Runway Light Intensity Monitor (RLIM)

S80009

- **Determines level of luminous intensity of runway lights**
- **Continuously monitors up to 8 individual lighting loops**
- **Self-contained unit**

The Coastal Environmental Systems Runway Lighting Intensity Monitor (RLIM) passively monitors the current flowing in runway lighting, in order to determine the level of luminous intensity, or brightness setting of the runway lights.

Externally connected current clamp sensors are used to monitor up to 8 individual lighting loops. Sensor measurements are continuously made and processed resulting in a data stream that reports individual sensor lighting levels and status information relating to faults and the health of the interface.

Data is transmitted by the RLIM in a serial data stream as carrier modulated data, for transmission directly over a twisted pair of wires, and also as RS-232 level data to accommodate the use of an alternate communication adapter (fiber-optic modem, data radio modem, or other communications device).

The RLIM is a self-contained unit, except for the external current clamp sensors. It is powered by a single 115 volt, 50 or 60 Hz AC main power source. The built in charger / power supply provides the circuitry with power, in addition to establishing and maintaining a full charge in the backup battery power source. During power outages, the battery delivers power to the unit without any interruption in service. The duration of the backup power operation is in excess of 6 hours, depending on the battery size chosen. While on AC mains, full battery recharge from a 50% depleted state is accomplished within 12 hours, while simultaneously supporting normal operation.

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Technical Specifications

S80009

Power	115 vac (+/- 15%), 47-63 Hz, 0.35 Amp max. PF and Harmonic distortion Correction / Reduction Inrush Current Limiting IEEE Category B transient protection Duplex 20A GFI-protected Utility outlet
Backup Power	More than 6 hours (typical, depends on battery installed) Integrated charger / power supply
Sensor Interface	Induced transient protected Short circuit protection and detection Sensor fault detection, including sensor circuit “open” detection 50 Hz and 60 Hz noise rejection
Current Sensor	Inputs for up to 6 sensors Inherent dielectric isolation >50kV from sensed lighting loop Reverse connection (reverse polarity) protection Interfaces with a single pair of wires (standard 4 to 20 ma current loop) Opening clamp design does not require lighting system to be taken off-line for installation or maintenance
Serial Maintenance Port	Standard RS232 ESD protected 9600 Baud (default)
Modulated Data Output	Integrated differential Manchester encoded serial bit stream output, capable of driving “voice grade” (>7.5 miles, 19 awg, typical) Transformer isolation (>1500 Vrms isolation) Transient surge protected 9600 baud (default)
Serial Data Transmission Port	Standard RS232 ESD protected 9600 baud (default)
Internal Diagnostics	Microcontroller watchdog reset Microcontroller brownout reset Microcontroller low voltage interrupt Sensor open / short fault detection Board temperature monitor
Environmental	-10° to +50°C operational temperature range 5 to 95% humidity -1,000 to 10,000 ft. altitude Vibration: MIL-STD-810F, Table 514-I, categories 4,5,7-11 NEMA4X/IP66 sealed marine-grade aluminum enclosure
Protection / Safety	AC and DC power sources fuse protected AC power input is Hipot and ground bond tested
EMC	Expected to meet MIL-STD-461E: CE102, CS101, CS114, CS115, CS116, RE102, RS101, RS103