

ALPHASENSE MODEL AS100-01FF

AlphaSense model AS100-01FF is a microprocessor-based unattended monitoring and information delivery/forwarding system that will automatically create and deliver information to wireless devices such as alpha pagers and/or other data equipment (may be unattended), such as PC's, printers or terminals. It may be used in a wide variety of applications. Model AS100-01FF obtains information by scanning the status of two sources.

One source is 8 digital inputs, which may be connected to industry-standard sensors for monitoring environmental conditions such as temperature, smoke, water, fire, motion detection, unauthorized access, etc. These inputs feature individually definable polarity to provide maximum information from open/closed switch-type sensors. Further, provisions to sense and report on external power failure and subsequent restoration is built-in. When a digital input is triggered, AlphaSense will formulate and deliver a user-specified informational message via its internal modem to user-specified "destination."

The "destinations" may be a mix of any of the following: alphanumeric pagers, digital celphones, SMS-capable receptors, other wireless messaging platforms such as laptops, palmtops, PDA's, and more. AlphaSense can also be instructed to deliver its messages to fixed data devices - either wired or wireless, such as logging recorders, unattended PC's, remote printer stations, etc. Information or message delivery to multiple wireless device, or data destinations may be configured by the user. All incoming events are timestamped and stored in a memory log for user viewing or download.

The second information source for model AS100-01FF is a serial data port, capable of interfacing to any type of equipment or system which supports the industry-standard RS-232 serial data connection. Model AS100-01FF is unique and handles the data it receives quite differently compared to other AlphaSense models. Instead of performing a "scan to detect user-defined content" function, this model expects data to be presented to it and a pre-defined "fixed format." Included in this data is recipient pager or other wireless device identity information, wireless messaging carrier access numbers, and the message content itself. Whenever correctly formatted data is presented to model AS100-01FF, it performs the function of a message server, offloading the host equipment from any obligation relating to message delivery, retries, system access management, etc. Since the formatted data itself specifies destination information, there is absolutely no limit to the amount of carriers, message services, wireless data providers, etc. which can be supported. ...a special section at the end of this document describes the data format structure expected...

Model AS100-01FF provides two additional self-contained sensing systems which report high-priority alarm messages for user-scheduled "Well-Check" reports, as well as External Power Lost and Power Restored reports. Well-Check reports are delivered either once or twice during each 24-hour period (or may be disabled). Message delivery may be done using an industry-standard error-correction method for data delivery, and uses the appropriate error-management routines for wireless message delivery, as needed for the system it is delivering to.

The Well-Check feature is extremely valuable for the following reason: If an unattended monitoring device is getting no alarms from its input source, it never has to report out. So, what if the monitoring device itself fails? The user will never know, and blindly carries on thinking everything is problem-free at the monitored site. Worse, if an alarm does occur, it will not get reported, due to the monitoring devices failure. The AlphaSense scheduled self-test and Well-Check report eliminates all of this uncertainty with a simple assurance message delivered to wherever the user specifies.

When its external power fails, AlphaSense model AS100-01FF is capable of continued operation for a minimum of 24 hours, assuming two message deliveries are performed every hour. In less demanding applications, AlphaSense can operate for several days using its own internal rechargeable power. Also,

additional state-of-the-art internal power backup provides complete memory and data storage protection for up to 5 years. Compuquest believes that security is an important aspect of modern communications products. AlphaSense is password-protected with advanced encryption processing for security against any unauthorized access. AlphaSense supports total data security: All messages, telephone numbers, system access information, and other data entered during user programming, as well as any stored data from the inputs or serial port are internally encrypted, and are IMPOSSIBLE to unscramble or extract by an unauthorized user. Any equipment which the user connects to the serial port of AlphaSense is also protected from unauthorized access once passwords are set.

Installation and software setup of AlphaSense is simple and quick. Following the physical installation of AlphaSense at the desired location, all further setups and instructions may be done from nearly anywhere using a PC or terminal with a modem, and any communications software. This advanced "remote re-configuration" is a powerful feature and allows for the re-definition and re-instruction of AlphaSense at any time after it is installed. The powerful flexibility of AlphaSense enables it to perform valuable tasks unattended, and provide information only when required. AlphaSense is an efficient time and resource saver. For all its advanced capabilities, AlphaSense has been designed with the user in mind. Once password access is achieved by the user, simple, easy-to-follow menus prompt the user for the required information, and then AlphaSense performs the complex internal configurations automatically. User entries may be changed at any time, and AlphaSense screens the user's inputs to prevent errors.

ALPHASENSE Model AS100-01FF DETAILED SYSTEM DESCRIPTION

AlphaSense contains advanced microprocessor-based electronics which oversee all functions of the system. These include scanning and monitoring the eight separate inputs, automatic sensing of external power loss/restoration, 5-year crashproof data retention, data encryption/decryption, and RS-232 serial communications. The AlphaSense internal master clock provides time and date stamping of input occurrences and report deliveries, and is also used in conjunction with the user-scheduled reports such as the Well-Check. AlphaSense uses a real-time operating system which features interrupt-driven detection so that each input can respond and validate conditions in about 1/4 second. This validation time is needed so that noise glitches do not cause false triggering. AlphaSense can recognize and process any activity on the inputs even while a user is connected to AlphaSense and programming it, or while it is calling out to deliver a message, report, or alarm.

AlphaSense model AS100-01FF circuitry uses 12-18 VDC at 200 Ma. for its external power, and comes equipped with a U.L. approved power supply module that connects to a standard 120 V.A.C. outlet. Telephone line connection is made via back-panel RJ-11C connector. This connection is usually made to a standard dialup telephone line, but may also be connected to a PBX extension line, key system, virtual PBX, or cellular phone interface in applications where desirable.

Model AS100—1FF has its own internal "Un-interruptable Power Supply", which provides for continued AlphaSense operation when external power fails. In the event of complete power loss, including a dead or damaged battery, AlphaSense can retain all its internal data for up to 5 years. When power is again connected, it will restart precisely where it left off when the damage occurred! AlphaSense's self-contained power monitor immediately delivers an alarm message whenever AlphaSense loses its externally-supplied power, and a different message when power is restored.

The eight inputs on model AS100-01FF accept standard 2-wire "switch closure" type sensors or connection from contact open/closure, Form-C relay, or any TTL-compatible device. The user may define each input for either normally-open or normally-closed activation. Input #1 is internally jumpered to an "External Power Restored" signal and may optionally be used for regular input sensing by removing a

jumper. Each input has a corresponding user-defined 80 character ASCII text message, and is assigned up to two destinations for message delivery, designated primary and secondary. Messages are prefaced with a user-defined "Site-ID" text, so that if multiple units are reporting identical alarms, it is easy to confirm the exact origination. All input messages and numbers are completely user-programmable and may be changed at any time.

Model AS100-01FF connects to a data source through an industry-standard RS-232 serial port (or to a centronics parallel "printer" port, using an optional adapter). AlphaSense will scan and monitor the the data stream arriving at its data port for properly formatted data, and completely manage the delivery of the messages to whatever destinations are specified. Additionally, data received at the serial port is stored in a history log, and may be viewed or downloaded by the user at any time. A special "Direct-Mode" provides the user a direct connection through AlphaSense to the connected equipment. To access this mode, the user calls into AlphaSense from any modem-equipped PC, laptop, or other terminal device, selects this mode from the Main Menu, (or enters it directly, using a special password) and then may communicate with the connected equipment directly. Using this feature, a technician could be alerted by AlphaSense as a result of specific data arriving at the port, then the technician remotely dials into AlphaSense, and is able to interact direct with the host to make repairs, change host equipment configuration, etc.

For alarm and internal sensing systems message delivery, AlphaSense features intelligent delivery detection, with up to 9 retries on both primary and secondary destinations to help ensure delivery. When dialing out, AlphaSense employs advanced dialing routines and will sense dial tone and second dial tone, and allow mixed pulse dialing and tone dialing in telephone numbers. Sophisticated call-progress detection and processing sorts out line noise, "busy" and "circuits busy", and will detect a voice answer at the called number. All such cases would be processed for re-delivery, as would errors, faults or validation failures at the wireless messaging provider's system equipment.

Model AS100-01FF is upgradeable to other models in the AlphaSense product line.

First-time Purchasers

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YOU MAY RETURN IT FOR A FULL REFUND OF THE PURCHASE PRICE!!**

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Formatting Information for Model AS100-01FF Serial Port Data

Below is the format for "fixed-format" data strings arriving at the AlphaSense serial port, for processing and transmission by AlphaSense. Each "substring" will not have any specific length limitation, since AlphaSense will parse the string and

allocate memory dynamically. The overall length should be kept under 275 characters for now, and don't forget to keep the message content length within the limits of the paging carrier being used, and some are as short as 80 characters. AlphaSense has no problem, and will deliver very long messages, but the paging carrier may either truncate them, or simply not deliver them at all!!

Here's the string format:

&aaa..._bbb..._ccc...<CR>

Substring Element Descriptions

& - the "start-of-block character, 38 decimal

aaa... - phone number to access alpha paging system, including any PBX prefix, dialing code, etc.

_ - "delimiter character" the underscore character.

bbb... - the desired pager PIN number for this message

_ - delimiter character

ccc... - the message content to appear on the pager

<CR> - a carriage return character as terminator