

Advanced Light Module (ALM)



Overview

Precise and reliable vivarium lighting directly impacts the quality and validity of animal research. A reliable lighting schedule is critical for physiological responses such as metabolism and reproduction. The Advanced Light Module (ALM) is engineered for the specific needs of the vivarium. It gives authorized personnel the ability to create the lighting schedule on a room-by-room basis. The ALM supports low level, high level and night lighting while providing lighting control, monitoring, alarming, and reporting. These unique features make this product a powerful answer to light control and monitoring needs.

Operation

Designed specifically for animal facilities, the Advanced Light Module (ALM) offers great flexibility in specific room-by-room lighting schedules to meet the needs of the study. The system is capable of four “on” cycles per day, allowing for sophisticated lighting schedules. If the lights in the room vary from the programmed schedule, an alarm will be sent to appropriate personnel via Watchdog® or PulseCMC™.

Light switching is performed by electromechanical lighting relays controlled by self-protecting relay drivers. The module monitors light state using both a calibrated light sensor and feedback information from the relays. If the ALM determines a lighting relay has failed, the system will indicate which relay has failed by activating an alarm. For critical applications, an optional 3-relay redundant configuration can be used to maintain light control in the event of a relay failure.

When personnel are working in a room, they may be unaware of the lighting schedule. The light blink safety feature will give them advance notice prior to the lights turning off. For example, the room lights can be programmed to blink at five minutes and again at two minutes prior to the lights turning off, providing personnel with adequate time to conclude activities or override the scheduled lighting behavior.

Features & Benefits

- The system allows each room to have flexible lighting schedules.
- Each room has its own calibrated light sensor to verify if the lights are “off”, “on” or “on-high”. When lights in a particular room deviate from the programmed schedule, an alarm is sent to designated personnel via text message or email.
- Light schedule and real-time clock are maintained in the ALM so lights continue to operate normally in the case of a communication loss.
- The use of redundant light control with 3-relays and feedback offers protection from light relay failures.
- The backup relays exercise themselves automatically, ensuring availability when needed.
- Light blink safety feature gives personnel advanced notice that the lights are about to turn off.
- Lighting reports are easily generated and clearly identify lighting schedule variations.
- Distribution of emergency power means some light banks can be on emergency power, depending on the needs of the facility for supplying emergency power for lighting to the animal rooms.
- Built-in self diagnostic routines assist with validation. Upon installation, a diagnostic routine runs verifying the operation of the light switch, relays, and photocells. It also confirms that the high voltage wiring is correct.

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Specifications

HARDWARE

- Dimensions: 4.0 in. W x 4.5 in. H x 1.5 in. D [102 mm W x 114 mm H x 38 mm D].
- ALM Mounting: Individually in junction box or gang mounted in relay tub.
- Relay Drivers: Solid state , self-protecting.
- Communication Interface: Lonworks FTT-10A.
- Electromechanical Light Relays: Reliant 2R9C.
- Room Light Switch: Membrane type with indicator.
- Supports distribution of emergency power.

Watchdog® Platform Requirements

- Environmental Sentry Panel: v1.09 or greater.
- Avidity Science Central Computer: v5.13 or greater.

PulseCMC™

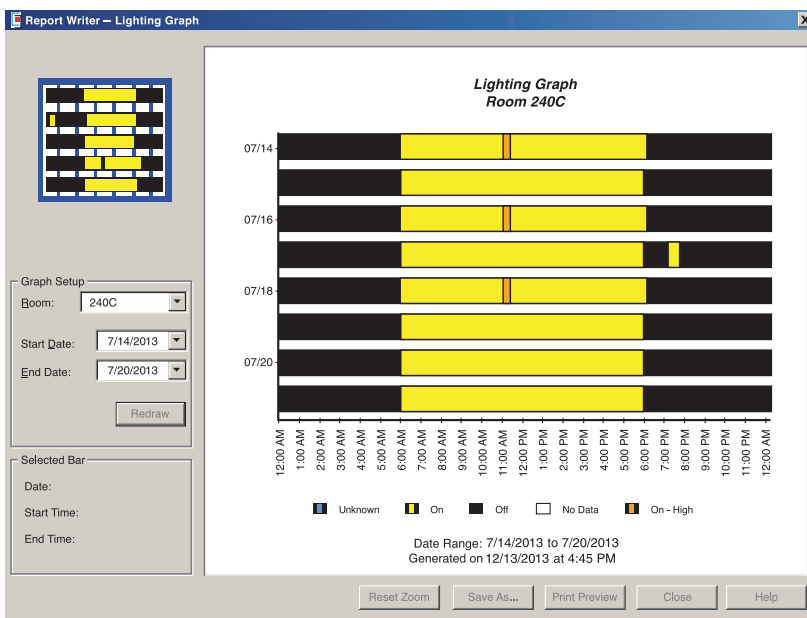
- PulseCMC software v1.6 or greater.
- PulseCMC Central Controller (PCC).

INTERFACE

- Eight character alpha-numeric display.
- Two manual override switches.
- Two diagnostic push buttons.

OPERATING SPECIFICATIONS

- Power requirements:
 - 24 VDC ; 24 VAC.
 - 100 mA idle ; 500 mA while activating relays.
- Temperature: 32°F to 104°F [0°C to 40°C].
- Humidity: 0% to 95% RH non-condensing.

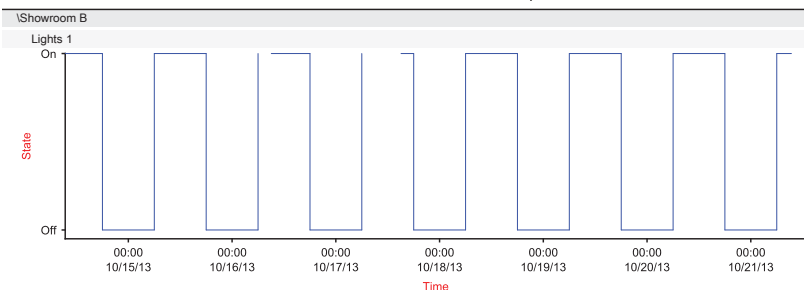


EXAMPLE: WATCHDOG LIGHTING GRAPH FOR ADVANCED LIGHT MODULE

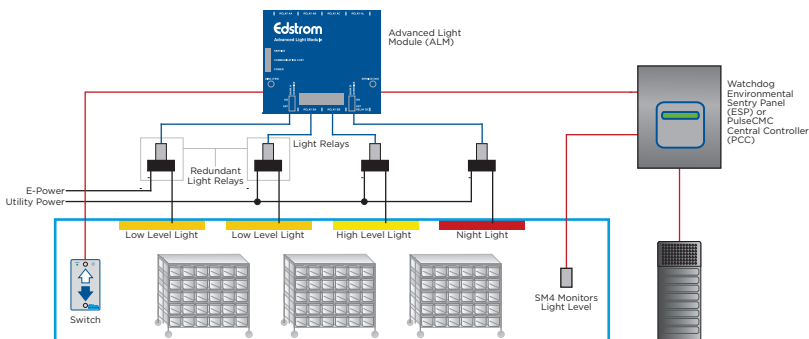
PART NO. 4500-1040-200

Trend Report

Report Generated Mon Oct 21 2013 09:24 AM



EXAMPLE: WATCHDOG LIGHTING GRAPH FOR ADVANCED LIGHT MODULE



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All specifications are subject to change without notice.

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