



# SS6420E and SS6420E-SSH

## Quick Setup Guide

This document provides instructions for connecting, configuring and operating the Sensorsoft SS6420E and SS6420E-SSH Contact & Voltage Sensor models. **When you see mention of Sensorsoft device below it is referring to either model.**

### Connecting the SS6420E or SS6420E-SSH

Use the following procedure to connect the Sensorsoft device to power and network:

1. If your Sensorsoft device came with a mains power adapter, plug the supplied PA6106 or PA6206 power adapter into the mains AC outlet. Connect the 2.1 mm plug of this power adapter into the Sensorsoft device power jack labeled 6 VDC. If your Sensorsoft device came with a SS1017 PoE (Power over Ethernet) adapter please determine which type was delivered by looking at the packing slip;

For PoE adapter type P/N TL-POE10R set its three position switch to the **5V position**. Then connect the supplied 2.1 mm black power patch cord between the TL-POE10R DC OUT jack and the 6 VDC power jack on the Sensorsoft device.

2. Connect an Ethernet patch cable (P/N C2006) between the Sensorsoft device modular jack (10/100BT) and your network jack. If you are using the SS1017 PoE adapter, connect the Ethernet patch cable (P/N C2006) between the P+DATA IN modular jack on the TL-POE10R and your network jack. Connect the supplied short modular patch cable between the LAN OUT modular jack on the TL-POE10R and the modular jack on the Sensorsoft device (10/100BT).
3. You should see a continuous green light illuminate on the Sensorsoft device modular jack. This will signify that the Sensorsoft device is powered and you have a LINK (connection) with the network. If not, you will need to ask your network administrator to find an active Ethernet port on your hub or switch.

**WARNING: We highly advise that you plug the mains AC end of the PA6106/PA6206 power adapter into a UPS (Uninterruptible Power Supply) so that the Sensorsoft device will continue to operate in the event of a power failure. This does not apply if using the PoE adapter.**

### Configure the IP Settings (choose one of the following methods)

#### Method 1 – Using DHCP (default):

By default the Sensorsoft device is setup in the factory to use DHCP to acquire an IP address. If you do not have a DHCP server on your network use method 2 described below, to assign a static IP address. To determine what IP address the Sensorsoft device acquired via DHCP, please contact your network administrator or use the software in Method 2 to perform a search.

## Method 2 – Using Windows software:

To use Windows software to find or assign an IP address for your Sensorsoft device you must follow the steps below:

1. Download and install the following software on a networked Windows computer:

for Windows XP

<http://www.sensorsoft.com/download/device-installer-4.3.0.9-setup.exe>

for Windows 7/8/10/2008/2012

<http://www.sensorsoft.com/download/device-installer-v4407-setup.zip>

2. After software installation, run the Device Installer software from the Windows start menu.
3. Click the “Search” button on the Device Installer menu bar.
4. After a couple of seconds an item should appear labeled **XPort-0x** (x = 3, 4 or 5) or **XPort Pro**. If several items appear, select the item that has your MAC address (printed on the enclosure).
5. If the selected item is in a red colour (IP not on your network), click the “Assign IP” button to assign a static IP address and follow the on-screen wizard instructions. If the selected item is in a black colour, it has already obtained an IP address using DHCP.
6. If using a dynamically assigned (DHCP) IP address you can assign a device name or DHCP Client ID to the device that will be reflected in DNS. To do this, double click on the item for your device in Device Installer. **For the SS6420E-SSH** click the web configuration tab, click the green arrow and login with username **admin** and default password **PASS**. Choose from menu bar Network->Configuration and enter your preferred client id (default is ss6420e-ssh). **For the SS6420E** telnet to port 9999 and use Server menu (0) to assign the device name.

## Method 3 – Using the ARP and Telnet command for the SS6420E:

For this method to work you must be logged in as the administrator or root on your computer. The format of the MAC address below will vary depending on your operating system, please refer to the arp command help on your computer. The MAC address for this Sensorsoft device is printed on its enclosure. Follow the command procedure below to assign the IP address:

```
> arp -s ip_address MAC_address
> telnet ip_address 1 (this command should fail)
> telnet ip_address 9999
Press the <Enter> key immediately
Type 0 to configure the IP settings
Type 9 to save these settings permanently
```

## **Configuring Sensorsoft software to monitor the SS6420E**

Please refer to the applicable Sensorsoft software User’s Manual to configure the software for the IP address and TCP port number. The default TCP monitor port number for SS6420E is **3001**.

For the management interface on the SS6420E use telnet with port **9999**.

## **Configuring your own software or script to monitor the SS6420E**

Point your software to the Sensorsoft device using its IP address and TCP port number **3001**. For a starting point use a tool like putty or telnet, as follows:

```
telnet ip_address 3001
```

Once you are connected, use any of the following simple text commands:

Command	Description
r<Enter>	Read state of all inputs
v<Enter>	Read firmware version
m<Enter>	Read model number
i<Enter>	Enable interrupts
d<Enter>	Disable interrupts
c<Enter>	Clear pending interrupts
s<Enter>	Show state of interrupt flag
x<Enter>	Control relays

These single letter commands may in some cases require you to include an <Enter> key, depending on your telnet or putty program settings.

## Configuring your software or script to monitor the SS6420E-SSH

To allow your software or script to monitor the SS6420E-SSH use the following:

SSH secure port **30001**

Username: **sensor (default)**

Password: **PASS (default)**

Username and Password are defined in GUI menu SSH->Server:Authorized Users

Port number is defined in GUI menu Tunnel->Accept Mode

For a starting point use a tool like putty or an ssh client, as follows:

```
ssh -p 30001 sensor@ip_address
```

The client software will prompt you to store a one time key and then ask for the above authentication password before giving you access. Once you are authenticated, use any of the following simple text commands:

Command	Description
r<Enter>	Read state of all inputs
v<Enter>	Read firmware version
m<Enter>	Read model number
i<Enter>	Enable interrupts
d<Enter>	Disable interrupts
c<Enter>	Clear pending interrupts
s<Enter>	Show state of interrupt flag
x<Enter>	Control relays

These single letter commands may in some cases require you to include an <Enter> key, depending on your ssh program settings.

For the management interface on SS6420E-SSH you have several options:

Telnet port **23**

CLI (Command Line Interface)

Password: **PASS (default)**

Password is defined in GUI menu CLI->Configuration->Login Password

SSH secure port **22**

CLI (Command Line Interface)

Username: **admin (default)**

Password: **PASS (default)**

Username and Password are defined in GUI menu SSH->Server:Authorized Users

HTTP web port **80**  
GUI (Graphical User Interface)  
Username: admin  
Password: **PASS (default)**  
Password defined in GUI menu HTTP->Authentication

HTTPS secure web port **443**  
GUI (Graphical User Interface)  
**You must configure an SSL certificate for this to be used**  
Password defined in GUI menu HTTP->Authentication

The following document covers the CLI Command Reference:  
[https://www.sensorsoft.com/pdf/900-558d-XPort-Pro-CR\\_release.pdf](https://www.sensorsoft.com/pdf/900-558d-XPort-Pro-CR_release.pdf)

## Security Considerations for SS6420E-SSH

**After you become familiar with this Sensorsoft device you should change all of the above passwords for best security practice. See the above section for the location of various passwords.**

By default this Sensorsoft device uses a password to authenticate SSH sessions. However, RSA and DSA keys can be generated and used as an alternative to passwords for SSH authorized users. This can be done within the GUI (SSH menu) or CLI.



**CAUTION – If you change and then later forget password(s) for the management interface, you cannot recover from this lockout condition. To recover from a lockout you will need to return the Sensorsoft device under RMA to our factory for recovery. Our warranty does not cover a lockout or the loss of settings. Additional charges will apply if you require us to recover a locked out Sensorsoft device. Sensorsoft can only recover devices where **line authentication was NOT enabled**.**

## CLI commands to recover the SS6420E-SSH

In the event of a factory default or user mistake the following commands can be used to recover the valid CLI settings of the SS6420E-SSH. The blank lines are carriage return to confirm some types of commands. You can copy and paste these commands into a CLI session in two sequential steps as outlined in the following procedure:

1. Telnet into the Sensorsoft device at its CLI port.
2. Copy/paste the commands in **section one** into your CLI session at the > prompt. After pasting be patient and wait for it to complete without additional typing.
3. When you see the CLI enable prompt return, copy/paste the commands in **section two** into your CLI session at the enable# prompt. These commands should execute immediately and reboot the Sensorsoft device.
4. After the reboot, log back into the CLI prompt and check that settings were restored.



**IMPORTANT – The command `host generate RSA 1024` will introduce a 40 second delay before completing.**

## section one

```
enable
ssh
server
host generate RSA 1024
yes
write
exit
exit
```

## section two

```
line 1
  baud rate 57600
  data bits 8
  parity none
  stop bits 1
  flow control none
  protocol tunnel
  exit
  tunnel 1
  accept
  local port 30001
  protocol ssh
  exit
  disconnect
  timeout 120000
  exit
  exit
  device
  long name "Sensorsoft Secure Real-Time Contact and Voltage Sensor"

  short name SS6420E-SSH

  exit
  config
  cli
  line authentication disable
  login password PASS
  telnet
  authentication enable
  exit
  ssh
  state enable
  exit
  exit
  exit
  config
  if 1
  dhcp client id set ss6420e-ssh
  exit
  exit
  ssh
  server
  authorized user sensor PASS

  authorized user admin PASS

  exit
  exit
  write
  reload
  yes
```