

# Circuitry

## Advanced Diagnostics circuitry

### Self-testing & monitoring diagnostic circuitry

- By incorporating diagnostics features with a high-powered 8-bit microprocessor, our Advanced Diagnostics system ensures unsurpassed reliability in one, totally contained system. In the event of a unit malfunction, the Advanced 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 microprocessor technology
- D includes audio and visual service alarms
- DNA non-audible version for visual service alarms only
- Self-testing in accordance with NFPA101, Life Safety Code minimum 30 seconds every 30 days, 30 minutes every six months and 90 minutes annually.

### 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 silence / manual test switch

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

#### Self testing

- Unit tests itself every thirty days for a minimum 30 seconds, thirty minutes on the sixth month and ninety minutes annually.
- Advanced Diagnostics (AD or ADNA) includes a time delay function, if needed it can be enabled/disabled in the field (15 min) or it can be preset at the factory by including the suffix AD-D\* or ADNA-D\* (\*5 min., or \*10 min., or \*15 min.)

## Pulse Type circuitry

### Prolongs the life of a battery through pulse charging

- **Emergi-Lite®** 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.
- **Emergi-Lite®** 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

#### 120/277V input

- Capability to operate with 120V or 277V input.

#### Fused output circuit for units with remote capacity

- Emergency units up to 54W have a single fused output circuit. Units over 54W 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 (not available on all items, see specification sheet)

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