



## PulseType Circuitry

Lightalarms PulseType circuitry utilizes the latest in solid state design to provide a technically advanced charger combined with features and functions that promote long reliable battery life and excellent unit performance.

The design of the PulseType circuit takes into account the long periods of inactivity typical of standby emergency equipment. Batteries are kept at full capacity by a pulse charge that allows the battery to cycle continuously. This greatly reduces the problem of grid corrosion and dramatically increases battery performance.

Lightalarms computer-tests all active components on the circuit boards during assembly. Critical functions such as brownout, low voltage disconnect, and charge voltage are individually monitored and adjusted at the factory.

### FEATURES

#### 120/277 Volt Input

Capability to operate with 120 volt or 277 volt input.

#### Fused Output Circuit for Units with Remote Capacity

Emergency units up to 54 watts have a single fused output circuit. Units over 54 watts have two fused output circuits supplied standard.

#### Dual Diagnostic Indicator Lights

Dual indicators, red and amber continuously monitor the condition of the battery, charge circuit and presence of AC.

#### Temperature Compensation

At high ambient temperatures, batteries need less charge voltage to recharge. At cold temperatures, batteries require a higher charge to maintain full capacity. The PulseType charger automatically adjusts the charge voltage to precisely what the batteries require at a given temperature.

#### Sealed Relay

Sealed relay protects against environmental contaminants.

#### Low Voltage Battery Disconnect

The lighting load is disconnected from the battery at 87.5% of nominal battery voltage. This prevents deep discharge damage to the battery.

#### Brownout Protection

Emergency lamps energized when AC voltage falls to approx. 80% of nominal voltage, the level at which most fluorescent and HID fixtures extinguish.

#### Battery Lockout

This labor saving feature prevents the battery from discharging when the unit is installed to a non-energized circuit. The battery is electronically locked out until the unit is energized with AC power. Contractors do not have to return to a job site to connect batteries when the building's main power is turned on. They can install the unit and connect the battery in one convenient operation.

#### Reverse Polarity Protection

A polarized plug is used to connect the battery to the circuit board, thus preventing damage from occurring to the system.

#### Current Limited Output

Extends battery life by preventing overheating and battery gassing during recharge.

# Improved Diagnostics

## STANDARD FEATURES

By incorporating our most popular standard diagnostics features with a high-powered 8-bit microcontroller, our new Improved Diagnostics system ensures unsurpassed reliability in one, totally contained system. In the event of an equipment malfunction, the Improved Diagnostics system produces an audible warning in the form of an intermittent beep and the LED indicator associated with the fault will illuminate continuously. When the problem is acknowledged by depressing the alarm/silence/test button, the alarm is silenced and the LED indicator changes to a flashing mode until the problem is corrected.

- Continually monitors system parameters
- Incorporates state-of-the-art microcontroller technology
- AD includes audio and visual service alarms
- ADNA non-audible version for visual service alarms only
- Self-testing in accordance with NFPA101, Life Safety Code



## FEATURES

### Battery Failure

(Red) Illuminates if the battery is shorted or battery voltage drops below preset value. Will also detect incorrect battery (ie. 6Vdc vs. 12Vdc)

### Battery Disconnect

(Red) Illuminates if the battery circuit is open.

### Charger Failure

(Red) Illuminates when charger is not functioning properly by monitoring the charger current.

### Lamp Failure

(Red) Illuminates when one or more emergency lamps fail. Also monitors remote lamps.

### Service Alarm

(Red) Illuminates when a fault is detected that requires a qualified service technician.

### AC-On

(Green) Lit when line voltage is present.

### Charger On

(Amber) Illuminates when charger is recharging the battery.

### Alarm On

Button is used to acknowledge and silence alarms. Also functions as a manual test switch to simulate a power failure.

### Self Testing

Unit tests itself every thirty days for one minute, thirty minutes on the sixth month and ninety minutes annually.

### To Order for Compatible Unit

**Add Suffix:** -AD to model number

**Add Suffix:** -ADNA (for non-audible circuit) to model number.



## Popular Options

Lightalarms life safety equipment is available with a range of options that can be added to enhance performance, simplify testing or adapt equipment for use in specific environments. Please refer to individual product pages to verify availability of individual options on specific equipment.

### **Voltmeter**

Option provides a visual indication, in the test mode, of the unit's battery voltage. The good/check meter face allows maintenance personnel to recognize charger and battery function.

**Add Suffix: -V**

### **Ammeter**

Option provides an indication of charge current when the unit is in the equalize mode.

This verifies charger capability and the current acceptance of the battery.

**Add Suffix: -A**

### **Dual Circuit (Exit Signs)**

Option provides two A.C. input circuits to permit 2 separate A.C. sources to energize the sign.

**Add Suffix: -2**

### **Tamper Proof/Vandal Resistant Screws**

Tamper proof screws may be used on certain units to avoid unauthorized entry to circuitry or vandalism.

**Add Suffix: -VR**

### **Lamp Disconnect Switch**

Option will disconnect lamp load when area is not in use during prolonged power failure. The switch may also be used to reactivate emergency power to remote or built in heads.

**Add Suffix: -DS**

### **Time Delay**

Option is designed to be used in areas where HID type lamps are used for normal lighting. As these lamps require several minutes to re-strike and to produce their nominal lighting output, it is necessary to also hold the emergency lighting on for this period, even after the AC utility has been restored. A time delay unit can be helpful in areas where it is difficult to directly access an emergency lighting unit's test switch. The power to the unit can be briefly switched off and on at the breaker panel, and the maintenance person can then return to the unit and observe a timed emergency operation.

**Add Suffix: -TD**

### **Damp Location**

Option for environments that are subject to moderate amounts of moisture (humidity), and a temperature range between 10°C (50°F) and 40°C (104°F).

Example: partially protected exterior areas such as canopies, stairwells, etc.

**Add Suffix: -DL**

### **Thermal Jacket (Temperature Control Heater)**

Option to be used in areas where temperature may drop below 0°C (32°F). The thermostat will activate the heating pad at 0°C and will cut off at 16°C (61°F). The heating pad is rated at 50 watts. Contact factory for temperature limitations.

**Add Suffix: -H1 (120V) -H2 (277V)**

### **Self-Test/Diagnostic Feature (for exit signs)**

Option is designed to continuously monitor the charger assembly, battery and LED assembly current. If a fault is indicated, the external service required indicator will illuminate. The diagnostic/self test will self test for 30 seconds every 30 days, 30 minutes every 60 days and 90 minutes annually. Meets NFPA 101 Life Safety Code requirements for periodic testing.

**Add Suffix: -D**

### **Improved Diagnostics/Improved Diagnostics Non-audible (ID/IDNA, for battery units)**

See page 5.