



## Smoke Detector – SK00

User Manual - 2022





## Smoke Detector

This makes an important addition to security and safety. These smoke detectors are easy to install and configure. The smoke detector must be mounted on the ceiling for maximum smoke detection. These photoelectric type smoke detectors are generally more effective at detecting smoldering fires which smolder for hours before bursting into flame.

## Smoke Detector OIDs

For normal state, return value = 2

For alarm state, return value = 4

The value of the Status for the OID for switch sensors can be Normal, No Status, Critical, or sensorError.

A popular OID for Smoke Detector Sensors is the status. For RJ45#1, it is **.1.3.6.1.4.1.3854.1.2.2.1.18.1.3.0**

Note: You can test the smoke detector by holding down the test button until the audible alarm occurs - about 5 sec. The smoke detector will then send an alarm signal to the unit.

## Smoke Detector Details

The following technical details are sometimes required for certification purposes.

## How the Smoke Detector Works

The smoke sensor detects partials of smoke in the air in its photoelectric chamber. Here are the specs for the sensor:

### Features:

- Accurate, cost effective Smoke Detector
- On/Off alarm signal of Smoke Detected
- LED indicates the status of Smoke Detector
- Low profile design for ceiling mounting for maximum smoke detection
- Sensor type – open/closed contact switch
- Up to 2 Smoke Detector Sensors per sensorProbe2, 4 per SP2+ and 8 per sensorProbe8/securityProbe
- Includes disconnect alarm that checks that the sensor is securely plugged into the sensor/securityProbe
- The smoke detector can also be attached to dry contacts of a X20 or X60 unit



- With 9V battery as backup the sensor/securityProbe will still work as a smoke detector on its own

### **Specifications:**

- Sensor type - open/closed contact switch
- Detection type: Photoelectric Chamber
- Suitable for installation to BS 5839 pt 6 Grade F
- Power Source: 9 VDC
- Standby Current: 15 uA max
- Alarm Current: 30 mA max
- Alarm Sound Level: 85 dB at 3 m
- Operating Temp: -20 °C~60 °C 4 °F~140 °F
- Ambient Humidity: 10% - 90%
- Sensitivity to Smoke: 3 - 6% Obs/m
- Coverage: Fire safety code recommends 1 sensor per 100 sqm of floor area.
- Size: Diameter 100mm, height 28mm
- Maximum CAT5/6 Extension Cable Run Length: 90 meters or 300 feet (1000 feet when connected to the X20 or X60 dry contact inputs).

### **Important Safety Information**

Observe and follow all local and national electrical and building codes for installation.

This smoke detector is designed to be used inside a single room only. In multi-room buildings, each individual room should have its own smoke detector. This smoke detector is not a substitute for a complete fire alarm system.

Smoke may not reach the smoke detector for many reasons. For example, if a fire starts in a remote part of a building or home, on another level, wall, roof, or on the other side of a closed door, smoke may not reach the smoke detector in time to alert personnel. In other words the smoke detector will not promptly detect a fire except in the area or room in which it is installed.

The smoke detectors can only sound their alarms when they detect smoke. The smoke detectors detect combustion particles in the air. They do not sense heat, flame , or gas. This smoke detector is designed to give an audible warning of a developing fire. However, many fires are fast-burning, explosive, or intentional. Others are caused by carelessness or safety hazards. So always keep in mind that smoke may not reach the smoke detector alarm QUICKLY ENOUGH.



The smoke detectors have limitations. This smoke detector is not foolproof and is not warranted to protect lives or property from fire. Smoke alarms are not a substitute for insurance. Business owners are responsible for insuring their own lives and property. In addition it is possible for the smoke alarm to fail at any time. For this reason, you must test the smoke detectors weekly and replace them every 10 years.

## Smoke Detector Placement

It is recommended that you install one detector in each room and in separate hallways. If the hallway is over 12 meters long, install a detector at each end. They should be located at the top levels of first-to-second floor stairwells.

Install the smoke detectors as close to the center of the ceiling as possible. If this is not possible, mount no closer than 4 inches from a wall or corner. **Coverage:** Fire safety code recommends 1 sensor per 100 sqm of floor area.

**DO NOT** install the smoke detectors;

Near appliances or areas where normal combustion regularly occurs (cooking areas, furnaces, hot water heaters, florescent lighting etc.).

Near air returns or heating and cooling supply vents. Install at least 3 feet away from these areas. The air could blow the smoke away from the detector, interrupting the alert.

In rooms where temperatures may fall below 5 degrees C or rise above 45 degrees C.

In extremely dusty, dirty, or insect-infested areas where loose particles interfere with the smoke detectors alarm operation

### **IMPORTANT!**

*Specific requirements for Smoke Alarm installation vary from country to country. Check with your local Fire Department for current requirements in your area.*

## Installing the Smoke Detector

1. From the back of the smoke detector, remove the mounting plate by turning it counterclockwise. (To later engage the tamper-resist feature, twist out and set aside one of the pins molded into the plate. Both pins are exactly the same.)
2. Secure the plate to the ceiling or wall with the mounting screws.
3. Lift open the battery pocket door.
4. Connect the new 9-Volt battery to the battery connector inside the battery pocket. Be sure the battery is securely connected. The red LED may blink briefly when the battery is installed.
5. Close the battery picket door, snapping it into place.
6. Position the smoke detector to the mounting plate and turn it clockwise to lock it into place. To engage the tamper-resist feature, insert the pin into the notch on the edge of the smoke detector after the detector is properly positioned in the base.



7. Push the test button to test the smoke detector. (see below).

## Testing the Smoke Detector

1. Firmly push the TEST button, and the smoke detector alarm will sound a loud beep. The alarm will stop sounding after releasing the TEST button.
2. If the smoke detector does not sound, please retest the detector again.

## HUSH Feature

This button on the smoke detector is a combined Test/Hush button to silence false alarms.

1. To cancel a false alarm, press the Test/Hush button located on the cover. The alarm will automatically switch to a reduced sensitivity condition. This reduced sensitivity will last for 10 minutes. The unit will flash the red light every 10 seconds (instead of the normal 40 seconds) to indicate the sensitivity has been reduced.
2. The unit will reset to normal sensitivity at the end of the silenced period. If additional silenced time is required, simply push the Test/Hush button again.

## Configuring the Smoke Detector

- a) Plug the sensor into one of the RJ45 ports on the rear panel of the unit.
- b) Now point your browser to the IP address of the unit (default, 192.168.0.100). Next you need to login as the administrator using your administrator password (default is “public”). You will then be taken to the summary page.
- c) From the summary page you need to select the sensors tab. The layout of the next page will vary depending on your unit so please refer to your unit’s manual.

*Now we will cover the settings that are specific to your sensor.*

**Status:** If the sensor is offline the status is No Status. If the sensor is online and there is no Smoke detected, the status is Normal. If Smoke is detected then the status is Critical. If at any time communications with the Smoke Detector are lost, the status of the Smoke Detector is changed to sensor Error.

## Connecting the Smoke Sensor to your base unit

**When a smoke detector is connected, the unit will sense it as dry-contact sensor.** You need to disable auto sense on the sensor port, then manually configure the sensor. See below for more details.



*The Web interface settings for the smoke detector are:*

**Direction:** Input

**Normal State:** Open/+5 Volts

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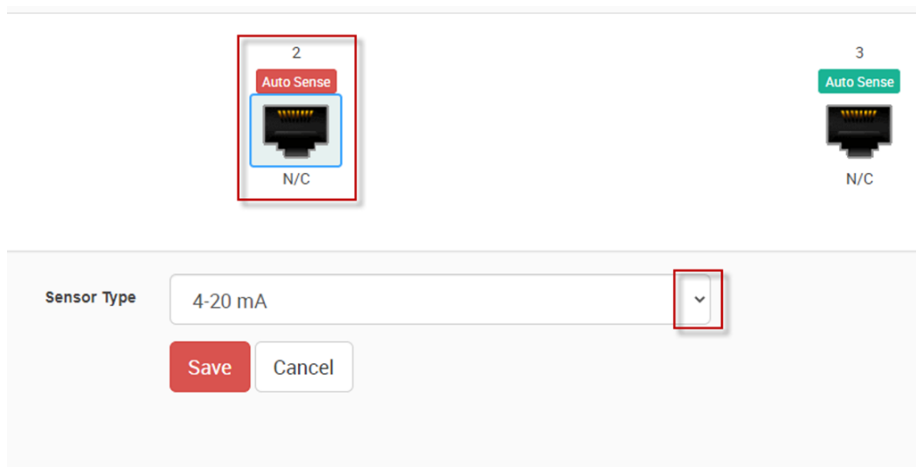
**Note:** see below for exact steps for configuring the Smoke Sensors on your base unit.

## Configuration of the Smoke Detector SP+ (SP2+, SPX+ & SP-WTS)

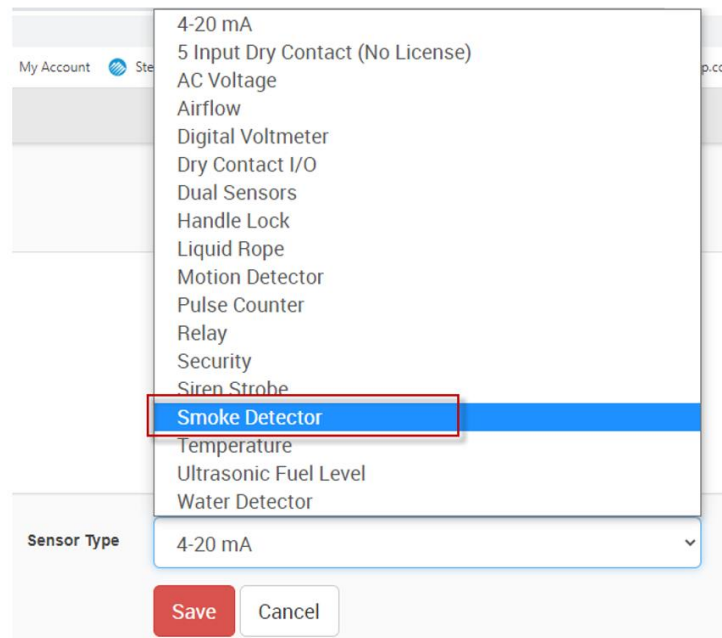
The auto sense on the sensor port needs to be turned off, then manually configure the sensor to the smoke sensor in the web UI.

Step #1. If you have already connected the sensor then disconnect the SK00 from the sensor port  
Click the "Sensor Currently" Online button (takes the port offline)

Step #2. Turn the Auto Sense off by clicking on the Auto Sense button as shown below.



Step #3. Select the SK00 from the list and save as shown below.



Step #4. Re connect the SK00.

The screenshot shows a web interface for configuring a sensor. At the top, there is a header bar with a red 'Auto Sense' label and a 'Smoke Detector' icon. Below the icon, the text 'Smoke Detector' and a green 'Normal' button are visible. The main configuration area contains the following fields and controls:

- Sensor Name:** A text input field containing 'Smoke Detector Port 2'.
- Sensor Status:** A label 'Normal' in green text.
- Sensor Currently:** A green button labeled 'Online'.
- Description of Status When Normal:** A text input field containing 'Normal', with a small green square icon to its right.
- Description of Status When Critical:** A text input field containing 'Smoke', with a small red square icon to its right.
- Buttons:** A red 'Save' button and a white 'Cancel' button with a grey border.

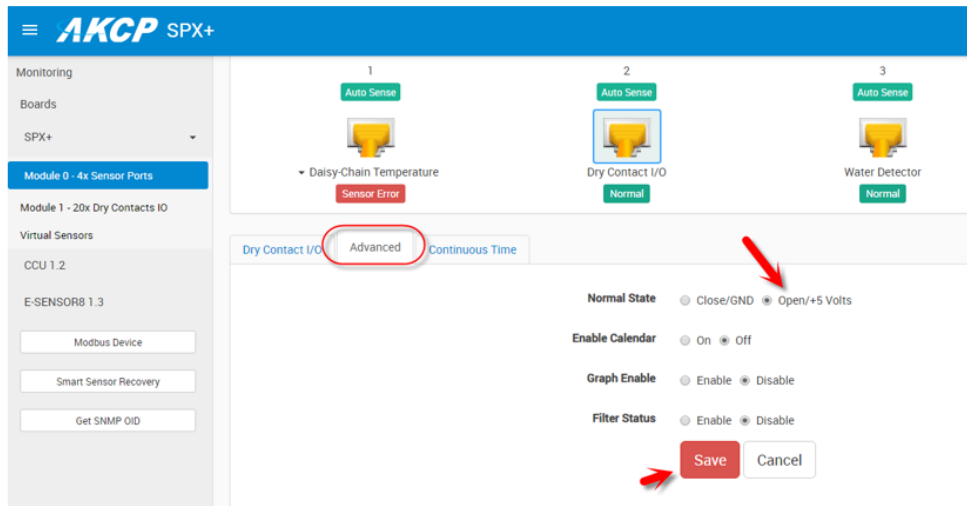
Important Note: If the sensor installed right near florescent lighting which as stated in the manual this can cause interference with the sensor.

**Also;**

If you require that the Smoke Sensor "sensor error" is detected when the cable is disconnected, you will need to use this as a dry contact sensor. This is how the SK00 sensor is detected when the auto-sense is ON (as a dry contact sensor, instead of manually configuring it as the Smoke Sensor when the auto-sense is off).

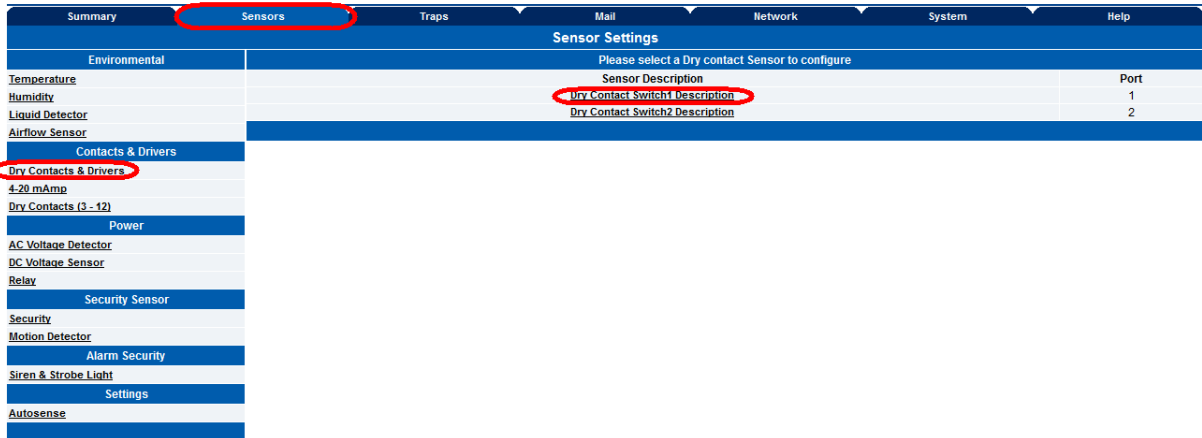
With the auto-sense ON and the sensor detected as the dry contact sensor, you can then customize the status and sensor description as needed in the web UI. And it will detect the sensor error status if the cable is cut or disconnected.

You need to go to the Advanced tab in the sensor settings and change the Normal State to be Open/+5 Volts as shown in the screen shot below.



Then the status will change to normal.

### Configuration of the Smoke Detector (sensorProbe)



The Smoke Detector when first connected to the sensorProbe's RJ-45 sensor port will be auto sensed as a Dry Contact Sensor. So you would first click on the Dry Contacts & Drivers link, then click on the port that it is connected to as shown in the screen shot above.



Traps Mail Network System

### Sensor Settings

Dry contact (Dry Contact Switch1 Description) on Port 1

Settings Relay Control Siren Control Status Filter

Port	1
Description	Smoke Detector #1
Status	No Smoke
Sensor Online/Offline	Offline
Description of Status When Dry Contact Normal	No Smoke
Description of Status When Dry Contact Critical	Smoke Detected
Go Online/Offline	Online
Direction	Input
Normal State	Open/+5 Volts

Save Reset

In the Smoke Sensors settings page you will rename your Smoke Sensor as you wish in the Description field. We can also rename our sensors descriptions in the Descriptions fields then turn the sensor Online by choosing the Online setting for the sensor in the Go Online/Offline field and also make sure that the Normal State for the sensor is set to Open/+5 Volts as shown in the screen shot above. You would then click the Save button to save the sensor settings into the web interface.

Summary Sensors Traps Mail Network System

### Sensor Settings

Dry contact (Smoke Detector #1) on Port 1

Settings Relay Control Siren Control Status Filter

Port	1
Description	Smoke Detector #1
Status	No Smoke
Sensor Online/Offline	Online
Description of Status When Dry Contact Normal	No Smoke
Description of Status When Dry Contact Critical	Smoke Detected
Go Online/Offline	Online
Direction	Input
Normal State	Open/+5 Volts

Save Reset

Now we can see that our Smoke Sensor is Online and shows the status of No Smoke.

Summary Sensors Traps Mail Network System

Auto refresh (sec.) 10 Start

### Online Status of Sensors

Port	Type	Description	Reading	Status
1	Dry contact	Smoke Detector #1	-	No Smoke
2	-	-	-	-

Sys Log (240 messages)

1	09/07/12 09:44:02	Dry contact sensor on RJ45#1 status is now No Smoke
2	09/07/12 09:30:08	Airflow sensor on RJ45#1 status is now High Critical

Now if we navigate back to the Summary page we can see the sensor is present there showing the correct status.

**Note:** Please see the Siren / Strobe Sensor User Manual for the step-by-step instructions for using the Smoke Detector to trigger the Siren / Strobe Sensor.



Environmental		Trap/Email Filters	
Temperature	Port	1	
Humidity	Sensor Type	Dry contact	
Water Detector	Sensor Description	Smoke Detector in Rack	
Airflow Sensor			
Contacts & Drivers	Send Trap/Email when Status "Normal"	Yes	
Dry Contacts & Drivers	Continuous time sensor is in a normal state to report (secs)	0	0 secs
4-20 mAmp	Continuous time sensor is in a warning/error state to report (secs)	0	0 secs
Power	Minimum time between each Trap/Email	0	minutes
AC Voltage Detector	Day of week Filter	Disable	
DC Voltage Sensor			
Relay			
Security Sensor			
Security			
Motion Detector			
Alarm Security			
Siren & Strobe Light			
Settings			

NO ALERT	DAY	TIME
<input type="checkbox"/>	Mon	00:00 - 00:00
<input type="checkbox"/>	Tue	00:00 - 00:00
<input type="checkbox"/>	Wed	00:00 - 00:00
<input type="checkbox"/>	Thu	00:00 - 00:00
<input type="checkbox"/>	Fri	00:00 - 00:00

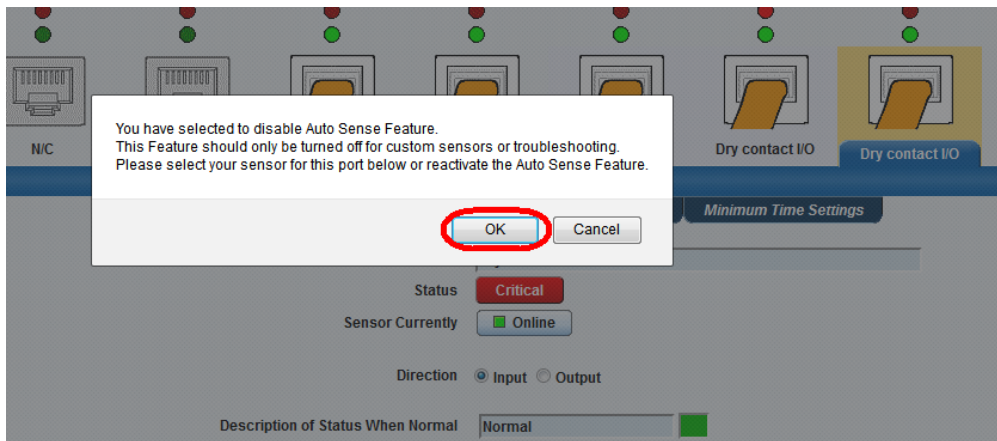
We found that in testing if the Smoke Detectors are installed near florescent lighting, these may have an effect on the sensors and cause false alerts. You can use the "Continuous Time" feature shown in the above screen shot to eliminate these false alerts.

These settings are found in the "Status Filter" tab in the sensor settings page.

## Configuration of the Smoke Detector (securityProbe)



When you first connect the Smoke Detector to the RJ45 port it will be auto sensed online as a Dry contact I/O type sensor. Click the Auto Sense button as shown in the screen shot above.



Confirm the popup warning by clicking on the OK button as shown in the screen shot above.

The screenshot displays the 'Sensor Settings' interface for AKCP. At the top, there are navigation tabs for 'Sensors', 'Notification', 'Access Control', 'Settings', and 'Applications'. Below these, the 'Sensor Settings' section is divided into seven columns, numbered 1 through 7. Each column shows a sensor icon, a status indicator (green or red dot), and a label: 1 (N/C), 2 (N/C), 3 (Siren), 4 (Dual Sensors), 5 (Airflow), 6 (Dry contact I/O), and 7 (Dry contact I/O). The 'Auto Sense' status is shown as a green square for ports 1-6 and a grey square for port 7. Below the sensor list, there are four sub-sections: 'Normal Settings', 'Advanced Settings', 'Continuous Time Settings', and 'Minimum Time Settings'. The 'Advanced Settings' section is active, showing configuration for 'Dry contact I/O Port 7'. The 'Sensor Name' is 'Dry contact I/O Port 7', the 'Status' is 'Critical' (in a red box), and the 'Sensor Currently' status is 'Online' (in a green box). The 'Direction' is set to 'Input' (selected with a radio button). Below this, there are three rows for status descriptions: 'Description of Status When Normal' (Normal, green box), 'Description of Status When Critical' (Critical, red box), and 'Description of Status When Sensor Error' (Sensor Error, red box). At the bottom of the settings section are 'Save', 'Reset', and 'Online Time Tracking' buttons. A red circle highlights the text 'Manually change sensor type for this port.' at the very bottom of the interface.

When the auto sense has been turned off, you will now see the link for manually configuring the sensor, so you will now click on this as shown in the screen shot above.

The screenshot displays the 'Sensor Settings' configuration page. At the top, there are tabs for 'Sensors', 'Notification', 'Access Control', 'Settings', and 'Applications'. Below these, the 'Sensor Settings' section is divided into seven numbered slots (1-7). Each slot has an 'Auto Sense' button and a status indicator (red and green dots). Slot 7 is currently selected and shows 'Dry contact I/O' settings. Below the slots, there are four sub-sections: 'Normal Settings', 'Advanced Settings', 'Continuous Time Settings', and 'Minimum Time Settings'. The 'Advanced Settings' section is active, showing the following configuration for 'Dry contact I/O Port 7':

- Sensor Name: Dry contact I/O Port 7
- Status: Critical
- Sensor Currently: Online
- Direction: Input (selected)
- Description of Status When Normal: Normal
- Description of Status When Critical: Critical
- Description of Status When Sensor Error: Sensor Error

A dropdown menu is open, listing various sensor types. The 'Smoke Detector' option is highlighted in blue. A red arrow points to this option. Below the dropdown, there are 'Save', 'Reset', and 'Online Time Track' buttons. At the bottom, there is a 'Manually change sensor type' section with a dropdown menu currently set to 'Dry contact I/O'.

Now you will click on the down arrow button which will display the list of sensors to choose from. Choose the Smoke Detector as shown in the screen shot above.

Now click the Save button.

The screenshot displays the 'Sensor Settings' page for port 7. At the top, there are tabs for 'Sensors', 'Notification', 'Access Control', 'Settings', and 'Applications'. Below these, the 'Sensor Settings' section shows seven ports. Port 7 is selected and highlighted with a red circle. Each port has an 'Auto Sense' button, a red and green LED indicator, and a sensor icon. The sensor type for port 7 is 'Smoke Detector'. Below the sensor list, there are four tabs: 'Normal Settings', 'Advanced Settings', 'Continuous Time Settings', and 'Minimum Time Settings'. The 'Advanced Settings' tab is active, showing the following configuration for 'Smoke Detector Port 7':  
Sensor Name: Smoke Detector Port 7  
Status: Normal  
Sensor Currently: Online (indicated by a green square and a red arrow pointing to it)  
Buttons: Save, Reset  
A note at the bottom states: 'Manually change sensor type for this port.'

As we can now see the Smoke Sensor is Online and is in the Normal state.

If the Smoke Sensor still remains in a critical state please check the extension cable and check the LED on the sensor. If you continue having a problem with the sensor being connected contact AKCP Support a [support@akcp.com](mailto:support@akcp.com) for more assistance and please include the details of the problem and serial # of the sensor in your email.

The screenshot displays the 'Sensor Settings' configuration page. At the top, there are tabs for 'Sensors', 'Notification', 'Access Control', 'Settings', and 'Applications'. Below these, seven sensor ports are listed, each with an 'Auto Sense' checkbox and a status indicator (two green dots for 'N/C', one red and one green for 'Siren', 'Dual Sensors', 'Airflow', and 'Dry contact I/O', and one red and one green for 'Smoke Detector'). The 'Continuous Time Settings' tab is selected and circled in red. It contains a section titled 'Continuous Time for Sensor to be in new Status before accepting new Status' with three input fields: 'High Critical' (0), 'Normal' (0), and 'Sensor Error' (0). A 'Save' button is highlighted with a red border, and a 'Reset' button is also visible. At the bottom, there is a link: 'Manually change sensor type for this port.'

Again, as we mentioned before at the end of the sensorProbe configuration, when we tested the smoke sensors, we found that if these are positioned too close to the florescent lighting, these lights can cause false alerts. You can add time to the "Continuous Time Settings" as shown in the screen shot above to eliminate these false alerts.

## Additional Information on the Smoke Detectors

### Test Button & Testing

As noted earlier do keep in mind that when testing the Smoke Detectors using real or canned smoke do not press the "Test/Hush" button at least 10 minutes prior to this testing or the detector will not be able to detect the smoke.

### Connecting to the X20 and X60 dry contact inputs

You can connect the SK00 to the extra dry contacts inputs on the securityProbe 5ES-X20/X60, the 5ESV-X20 and X60 unit and the sensorProbe8-X20 and X60 base units. The green "phoenix" type two pin dry contact connector that is mounted on the Smoke Detectors converter box is used for this purpose.

However, you do have to keep in mind that when the sensors are connected to the extra dry contacts and not the RJ-45 sensors ports, if the 9Volt battery that powers the smoke detector runs out, then you will not get the alerts from the unit. The reason for this is when connected to



the RJ-45 ports, the Smoke Detectors are powered by the unit and when connected to the dry contact inputs they are not and only powered by the 9V battery.

### **Cleaning and Problems with Smoke Detectors**

As also mentioned earlier these sensors are not designed to be used in dusty or dirty environments. If they must be, then they will need to be cleaned regularly.

**This concludes the Smoke Detector User manual.**

Please contact [support@akcp.com](mailto:support@akcp.com) if you have any further technical questions or problems setting up your modem or your alerts.

## **Thanks for Choosing AKCess Pro!**