DESCRIPTION

Catalog #	Type
Project	
Comments	
Prepared by	Date

The New *WatchGuard EMS* Self-Diagnostics Option from Sure-Lites sets the standard for automatic stand alone testing of emergency lighting units and battery powered exits. The solid-state microprocessor-based system has the ability to accurately diagnose failures to the component level plus it incorporates all of the standard electronic features that sets Sure-Lites apart from its competition. All testing required by the NFPA 101 Life Safety Code is performed automatically. *WatchGuard EMS* auto-matically calibrates itself in the field, reducing installation labor and eliminating manual calibration errors. Ultrasensitive detection circuitry can sense lamp failure in a circuit, as well as slight variations in battery and battery charger performance.

WatchGuard EMS SD
(Electronic Monitoring System)

FACTORY INSTALLED
SD=SELF-DIAGNOSTICS OPTION

Emergency Lighting
& Exit Lighting

SPECIFICATION FEATURES

Electronic

Dual Voltage Input
120/277 VAC, 60 Hz

Microprocessor Based System

AC Line-latching

Solid-state Voltage Limited Multi-stage Charger

Solid-state Switching

Low Voltage Disconnect

Brownout Detection

Overload/Short Circuit Protection

Test Switch/Battery Charge Indicator

All transfer switching uses state of the art solid state circuitry - no mechanical relays to reduce reliability

Installation/Operation

No special provisions required for installation

Lamp loads are automatically calibrated upon initial AC power-up

Code Compliance

UL 924

Life Safety NFPA 101

NEC/OSHA

Most State and Local Codes

Warranty

Option – 1 year

Test Performance

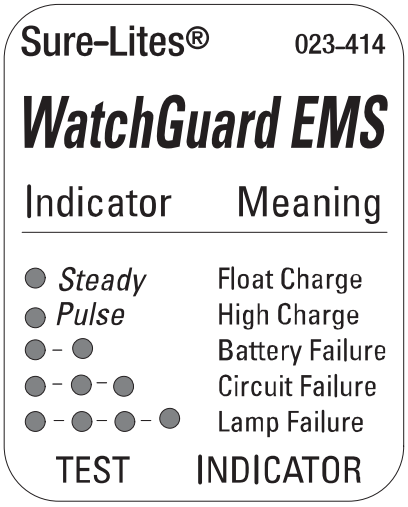
Checks battery charger, battery voltage, lamps

A 30-second full functional test is performed every 30 days.

A 90-minute full function/battery capacity test is performed every 6 months

System diagnoses failure to the defective component level (battery, charger PC board, lamp) and provides a visual diagnostic display through the LED indicator light

Battery charge indicator differentiates high charge and standby charge mode



TOTALLY PREDICTABLE RELIABILITY.

ORDERING INFORMATION

WatchGuard EMS

Catalog Number	Description
-SD-	*WatchGuard EMS* Self-Diagnostics Option

TECHNICAL DATA

Electronic

The state-of-the-art microprocessor technology used by the *WatchGuard EMS* (Electronic Monitoring System) Self-Diagnostics Option enables it to offer a variety of unique and useful features. The LED diagnostic indicator displays the status of the charger (float or high charge modes) during normal operation. In addition, fixtures with the *WatchGuard EMS* Option have all of the standard electronic features which are found on all Sure-Lites self-powered fixtures such as dual voltage input, AC Line-latching, solid-state charging, solid-state switching (no mechanical transfer relays), brownout detection, and short circuit/overload protection.

Test Performance

The *WatchGuard EMS* is a monitoring system. Battery charger function, and battery voltage are monitored at all times. The *WatchGuard EMS* is also an automatic test system. Every 30 days, the entire system is subjected to a 30 second confidence test. This monthly confidence check verifies lamp operation, battery integrity, battery charging function, and transfer circuitry per the requirements of the NFPA 101 Life Safety Code. Every 6 months, a semi-annual full battery capacity test is conducted to verify all of the above plus test the capacity of the battery to operate the connected lamp load for the required emergency mode time frame (90 minutes). This battery capacity test, which is also required by the NFPA 101 Life Safety Code, is 90 minutes.

Test Switch/Diagnostic Indicator

The diagnostic indicator provides the visual diagnostic interface for the *WatchGuard EMS* Option. The single red LED diagnostic indicator denotes the fixture's condition by adjusting its pulse sequence per the condition indicated (see chart on back). It also indicates float charge mode (steady red) and high charge mode (pulsing red) at all times during standby mode operation.

Installation

Fixtures with the *WatchGuard EMS* Option are very simple to install because they do not require any special actions or provisions when compared to standard Sure-Lites fixtures. There are no time consuming adjustments to potentiometers and no difficult-to-move PC board jumpers like on most competitive products. Installation is made simple by the unique design of the PC board and test switch/diagnostic indicator which does not add any additional wires that require field connection.

Warranty

The state-of-the-art electronics employed in all fixtures with the *WatchGuard EMS* option guarantees unsurpassed performance and reliability. This option is backed with a firm one year warranty against defects in material and workmanship (excluding lamps). Other fixture components (batteries, etc.) are warranted as indicated on the product family specification sheets.

Suggested Specification

Equipment shall be Sure-Lites Emergency Lighting Unit (Exit), Model Number _____, with self-diagnostics capabilities defined as follows. The equipment shall be constructed in accordance with Underwriters Laboratories Standards (UL 924) and shall be installed in accordance with Article 700 of the National Electrical Code (NFPA 70).

The self-diagnostics system shall be Sure-Lites *WatchGuard EMS* (Electronic Monitoring System). The self-diagnostics system shall be microprocessor-based and shall check the battery charger performance, the battery voltage, and lamp performance. A 30-second monthly confidence test shall automatically be performed every 30 days to verify lamp operation, battery charger function, battery integrity, and emergency transfer circuit function per the NFPA 101 Life Safety Code. A full 90-minute battery capacity test shall automatically be performed every 180 days (6 months) to verify all of the above plus test the capacity of the battery to operate the connected lamp load for the specified emergency mode time frame.

Suggested Specification

All automatic and manual tests shall be conducted by illuminating the emergency lamps; tests shall not be conducted using simulated (synthetic) loads. All test routines shall be capable of diagnosing failures to the component level and capable of displaying diagnostic information on the exterior of the fixture.

The visual diagnostic indicator shall be a single color LED capable of displaying battery failure, battery charger failure, and lamp failure. The same indicator shall be capable of displaying float mode and high charge mode charger status.

Equipment shall contain all of the following electronic features: dual voltage input, AC Line-latching, solid-state charging, solid-state switching (no mechanical relays), brownout detection, and short circuit/overload protection.

The self-diagnostics system shall be backed by a firm one year warranty against defects in material and workmanship (excluding lamps).

TECHNICAL DATA

DIAGNOSTIC INDICATIONS

INDICATOR	COLOR	MEANING	ACTION
❍ (STEADY)	RED	FLOAT CHARGE	BATTERY FULLY CHARGED
❍ (PULSE)	RED	HIGH CHARGE	BATTERY BEING CHARGED AT HIGH RATE
❍ - ❍	RED	BATTERY FAILURE	TURN OFF AC, REPLACE BATTERY
❍ - ❍ - ❍	RED	CIRCUIT FAILURE	TURN OFF AC, REPLACE PC BOARD
❍ - ❍ - ❍ - ❍	RED	LAMP FAILURE	TURN OFF AC, REPLACE PC BOARD