Intrusion

Intrunet SPC series – advanced security for a connected world

Answers for infrastructure.

SIEMENS

Security investment protection at all levels

The SPC series combine intrusion and access functionality in one system with a cost-effective design and installation concept, and offer unmatched flexibility and scalability up to 512 wired zones/120 wireless zones and 32 doors. All SPC controllers are designed to meet EN 50131 standards, offering versatile operation and alarm management functionality.

A common range of system components – keypads, smart expanders and modules – can be mixed and matched to expand the system and connect detectors and peripherals from the comprehensive Intrunet™ wired and wireless range. The systems will generate confirmed alarm activation over multiple communication paths, including SMS messaging for notification to designated persons. Straightforward system commissioning is achieved thanks to a powerful suite of configuration tools and a high-speed and high-length field bus, which also ensures high fault tolerance. The common "look & feel" across the hardware, configuration software and operational devices facilitate installation and set-up and make operation very intuitive. With future-proof and high-performance processor technology, the SPC series offer advanced functionality – including advanced door management – for applications of all sizes and criticality, with ample room for expansions or upgrades.

Planning for the future with scalable SPC series intruder alarm systems

A modular range for all applications
Scalable up to 512 wired or wireless zones, the modular SPC series facilitate the planning and installation phases thanks to common keypads, modules and expanders, which can be mixed and matched to fit applications of all sizes and allow the systems to grow with the customer requirements. Sophisticated programming, alarm management and control functionality – including door control – enable the system to be truly tailored to the most stringent security requirements.

True system partitioning
All SPC series controllers support "true" system partitioning, enabling multi-area and multi-tenant applications. Multi-tenant systems have the capability to report multiple URNs to central stations and enable private (SMS) notification to specific users. For added security, access to the Web server is also partitioned with authentication for each tenant.

Advanced connectivity
With increasing requirements for security services, connectivity to Alarm Receiving Centres (ARC) is now a major part of any security system. The SPC controllers can connect to an ARC over PSTN, GSM and IP over Ethernet (SPC6000), also enabling multi-transmission of queued alarms over PSTN and GSM in a single call.

Unmatched installation flexibility
The SPC series system design concept delivers a consistent overall performance regardless of the system size. The concept is supported by the high-speed and high-length field bus, a reliable backbone that is ideal for larger system installations, as it delivers high fault tolerance (loop configuration) and allows up to 400 m to separate each bus device.

Remote configuration with unique on-board Web server
The higher end controller models can be configured remotely through any of the communication channels (PSTN, GSM or Ethernet for SPC6000) using the on-board Web server or through the PC application. This remote programming facility minimises expensive on-site engineering costs and can contribute to lower the overall costs of ownership for the end-user.

Seamless on-site programming
The panel can also be set-up locally using the keypads PC application or pre-programmed configurations by connecting the "Fast Programmer" to the controller. Engineer friendly menus (based upon mobile phone formats) along with system templates make the SPC series some of the quickest panels to program directly from the keypad.

Powerful control and operation
The 32-character keypads with clear text display provide a modern and functionally advanced user interface based on mobile phone menus. 3 versions are available with or without card reader functionality and integrated wireless receiver. Control over SMS enables the system to be fully or part set and alarms to be restored.

Advanced door management
The SPC5000/and SPC6000 cost effectively combine intrusion protection and access control management in the same controller. Compatible with card and PIN/card readers, they enable the control of up to 64 entry doors or 32 entry/exit doors, combined with automatic setting and unsetting of areas depending on the individual user rights. The definition of door groups supports high security applications, with additional functionality such as anti-passback, card holder escort or custodian access.

Highlights

- Future-proof and scalable systems
- Compatible with Intrunet wireless detectors & peripheral devices
- Advanced door management functionality
- Local or remote programming and control
- Comprehensive communications
- Intuitive keypads with/without card reader or wireless receiver
- High fault tolerance with X-BUS
- Designed to meet EN 50131 standards, Grades 2 and 3

A modular and scalable system range for all applications

Versatile operation and comprehensive alarm management functionality

Pre-defined operation modes
The SPC series can accommodate two distinct modes of intruder alarm operation, both of which support multiple areas and the SPC's various alarm modes (UNSET, SET, PARTSET, etc.): the Domestic mode is better suited for residential and small commercial installations with a small to moderate number of alarm zones. The Commercial mode presents more advanced functions and programmable alarm types and is more suitable for business installations with a larger number of alarm zones.

User-friendly local operation
The system features various setting options accessible through the keypads: in "FULLSET" mode, it gives full protection to a building whilst opening of entry/exit zones will start the entry timer. Two "PARTSET" modes provide perimeter protection to a building while allowing free movement through the exit and access areas. When selected, these modes will exclude pre-defined zones from protection, and the alarm is instantly activated.

Instant control and safe operation over Web browser
The on-board Web server on SPC5000 and SPC6000 enables users or engineers to log on remotely from any PC and check the system and zones status, as well as logs and perform certain programming operations over IP (SPC6000), such as area setting or unsetting.

A "system alerts user page" provides information on all of the alerts that the user can clear or isolate. The alert signal (or zone) and its current status is displayed along with the action available to the user for each of the alert conditions. This enables faults to be isolated until rectified, without impacting the performance of the rest of the system.

Remote system control
Users or engineers can log on from any remote PC and check the status of alarms, view event logs or turn on and off different areas. Users can also be notified of events via SMS text messaging and even control the panel via SMS commands sent over the GSM network (set, part-set, restore alarm).

Intuitive keypad for direct operation

Flexible remote control and operation via SPC Com or Web browser

Conditional programming ensures appropriate responses are given to alarms, on site and remotely.

Direct alarm management

The type of alarms generated by the SPC systems can vary depending on the type of zone that triggered the alarm activation (Each zone type will activate its own unique output type – an internal flag or indicator – that can then be logged or assigned to a physical output for activation of a specific device).

- A **Full Alarm** activation will report the alarm to the Alarm Receiving Centre (ARC) if one has been configured.
- A **Local Alarm** activation will not attempt to call the ARC even if one has already been configured.
- A **Silent Alarm** activation will not generate any visual or audible indications of the alarm. The alarm event will be reported to the ARC.

Versatile alarm verification

The SPC series enable several events to be filtered before the alarm is transmitted. The alarm transmission can also either be delayed or confirmed to prevent unnecessary intervention costs.

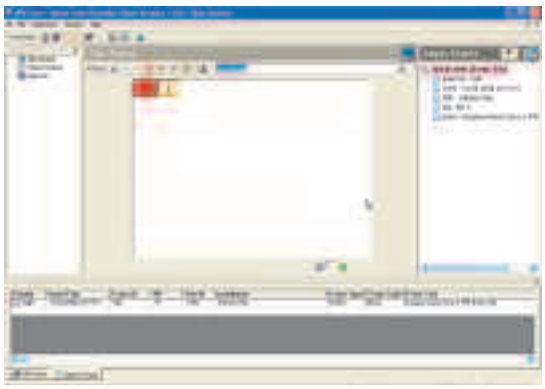
Event logs

Up to 10,000 intrusion and 10,000 access events can be logged depending on the controller model. The event log can be accessed via the keypad and displayed on the LCD screen, either as a list of the most recent events, or by doing a date/time search.

Safer alarm handling

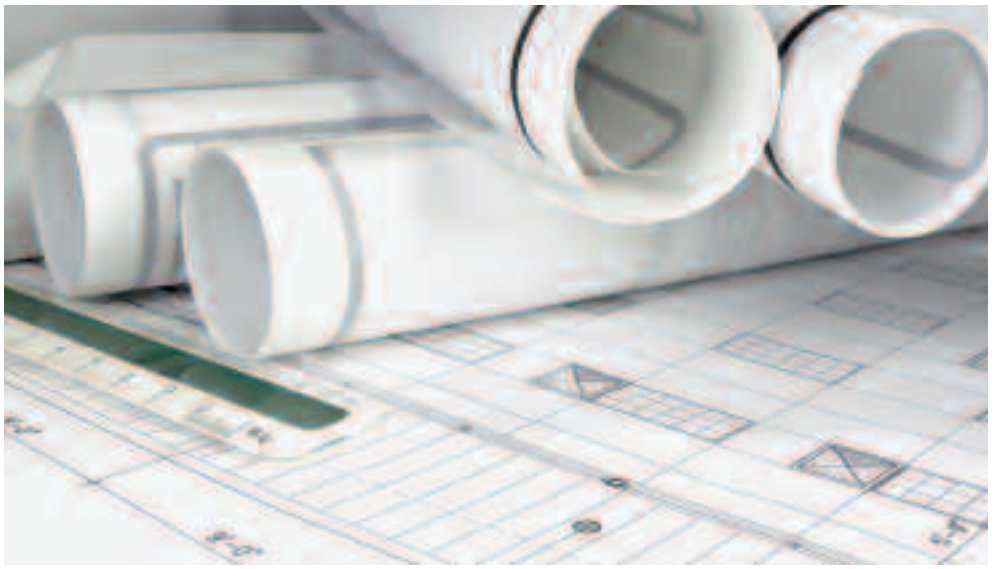
The SPC Com alarm receiver software (SPC6000 via alarm over IP) provides a graphical status representation of all SPC panels connected to the system. This enables a quicker event investigation and intervention. Actions undertaken in response to alarms can be logged for future reference, and response procedures can also be displayed to guide the user through the appropriate alarm handling steps.

Clear system overviews ensure total control at all times



Highlights

- Pre-defined operation modes facilitate set-up and reduce operator error
- Comprehensive system “set” options
- Local or remote system control
- Zone-specific alarm activation and transmission types
- Alarm transmission delay functionality with verification through event filtering
- Optimal queued alarms transmission in one call
- Separate intrusion and access event logs
- Graphical system alarm status
- Log of alarm responses and procedures



Simple system planning and configuration

High-performance field bus
All the keypads and expanders on an SPC system are connected via the X-BUS, a high-speed and high-length field bus. The X-BUS can be wired either in a standard spur configuration (open loop) or – for high fault tolerance – in a ring (closed loop). The ring topology protects the system against possible communication faults by isolating the faulty branch in the ring, leaving the rest of the system unaffected. The X-BUS concept enables secure power distribution as it can be separated into branches to independently power the devices. Both data communication and device voltage supply can also be done via the same cable.

Intuitive configuration
The SPC Pro software allows the panel to be configured or upgraded quickly via a PC. The software supports direct and remote connections via RS232, USB or IP (SPC6000). System options are accessible through dynamic menus and drop down lists showing all key functions. The software also gives access to the system status and event logs. Configuration templates and icons simplify the front end, minimising the options available to the engineer and speeding up installation. For more sophisticated requirements, 64 calendar-based time channels with multiple on/off switching patterns allow individual time control of users, areas, inputs or outputs. A "Cause & Effects" programming option allows outputs to be activated based on freely definable trigger conditions (zone status change, system or area outputs, user PIN, keypad quick keys, and calendars).

Seamless wireless integration
The SPC series can operate up to 120

Highlights

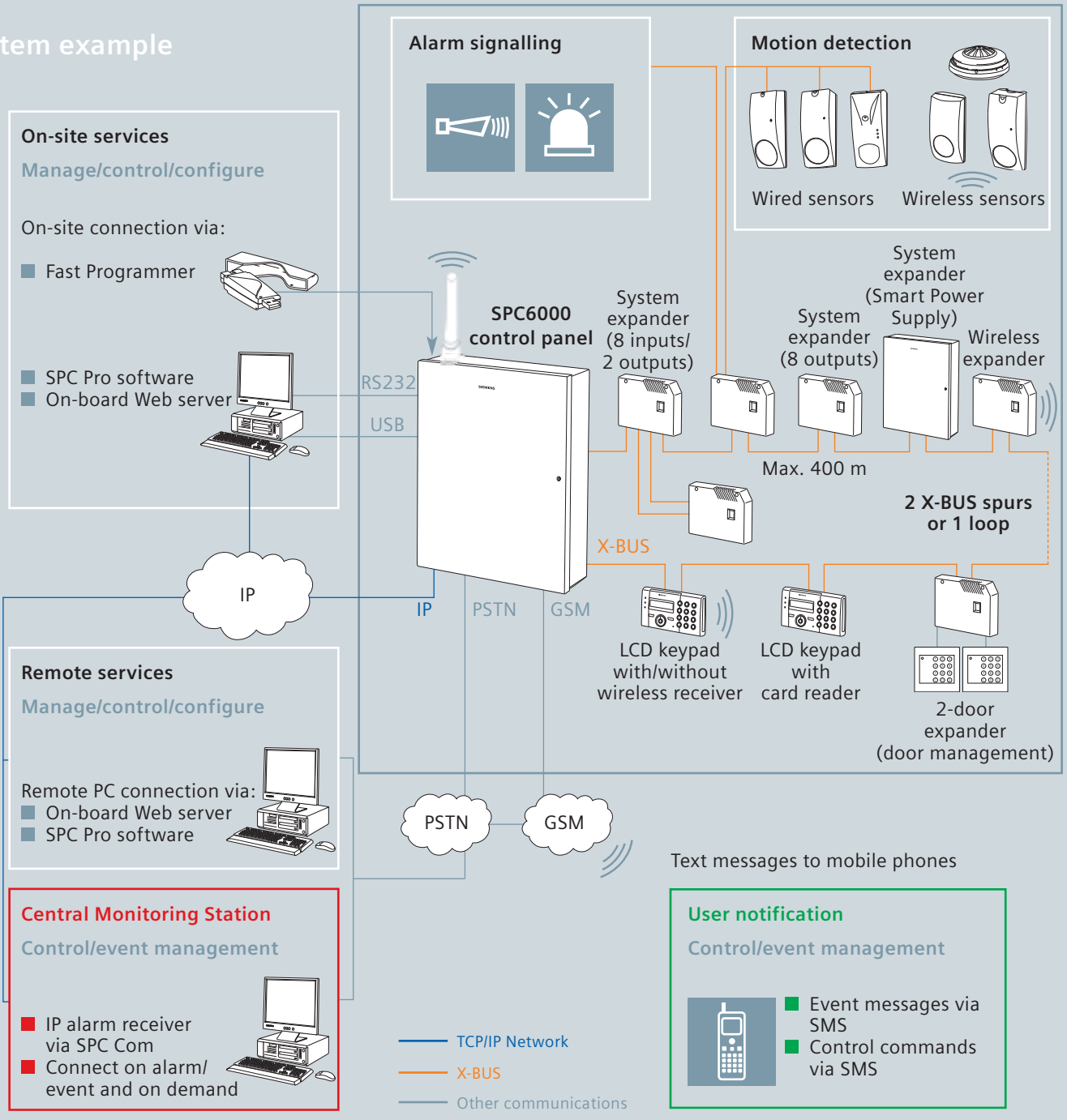
- High system fault tolerance with reliable X-BUS concept
- Reduced on-site engineering time with flexible programming options
- Configuration templates facilitate EN 50131 compliance
- Enhanced software features for high security applications
- Comprehensive suite of communication devices enables full up-/downloads
- Reliable and cost-effective wireless integration

Remote or on-site programming and maintenance

Easy configuration back-up or transfer

Intrunet SPC6000

System example



Intrunet wireless detectors and 1 Intrunet remote control per system user. The wireless alarm messages and remote control commands can potentially be received through several wireless access points installed in the system. This enables an optimal signal reception as well as cost-effective and reliable wireless coverage. All SPC systems enable both wireless and wired zones to be controlled on the same system.

Easy configuration transfer and back-up

The SPC Fast Programmer provides a simple and reliable method of backing up (e.g. before a firmware upgrade) or transferring configuration files between the office (PC) and sites (SPC panels) via the SPC Pro application, but without direct PC connection to the panel. The device has on-board flash memory, which typically can store in excess of 100 configuration files.

Powerful remote services

On-site engineering time is minimised with remote maintenance and control available through the unique Web server or a PC with SPC Pro – both allowing engineers to access a full range of service functions (secure authentication/rights), via Broadband/LAN or data channels over GSM/PSTN.

Comprehensive range of controllers with remote connectivity over all communication channels

Controllers and modules – flexible connectivity and configuration

The SPC controllers cover from 8 to 512 wired/120 wireless zones, and are available in metallic or with hinged cabinets that are designed to meet EN 50131 Grade 2 or 3. All modules are pluggable to allow any combination to be used. The controllers support remote connectivity over all communication paths, and provide comprehensive engineering options, from programming to remote diagnostics. All controllers' data can be retrieved via SPC Pro or the Fast Programmer.

SPC4000 controller

The SPC4000 controller caters for 32 zones and 30 outputs, and is available in a metal cabinet (max. battery 7 Ah). The controller comes with integral power supply, 8 on-board wired inputs, 6 on-board outputs and one X-BUS expansion interface. SPC4000 supports dial-up over PPP or GSM data connection using additional modems, as well as up to 32 Intrunet wireless detectors and 1 remote control per user using the optional wireless receivers.

SPC5000 controllers

The SPC5000 controllers cater for up to 128 wired zones/120 wireless zones and 128 outputs, and are available in metal cabinets designed to meet EN 50131 Grade 2 (max. battery 7 Ah) or Grade 3 (max. battery 17 Ah). Both controller types come with integral power supply, 8 on-board wired inputs, 6 on-board outputs, two X-BUS expansion interfaces, and on-board Web server as standard. They support dial-up over PPP or GSM data connection using additional modem. The controllers enable the control of up to 16 doors/32 readers. The long distance X-BUS enables fast data exchange and redundancy (ring topology), ensuring minimal door operation waiting time and high reliability.

SPC6000 controllers

The SPC6000 controllers cater for up to 512 wired zones/120 wireless zones and 512 outputs and are available in metal cabinets designed to meet EN 50131 Grade 2 (max. battery 7 Ah) or Grade 3 (max. battery 17 Ah). Both controller types come with integral power supply, 8 on-board wired inputs, 6 on-board outputs, two X-BUS expansion interfaces, on-board Web server and Ethernet port. They support dial-up over PPP or GSM data connection using additional modem. The controllers enable the control of up to 32 doors/64 readers. The long distance X-BUS enables fast data exchange and

Highlights

- Controllers from 8 to 512 zones
- On-board Web server as standard on mid- and high-end models
- Door management functionality on mid- and high-end models
- 6 on-board wired outputs
- Up to 128/256 programmable outputs
- X-BUS expansion interfaces
- Integral power supply
- PSTN and GSM plug-in modules for versatile communication
- IP communication with SPC6000

Remote connection to an Alarm Receiving Centre on demand or following events

Remote event management and system control via SMS

redundancy (ring topology), ensuring minimal door operation waiting time and high reliability.

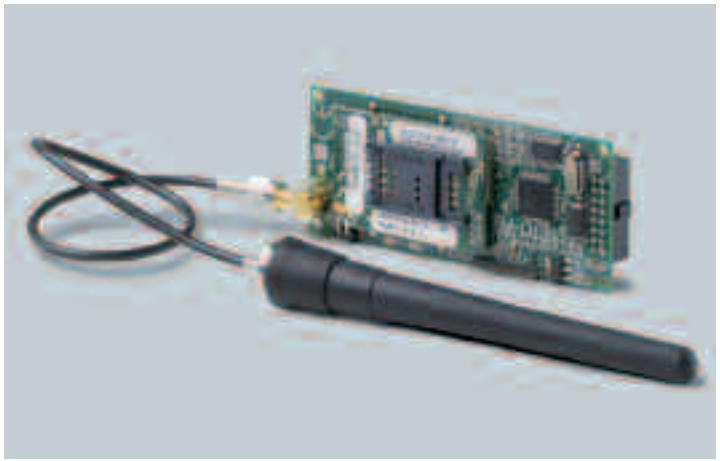
PSTN module

The PSTN module is compatible with the complete range of SPC panels and plugs directly onto the main PCB removing the need for any additional wiring. The modem can take control of the line and communicates with a central station using common format protocols (SIA, Contact ID, etc). The user/engineer is sent a pre-defined text when selected events occur on the system. The PSTN modem can be used as the primary source of communication or as a back-up to IP communication or the GSM modem.

GSM module with antenna

The GSM modem can be assigned to any mobile network by inserting a standard SIM card. The modem is compatible with the complete range of SPC panels and plugs directly onto the main PCB removing the need for any additional wiring. The unit comes with an external aerial that fits directly onto the cabinet. The modem communicates with a central station using common format protocols (SIA, Contact ID, etc.), and supports PPP connection to the SPC Pro software for remote programming and configuration up- and download. The SMS feature allows users/engineers to be sent a pre-defined text when selected events occur in the system. It also allows receiving of pre-defined SMS commands for security system control. The GSM modem can be used as the primary source of communication or as a back-up to the PSTN modem or IP communication.

Versatile communications with plug-in GSM and PSTN modules



The keypads offer an intuitive programming and user interface

The range of expanders covers all security requirements

The smart PSU provides a local power source to security devices anywhere on the field bus

Keypads and expanders – ultimate control and system performance

Wired and wireless LCD keypads
The SPC keypads provide an easy interface to locally control SPC systems:
- SPCK420: wired LCD keypad
- SPCK421: wired LCD keypad with card reader (set/unset)
- SPCK422: wired LCD keypad with integrated wireless receiver

Their 2-line, 16-character LCD screen displays the operational functions and status. Navigation of the intuitive menu is done via the central navigation key. The keypads also have soft and alphanumeric keys that allow contextual key operation and data input directly from the keypads.

Input/output expander
The expander supports 8 wired zones and 2 fully programmable relay outputs. The zones and outputs function exactly as the zones and outputs on the controller. Each zone can be configured for different monitoring requirement. The outputs are volt-free relays that provide both the NO and NC terminals allowing greater flexibility. The relays can be programmed to activate under a number of conditions.

Output expander
The 8 output expander supports 8 fully programmable relay outputs. The outputs have the same features as in the input/output expander.

Wireless receiver expander
This expander supports the Intrunet wireless detectors and peripherals, which are based on the proven SiWay radio communication technology. The receiver comes with an integrated RF access point, enabling installation for optimal wireless coverage and reception quality.

2-door expander
Each expander supports 2 entry doors or 1 entry/exit door, with automatic protocol recognition of connected card readers (Clock&Data, Wiegand 26 bits), as well as 2 inputs (Door Position, Door Release) and 1 output (Door Lock) per door. It also offers full door controller stand-alone capability of up to 512 priority card holders in case of communication loss to the panel.

Smart power supply expander
The smart power supply provide a fully monitored local power source for security devices and can be positioned anywhere on the X-BUS or centralised in one location for distributed power configurations. The expander also supports 8 wired zones and 2 fully programmable relay outputs.

Highlights

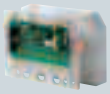
- Range of keypads with or without card reader functionality and wireless receiver
- Intuitive control and direct operation
- High performance wired or wireless system expansion with comprehensive expander range
- Plug & Play card reader configuration with optimised door expander
- Smart power expander concept with extensive self-diagnostic capability

Technical overviews

Controllers	SPC4120	SPC5220	SPC5230	SPC6320	SPC6330
Hard-wired zones (max.)	8 to 32	8 to 128		8 to 512	
Wireless zones (max.)	32	120		120	
Programmable outputs (max.)	6 to 30	6 to 128		6 to 512	
Number of areas (max.)	4	16		32	
Number of doors (max.)		16 entry-exit/16 entry		32 entry-exit/64 entry	
Number of users (max.)	32	256		512	
Field bus	1 X-BUS interface (1 spur)	2 X-BUS interfaces (2 spurs or 1 loop)		2 X-BUS interfaces (2 spurs or 1 loop)	
X-BUS devices (max.)	7 (3 expanders + 4 keypads)	48 (16 expanders + 16 keypads + 16 door expanders)		128 (64 expanders + 32 keypads + 32 door expanders)	
Calendars		64		64	
"Cause & Effect" programming		Yes		Yes	
Event memory	500 log events	10,000 intrusion and 10,000 access events		10,000 intrusion and 10,000 access events	
Ethernet				On board	
Embedded Web server		HTTPS		HTTPS	
Language	Single	Multiple		Multiple	
Fast Programmer	Supported				
Operating voltage	230 V AC, +10 to –15%, 50 Hz				
Current consumption	Max. 100 mA (at 230 V AC)	Max. 160 mA (at 230 V AC)		Max. 200 mA (at 230 V AC)	
Auxiliary power	1 output with max. 750 mA (at 12 V DC) on integrated PSU on controller PCB				
Battery (optional)	Max. 7 Ah/12 V	Max. 7 Ah/12 V	Max. 17 Ah/12 V	Max. 7 Ah/12 V	Max. 17 Ah/12 V
Housing	Small metal enclosure	Small metal enclosure	Hinged metal enclosure	Small metal enclosure	Hinged metal enclosure
Security grade	EN 50131 Grade 2	EN 50131 Grade 2	EN 50131 Grade 3	EN 50131 Grade 2	EN 50131 Grade 3

Keypads	SPCK420	SPCK421	SPCK422
Type	Wired LCD keypad	Wired LCD keypad with card reader	Wired LCD keypad with integrated wireless receiver
LCD display	2 x 16 characters		
Card reader		125 kHz (EM4102 or compatible)	
Frequency			868 MHz
Radio module			SiWay RF receiver
Operating voltage	9.5 – 14 VDC		
Current consumption	Min. 55 mA (at 12 V DC) Max. 90 mA (at 12 V DC)	Min. 90 mA (at 12 V DC) Max. 110 mA (at 12 V DC)	Min. 65 mA (at 12 V DC) Max. 95 mA (at 12 V DC)
Field bus	X-BUS on RS-485 (307 kb/s)		
Housing	Plastic enclosure (ABS)		
Security grade	EN 50131 Grades 2–3		

Technical overviews

Expanders	SPCE650	SPCE450	SPCW130	SPCA210	SPCP332	SPCP333
						
Type	Expander with 8 inputs/2 outputs	Expander with 8 outputs	Wireless receiver expander	2-door expander	Smart PSU (7 AH) with I/O-expander	Smart PSU (17 AH) with I/O-expander
Supervised alarm zones	8			4	8	8
Programmable outputs	2	8		2	2	2
Card reader				2 (Wiegand 26 bit/ Clock&Data)		
Door capacity				1 entry/exit or 2 entry		
Frequency			868 MHz			
Radio module			SiWay RF receiver			
Operating voltage	9.5 – 14 V DC				230 V AC, +10 to –15%, 50 Hz	
Current consumption	Min. 45 mA Max. 80 mA (at 12 V DC)	Min. 55 mA Max. 180 mA (at 12 V DC)	Min. 60 mA Max. 60 mA (at 12 V DC)	Min. 45 mA Max. 80 mA (at 12 V DC)	Max. 220 mA (at 230 V AC)	
Auxiliary power					2 outputs with max. 750 mA each (at 12 V DC)	
Battery (optional)					Max. 7 Ah/12 V	Max. 17 Ah/12 V
Field bus	X-BUS on RS-485 (307 kb/s)					
Housing	Plastic enclosure (ABS)				Small metal enclosure	Hinged metal enclosure
Security grade	EN 50131 Grades 2–3	EN 50131 Grades 2–3		EN 50131 Grades 2–3	EN 50131 Grade 2	EN 50131 Grade 3

Communicators and accessories	SPCN110	SPCN310	SPCW110	SPCW101
Type	PSTN module, V.90	GSM module incl. antenna	SiWay RF kit for panel	External aerial kit
Network connection	PSTN (analogue telephone network)	GSM (dual band)		
Frequency		900/1800 MHz	868 MHz	868 MHz
Radio module			SiWay RF receiver	
Cable length				2 m
Current consumption	Min. 20 mA (at 12 V DC) Max. 35 mA (at 12 V DC)	Min. 50 mA (at 12 V DC) Max. 60 mA (at 12 V DC)	Min. 10 mA (at 12 V DC) Max. 10 mA (at 12 V DC)	
Security grade	EN 50131 Grades 2–3	EN 50131 Grades 2–3		

Technical overviews

Remote/on-site programming and operation	SPCX410	SPCS310	SPC Web server	SPCS510
Type	SPC Fast Programmer	SPC Pro programming software	On-board Web server	SPC Com alarm receiving software
Availability	SPC4000 SPC5000 SPC6000	SPC4000 SPC5000 SPC6000	SPC5000 SPC6000	SPC6000
Key functionality	– Save/back-up site configurations (store up to 100 configuration files) – Save default files (sites with static values) for future re-use – Retrieve/download firmware releases	Common engineering tool for SPC series for configuration, commissioning and maintenance: – Offline pre-configurations – On site (RS232/USB/IP) – Remote (PSTN/GSM/IP)	– Authenticated access – Graphical status representation with icons – Only the parameters and attributes of the configured devices and options are visible – Accessible via any PC with standard browser	– Provides full alarming chain, from detector to receiver – Supports integration of SPC6000 to ARC over IP (Standard SurGard serial interface protocol) – Simple interface to monitor and control a large panel park (status icon for each connected panel)
Network connection		IP/RS232/USB	IP/RS232/USB	IP
Connectors	USB to PC/10-pin socket to controller			
Memory	1 MB (max. 100 site configuration files)	Min. 512 MB required		

Answers for infrastructure.

Megatrends driving the future
The megatrends – demographic change, urbanization, climate change and globalization – are shaping the world today. These have an unprecedented impact on our lives and on vital sectors of our economy.

Innovative technologies to answer the associated toughest questions
Throughout a 160-year history of proven research and engineering talent, with more than 50,000 active patents, Siemens has continuously provided its customers with innovations in the areas of healthcare, energy, industry and infrastructure – globally and locally.

Increase productivity and efficiency through complete building life cycle management
Building Technologies offers intelligent integrated solutions for industry, commercial and residential buildings and public infrastructure. Over the entire facility's life cycle, our comprehensive and environmentally conscious portfolio of products, systems, solutions and services in the fields of electrical installation technology, building automation, fire safety and electronic security, ensures the:
– optimum comfort and highest energy efficiency in buildings,
– safety and security for people, processes and assets,
– increased business productivity.

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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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