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Morley Sentinel Access Control Specification
Sentinel Controller & Sentinel Lite Software

ELECTRICAL CONSULTANTS & SPECIFIERS
ACCESS CONTROL SYSTEM
FUNCTIONAL SPECIFICATION

1. Access control system description

1.1. The access control system is to provide the means for the automatic management of the movement of staff and visitors throughout the building and other peripheral entrances and exits. The system will also provide the means of generating reports for the use of management and relating to the recording of movements, logging of events and alarms occurring on the system.

1.2. The primary requirement of the system is that it should meet the immediate needs of the installation and also be able to be expanded further through the addition of readers, door controllers and card holders, without the need for replacement of control hardware or software, or the need for additional system interfacing parts or assemblies. The system should be easy to operate, yet offer the features and benefits associated with state of the art access control hardware and software systems, to ensure system permanence.

2. Access control system requirements

2.1. The system shall manage the movement of personnel using proximity technology door token readers operating in conjunction with field-mounted controllers. The system shall have the option of being operated as a stand-alone network, or via a management PC.

2.2. The system shall be able to offer the following specification;

2.2.1. Stand alone operation of one controller

2.2.2. The addition of further controllers to form an access control network, without the need for a management PC.

2.2.3. The optional expansion of the system to include a management PC. The PC shall operate on any of the following platforms: Win 95/98/2000/ME and NT4.

3. Stand alone controller requirements

3.1. Each controller shall be able to operate in a stand-alone mode and when in this mode, each controller shall offer the following specification;

3.1.1. 4,000 card holders

3.1.2. 2 door reader inputs

3.1.3. 4 programmable clean contact inputs

3.1.4. 4 x 1A programmable relay outputs

3.1.5. A backlit programming keypad

3.1.6. A backlit display, offering real time confirmation in quiescent mode and operating as a programming display in conjunction with the keypad when in programming mode.

3.1.7. An event log, storing the past 4,000 time and day stamped events to include token transactions, programming data, and system status conditions.

3.1.8. A local printer port, to which an inkjet or LaserJet printer may be connected, to print system transactions and events.

4. Programming controllers

4.1. All system programming needed such as the addition/deletion of tokens and the setting of system status conditions, shall be achieved through an on-board programming keypad.

4.2. Entry to the program mode shall be via a security PIN code, which shall be user configurable on site and entered through the keypad.

4.3. Once entered, the programming mode shall include a simple sequence of instructions to guide the user through the programming process. This shall not be achieved through the use of peripheral programming computers or hand held units and should be able to be modified by an authorised user at any time.

4.4. Tokens shall be added through the entry of individual token numbers via the keypad, to the controller. Tokens, which do not carry individual, identifiable token numbers, shall be rejected.

4.5. Each controller shall also have the capacity for the setting up of a 'master card' which will enable the addition and deletion of tokens without the need for token number entry, however the addition of tokens via the master card shall enter the unique user identifiable token numbers.

5. Networked systems

5.1. The controller shall have the facility for expansion into a full operating network with the capacity for maximum 16 controllers in a network..

5.2. The networking shall be achieved through the installation of interconnecting cable. The type shall be a twisted pair, shielded cable of an approved specification (see cable specifications) between each controller.

5.3. The network shall not require a PC or external programming facility to program individual or networked controllers, although connection to a PC operating system shall be an optional feature.

5.4. When in networked mode, users may be added to any individual controller on the network and as a result, be also added to all other controllers via the internal functionality of the controller network. Users should not be limited to addition at one controller only.

5.5. All user information, time stamping and real time displays, event information and system information shall be synchronised throughout the controller network to ensure full maintenance of system condition status and user event transaction logging.

5.6. When in networked mode, the capacity of the system shall remain at 4,000 users and 4,000 events.

6. PC control option

6.1. The system shall have the capacity to accept a system PC through the introduction of a standard software management package designed and provided by the access control system hardware supplier to ensure complete compatibility.

6.2. It is important that the expansion of a system to include PC control shall not incur overbearing additional hardware or installation costs. The physical connection of the controller to the PC shall therefore be achieved without the need for any additional interfacing hardware such as converters or communications modules or panels.

6.3. The software shall be operable on a number of standard PC operating platforms including Windows 95/98/2000/ME and NT

6.4. The PC shall itself be of a type requiring the following specification;

6.4.1. Minimum 200 MHz processor, preferably a Pentium type.

6.4.2. 32 Mega bytes of Random Access Memory (RAM)

6.4.3. At least 200 Mega bytes of free hard drive space (HDD)

6.4.4. A VGA monitor screen, preferably with 1024 x 768 display capability

6.5. The software shall be made available via a CD-ROM.

6.6. The software shall offer self loading with installer 'Wizard' assistance and present a recognised screen format to the user in the form of a Microsoft 'Outlook' presentation.

6.7. Wizard menu assistance shall also be available for the configuration of the controller networks, to enable the installation and commissioning process to be a simple process.

7. Software Operation

7.1. The software shall extend the capability of the system to include the following menu programme selections;

- Transaction Monitor
- Edit Users
- Profile Configuration
- Passwords
- Controller Configuration
- History Reports
- (Dial-up network) Task Scheduling
- Time Profiles

7.2. Transaction monitor

7.2.1. The transaction monitor will be the default screen shown when the software programme is opened. The transaction screen shall show each and every transaction including;

- full time and calendar date stamping on all events
- colour coded delineation of each transaction
- accepted and rejected card presentations, together with the token number presented and user name
- the operator logged on to the system
- confirmation of system operation
- system alarms

7.3. Add/Edit users

7.3.1. The add/edit users menu will allow an authorised operator to add new users, or to edit existing user details.

7.3.2. The minimum fields available for user data shall be;

- Title
- First, middle and last names
- Work and home telephone numbers
- Full address details

7.3.3. The edit users menu shall also allow users to specify card access rights as defined in 7.4.1.

7.3.4. A further data field within the add/edit user field shall be available to programme the user token. The field shall include sections for the entry of a unique card number, corresponding to the unique number of the token to be provided to the user. Additional fields shall be available to select the user token technology and to add a user note of no less than 64 characters in length. The user note may be added as a tag to be included in transaction reports upon presentation of the user token to a door reader.

7.4. Profile Configuration

7.4.1. The software shall enable the selection of up to 250 user profiles. Each profile shall define a user group, with both profile name and description programmable via the program menu.

7.4.2. Selection of access rights for the profiles shall be achieved by selecting the chosen access right option via a drop down (access rights) option list for each of the door readers connected to the system

7.4.3. The Profile Configuration screen shall be a split screen showing a list of existing profiles on the left and the configured access control system on the right. The configured access control system shall be shown in a Microsoft Outlook 'tree' presentation, with all networks, controllers and readers displayed.

7.5. Time Profiles

7.5.1. In addition to enabling user profiles, the software shall also offer time profiles programming

7.5.2. Time Profiles are used to enable supervisors to grant access through doors at specific times of the day and specific (or all) days of the week

7.5.3. The software shall have a total of eight time profiles, two of which shall be default profiles (full access and no access) with the remaining six being programmable

7.5.4. The profile menu shall allow a time profile to be added through the selection of a text name (the user group) and profile description (their access rights description)

7.5.5. Once selected, the new time profile shall show a time selection screen upon which the programmer may select up to eight access rights per day

7.5.6. Once completed, the time profile name becomes available within the profile configuration screen within the drop down access rights selection for each door reader

7.6. Passwords

7.6.1. The Passwords menu enables the addition/modification of additional operators, with the option to select system control access rights to each of the software menus described in 7.1, for each operator.

7.6.2. The Passwords menu shall include a program screen for the addition of the operator's user name and password, which must be verified on the menu screen. The menu also includes icons, each representing the software program options outlined in 7.1. An operator description must also be available, which will appear on the Transaction screen when that operator is logged on to the system.

7.6.3. The Password and user name must be between six and sixteen characters in length.

7.6.4. Selection of operator access rights to each area of the software program is achieved by mouse button 'single click' selection of each of the software menu shortcut buttons to which the operator is given control.

7.7. Controller Configuration

7.7.1. This menu allows the configuration of the control system networks, together with the addition of controllers, readers and input/output set-up

7.7.2. The Controller Configuration screen shall be a split screen, with the system layout shown in 'tree' form in the left half of the screen, whilst the system configuration data and menu is shown in the right half of the software screen

7.7.3. Access control systems, which do not show this form of intuitive, interactive, programming assistance, shall not be accepted.

7.7.4. The software shall allow the configuration of a minimum of four such access control networks.

7.7.5. Each controller network shall accommodate up to sixteen access controllers

7.7.6. Network connection options shall include as a minimum;

- Local COM port connections via the host PC serial port
- Secure dial-up networks, via standard US Robotics 56K modems
- LAN/WAN network connection via Lantronix UDS-10 network adapters supplied and set-up by the access control system supplier

7.7.7. Set-up of controller networks shall be achieved via the selection of a set-up 'wizard' which will guide the programmer through the configuration process, as outlined below;

7.7.8. The addition of controller networks and controllers shall be accessed through the 'right-click' of a mouse on the host PC icon, shown on the left side of the configuration menu screen. The configuration process shall offer the programmer selection of the network configuration outlined in 7.6.5 above.

7.7.9. The addition of controllers to the network shall be achieved through the same wizard selection as in 7.6.7

7.7.10. The right half section of the program screen shall present the configured and programmed data for system element as well as program options. The data shown relates to the part of the system being configured and includes;

7.7.11. Networks

7.7.11.1. Communications settings and test connection button

7.7.11.2. Network label text box

7.7.11.3. Network door reader technology selection

7.7.11.4. Force network upload option (interrupts access controller operations to carry out required program change)

7.7.12. Access controllers

7.7.12.1. A full on-screen display of all configuration settings for the access controller selected, including controller label, input/output. This window shall also show the true state of inputs and outputs on each controller and shall include a refresh button to confirm the input/output status

7.7.13. Door readers

7.7.13.1. Reader description (text box)

7.7.13.2. Buttons to select door reader as an Administration Reader

7.7.13.3. Further button to remotely open door

7.7.13.4. Reader override menu to override door lock between selected times, on a 5 or 7 days per week basis

7.8. History Reports

7.8.1. The system shall record all system events including card transactions (valid and invalid), operators logged on the system, alarms, mains failures and any other events specifically requested

7.8.2. The events shall be available in an easily accessible History File, operating in a secure Microsoft Access database form

7.8.3. The History File shall have the capacity to record at least the last 100,000 system events

7.8.4. The software management package shall offer facilities to sort events by database column

7.8.5. There shall also be facilities to allow sorting of columnar data via a custom search facility. This facility shall enable the selection of two variables within which the search can be focussed, i.e. within two dates all transactions may be sorted

7.8.6. The software shall allow sequential column sorting to assist in further detailing search patterns, i.e. for a specific user within a sorted data report

7.8.7. The sorted data shall be able to be exported via any of the following formats

7.8.7.1. Text files in .txt form

7.8.7.2. Data Base files in .xml form

7.8.7.3. To a Microsoft Excel spreadsheet in .xls form

7.8.7.4. As an HTML file

7.9. Dial-Up System Task Scheduler

7.9.1. The system shall incorporate a dial-up network task schedule wizard menu to access the remote network(s)

7.9.2. The menu shall have the facility to attach a text name to the dial-up schedule to avoid confusion and ease operations

7.9.3. The system shall enable remote networks to be interrogated at specific times and/or repeated times and dates, including;

7.9.3.1. Every hour(s)

7.9.3.2. Every day(s) or a specific day of the week

7.9.3.3. A week(s) of the month, or on a specific day of each month

7.9.3.4. With specific start time and stop time options

7.9.4. Once set, the schedule shall be shown within the software window for dial-up scheduling, together with all dial-up performance reports, successful or otherwise

7.9.5. An authorised operator must have the option to open the dial-up report and be presented with performance data for that schedule, together with the options to change the status and/or suspend the schedule

8. Software On-Line Help Facility

8.1. The system must include a complete and comprehensive on-line help facility

8.2. The help file shall as a minimum, present all of the features and programmes required to install and operate the software management system

8.3. The Help File shall be accessed via the software menu bar, where selection shall generate a new window displaying, in tree selection form, the complete Help File menu

8.4. All Help File menu subjects shall be hyperlinked through to the correct menu section. The facility shall also include a keyword search option

8.5. The software shall have the further option of a menu bar question mark button, which when selected via mouse, shall enable the operator to drag the question mark to the appropriate section or page of the access control software, where upon clicking the mouse button once, the Help File for that operation shall be generated

8.6. The provision of a useful and reliable Help File facility is seen as paramount and systems which cannot offer the facility described will not be acceptable