ENGINEERING SPECIFICATIONS
SENSAPHONE® ISACC

I. General

The Automatic dialer shall be a self-contained microprocessor controlled system capable of monitoring and controlling up to 16 alarm channels. The system shall be integrated in construction and shall be installed and configured for operation by the user via keyword command programming on a data terminal or PC. Characteristics of Input and Output channels include Universal Input, Digital Output, Digital Relay Output, and Analog Output.

The system shall have an internally resident compiler to interpret the C programming language to allow users sophisticated control capabilities. C programming shall not be necessary for standard operation of the system.

Upon detection of any alarm or status change, the system shall commence dialing telephone numbers from a list associated with the particular alarm condition(s) and deliver a voice message identifying and describing the alarm condition(s). The system shall be capable of dialing out in voice mode, data mode, or to a beeper. When dialing out to a telephone number programmed as voice, the alarm message shall be delivered in voice-synthesized English using the internally resident vocabulary. When dialing in data mode, the system shall expect a data connection and shall send information to print to a PC or terminal monitor. When dialing to a beeper, the system shall send digits that identify the input in alarm. The system will continue to call telephone numbers in succession until a positive acknowledgment of the alarm message is received. Acknowledgment is accomplished from a touch-tone telephone, by PC, or by terminal. In addition, the system shall be able to receive incoming telephone calls from a standard telephone or modem. Upon answering, the system shall attempt a data connection. If a connection is made, the system shall allow remote access to programming and operation. If a data connection is not made, the system shall recite a voice-synthesized status report with information that is pre-selected by the user.

The system shall be FCC and DOC registered for direct connection to the telephone network. The system shall have a one year warranty from the manufacturer. The system shall be a Sensaphone® ISACC by Phonetics, Inc.

II. I/O Channel Attributes and Features

A. Inputs

The system shall come standard with 16 universal input channels. All input channels shall be user-configurable as:

1. NO or NC digital dry contact, using 1mA loop current
2. 4-20mA analog, using custom look up table
3. 0-5V analog, using custom look up table
4. Pulse count
5. Thermistor

The system shall also allow monitoring of AC power failure through an input channel using built-in circuitry and controlled by C program.

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 type (NO/NC dry contact, 4-20mA and 0-5V analog, pulse count, thermistor)
2. High and Low limits (-9999 to +9999)
3. Input recognition time (0 seconds to 270 minutes)
5. Dialout Alarm Selection for each channel
6. Enable/disable for each channel to dialout for alarm

B. Outputs

The system shall have 8 digital 5 Volt TTL logic level outputs capable of sinking or sourcing 20 mA. The system shall also have one built-in SPDT form C 5A 250VAC mechanical relay output that may be programmed to switch automatically or manually. In addition, four 0 - 10VDC analog outputs are also included. The analog outputs shall be 0 to 10 Volts, 8 bit data from 0 to 255.

III. Communications Features

A. Telephone Specifications

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

B. Communication Interface

The system shall have a built-in 1200 bps modem to allow remote data communication and programming via PC or terminal. The system shall have a built-in RS232 serial port for the purpose of local communication and programming via PC or terminal. The system shall also have a built-in RS485 port for networking up to 16 ISACC systems.

C. Telephone Numbers

The system shall be capable of dialing up to 8 telephone numbers, 32 digits each. Individual Dialout Alarm Selection may be programmed for each input channel to instruct the system to dial specific telephone numbers for certain alarms.

The system shall allow local or remote data programming of the following telephone dialing information:

1. Dialing mode (voice, data, beeper)
2. Message repetitions (0 to 255)
3. Rings until answer (1 to 15)
4. Maximum number of calls (0 to 9999)
5. Intercall delay time (5 seconds to 270 minutes)
6. Wait time between rounds (0 to 270 minutes)
7. On-line time out (1 minute to 255 minutes)
8. Acknowledge on carrier (Y/N)

IV. Programming

A. Local Programming

The System shall have a built-in RS232 port for the purpose of locally programming all system data using a PC or dumb terminal. Programming is accomplished by keyword and stand-alone commands. All operational data, system setup and configuration data, and all information regarding the

status of monitored I/O channels shall be accessible. In addition, C programming using the resident C compiler may also be accomplished locally.

B. Remote Programming

The system shall have a built-in 1200 bps modem for the purpose of remotely programming and communicating all system, configuration and input data using a PC or dumb terminal that has a modem. C programming may also be accomplished remotely. User-programmable security password shall protect the system from unauthorized tampering.

V. System Features

A. Power

The system shall be provided with a UL listed 20V AC power transformer that the user may plug into a 117V AC outlet, ±20%, 60HZ. Typical power consumption shall be 12 Watts.

B. Data Log

The system shall be capable of logging and storing up to 512 records. Each record shall contain the present value of all 16 inputs with a time stamp. The time between logs shall be user-programmable. The system shall be able to display log information on a terminal or PC monitor, or print the log information to a printer hooked up to its built-in RS232 serial port. The data log shall also be retrievable remotely by terminal or PC.

C. Diagnostics and Testing

The system shall have built-in diagnostic tests to pinpoint system problems.

D. Security

The system shall allow the user to program a data password to prevent unauthorized local or remote access to programming.

VI. Remote Operation Features

A. Voice Status Report

The system shall allow the user to call into the unit at any time using any standard telephone to obtain a status report of user-selectable monitoring information. The status report shall be articulated using the resident voice-synthesized English vocabulary.

B. Data Status Report

The system shall allow the user to call into the unit with any PC or terminal using a modem. The system shall allow interrogation and programming access to system parameters and status after the appropriate data password is entered.

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 remotely by the user by PC or terminal. The system shall provide a visual status report on a terminal or PC monitor indicating the alarm(s) in progress and then shall request acknowledgment. When dialing out in data mode, the system may be programmed to self-acknowledge on carrier.

VII. Enclosure and Environmental

A. Enclosure

The system shall be housed in a NEMA-4 ABS plastic enclosure with a removable clear cover and shall be internally constructed to facilitate field upgrades, repair, and maintenance.

B. Power Supply

The unit shall provide battery backed 5 Volts DC, 12 Volts DC, 15 Volts DC, and 20 Volts DC to power external sensors, solid state relays, or output devices.

C. Battery Backup

The system shall have built-in 18 VDC Gel Cell rechargeable battery backup. The backup shall support a maximum of 14 hours of continued system operation in the absence of AC power. (Actual battery backup performance is dependent upon the number of external devices being powered by the system.)

D. Electrical Protection

Power and telephone connection shall have internal spike and surge protection using metal oxide varistors. All input channels shall have spike protection and noise filter circuits.

E. 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.

F. Environmental

The system shall function over an operating range of 32° F - 120° F at up to 0 - 90% RH, non-condensing.

G. Maintenance

The system manufacturer shall have in-house service facilities and technical assistance available during normal business hours (EST).

Specifications subject to change without notice.

Phonetics, Inc.
901 Tryens Road
Aston, PA 19014
Phone: (610)558-2700 FAX: (610)558-0222