Datasheet Replaces Hotfeed Number D-640
**Electrical Characteristics**

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>MIN</th>
<th>TYPICAL</th>
<th>MAX</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating voltage (12V)</td>
<td>9V</td>
<td>12.1V</td>
<td>12V</td>
<td>If used with 12V DC systems</td>
</tr>
<tr>
<td>*Disconnect voltage (+12V)</td>
<td>12.05V</td>
<td>12.15V</td>
<td>12.15V</td>
<td>When voltage drops below 12.1V, system activities the alarm for one minute, then disconnects loads.</td>
</tr>
<tr>
<td>*Connect voltage (+12V)</td>
<td>12.95V</td>
<td>13.0V</td>
<td>13.05V</td>
<td></td>
</tr>
<tr>
<td>Operating Voltage (24V)</td>
<td>18V</td>
<td>24.2V</td>
<td>24.3V</td>
<td>If used with 24V DC systems</td>
</tr>
<tr>
<td>*Disconnect voltage (+24V)</td>
<td>24.1V</td>
<td>26.1V</td>
<td>26.2V</td>
<td>When voltage drops below 24.2V, system activities the alarm for one minute, then disconnects loads.</td>
</tr>
<tr>
<td>*Connect voltage (+24V)</td>
<td>26.0V</td>
<td>26.0V</td>
<td>26.0V</td>
<td></td>
</tr>
<tr>
<td>Quiescent Current</td>
<td>1mA</td>
<td>2mA</td>
<td>2mA</td>
<td>Circuit operating current</td>
</tr>
<tr>
<td>Maximum Rated Current</td>
<td>250A</td>
<td>250A</td>
<td>260A</td>
<td>System will disconnect load and sound alarm after 3 seconds of excessive current.</td>
</tr>
<tr>
<td>*Overcurrent Protection</td>
<td></td>
<td>260A</td>
<td>260A</td>
<td></td>
</tr>
<tr>
<td>*Key-Off Timer</td>
<td></td>
<td>15 Mins</td>
<td>15 Mins</td>
<td>Optional feature. After key-off, unit will wait a set time before activating alarm. One minute later, loads are shut off.</td>
</tr>
</tbody>
</table>

* These characteristics are programmable in 48713 series LVDs.

**Environmental Specifications**

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>PARAMETER</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature Range</td>
<td>-40° to +85°C</td>
<td>250A at 85°C</td>
</tr>
<tr>
<td>Ingress Protection Rating</td>
<td>IP67</td>
<td>Per IEC 529</td>
</tr>
<tr>
<td>Humidity</td>
<td>0 to 90%RH</td>
<td></td>
</tr>
<tr>
<td>Vibration</td>
<td>10-500Hz</td>
<td>Per SAE J1455</td>
</tr>
<tr>
<td>Shock</td>
<td></td>
<td>Per SAE J1455</td>
</tr>
<tr>
<td>Thermal Shock</td>
<td></td>
<td>Per SAE J1455</td>
</tr>
<tr>
<td>Inductive Transient</td>
<td>+/- 600V</td>
<td>Per SAE J1455</td>
</tr>
<tr>
<td>Load Dump</td>
<td>+150V</td>
<td>Per SAE J1455</td>
</tr>
</tbody>
</table>

**Dimensions in Inches**

- Battery terminals: M10 x 1.5
- Load terminals: M8 x 1.25

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