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eleven-X SPS-X Smart Parking Solution Stall Sensor

eleven-X SPS-X Smart Parking Solution Stall Sensor User Manual

Contents

eleven-X SPS-X Smart Parking Solution Stall Sensor

Product Information

Specifications:

- Product Name: eleven-X SPS-X Smart Parking Solution Stall Sensor
- Model: PRK002001, PRK001002
- Version: 1.0 (2024-03-01)

Product Usage Instructions

Installation:
The sensor can be installed on the parking surface or below the surface. Surface installation requires high strength adhesive and screws, while inground installation involves coring a hole in the parking surface, inserting the sensors, and filling with road grade epoxy. Refer to the eleven-x installation guide for detailed instructions.

Data Transmission:
The sensor sends parking events over LoRaWAN to the eleven-x eXactPark analytics platform for data analysis. This allows parking managers to understand the usage of parking assets. Short-range wireless connectivity facilitates easy installation, configuration, and maintenance of the sensor.

LoRaWAN Overview:
LoRaWANTM is a long-range wide area network technology that offers low power consumption, low total cost of ownership, open standard architecture, long-range connectivity, and robust security features including 128-bit AES encryption.

Wireless Connectivity:
The sensor provides a low-power, short-range wireless connection to cell phones for installation, configuration, and maintenance. It can only connect with the eleven-x cell phone application, which connects to the eleven-x platform for seamless operations.

Usage:
The parking sensor is suitable for outdoor parking lots, street parking, and parking structures. Follow the installation instructions provided above and in the installation manual. Do not
open or modify the PRK001002 subsurface sensor in any way.

FAQ (Frequently Asked Questions):

1. **Q: Can the sensor be used indoors?**

A: The sensor is designed for outdoor use in parking lots, streets, and structures. It is not recommended for indoor use.

2. **Q: How long do the batteries last in the sensor?**

A: The wireless, battery-powered devices can operate up to 10 years on standard batteries due to low power consumption.

Introduction

The eleven smart parking sensor is an innovative patent-pending LoRaWAN®-based device that utilizes multiple technologies including magnetic sensing, radar, short-range wireless technology and AI that provides:

- Real-time stall occupancy status and monitoring
- Industry leading accuracy based on multiple sensing technologies backed by advanced AI
- Designed and engineered for maximum reliability and robustness
- Leverages standards-based low power wireless technology
- Ultra-long battery life

The rugged sensor is designed to function in all conditions. It can be installed on the parking surface or below the surface. Surface installation is done using a combination of high strength adhesive and screws. Inground installation is achieved by coring a hole in the parking surface, inserting the sensors and filling with road grade epoxy. For details see the eleven-x installation guide.

The sensor sends parking events over LoRaWAN to the eleven-x eXactPark analytics platform where the data provides key analytics and insight to help parking manager understand the usage of the parking assets. Short range wireless connectivity provides easy installation, configuration, and maintenance of the sensor.

LoRaWAN Overview

LoRaWANTM [which stands for long range wide area network], is the undisputed leader in open standard LPWA [low power wide area] networks with deployments globally. The technology is backed by the LoRa Alliance™, which is a global organization comprised of over 500 organizations with the goal of moving IoT forward.

Some of the key features of LoRaWANTM include:

1. LOW POWER CONSUMPTION: Wireless, battery-powered devices operate up to 10 years on standard batteries.
2. LOW TOTAL COST OF OWNERSHIP: Low-cost battery-powered devices combined with low connectivity and installation fees and little-to-zero maintenance keep overall program costs down.
3. OPEN STANDARD: LoRaWANTM is based on open architecture which enables open data environments.

4. LONG RANGE: Reliable connectivity in urban and indoor environments with connectivity extending up to approximately 48 km [30 miles].

5. SECURITY: LoRaWANTM utilizes 128-bit AES encryption.

For more information, refer to the LoRaWANTM specification.

Wireless Connectivity for Sensor Maintenance
The eleven-x sensor provides a low power, short-range, wireless connection to cell phones, used by the parking sensor for installation, configuration, and maintenance. The sensor can only connect with the eleven-x cell phone application. The phone application connects in the eleven-x platform using the phones internet connection and provides seamless installation.

Sensor Usage
The parking sensor is for use in outdoor parking lots, street parking and in parking structures. It is to be installed as described in the above section and the installation manual.
The PRK001002 subsurface sensor should not be opened or modified in anyway.
The PRK002001 surface mount sensor should only be opened to change the batteries and should only be done by a trained individual following the eleven-x battery replacement guide.

Regulatory Information
ISED non-interference disclaimer
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.

2. This device must accept any interference, including interference that may cause undesired operation of the device.

This device complies with the Canadian ICES-003 Class B specifications. CAN ICES-003(B) / NMB-003 (B).

ISED RF Exposure statement
This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm (7.9 inches) between the radiator and any part of your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation. Please note that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, this equipment should be installed and operated with minimum distance 20 cm (7.9 inches) between the antenna and your body during normal operation. Users must follow the specific operating instructions for satisfying RF exposure compliance.

Contact Information

Please contact your local sales representative or our support team for further assistance.
Web: https://eleven-x.com/
Email: support@eleven-x.com
Phone: 1-**226-887-0011**

Legal Notices

The eleven-x products are not designed, manufactured or intended for use, and should not be used, or sold or re-sold for use, in connection with applications requiring fail-safe performance or in applications where the failure of the products would reasonably be expected to result in personal injury or death, significant property damage, or serious physical or environmental damage. Examples of such use include life support machines or other life preserving medical devices or systems, air traffic control or aircraft navigation or communications systems, control equipment for nuclear facilities, or missile, nuclear, biological or chemical weapons or other military applications ("Restricted Applications"). Use of the products in such Restricted Applications is at the user's sole risk and liability.

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SPS-X Smart Parking Solution Stall Sensor, SPS-X, Smart Parking Solution Stall Sensor, Parking Solution Stall Sensor, Solution Stall Sensor, Stall Sensor, Sensor

References

- **eleven-x Smart Parking Systems | eleven-x**
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