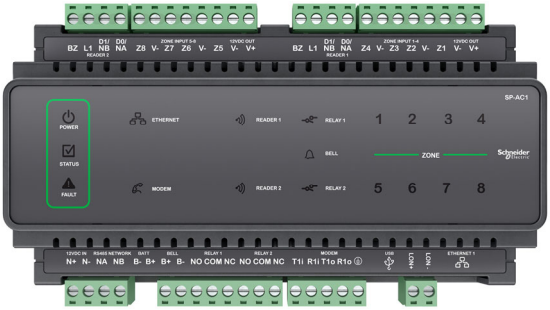
Security Expert LON Controller



The Security Expert LON Controller is the central processing unit of the Security Expert System. It communicates with all system modules, stores all configuration and transaction information, processes all system communication, and reports alarms and system activity to a monitoring station or remote computer.

Feature Highlights

- Built in LON Interface
- Internal industry standard 10/100 Ethernet
- 32 Bit advanced RISC processor with 2Gb total memory
- Encrypted module network using RS-485 communication
- Built-in offsite communications dialer (ContactID SIA)
- 2 reader ports, configurable for either Wiegand, RS-485, or OSDP operation
- 8 high security monitored inputs
- 1 high current monitored bell output
- 2 high current Form C relay outputs
- Firmware upgradable directly from the software
- Designed for use with industry standard DIN Rail mounting

LON Interface

The two wire LON interface connects to the Schneider Electric Continuum range of I/O modules and provides high speed secure communication with up to 32 modules at once. Both FTT-10 and RS-485 are supported and the mode of operation can be switched programmatically. The interface uses Differential Manchester encoding, which means the orientation of the 'A' and 'B' connections is not important - the interface works equally well when wired either way round.

Ethernet 10/100 Connection

Onboard Ethernet communication allowing direct connection from a local PC or interconnection to an existing LAN/WAN:

- Directly connect the Security Expert system across a LAN or WAN interface for high speed upload and download.
- IP reporting functionality using the ArmorIP protocol, Contact ID over IP, SIA over IP and full text reporting methods.
- Full 10/100 compliant network interface allows the connection of the controller to all networks at the maximum capable signaling rate.

Flexible Reader Support

Provides 2 reader ports, each of which can be independently configured for either Wiegand, RS-485, or OSDP* operation, allowing the connection of up to 4 readers controlling 2 doors.

Choose RS-485 readers for fast, flexible, secure communication, or Wiegand for compatibility with all standard access control systems. RS-485 readers provide the added benefits of being easier and more cost effective to wire and deploy, and allow for direct integration with Security Expert systems enabling you to make changes on the fly once readers are installed. RS-485 also allows for longer cable runs and offers a simpler firmware update process.

* Refer to the Application Note AN-254 Configuring OSDP Readers in Security Expert, available from the Schneider Electric website.

Integrated Arming/Disarming

Featuring advanced integration of arming and disarming solutions for control of hundreds of alarm areas:

- Deny access to a user based on the status of the area and allow the user to control the area they are entering, in turn reducing false alarms
- Implement vault control areas to restrict and manage the time delayed access and unlocking of vault areas in banking facilities without the need for extra hardware control devices
- Prevent access to a keypad using a card and PIN function or allow card presentation to automatically login the user at the associated keypad
- Disarm an area associated with an elevator floor on access or prevent the user from gaining access to the floor based on the area status associated with the floor
- Arm large numbers of areas using area groups

Integrated Access Control

Providing a highly sophisticated access control solution with large user capacity and extensive features:

- Utilize multiple access levels to manage users over scheduled periods and time zones
- Assign door groups, menu groups, area groups, floor groups and elevator groups to an access level for flexible user management. Each user can have multiple groups in multiple access levels
- Maintain and control user's area status throughout the entire system with hard and soft anti-passback configuration options
- Multiple card presentation options allow the use of access control cards, tags or other credentials to arm and disarm areas associated with doors
- Count users entering an area and arm the area when the count reaches a terminal number or deny access to users based on a maximum user count

Automation Functions

Automation points allow for the management of any controllable device such as lighting, air conditioning and signage. Link automation points to programmable functions to provide sophisticated control logic at the selection of an automation point. Define your own text names for automation points such as Office A/C or Outside Lights allowing easy identification of controllable items within the system.

Programmable Functions

Programmable functions allow for the use of special applications that are configured by the controller for logic, area, door and many other controllable devices:

- Perform actions when a particular event or operation occurs such as setting the room temperature based on the number of people in an area, adjusting the internal lighting levels based on a sensor reading, or unlocking doors in the event of a fire alarm
- Process logic functions to allow complex equations to be evaluated using the special internal memory registers and output status
- Control of doors, areas, elevators and outputs can be easily programmed and managed

Connectivity and System Expansion

Expansion of the Security Expert system with onboard local inputs and outputs allows convenient cost effective expansion without the increased cost of modules for simple system functions:

- 8 onboard inputs can each be programmed to require EOL (End Of Line), dual EOL, or direct contact
- Bell/Siren output onboard with fully monitored operation
- 2 high current Form C relays onboard
- 2 integrated reader ports, configurable for either Wiegand or RS-485 reader operation
- System expansion is achieved by connecting additional expander modules

Integration

- Link the Security Expert System with intelligent locking solutions through comprehensive world class solution partners Salto, Aperio, and Cencon.
- High level lift interface for control of modern elevator systems
- Other third party integrations such as building and lighting control systems

Communication

RS-485 communication interface, onboard 2400bps modem, and a 10/100 Ethernet communications port provides a complete solution for system expansion, offsite monitoring, system communication and integration.

Multifunction Reporting Services

The controller incorporates a host of communication options.

- Send IP based reporting protocols using the onboard Ethernet and the ArmorIP protocol.
- Report alarms using Contact ID, SIA Level 2.
- Communicate with third party applications using ASCII or HEX directly from the controller.

Upgradable Firmware

Firmware upgradable directly from the Security Expert software.

Technical Specifications

Operating Voltage	11-14V DC
Operating Current	120mA (typical)
DC Output (Auxiliary)	10.45-13.85VDC 0.7A (typical) electronic shutdown at 1.1A
Bell DC Output (Continuous)	10.4-13.45VDC 8 Ohm 30W Siren or 1.1A (Typical) Electronic Shutdown at 1.6A.
Bell DC Output (Inrush)	1500mA
Total Combined Current*	3.4A (max)
Electronic Disconnection	9.0VDC
Communication (Ethernet)	10/100Mbps Ethernet communication link
Communication (RS-485)	3 RS-485 communication interface ports, 1 for module communication and 2 for reader communication
Communication (Modem)	2400bps modem communication
LON Interface	The two wire LON interface connects to the Schneider Electric Continuum range of I/O modules and provides high speed secure communication with up to 32 modules at once. Both FTT-10 and RS-485 are supported.
Readers	2 reader ports that can be configured for either Wiegand (up to 1024 bits configurable) or RS-485 reader operation allowing the connection of up to 4 Wiegand readers or 4 RS-485 capable readers providing entry/exit control for two doors **
Inputs (System Inputs)	8 high security monitored inputs
Outputs	4 50mA (max) open collector outputs for reader LED and beeper or general functions
Relay Outputs	2 Form C relays - 7A N.O/N.C. at 30 VAC/DC resistive/inductive
Operating Temperature	UL/ULc 0˚ to 49˚C (32˚ to 120˚F) : EU EN -10˚ to 55˚C (14˚ to 131˚F)
Storage Temperature	-10˚- 85˚C (14˚ - 185˚F)
Humidity	0%-93% non-condensing, indoor use only (relative humidity)
Dimensions (L x W x H)	156 x 90 x 60mm (6.14 x 3.54 x 2.36")
Weight	330g (11.64oz)

*The Total Combined Current refers to the current that will be drawn from the external power supply to supply the Controller and any devices connected to the Controller's outputs. The Auxiliary outputs and Bell output are directly connected via electronic fuses to the N+ N- input terminals, and the maximum current is governed by the trip level of these fuses.

**Each reader port supports either Wiegand or RS485 operation but not both at the same time. If combining Wiegand and RS-485 technologies, they must be connected on separate ports.

Ordering Information

SP-AC1	Security Expert LON Controller

Regulatory Notices

Federal Communications Commission (FCC)

FCC Rules and Regulations CFR 47, Part 15, Class A.

This equipment complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference; (2) This device must accept any interference received, including interference that may cause undesired operation.

Industry Canada

ICES-003

This is a Class A digital device that meets all requirements of the Canadian Interference-Causing Equipment Regulations.

CAN ICES-3 (A)/NMB-3(A)

RCM (Australian Communications and Media Authority (ACMA))

This equipment carries the RCM label and complies with EMC and radio communications regulations of the Australian Communications and Media Authority (ACMA) governing the Australian and New Zealand (AS/NZS) communities.

CE – Compliance with European Union (EU)

Conforms to European Union (EU) Low Voltage Directive (LVD) 2014/35/EU, Electro-Magnetic Compatibility (EMC) Directive 2014/30/EU and RoHS Recast (RoHS2) Directive: 2011/65/EU.

This equipment complies with the rules of the Official Journal of the European Union for governing the Self Declaration of the CE Marking for the European Union as specified in the above directive(s).

UL/ULC (Underwriters Laboratories)

- UL 294 for Access Control System Units
- UL1610 for Central-Station Burglar-Alarm Units
- CAN/ULC S319 for Electronic Access Control Systems
- CAN-ULC S304 for Signal Receiving Centre And Premise Burglar Alarm Control Units
- CAN/ULC S559 for Fire Signal Receiving Centres And Systems