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SP1+ QuickStart Manual



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Introduction

In this manual we will talk about the general features of SP1+. We will not go into details of sensor configuration or notification setup, as these are the same between any member of the sensorProbe+ family such as SP2+ and SPX+. Please refer to the manuals of these units for more information.

What is the SP1+?

The SP1+ is a compact monitoring device. It has a hard wired temperature sensor and a dry contact. There is an RJ45 sensor port that supports connecting AKCP sensors. Note that SP1+ doesn't support a modem option.

SP1+ comes equipped with 1x intelligent sensor input and 1x dry contact digital I/O, a hard-wired temperature sensor on 5ft cable, and PoE as standard. Connect any of AKCP's sensors, including cabinet thermal maps, and contactless current meter using the sensor splitter interface box.

All SP1+ devices come with SNMPV3 support. Additional security features can be unlocked such as support for IPV6, Radius and TACACS. Up to 80 virtual sensors monitor third party devices via SNMP or Modbus TCP/IP.

Options

5VDC USB power - External USB power supply, used in combination with PoE as a redundant power input.

Modbus RS485 - Convert the dry contact I/O input to Modbus RS485.

Mini Relay - Convert the dry contact I/O to a mini relay.

What's the difference between the SP1+ and SP2+, SPX+?

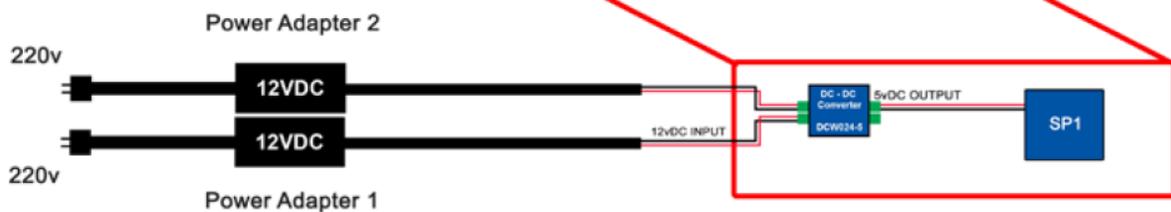
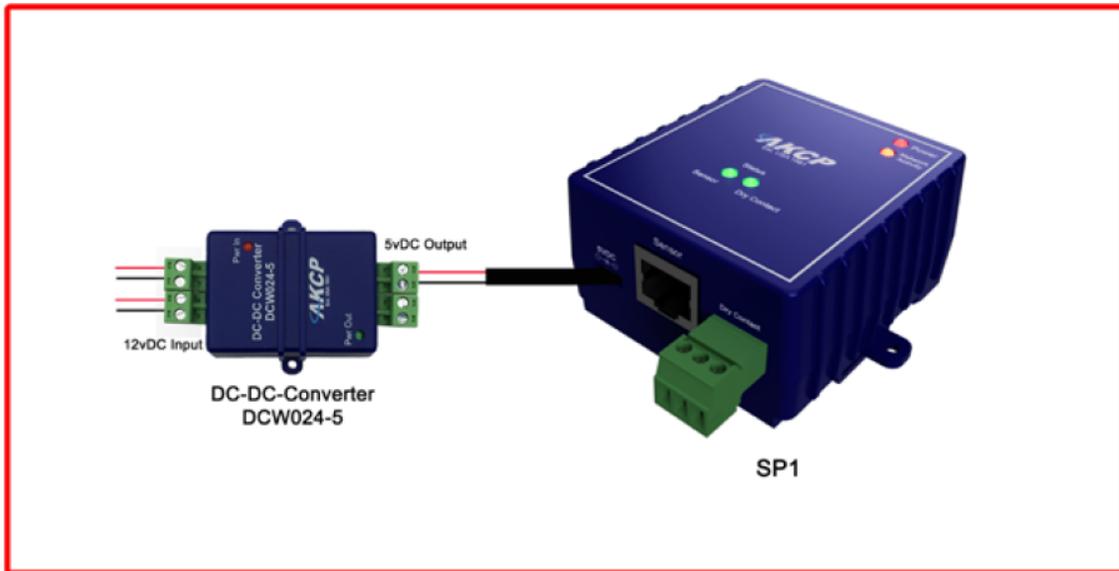
The SP2+ has 4 sensor ports for connecting any compatible AKCP sensor.

SP1+ is similar to SP2+ but only with one sensor port and no modem option.

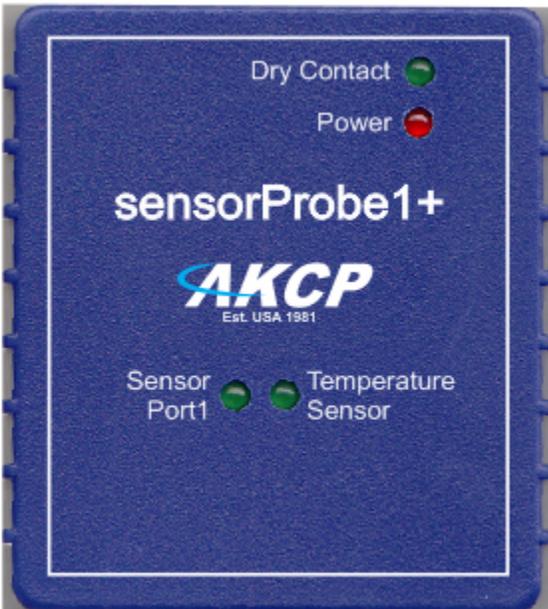
The SPX+ supports expansion modules and has a modular design allowing you to choose your own configuration.

Dual Power Inputs

SP1+ can be powered with dual inputs. PoE comes as standard, and an additional AC or DC source can provide primary power with PoE providing backup power. Or, in the absence of PoE dual inputs are available through our external DC-DC conversion box.



LED information for SP1+ units



- 1st LED (near power LED): status of Dry Contact
- 2nd LED: status of Embedded Temperature Sensor
- 3rd LED: status of the RJ45 sensor plugged in

The **Power/Ethernet LED** will become red if there's no network connection, and blinking green (according to LAN activity) when the connection is normal.

For **Sensor LEDs** (green):

Off = offline

On = online and normal

Slow blinking = Warning status

Fast blinking = Critical or Error status

LED behavior for Reset button:

- 0 .. 3 seconds: Broadcast IP address and show it on connected LCD sensors
LEDs unchanged.
- 3 .. 7 seconds: Reboot device
Dry Contact LED fast blinking, *Sensor Port 1* and *Temperature Sensor LEDs* also blinking fast.

- 7 .. 12 seconds: Reset password
Dry Contact LED fast blinking, *Sensor Port 1* and *Temperature Sensor LEDs* blinking slow.

- 12 .. 17 seconds: Reset database
Dry Contact LED fast blinking, *Sensor Port 1* and *Temperature Sensor LEDs* blinking much slower, then after releasing Reset button: *Sensor Port 1* and *Temperature Sensor LEDs* alternately blinking.

- 17 .. 22 seconds: Factory reset
Dry Contact LED fast blinking, *Sensor Port 1* and *Temperature Sensor LEDs* 2x fast blink, then after releasing Reset button: *Sensor Port 1* and *Temperature Sensor LEDs* alternately blinking.

- 22 .. 25 seconds: Reset IP address
Dry Contact LED fast blinking, *Sensor Port 1* and *Temperature Sensor LEDs* slow blinking.

Reset button functions for SP1+ units



There are specific commands you can send to the unit by holding the Reset button for a specified amount of time.

You'll have to use something sharp, such as a straightened paperclip to be able to press Reset.

Commands:

Time to hold	Action
< 3 sec	Speak/show IP and broadcast its info (display on LCD sensor too, if connected)
3..7 sec	Reboot (reset CPU)
7..12 sec	Web UI password reset
12..17 sec	Clear the sensor, notification and access DBs, logs Serial flash erase (DB erase without factory reset, the system configuration is kept)
17..22 sec	Reset to factory defaults (serial flash erase + config erase)
22..25 sec	Reset device IP address to default (192.168.0.100) with DHCP enabled
> 25 sec	No action (useful when the button was pressed by mistake)

Note: The LEDs behavior for Reset button pressing can be found in the "LED information for SP1+ units" section above.

Setting up the unit's IP address

Very Important Note: The unit's shipped with DHCP **enabled**.

If there are no DHCP server on the network, the unit will revert to the default IP address of **192.168.0.100**

Note: In some cases your computer might not be able to connect to this default IP address. In this situation you either need to:

- a) add this IP to your computer's routing table or
- b) add a secondary IP address to the LAN card to allow access to the unit.

Ensure the following items are available to you before starting:

- RJ45 CAT5 crossover cable with RJ45 male connection
- A PC with Ethernet card or LAN socket, logged in with Administrator rights

1) Connect the unit via the Ethernet port of the unit to your computer's LAN or Ethernet port with a CAT5 crossover cable.

2) Open a web browser and type the default IP address, hit enter.

You'll be presented by the **Summary** page.

Go to the **System/Network** page to change the network settings.

Once you have assigned the new IP address use the "ping" command to test the unit's reply.

Cloud connection

SP1+ units will automatically attempt to contact AKCP cloud services, if there is a working internet connection.

This includes, but not limited to:

- Automatic unlock and device activation
- Automatic license code download (for licensed features)
- Automatic connection to Cloud APS (optional feature)

Important notes: if there is no internet access:

- 1) The device cannot automatically unlock itself. You will need to enter an offline activation code.
- 2) The device cannot receive license codes automatically. You will need to manually enter license codes.
- 3) Cloud APS connection is not possible.

The feature of Cloud APS connection will be explained in a separate manual.

Technical specifications

Dimension	Size 82 x 72 x 35 mm Weight 0.2 Kg
Network Interface	Standard 10/100 Mbps Full Duplex Ethernet RJ-45 Port
Mounting	Screw mounting Built in DIN Rail Clip and cable tie loops
Power Requirements	PoE IEEE 802.3af support Optional external 5.5V 3A Power Adapter Input Voltage and Current ratings : 100V~240V - 0.22A Optional external 12-24 or 40-60 VDC dual inputs
Status Indication	LED indication for Power LED for network connectivity LED for sensor online and threshold status LED for dry contact input status
RJ-45	1 RJ-45 Sensor Ports for connecting AKCP Autosense Sensors
Components	Manufactured using highly integrated, low power surface mount technology to ensure long term reliability.
Operating Environment	Temperature : Min. -35° C – Max.80° C Humidity: Min. 20% – Max. 80% (Non-Condensing)
MTBF	1,400,000 Hours based on field experience with sensorProbe units.
Inputs	1x RJ45 Sensor Port 1x Dry Contact I/O (0/5VDC) 1x 10/100 Ethernet Port 1x hard wired 5ft temperature sensor 5x free virtual sensors (additional unlocked via license)
Outputs	Configurable output signals (0VDC/5VDC) on any of the 4 RJ-45 sensor ports
Max Sensors	Maximum of 400 onlined sensors, including virtual sensors.
Maximum Number of Access Control Users	500 Users 100 Users default
Supported Protocols	Rsyslog MQTT / MQTTS SNMP V1/2 IPV6 RADIUS TACACS HTTPS Encrypted E-mail
Licensing	
5 Dry Contact : DC5	5 dry contact input sensor (per port) 1 License equals 1 RJ45 port unlocked
Virtual Private Network (VPN) : VP	VPN - Connect to AKCPro Server from your base unit through VPN over Ethernet or cellular network.
Virtual Sensor pack : VS	Virtual sensor (pack of 5 sensors). Maximum of 80 virtual sensors. * ** Every SP2+ comes with 5 free virtual sensors
500 Access Control user database : UA	500 users for access control (SP+ series has 100 users as standard)
IPV6 : SP-IPV6	Support for IPV6 network addresses
Radius : RAD	Radius user authentication server connection. TACACS authentication to Radius.

Please contact support@akcp.com if you have any further technical questions or problems.

Thanks for Choosing AKCP!