NEBS Series
SELF MONITORING
EMERGENCY BATTERY SYSTEM
for Harsh and Hazardous Environments
EMERGENCY BATTERY SYSTEM

NEBS SERIES

FEATURES-SPECIFICATIONS

Applications
The NEBS Series is a highly versatile superior lumen output, industrial application emergency lighting unit, designed to provide a minimum of 90 minutes illumination when primary power is lost. The NEBS Series provides the same level of lumen output with no light degradation for the full 90 minutes of battery discharge. It has a flame-rated, UV stable thermoplastic housing which is fully gasketed and corrosion resistant with a gray finish. LED based lamp-heads are made of high strength die-cast aluminum with a polycarbonate lens. Includes microcontroller based 3-stage charger and Lithium Iron Phosphate (LiFePO4) battery. The NEBS Series accepts 120 through 277VAC input at 50 or 60Hz. Not designed for self-diagnostic operation at 220-240VAC input. Universal mounting plate made of painted stamped steel. The NEBS is specifically designed for demanding environments, high reliability operation in industrial settings such as wet location or hose-down, food processing, food storage, production facilities, chemical plant and wastewater treatment.

Construction
The NEBS Series housing, covers, remote housing, shield and LED Lenses are made of impact resistant polycarbonate. Lamp-heads are made of die-cast aluminum for thermal dissipation.

Installation
The unit includes a universal mounting plate which facilitates mounting to a truss or I-beam, pole, column, or wall.

Illumination
The NEBS series provides bright and uniform illumination and is specifically designed for higher mounting heights above 9'. Coverage provided by 2 sealed aluminum lamp-heads using 3 high power LEDs each. The LEDs are located in a specially designed heat dissipating lamp-head which is fully adjustable and can be locked into position. The NEBS is designed for full lumen output across the entire 90 minutes of operation. This ensures maximum visibility of the egress path over the full 90 minute discharge period.

Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, Groups II A, IIB, IIB+H2, IIC
Class II, Division 1, Groups E, F, G
Class III
Suitable for wet locations
Type 4, 4X
IP66

Operating Temperature:
C1D2 & C2D1: 50° to 122°F (10° to 50°C)
C1D2 & C2D1: with heater option -22° to 122°F (-30° to 50°C)

Electronics
Upon failure of the normal utility power, a LED driver is automatically activated to power the emergency LED lamp-heads. At resumption of normal utility power, the LED driver is turned off. The battery is recharged through a micro-controller based 3-stage charger. The battery is a maintenance-free Lithium Iron Phosphate (LiFePO4) type. The NEBS series accepts dual-voltage input of 120 through 277VAC at 50 or 60Hz. A low voltage battery disconnect feature protects the battery from severe damage during prolonged power failures. Manual testing is available at any time using the push-to-test button. The NEBS remote can be located up to 100' from the source unit using 75°C minimum rated 12 gage wire.

Spectron Includes:
- Self-diagnostics monitors LED status, LED driver circuit, battery capacity and charger function and displays any fault detection by means of a flashing code
- Self-Test feature automatically runs a 1 minute test once a month and an alternating 30-60 minute test once every 6 months. Multi-color LED indicator provides visible fault detection and charging status
- User initiated 1, or 90-minute system test feature
- 15 minute re-transfer delay
- Automatic unit transfer in brown-out conditions (below 80% of nominal AC input voltage)

SERVICE ALERT CODES

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Battery Disconnected</td>
</tr>
<tr>
<td>2</td>
<td>Battery Fault</td>
</tr>
<tr>
<td>3</td>
<td>Charging Fault</td>
</tr>
<tr>
<td>4</td>
<td>LED Driver Fault</td>
</tr>
<tr>
<td>5</td>
<td>Lamp Fault</td>
</tr>
<tr>
<td>6</td>
<td>Load Learn Fault</td>
</tr>
<tr>
<td>7</td>
<td>Alternating Load Learn Progress</td>
</tr>
</tbody>
</table>

OPERATING STATUS

- OFF = AC Off
- ON = AC On
- Blinking = Test in Progress

PUSH TO TEST

SPECTRON®
**NEBS SERIES**

**EMERGENCY BATTERY SYSTEM**

**NEBS**
- **Model**
  - NEBS6
  - NEBS12

**Capacity**
- NEBS6: 6 – 6 Watt
- NEBS12: 12 – 12 Watt

**Self-Diagnostics**
- Blank – None
- I – Spectron® Self-Diagnostics

**Application**
- FP – Food Processing Rated
- C1D2 – Class 1 Div. 2
- C2D1 – Class 2 Div. 1
- HTR – Heater for Cold Temp

**Lamp**
- Blank – 3 Watt LED lamps
- 06L – 6 Watt LED lamps

**OPERATING TEMPERATURE IN °C**

<table>
<thead>
<tr>
<th>AMBIENT °C</th>
<th>CLASS 1 DIV. 2 A, B, C, D</th>
<th>CLASS 2 DIV. 1 E, F, G</th>
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</thead>
<tbody>
<tr>
<td>40</td>
<td>T6</td>
<td>T6</td>
</tr>
<tr>
<td>50</td>
<td>T5</td>
<td>T6</td>
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</table>

**ADDITIONAL PRODUCT INFORMATION**

<table>
<thead>
<tr>
<th>CATALOG NUMBER</th>
<th>BATTERY</th>
<th>CAPACITY</th>
<th>LAMP(W)</th>
<th>LUMENS PER LAMP</th>
<th>RUNTIME</th>
<th>REMOTE CAPABLE</th>
<th>REMOTE PART NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEBS6-C1D2</td>
<td>LiFePO4</td>
<td>6 watts</td>
<td>3 watts</td>
<td>331</td>
<td>90 min</td>
<td>Yes</td>
<td>NEBSRS-C1D2</td>
</tr>
<tr>
<td>NEBS6-C2D1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NEBSRD-C1D2</td>
</tr>
<tr>
<td>NEBS12I-C1D2</td>
<td></td>
<td>12 watts</td>
<td>3 watts</td>
<td>331</td>
<td>90 min</td>
<td>Yes</td>
<td>NEBSRS-C2D1</td>
</tr>
<tr>
<td>NEBS12I-C2D1</td>
<td></td>
<td>12 watts</td>
<td>3 watts</td>
<td>331</td>
<td>90 min</td>
<td>Yes</td>
<td>NEBSRD-C2D1</td>
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<tr>
<td>NEBS12I-C1D2-06L</td>
<td></td>
<td>12 watts</td>
<td>6 watts</td>
<td>514</td>
<td>90 min</td>
<td>Yes</td>
<td>NEBSRD-C1D2</td>
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<tr>
<td>NEBS12I-C2D1-06L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td>NEBSRD-C2D1</td>
</tr>
</tbody>
</table>

**ACCESSORIES**

- NEBSRS – Type 4X Rated Single Head Remote
- NEBSRD – Type 4X Rated Double Head Remote
- NEBSRS-FP – Food Processing Rated Single Head Remote
- NEBSRD-FP – Food Processing Rated Double Head Remote
- NEBSWG – Wire Guard (Does not include Food Processing option) 15"H x 14"L x 7"D
- NEBSRD-C1D2 – Class 1, Div. 2 Remote, 3W heads, 1 conduit hub included
- NEBSRD-C2D1 – Class 2, Div. 1 Remote, 3W heads with shield, 1 conduit hub included

The NEBS Series meets proposed California Energy Commission (CEC) requirements for limits on power consumption in maintenance mode with less than 0.5 watts.

- Maintenance Mode Power Consumption
  - 120VAC- 0.33W
  - 277VAC- 0.36W
Ceiling Mount

INDUSTRIAL PARAMETERS CH=30', R=10/10/10, CEILING MOUNTED (MULTIPLE UNIT SPACING), 6' PATH

<table>
<thead>
<tr>
<th>MOUNTING HEIGHT</th>
<th>NEBS12I-06L (6 WATT HEAD OPTION)</th>
<th>NEBS6I (3 WATT HEADS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX SPACING @ 1 FC AVG.</td>
<td>62' 65' 68' 71' 74' 77' 81'</td>
<td>MAX SPACING @ 1 FC AVG. 43' 45' 48' 51' 53' 56' 59'</td>
</tr>
<tr>
<td>MAX SPACING @ 1 FC MIN.</td>
<td>35' 34' 33' 32' 31' 29'</td>
<td>MAX SPACING @ 1 FC MIN. 28' 28' 27' 27' 26' 24' 22'</td>
</tr>
</tbody>
</table>

* Multiple unit spacing based on 6' path