



ADVANCED WIRELESS VEHICLE DETECTION TECHNOLOGY



# **Sensys™ Wireless Vehicle Detection System**

## **Application Note**

### **Executing Commands on an Access Point With HTTP**

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## Document Properties

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## Regulatory Statements

### FCC Compliance Statement

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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications to this product not authorized by Sensys Networks, Inc., could void the EMC compliance and negate the authority to operate the product.

### RF Exposure Statement

This device has been tested and meets the FCC RF exposure guidelines. It should be installed and operated with a minimum distance of 20 cm between the radiator of RF energy and the body of users, operators or others.

Improper use or tampering with the device is prohibited and may not ensure compliance with FCC exposure guidelines.

## Warnings

### No Safety Switching

Sensys Networks, Inc. does not allow its equipment to be used for safety applications such as controlling a mechanical gate or switching a train to avoid a collision.

### Lithium Thionyl Chloride Batteries

Sensys Networks uses Lithium Thionyl Chloride batteries in the following products:

- Sensors (VSN240-F, VSN240-T)
- Repeaters (RP240-B, and RP240-B-LL)

Lithium batteries are widely used in electronic products because they contain more energy per unit - weight than conventional batteries. However, the same properties that deliver high energy density also contribute to potential hazards if the batteries are damaged. Improper use or handling of the batteries may result in leakage or release of battery contents, explosion or fire.

Following are the recommendations of the battery manufacturer for proper use and handling of batteries in the Sensys devices mentioned above:

- **DO NOT** charge or attempt to recharge the batteries (batteries are NOT rechargeable)
- **DO NOT** crush or puncture batteries
- **DO NOT** short-circuit the batteries
- **DO NOT** force over-discharge of the batteries
- **DO NOT** incinerate or expose batteries to excessive heating
- **DO NOT** expose battery contents to water
- **DO** dispose of batteries and devices containing batteries in accordance with local regulations

Sensys Networks sensors contain no serviceable parts and should never be disassembled. Installation and removal of sensors from pavement should only be done by trained personnel and care should be taken to insure that the sensor casing is not punctured or crushed.

Additional safety information is available from the battery's manufacturer:

- Sensor battery cell: [http://www.able-battery.com/msds/ABLE\\_MSDS\\_ER14505.pdf](http://www.able-battery.com/msds/ABLE_MSDS_ER14505.pdf)
- Repeater battery cell: [http://www.able-battery.com/msds/ABLE\\_MSDS\\_ER34615.pdf](http://www.able-battery.com/msds/ABLE_MSDS_ER34615.pdf)

## Document Control

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# CHAPTER 1

# Introduction

This application note illustrates how to execute commands on an Access Point from Sensys Networks using the HTTP protocol.

## What's Inside

This document includes the following information:

- Chapter One, *Introduction*, describes the document's scope
- Chapter Two, *Executing Commands*, describes the components and procedures for issuing AP commands.

It is assumed that readers of this document have a working knowledge of Sensys components and technologies as well as the HTTP protocol.

## Other Documents

### General and Reference Information

- *The Sensys Wireless Vehicle Detection System – System Overview*
- *Sensys Wireless Vehicle Detection System Reference Guide*

### Freeway and Arterial Applications

- *Design Guidelines for Freeway & Arterial Applications*
- *Configuration Guidelines for Freeway & Arterial Applications*
- *Installation Guidelines for Freeway & Arterial Applications*

## Intersection Applications

- *Design Guidelines for Intersection Applications*
- *Configuration Guidelines for Intersection Applications*
- *Installation Guidelines for Intersection Applications*

## Installation and Removal Procedures

- *Sensys Wireless Sensor Installation Guide*
- *Sensys Wireless Sensor Removal Guide*
- *Sensys Access Point Installation Guide*
- *Sensys Repeater Installation Guide*
- *Sensys Contact Closure Card Installation Guide*
- *Tools Required for Installing Sensys Equipment*

## Application Notes

- *Installing Sensys Sensors Beneath the Road Surface*
- *Using Sensys Networks for Motorcycle Detection*

## Sensys Management Server

- *SNAPS Server Set Up and Operating Guide*

Readers of this document are encouraged to contact Sensys Networks, Inc. for the latest technical information, design guides, and best practices.



# CHAPTER 2

# Executing Commands

This chapter describes the components and command format for issuing commands to an Access Point with the HTTP protocol.

## Components

### http server

The Sensys Networks Access Points (AP) implements an http server (on port 80) that can execute arbitrary shell commands and reply with the standard output generated by those commands.

This interface is used by TrafficDot – the configuration tool supplied by Sensys Networks – to initially configure an AP and to maintain/adjust the AP's configuration as needed over time. End users can also use this interface via a standard http client program.

### http client

Any http client that supports a command line form of instruction data can be used. In this document, the *curl*<sup>1</sup> http client is used.

### cgi script

Commands are accepted and interpreted by a command script stored at the following location:

- `<IP address of Access Point>/cgi-bin/cmd.cgi`

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<sup>1</sup> It can be obtained at <http://curl.haxx.se>. This information is provided as a courtesy and may not be construed as a recommendation, guarantee, or endorsement by Sensys Networks, Inc.

