ENGINEERING SPECIFICATIONS

SENSAPHONE® SENTRY SNT-0500

I. GENERAL

The Sensaphone Sentry shall be a self-contained microprocessor controlled environmental monitoring system capable of monitoring up to 5 alarm channels (zones). The system shall be configured for operation by the user by means of the Sensaphone.net website and/or the Sensaphone mobile App for Android and IOS. Characteristics of the Input and Output Zones include 5 Inputs (configurable for temperature or dry contact sensor types) and 1 Relay Output. Upon detection of any alarm or status change, the system shall commence the alarm notification process which includes dialing telephone numbers from a list associated with the particular alarm condition(s) and delivering a voice message identifying and describing the alarm condition(s) as well as sending text messages, and email notifications describing details of the alarm and its location. The system shall contain a rechargeable NiMH battery pack to maintain full operation of the device for up to 12 hours in the event of a power failure. The system shall contain a wireless cellular transceiver for connection to AT&T or Verizon in the USA, and Rogers/Bell/Telus in Canada. The system shall utilize encrypted data transmission for secure communications to the Sensaphone.net server system. A paid subscription plan shall be required with Sensaphone to provide cellular data services as well as phone calls and text messages from the device. The system shall comply with Part 15 of the FCC rules for radiated and conducted emissions as well as the Canadian Interference Standard (ICES-003) for information technology equipment (ITE). The system shall have a two-year warranty from the manufacturer. The system shall be a Sensaphone® Sentry SNT-0500 by Phonetics, Inc. dba Sensaphone.

II. I/O CHANNEL ATTRIBUTES AND FEATURES

A. Inputs

The system shall come standard with 5 input channels. All input channels shall be user-configurable as:

1. NO or NC digital dry contact, using internal 3.3V source voltage
2. Temperature using 2.8K sensors/probes

The system shall have the following additional monitoring features:

1. Built-in AC power failure detection
2. Low battery detection
3. Device offline detection

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

1. Zone Name
2. Zone Type (NO/NC, 2.8K)
3. Zone Calibration
4. High and Low Alarm Limits
5. Alarm Recognition Time (0 seconds to 8 hours)
6. Alarm Hold Time (1 second to 60 minutes)
7. Alarm Reset Time (1 minute to 8 hours)
8. Alarm on Return-to-Normal
9. Alarm Delivery Contact List (Phone numbers, text numbers, email addresses, etc…) for each zone
10. Alarm Delivery Enable/Disable for each zone to send notifications for alarms
11. Zone Enable/Disable

B. Output

The system shall have one built-in SPDT 1A 30VDC/VAC relay output. The output may be programmed to switch either manually (via the website or App) or automatically using one of the following modes:

(a) Activate or Deactivate as soon as one or more selected zones exceeds the alarm limits (regardless of recognition time). Reverts when the alarm condition no longer exists.

(b) Activate or Deactivate when one or more selected zones becomes an alarm (recognition time enforced). Reverts when the alarm condition no longer exists.

(c) Activate or Deactivate while one or more selected zones has an unacknowledged alarm. Reverts once the alarm is acknowledged.

(d) Activate when a selected zone is either greater-than, less-than, or equal-to a user configurable value and Deactivate when a selected zone is either greater-than, less-than, or equal-to a user configurable value.

III. CELLULAR COMMUNICATIONS

The System shall contain an LTE-M/CatM1 cellular transceiver for communication to the cellular network. The system shall be approved for use on AT&T, Verizon, Rogers, Bell, & Telus cellular networks. Once a cellular connection is established the device shall connect to the Sensaphone.net server system. LED indicators shall be provided to indicate when the unit is online with the Sensaphone.net server system as well as the cellular signal strength. A paid subscription plan shall be required with Sensaphone to provide cellular data services, as well as phone calls and text messages from the device.

IV. PROGRAMMING

The System shall be fully programmable through the Sensaphone.net website. A mobile App for Android and IOS shall be provided to permit live system status, alarm acknowledgement and system programming.

V. ALARM NOTIFICATION

The system shall send alarm notification messages via voice phone call, text message or email. Alarm messages will be delivered in English. Alarm messages sent via telephone shall be delivered in digitized human voice using text-to-speech technology. The system will call telephone numbers and send text and email messages until a positive acknowledgment of the alarm message is received or until all attempts have been exhausted. Acknowledgment is accomplished by (a) entering a numeric acknowledgement code from the called telephone, (b) by clicking the alarm acknowledgement link in the text or email message, or (c) by logging-in to the website or App and clicking the alarm acknowledgement button. The system will call each programmed telephone number up to 4 times. Once the alarm is acknowledged the system shall halt the dialing process. The system shall allow for an unlimited number of users with an unlimited number of contact methods per user. The system shall allow for tiered alarm delivery schedules so that a time delay may be inserted between tiers.

VI. DEVICE SUPERVISION

The Sentry device(s) shall be supervised by the Sensaphone.net server system. If a device stops communicating with the server for a specified period of time the system will notify selected users of the problem. When the device resumes communication with the server an optional 'return-to-normal' message will be sent.

VII. ALARM HISTORY LOGS

The Sensaphone.net server system shall maintain a log of all alarm events. The system shall also maintain a log of all alarm notifications including the user's name, type of delivery (email, phone, text), and telephone number/email address.

VIII. SYSTEM FEATURES

A. Power

The system shall be provided with a UL/CSA listed 7.5VDC 1A power transformer with USA style blades that the user may plug into a 100-240VAC outlet, 50/60HZ. The system shall monitor for the presence of primary 7.5VDC power and shall be capable of generating an alarm if main power should fail.

B. Battery Backup

The system shall have a built-in rechargeable nickel-metal-hydride battery pack. The battery pack shall provide up to 12 hours of continuous system operation in the absence of AC power. (Actual battery backup performance is dependent upon the age of the battery, the ambient temperature, and the charge condition). The system shall also contain a long-life lithium battery (type CR2032) to maintain the system clock, as well as certain dynamic zone values. The lithium battery shall last 5-10 years depending on use.

C. Antennas

The system shall come with one hinged dipole cellular antenna and one active GPS antenna.

D. Visual Indicators

The system shall have a 'Power' led to indicate if the device is powered on. The system shall have an 'Online' LED to indicate if the device is online with the Sensaphone.net server system. The system shall have an 'Alarm' LED to indicate if the device has any alarms. The system shall have a 'Relay' status LED to indicate if the output relay is On or Off. The system shall have four signal strength LEDs to indicate the quality of the cellular signal.

E. Standby

The system shall be capable of operating in Standby mode. In Standby mode any detected alarms will be ignored, however, monitored values will continue to be displayed on the website and on the mobile Apps. Standby mode can be configured to run for a preconfigured time period in which case it will return to normal mode automatically, or it may operate in 'untimed' mode in which case it must manually be returned to normal mode. Users can enter or exit Standby mode through the website or mobile App.

X. ENCLOSURE AND ENVIRONMENTAL

A. Enclosure

1. The base unit (SNT-0500-xx) shall be housed in a metal enclosure.

   Dimensions: 6.1" x 4.7" x 1.4" (155 x 120 x 35 mm), 1 lb. (0.45kg)

2. The SNT-0500-xxCD/SD shall be housed in a NEMA 4X/IP66 polycarbonate enclosure with a clear (CD) or solid (SD) cover.

   Dimensions: 12.17" x 10.25" x 3.5" (309 x 260 x 89 mm), 3.7 lb. (1.67 kg)

B. Electrical Protection

The Power input shall be protected against voltage surges with a metal oxide varistor. The zone inputs shall be protected against voltage surges using metal oxide varistors and low-voltage diode clamping circuits.

C. Environmental

The system shall function over an operating range of 32°F to 122°F (0° to 50°C) at up to 0–90% RH, non-condensing. The system may be stored over the temperature range of 32° to 140°F (0° to 60° C).

D. Maintenance

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

*Specifications subject to change without notice.