SmarTek Acoustic Sensor - Version 1 (SAS-1)

Installation and Setup Guide

Part-B Specifications and Service Information

04 April 2003

Note: In all cases, do not work or position equipment over an active traffic lane. Working over active lanes presents a hazard to the installer and to travelers using the highway. Follow local authorized procedures when installing the SAS-1 unit and any associated components or subsystems.

(This Page Intentionally Left Blank)

Specifications

Number of Lanes and Message Formats

The SAS-1 can monitor 5 lanes and provides for several different interfaces depending on the communication link and the cabinet controller interface desired. The standard SAS-1 output message provides per lane traffic flow measurements of vehicle volume, lane occupancy, and average speed for a selectable update period (1 to 220 seconds). A bit serial vehicle presence relay message or opto-isolated dry contact vehicle presence relay signals (using the SAS Relay Interface) can be provided.

Measurement Archiving
Up to 60 days depending on size of installed Flash Memory (1, 2, or 4 Mbits).

Signal Interfaces
1) RS-422 (Standard) .... Hard Wired Home Run (up to 2000 feet)
2) RS-232 (Optional) .... Hard Wired Home Run (up to 100 feet)
3) Wireless (Optional) .... Wireless Link (2.4 GHz Spread Spectrum)

Power
1) Supply Voltage at the Sensor .... 8 to 24 VDC
2) Required Power ....….. Less than 2 Watts

Physical
1) Dimensions ....12 in long x 8 in wide x 3.5 in deep
2) Weight (with Bracket) ..Less than 7 lb.
3) Material/Finish ....Aluminum/Enamel/Stainless Steel Fasteners
4) Mounting Bracket ....2 inch Diameter Aluminum Tube/Stainless Steel Bands
5) Operating Temp....….......-20 Deg C to 75 Deg C
6) Humidity........................5% to 100%
7) Shock..............................NEMA TS2-2.1.10
8)Vibration.........................NEMA TS2-2.1.9

Installation

Mount on roadside structure for coarse mechanical positioning so that the sensor face is pointing toward the center of the lanes to be monitored. After the SAS-1 is mechanically oriented and locked down, the position and size of each detection zone (up to 5) are electronically set using the SAS Monitor and Setup program. All SAS-1 setup parameters are stored in non-volatile memory.
1) Height Above Pavement ....… 25 to 35 feet
2) Horizontal Distance to First Detection Zone ..… 5 to 30 feet
3) Coarse SAS-1 Orientation ....…..Mechanical
4) Precise Detection Zone Position and Size ...………Electronic

Service Information

Periodic Maintenance

No periodic maintenance is required.

Do not attempt to open, repair, or disassemble the SAS-1 unit or its interface modules. Such action will void the warranty on the SAS-1. Call SmarTek Systems if the SAS-1 or any of its interface modules need servicing.

Sensor Identification

Each SAS-1 is identified by a Serial Number (S/N) sticker on the sensor cover near the cable strain relief.

Factory Service

To avoid unnecessary shipments and delays, if you believe the SAS-1 unit is malfunctioning, call SmarTek Systems to discuss the problems and to determine if the SAS-1 should be returned for service.

If the SAS-1 is being returned to SmarTek Systems for service or repair, be sure to include the following information with the shipment:
> **1) Name, Address, and Phone Number for a Point of Contact,**
> **2) Unit Serial Number,**
> **3) A detailed description of the problem,**
> **4) Shipping address for return of the unit after service or repair.**

Shipping Information

Wrap the unit with bubble wrap and place in a strong carton. SmarTek Systems will provide appropriate shipping information at the time it is determined that return for service is necessary.

Warranty

SmarTek Systems, Inc. warrants this product to be free from defects in material and workmanship for a period of one year from the date of delivery. Damage due to accident, abuse, or improper installation by the buyer or unauthorized modification or operation outside the specifications is not covered by this warranty. SmarTek Systems, Inc. will repair or replace at its option, any components of this product which prove defective during the warranty period.

SmarTek Systems, Inc warrants that its software and firmware designated for use with the SAS-1 or its interface components will execute its programming instructions when properly installed. SmarTek Systems, Inc. does not warrant that the operation of the software or firmware will be uninterrupted or error free.