ENGINEERING SPECIFICATIONS
SENSAPHONE IMS-4000

I. General

A. Summary

The monitoring system shall be an expandable, self-contained microprocessor-controlled IMS-4000 “Host” unit (hereafter referred to as the Host) capable of monitoring 8 environmental input channels and 64 network IP devices, with an architecture that can accept up to 31 additional “Node” units to expand the system’s capacity and range of monitoring. The system shall be integrated in construction and shall be installed and configured for operation by the user via Microsoft Windows®-compatible ConsoleView Software provided at no additional charge. Custom voice messages for input alarms and status messages can be recorded and uploaded into the Host by the user. Input channels shall be capable of interfacing with IMS-4000 series sensors via 8 RJ-45 jacks in the Host or Node(s).

Upon detection of any alarm or status change, the system shall commence alarm delivery from a contacts list associated with the particular alarm condition(s) or combination thereof, and deliver the alarm message via a custom voice message, fax, e-mail, numeric pager, alphanumeric pager, or SNMP. The voice alarm message shall be delivered in digitized human voice using messages recorded by the user. The system will continue to call telephone numbers in succession until a positive acknowledgment of the alarm message is received. Acknowledgment can be accomplished from a voice phone call, by logging in to the unit, via web page, or via SNMP management software.

The system shall have a three-year warranty from the manufacturer. The system shall be a Sensaphone IMS-4000 by Phonetics, Inc.

B. Standards

The system shall meet FCC requirements Part 68 and Part 15, and shall be registered for direct connection to the telephone network. The system shall comply with the Telephone Consumer Act (Host). The system shall be Canadian DOC certified.

C. Optional Equipment

The IMS-4000 shall have the following accessories and sensors available as options:

- Node: IMS-4002—8 additional sensor inputs, internal & external mics, ethernet and Serial ports
- PowerGate: IMS-4301—8 power outlets that can be remotely controlled via e-mail or phone
- PowerGate2: IMS-4302—remotely switch power from 8 inputs and to 8 outlets
- Temperature sensors: IMS-4810, IMS-4811, IMS-4812, IMS-4813
- Humidity sensors: IMS-4820, IMS-4821
- Water Detection sensor: IMS-4830
- External Power sensor: IMS-4840
- Dry Contact sensors: IMS-4850
- 4-20mA sensor: IMS-4851

- Door switch sensor: IMS-4860
- Passive infrared detection sensor: IMS-4861
- Smoke detector sensor: IMS-4862

II. Product

A. Enclosure

The IMS-4000 Host shall be designed for the following mounting configurations:

- 1U rack-mount
- Table mount
- Wall mount (using optional flanges)

The Host dimensions shall be 19"W x 1.75"H x 9.5"D. The weight shall be 7.4 lbs. The Node dimensions shall be 9.6"W x 1.8"H x 9.6"D. The Node weight shall be 3.12 lbs.

B. Front Panel

The front panel of the IMS-4000 Host shall consist of eight Environmental Sensor Inputs with green and red LED status indicator lights, one internal microphone, one external microphone 1/4" jack, one Ethernet port with data transmission LEDs, one serial port, one phone jack with LED light, and one LED each to indicate Battery Power Alarm and AC Power Alarm status.

The eight sensor inputs shall be configured to interface with IMS-4000 series sensors.

C. Rear Panel

The rear panel of the IMS-4000 Host shall provide one power switch and one IEC 320 connector with fuse.

III. Electrical Specifications

A. Power Source

The system shall operate from 90-260VAC 50/60Hz power. Input power connection shall be IEC 320 type. Typical power consumption shall be 25 Watts.

B. Battery Backup

The Host shall include an internal UPS that automatically switches to battery backup in the event of an AC power failure. The battery shall be a 12V 2.9AH gel cell, which will keep the unit operating for approximately 3.5 hours when fully charged and under normal operating conditions.

IV. Environmental Input Attributes and Features

A. Environmental Inputs

The system shall come standard with 8 environmental input channels designed to interface with IMS-4000 series sensors. The input resolution shall be 12-bit. All input values shall read to one decimal place.

V. IP Monitoring Attributes and Features

The system shall have the following built-in monitoring features:

1. AC power failure detection
2. Low battery detection
3. Sound monitoring via internal or external microphone

All monitored channels, including built-in monitoring features, shall allow local and remote data programming of pertinent operational data including, but not limited to:

1. Input name
2. Input class
2. Input calibration
3. High and Low limits
4. Input recognition time
5. Alarm reset time
6. Data logging
7. Alarm on Return-to-Normal
8. Master Enable/Disable for each channel to dial out for alarm
9. 24 hour/7 day alarm monitoring schedule

VI. Communications Features

A. Communication Methods

The system shall be able to communicate alarms and other status information using the following methods.

1. Programmable voice
2. Fax
3. Numeric pager
4. Alphanumeric pager
5. Internet E-mail
6. Web page
7. SNMP

B. Telephone Specifications

The system shall connect to a standard 2-wire telephone line using tone dialing methods, with loop start only. The system shall recognize ringer frequencies from 16 to 60 Hz. No leased or dedicated lines shall be required. Call progress detection shall ensure that the alarm dialout is not hindered by no-answers or busy signals.

D. Communications Interface

The system shall have a built-in RS232 serial port for the purpose of network configuration and system options. The system shall have a built-in 10/100Base-T ethernet port for network communication via IMS-4000 ConsoleView software, SNMP, web page and e-mail.

E. User Profiles

The system shall be accessible by up to 64 users. Each user shall have configureable permissions for security purposes. Each User shall have up to 8 contact destinations in the event of an alarm.

F. Contacts (Telephone Numbers, E-mail Addresses, Pager Numbers, etc.)

The system shall be capable of delivering alarm messages to up to 8 contacts (36 digit telephone numbers /64 character e-mail addresses) per User Profile. There shall be a capability to schedule the availability of each contact over a 7 day/24 hour period

G. Voice Messages

The system shall have the ability to record, store and reproduce voice messages and to use those messages to articulate the location and status of the monitored sensors and conditions. In absence of user-recorded voice messages, the system shall articulate status using the internally resident vocabulary of default messages associated with each sensor class.

There shall be one recorded identification message for the system Host, and one recorded alarm message for each Node and sensor input. Message format shall be PCM, 8KHz, 8 bit, mono.

H. Web Status

The software shall be capable of producing a web page that includes: the status of all environmental inputs and IP alarms; logged data for each input and IP alarm; historical alarm information for each input and IP alarm; graphs of the last 24 hours of logged data; the present state of all PowerGate outlets; and live images from any associated video camera. The IMS-4000 shall be capable of automatically delivering a copy of the web page to a remote web server via FTP for viewing on another network.

VI. Configuring and Programming

A. Configuring Network Settings

The IMS-4000 Host shall have a built-in RS232 port for the purpose of configuring the system.The port shall operate at 9600 baud, no parity, and 1 stop bit. A terminal or terminal-emulation program may be used to configure the network settings.

B. Programming

IMS-4000 ConsoleView software shall be available via CD-ROM in order to program the Host and configure unit properties for networked Host and Nodes.

VII. System Features

A. Local Visual Indication

Each Host sensor input shall include corresponding green and red LEDs that will indicate the present status of the input. The system shall also include two LEDs to indicate Ethernet received data (green) and transmitted data (yellow), and one LED for Phone Line Status, Battery Power Alarm, and AC Power Alarm.

B. Datalog

The system shall be capable of logging the values of all environmental inputs, the battery voltage, AC power status and IP Alarm history. Items to be stored shall be selectable to maximize memory usage. Up to 62,500 total samples can be stored in the unit's nonvolatile memory. The time between logs shall be user-programmable. The datalog history shall be viewable through the ConsoleView software or via the IMS web page. Data shall be available in both QuickView and HistoryView profiles. If the Datalog fills up, it will overwrite the oldest data first. It shall be possible to force a full history download of data and eventlogs.

C. Security

Each User Profile shall have a programmable security level for each Host and Node in the system. There shall be three levels of access: Master System Administrator, Site Administrator, and User.

VIII. Remote Operation Features

A. Status Report & Touch-Tone Commands

The system shall allow the user to call into the unit at any time using any standard telephone to obtain a full spoken status report. The report can provide information on both environmental conditions (sensors) and IP alarms. The user may also ping networked devices and switch PowerGate outlets via telephone touch-tone commands. The status report shall be articulated using the resident voice-synthesized English vocabulary, in combination with digitized user-recorded voice messages.

B. User-Specific Reports

The status report shall be customized based upon the user's individual User Code. A valid User Code shall be necessary to hear a status report. The unit will create a custom report based upon the Classes that the User has selected in his or her User Profile.

C. Voice Acknowledgment

An alarm on any monitored channel may be acknowledged remotely by pressing tones on a touch-tone telephone keypad.

D. Data Acknowledgment

An alarm on any monitored channel may be acknowledged via the ConsoleView software or the IMS-4000 web page.

E. SNMP

The Host shall contain an SNMP agent that supports V1, V2c, and V3 versions of SNMP. The SNMP Agent shall be enabled or disabled via local configuration options while directly connected to the Host through the RS-232 port. Read and write access to most IMS-4000 parameters shall be provided, as well as the ability to send traps when alarms occur.

IX. Environmental

A. Electrical Protection

Power and telephone connections shall have internal spike and surge protection using metal oxide varistors. All environmental input channels shall have fault protected input circuits.

B. Additional Electrical Surge Protection

Additional Power and Telephone line surge protection shall be available from the manufacturer. When so installed, the system shall be fully warranted against any damage caused by transient surges entering the system through Power or Telephone lines.

C. Environmental

The system shall function over an operating temperature range of 32°F–122°F at up to 5–90% RH, non-condensing.

D. Maintenance

The system manufacturer shall have in-house service facilities and technical assistance available during normal business hours, Monday–Friday 8am–5pm(EST).

Specifications subject to change without notice.

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