

## Introduction

Datacenter efficiency and reliability requires important monitoring to avoid downtime and service interruption. It is because an effective monitoring system can track environmental variables and alert a potential problem before it becomes a critical emergency. sensorProbeX+ (SPX+) is an excellent monitoring solution that allows you to watch over the potential threats in your datacenter such as air-conditioning failure, fire, water ingress, humidity problem, security breach etc.

SPX+ employs a modular system, allowing you to build up your unit, only paying for the features you need.

## Features

- Every SPX+ is equipped with Ethernet, Modbus RS485, EXP and BEB communications
- Compatible with SPX+ EXP and BEB units, expand the capabilities of your device
- 1U rackmount brackets, Tool-less 0U mounting or DIN rail mounting options
- Support Virtual Sensors
- Compatible with wide range of AKCP Intelligent sensors
- Start with base configuration and build up your device with modules you need
- Notification by SNMP, Email, SMS (requires optional cellular modem), built in buzzer
- Front and Rear Thermal Mapping for any server cabinet

## Major Components

- 1 Main unit: sensorProbeX+ (SPX+)
- 2 Expansion unit: Basic Expansion Bus (BEB) & Expansion (EXP)
- 3 Intelligent Sensors



SPX+ Master



SPX+ BEB Remote

### sensorProbeX+ (SPX+)

SPX+ comes in several standard configurations, or can be customized by choosing from a variety of modules such as dry contact inputs, IO's, internal modem, and additional sensor ports..

### Basic Expansion Bus (BEB)

BEB is suitable for short distance expansion within your cabinet. Build up your system adding additional SPX+ BEB Remote units. Daisychain the expansion units up to a maximum of 18 meters for the total chain. SPX+ BEB Remote units are cost effective expansion when you place the unit within the same or neighbouring cabinet.

### Expansion (EXP)

EXP is used where you need to extend the distance up to 300 meters. SPX+ EXP Remote devices can be daisy chained, with a maximum of 300 meters between each unit.

### Intelligent Sensors

SPX+ is compatible with all AKCP Intelligent sensors, making it an extremely versatile and cost effective monitoring solution. From the data center, to remote sites, industrial controls it has you covered.

- Environmental Monitoring Sensors  
Wherever monitoring of environmental conditions is important to your daily operations and health of equipment, deploy sensors to monitor temperature, humidity, airflow and water leaks.

- Security Sensors

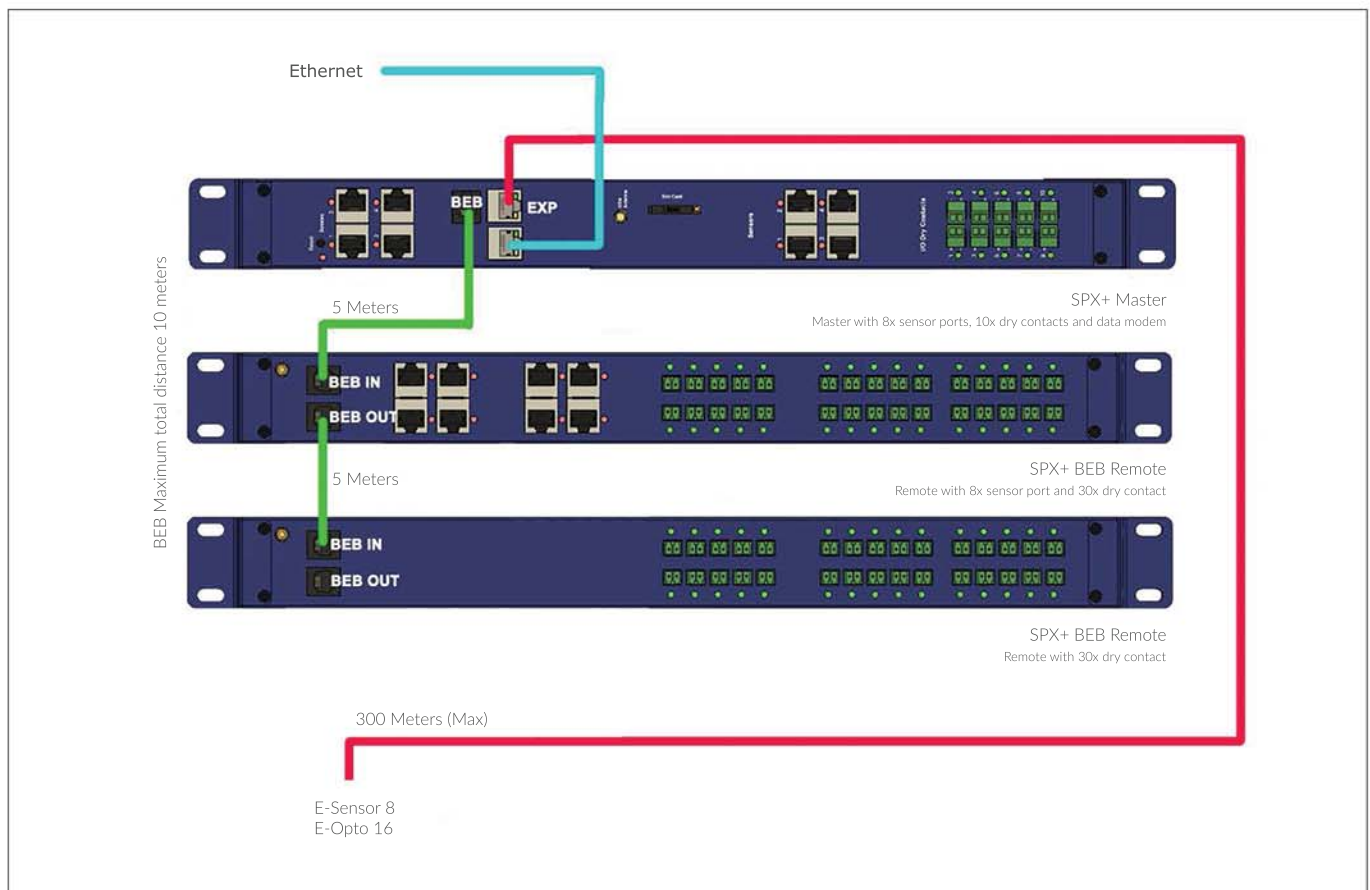
RFID Access control swing handle cabinet locks, door contacts and motion detectors will keep you in tune with the security situation at your sites down to cabinet level. Control who can access and when with RFID access control, centrally managed and monitored through AKCPro Server.

- Power Sensors

AC Voltage detection, DC volt meters, sensor controlled relays and power metering can all be done on the SPX+.

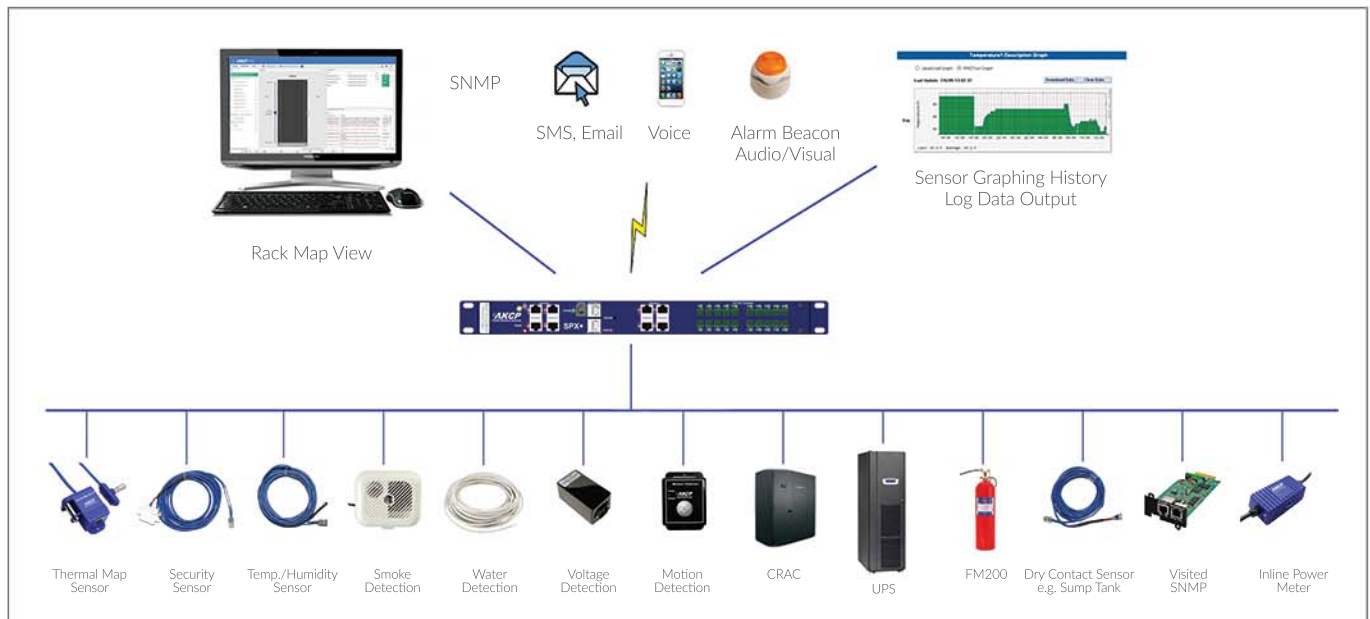
- Specialized Sensors

Ultrasonic tank level sensors can monitor for liquid levels in fuel tanks, oil storage, chemical tanks and so on. Any tank up to 2 meters in depth can be monitored. Alarms generated when levels drop to critical levels, making sure you can re-fill with sufficient notice. Other specialized sensors include the keyswitch override, to disable notifications while maintenance work is being performed, and a programmable LCD display.



Expansion Schematic

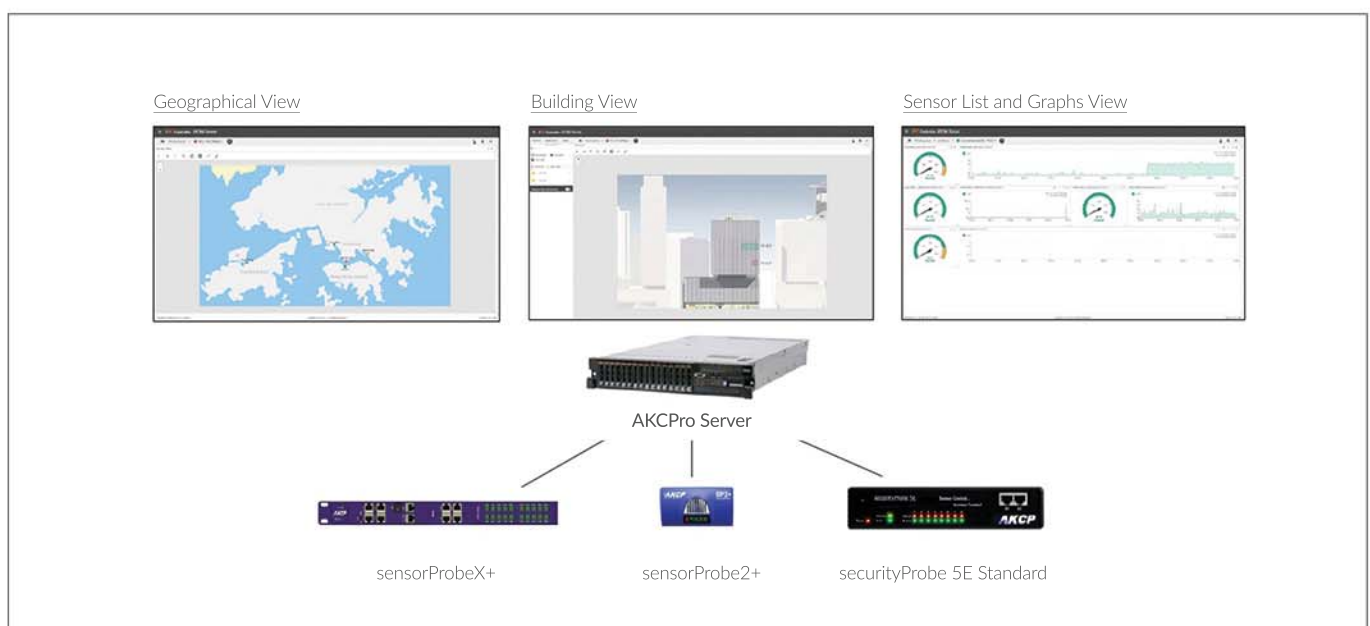
## Sensor Integration & Notification Schematic



## AKCPro Server

All deployed AKCP base units and attached sensors can be configured and monitored from AKCPro Server (APS), a Datacenter Infrastructure Management (DCIM) Solution. Monitor your infrastructure, whether it be a single building, or remote sites over a wide geographic area. Base units communicate with the server through your wired local network (LAN) or wide area network (WAN). Remote sites with no wired network send data to the server through the cellular data network\* via a VPN connection.

*\* Requires base unit with cellular data 3G/4G modem*



## Technical Specifications (Based on Model SPX8-X10)

Dimension	44 (W) x 46 (H)
Power Requirements	External 5V 2A Power Adapter Input Voltage and Current ratings: 100V~240V – 0.22A Optional internal power supply
Input / OutPut	8x Sensor Ports for connecting AKCP sensors or swing handle cabinet locks, 10 I/O Dry Contacts 1x Expansion Out Port (Optionally used for Modbus) 1 x 10/100 Ethernet Port
Expansion Port	EXP port for connecting SPX+ EXP Remote Units BEB port for connecting SPX+ BEB Remote Units
Status Indication	LED indication for power, network connectivity, sensor online and threshold status. Internal Buzzer for audible alerts
Mounting	OU Toolless rack mount, optional wall mount brackets, horizontal 1U mounting or DIN rail brackets
Components	Manufactured using highly integrated, low power surface mount technology. All units undergo a minimum 48 hours burn in cycle to detect infact mortality
Operating Environment	Temperature: minimum -35°C - maximum 70°C Humidity: minimum 20% - maximum 80% (non-condensing)
MTBF	1,400,000 hours based on field experience with sensorProbe units
Maximum Sensors	Maximum 40 virtual sensors (10 free) Maximum of 150 online sensors, including Expansion Units and virtual sensors Reduced to 50 if VPN is enabled
SPX+ Optional Modules	GSM or CDMA 3G cellular data modem with external antenna 4x Sensor Ports module for connecting AKCP sensors or swing handle cabinet locks 10x or 20x Dry Contacts module, available in 3 configurations: - Configurable I/O Dry Contact (0VDC/5VDC) - Input only 5V Dry Contact, opto-coupled input - Isolated input Dry Contact, from 5V to 20V voltage input signal

## Order Information

	Description	Part Number
Main Unit	1U sensorProbeX+ with 8 sensor ports	SPX8
	1U sensorProbeX+ with 8 sensor ports and 10 I/O Dry Contacts	SPX8-X10
	1U sensorProbeX+ with 8 sensor ports and 20 I/O Dry Contacts	SPX8-X20
	Description	Part Number
Expansion Unit	SPX+ BEB with 20 I/O Dry Contacts	SPXB-X20
	SPX+ BEB with 8 sensor ports and 20 I/O Dry Contacts	SPXB8-X20
	SPX+ BEB with 40 I/O Dry Contacts	SPXB-X40
	SPX+ BEB with 16 sensor ports	SPXB16

Customization model is available.