Model SC6920
Obstruction Lighting RMU
Remote Monitoring Unit

In Production

Summary

- Flexible analog and digital monitoring platform, targeted primarily at Obstruction Light Monitoring.
- Supports FAA Style A0 (tower heights under 150 feet) Certified Lights
- Supports FAA Style A1 (tower heights over 150 feet) Certified Lights
- Supports Non-FAA Lights

Description

The SC6920 Obstruction Lighting Remote Monitoring Unit (RMU) is an intelligent sensing system that integrates with existing deployed devices to provide robust, wide area monitoring capabilities. The RMU's flexibility to monitor a wide range of analog and digital sensors makes it well-suited for Smart Grid and other IoT applications.

The SC6920 has been deployed in automated wide area monitoring of solar and line-powered obstruction lights meeting Federal Aviation Administration (FAA) AC No. 70/7460-1K for L-810 and L-864 light systems. Operating on a RPMA wireless network, the RMU eliminates the need for utility companies to visually inspect obstruction lights. In addition to significant operational savings, the RMU obstruction light solution provides a detailed audit trail of device status and automated notification of actionable alarms and events.

The RMU has been tested and proven in harsh outdoor utility environments typical of high voltage transmission lines and substations (up to 500 kV). The RMU design is configured to readily enable integration of new sensors with minimal mechanical or software modifications. The SC6920 is a single product supporting multiple sensor applications delivers critical functionality at a fraction of the cost of competing solutions.

RPMA Solution Overview

- Sensors using integrated RPMA Nodes for high capacity and secure two-way communication.
- RPMA Access Points which communicate in a simple star topology with RPMA-enabled sensors.
- RPMA back office software enabling network management and field area data visualization.
- RPMA device and back office integration using industry standard interfaces.

Features

- Flexible monitoring platform measures analog and digital signals from a variety of sensors.
- Deployed obstruction lighting solution is in compliance with FAA regulations.
- Supports configurable update intervals, 24/7, detection and alarm notification of condition changes.
- Low power design uses 120 VAC power source, solar panel charging system, and/or backup battery for continued alarm notification.
- Flexible design enables support for new sensors through industry standard interfaces.
- Tested in high EMF and EMI environments typical in up to 500 kV transmission lines and substations.

Specifications

Radio Performance
Sensitivity: -143 dBm
Transmit Power: +20 dBm (NA), +10 dBm (EU)
Data Throughput: 60kbps
Access Point Capacity: 64,000 Nodes
Security: 128/256 bit encryption
Protocol: RPMA Network in 2.4 GHz ISM Band
Modulation: 1MHz Bandwidth, Dynamic DSSS
Diversity Support: Yes
Frequency: 2402 to 2476 MHz (NA), 2402 to 2481 MHz (EU)

Electrical – AC Environments
AC Input: 85-150 VAC
Frequency: 47-63 Hz
Max Input Current: 200 mA
Power Consumption (transmit): 4.4 W
Measurement Range: 0 – 2.8 Ams
Measurement Accuracy: +/- 0.035 Amps

Electrical – DC Environments
DC Input: 8-17 VDC
Max Input Current: 560 mA
Power Consumption (idle): 0.2 W
Power Consumption (transmit): 2.2 W
Measurement Range: 0 – 1.0 A
Measurement Accuracy: +/- 0.005 Amps

Monitoring Interfaces
2 Analog Inputs: 1.5 or 2.5V maximum
6 Digital Inputs: 2 Interruptible, 1 Timer Output, 3 SPI bus/I2C

Environmental
Polycarbonate Enclosure
IP66 per IEC 529
UL94-5VA Flammability Rated
Operating Temperature: -30 to +55 ⌠C
Storage Temperature: -40 to +70 ⌠C
Humidity: 5% to 95% RH
Shock and Vibration: ETSI EN 300 019-2-4 Class 4M5

Dimensions and Weight
Size: 9.4” x 10.6” x 5.5” (including antennas)
Weight: 6 lbs

Supported Lights
FAA Style A0 (tower heights under 150 feet) Certified Lights

- Dialight L810 RTO 12VDC Red LED Light Head
- Crouse-Hinds® 120VAC Red Incandescent
- Dialight L810 860 120VAC Red LED

FAA Style A1 (tower heights over 150 feet) Certified Lights

- L864 AC - Dialight D64 Series Red Medium Intensity Beacon, with 2 or more Dialight L810 RTO 12VDC Red LED Light Heads
- L864 DC - Dialight D64 Series Red Medium Intensity Beacon, with 2 or more Dialight L810 RTO 12VDC Red LED Light Heads

Supports Non-FAA Lights

- Avlite® 125C Red LED 100%/Red LED 25%/IR

Support
Technical support is available through our website, www.signalcraft.com/support or by contacting us at support@signalcraft.com .

Warranty
Full one year parts and labor when used under normal installation and operation conditions. Repair services are available for products no longer covered under warranty.

Ordering Information
SCT Part Number SC6920. Send inquiries to info@signalcraft.com .