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Third Party Sensor Adapter Manual

Third Party Sensor Adapter (AKCP Product Code SEN-A)

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What is the AKCP Sensor Adapter?

The Sensor Adapter makes it easy to connect and power third party sensors that output a 0-10 DC Voltage scale or dry contact levels. The sensor elimanates the need to configure and re-crimp the wired connections to your third party sensors.

A switch on the side of the sensor adapter allows you to change the application of the sensor :

- a 5V Dry Contact I/O,
- a 0-10V voltage scale analog input.

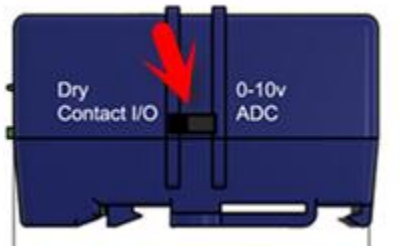
The Sensor Adapter is capable of providing a 5VDC power output (up to 200mA) to power the third party sensor at all times.

Advantages:
Connect sensors which require 5 VDC power.
Easily connect Dry Contacts output/input sensors.
Easily connect Analog sensors that output 0-10 VDC.

Very Important Note: This sensor is not isolated (does not have an isolated ground), so you need to make sure there is no voltage potential mismatch on the GND and 5V pins when connecting to third party equipment, otherwise this could damage both the Control unit and the device.

Types of Configurations for the Sensor Adapter

There are two types of configurations for the Sensor Adapter, depending to the type of sensor you require : dry contact option or analog option.
These are determined by using the switch on the side of the sensor shown here:-



- **Dry Contact I/O**: similar to our Dry Contact Sensor (DCS15), it provides a 5V level configurable Dry Contact Input/Output. Its Terminal Block connector makes it easier to connect wires from/to a third party device.
  If the third party device requires a 5V power source to function, the Sensor Adaptor is also able to provide a constant 5VDC power (up to 200mA) via the Terminal Block, so no external power source is required.

- **Analog 0-10V**: the sensor provides an analog input which can accept voltages in the 0-10V range. Its Terminal Block connector makes it easier to connect wires from/to a third party device.
  If the third party device requires a 5V power source to function, the Sensor Adaptor is also able to provide a constant 5VDC power (up to 200mA) via the Terminal Block, so no external power source is required.

Connecting the Sensor Adapter

Using the wiring diagram examples below you will first connect the Sensor Adapter to the SP+ units RJ-45 sensor port using the CAT5 extension cable.

Then you will connect the three wire connections as shown in the diagrams below depending on the third party sensor type you are connecting to the Sensor Adapter. Normal CAT5/6 or other similar gauge wire can be used.

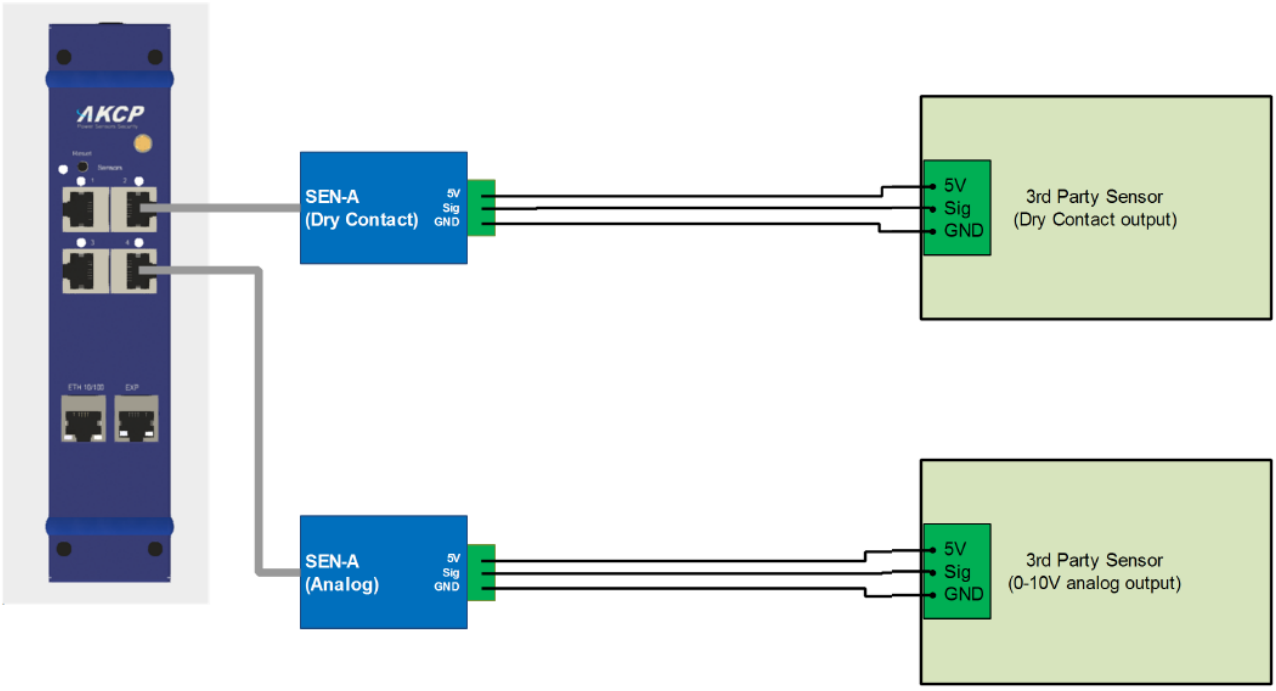
Note: you can leave the 5V pin unconnected if the third party device does not require the 5V power from the sensor adaptor.

Output pin and switch configurations for the Sensor Adapter (SEN-A)

Sensor Type		Sensor Adaptor	
Switch Position		Left	Right
Switch Functionality		Dry Contact I/O	Analog Input
3 PIN Connector	1	5V	5V
	2	DCIN (5VPup)	AIN (0-10V)
	3	GND	GND

Wiring Diagram

Examples of wiring diagrams to interface with 5V powered thrid party sensors.

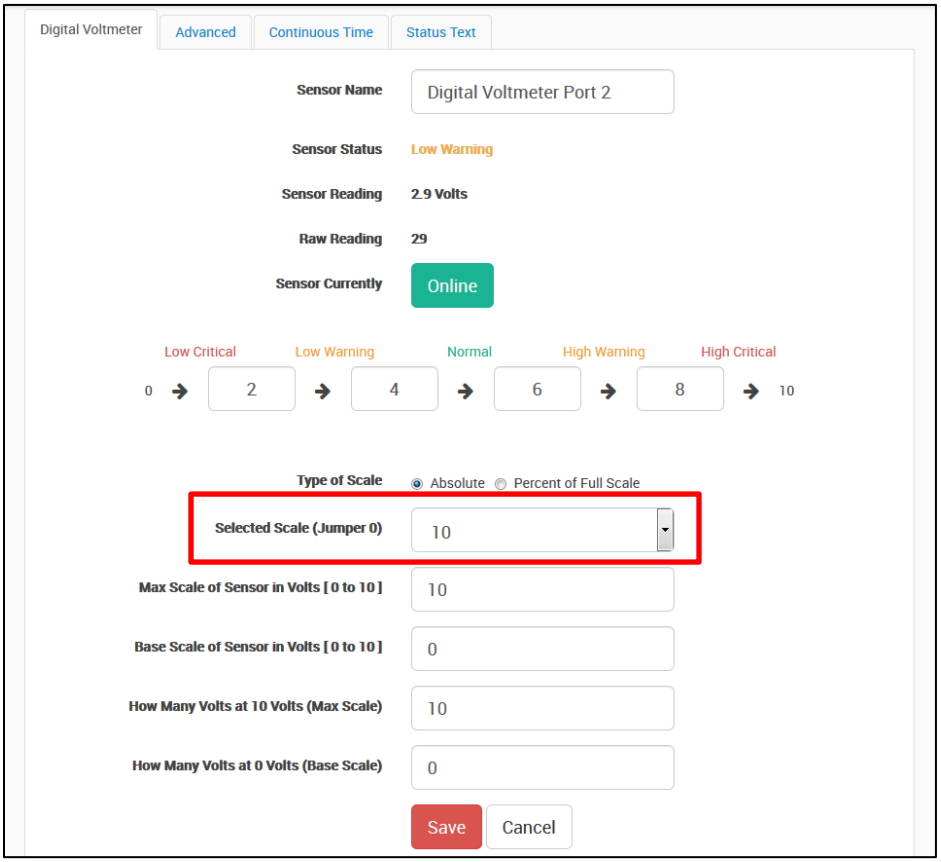


Configuring the Sensor Adapter in the SP+ web UI (both SP2+ and SPX+)

These will be added shortly.
However:

- When configured as Dry Contact I/O, this is the same exact setup on the SP+ web UI as the existing AKCP DCS15 (Single Dry Contact Sensor) shown in the first example above.
  In other words this new Sensor Adaptor is an extension or a hardware conversion unit for the DCS15.
  When connected to the base unit, the sensor is autosensed as Dry Contact I/O.

- When configured as Analog Input, this is the same exact setup on the SP+ web UI as our previous version of DC voltage sensor (non-isolated), shown in the second example above.
  When connected to the base unit, the sensor is autosensed as a Digital Voltmeter (10V Scale Selection must be configured).

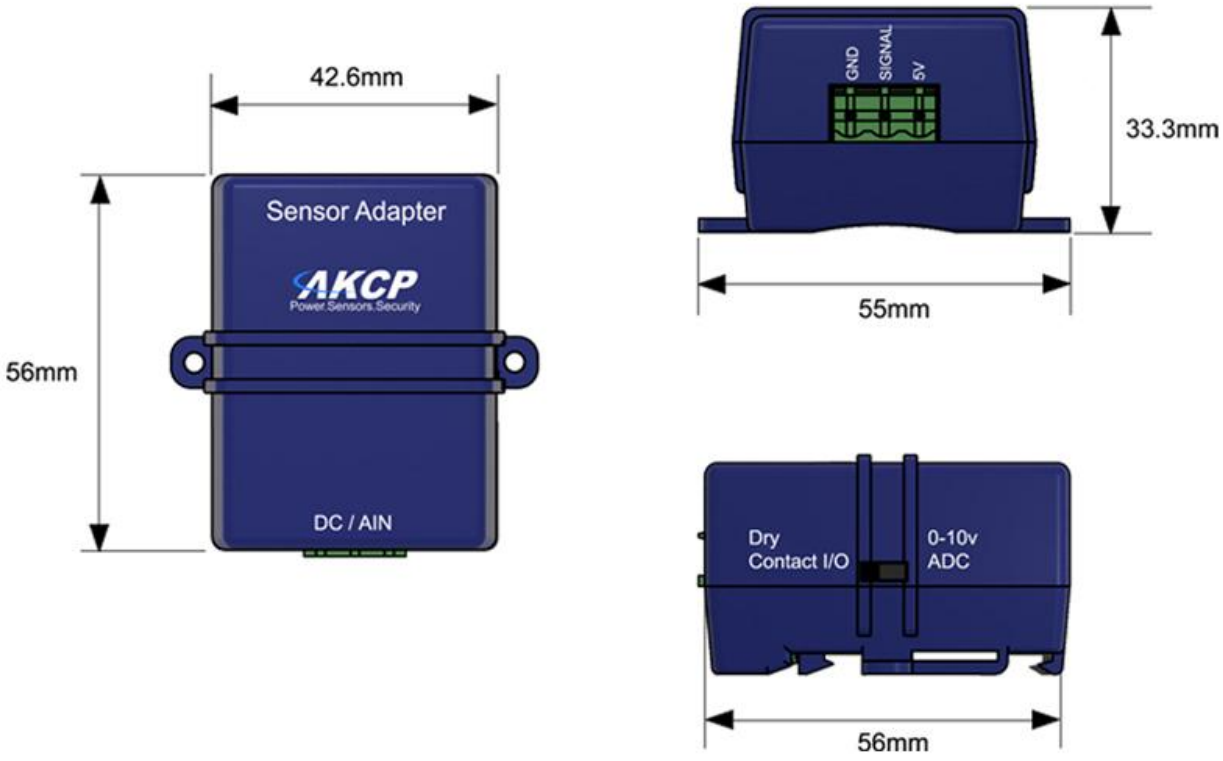


Digital Voltmeter sensor configuration page,
Selected Scale (jumper 0) must be set to 10

continued…….

Sensor Adapter Technical Specifications

Dimensions



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

Thanks for Choosing AKCP!