

# SP8

## User Manual v 1.1



# Jacarta

T. +44 (0) 1672 511125

Email: [support@jacarta.com](mailto:support@jacarta.com)

[www.jacarta.com](http://www.jacarta.com)

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## **1) Introduction**

### **1. What is SP8?**

The SP8 is an intelligent device for monitoring environmental variables, power, physical threats and security. The unit comes with an embedded, proprietary operating system. Included in this is a TCP/IP stack, Web server, full SNMP support and SMTP E-mail.

Any of our Jakarta SP intelligent sensors can be connected via the RJ45 connections or you can add dry contact connection for monitoring UPS, security systems and air conditioning status.

### **2. How to use this manual**

This manual aims to provide the user with a step by step guide on how to get the unit set up and functioning. It will introduce the primary features of the unit by way of tutorials. You can either go through the whole procedure from start to finish, or, if you wish, use each tutorial as a standalone lesson. The start of each lesson gives an “entry point profile” which details how to get to the start point of the lesson and assumes previous knowledge through completion of previous tutorials.

If you need any further assistance please don't hesitate to contact our support team on [support@jakarta.com](mailto:support@jakarta.com).

### 3. SP8



power  
Status Link

16 LED Indicator, 2 Per Sensor for Sensor Status, online and threshold check



Configurable autosense option for all ports

Standard 10 Base-T ethernet RJ45

Low Power usage, 7.0V DC 1.2AMP

## 2) Installation

### 1. Assigning an IP address

SP8 is a plug and play device that will easily connect to an existing network setup. Every unit ships with a default IP address **192.168.0.100**. The first step to undertake to install the unit will be to assign it an IP address to match the current network configuration. Before starting this, ensure there are the following items:-

1. RJ45 CAT5 crossover cable with RJ45 male connection
  2. A PC with Ethernet card or LAN socket.
  3. Power socket for the unit to connect to
- a) Connect the unit via the CAT5 crossover cable to the Ethernet / LAN port on the computer.
  - b) Open a web browser and go to the default IP address <http://192.168.0.100>
  - c) The main summary screen will be presented.

The screenshot shows the Jakarta SP8 web interface. At the top, it displays 'Jakarta SP8' and 'Admin Log Off'. Below this, there are navigation tabs: Summary, Sensors, Traps, Mail, Network, System, and Help. The 'Summary' tab is selected, showing 'Location: 2801144' and 'Current System Time: 19/12/07 15:47:02'. The main content area is titled 'Online Status of Sensors' and contains a table with columns: Port, Type, Description, Reading, Status, Action, and Graph. The table lists 8 ports, with Port 1 showing a Temperature of 23 °C and a Normal status. Below the table is a 'Sys Log (0 messages)' section with a list of 10 empty log entries and navigation buttons: '< Prev', 'Oldest', 'Newest', and 'Next >'. There is also an 'Auto refresh (sec.)' field set to 0 and a 'Start' button.

- d) From summary page select the “Network” tab. After inserting a new IP address click “save”

The screenshot shows the 'Network Settings' page in the Jakarta SP8 web interface. The 'Network' tab is selected. The page contains several configuration fields:
 

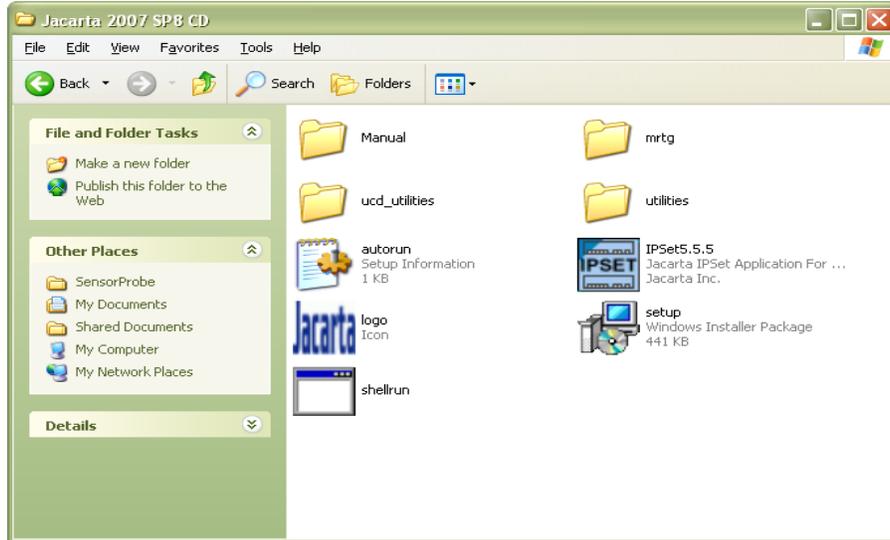
- IP Address: 192.168.0.8
- Subnet Mask: 255.255.255.0
- Default Gateway: 192.168.0.1
- Domain Name Server: 192.168.0.1
- Use DHCP: Do Not Use DHCP (dropdown menu)
- Ethernet MAC ID: 00-0B-DC-00-8B-08
- Ethernet Duplex Mode: 10 Mbps Half Duplex

 At the bottom of the form, there are 'Save' and 'Reset' buttons.

## 2. Upgrading the firmware

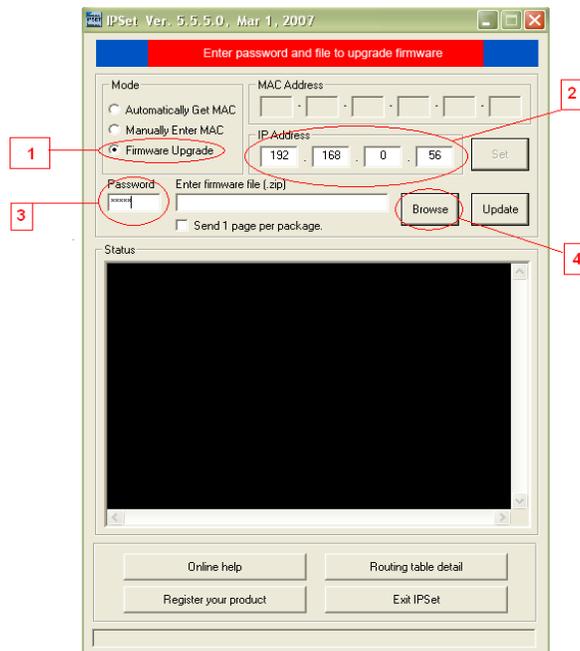
As we are constantly releasing new firmware with added capabilities it is recommended you upgrade to the latest firmware. To do this contact our support team on support@jakarta.com.

When the firmware is received it will come in a zip package. Extract this to into a folder named firmware. When the folder is opened the following is displayed:-



One of these files is a program named IPSet. This utility will upload the firmware to your unit. Double click the program to start it.

When IPSet loads the following will appear:-



- 1) Select firmware upgrade
- 2) Type in the IP address of the unit
- 3) Type in the administrator password
- 4) Click browse, a new window will pop up
- 5) Select the zipped firmware file, click open.



Click "update"

- 6) When complete the message "upgrade complete" will be displayed

### 3) Setting up a sensor

For the purposes of this manual and tutorials we will cover setting up a dual temp / humidity sensor. The first part of the tutorial will cover the basic installation and settings for the sensor. The second part will explain how to go about setting up various notifications such as SNMP traps.

#### 1. Basic setup

- a) Plug in the sensor to the RJ45 port 1 (sensor 1). The unit will automatically detect the presence of the sensor and configure it.
- b) Now return to the web browser and input the IP address of the unit. Then log in as administrator.
- c) The summary page is presented looking something like this:-

Port	Type	Description	Reading	Status	Action	Graph
1	Temperature	Temperature	23 °C	Normal	-	<a href="#">View</a>
2	-	-	-	-	-	-
3	-	-	-	-	-	-
4	-	-	-	-	-	-
5	-	-	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-

Sys Log (0 messages)

1	System Log Empty
2	
3	
4	
5	
6	
7	
8	
9	
10	

The temperature sensor is displayed in the summary page.

d) From this page select the word “Temperature” in the Description column to be forwarded to the following page:-



The sensors highlighted in green indicate that they are currently connected to the unit. In this case there is a temperature sensor connected and so Temperature is highlighted in green in the menu.

e) This window is used for configuring the sensors parameters. These parameters are explained below:-

**Description:** - The name of the sensor. Use a meaningful name such as “temperature in rack5”

**Go Online/Offline:** - This takes the sensor on or offline without unplugging it from the unit

**Critical high:** - This is the reading at which it is deemed that the temperature has reached a critical point.

**Warning high:** - This is the first high reading that generates the configured activations.

**Warning low:** - This is the first low reading that generates the configured activations.

**Critical low:** - This is the reading at which it is deemed that the temperature has reached a critical point.

**Rearm:** - Used to prevent the sensor from flickering between two states. For example if the “High Warning” threshold for the temperature sensor is set to 30 degrees and the sensor were to vary between 29 and 30 you could be faced with a very large number of emails, traps, and events logged. The Rearm parameter prevents this by forcing the temperature to drop by the Rearm value before changing the state back to normal. In this example if Rearm is set to 2 then, the sensor would have to drop from 30 down to 27 before the status would change from Warning to Normal.

**Reading offset:** - will adjust the reading by an offset amount.

Once the thresholds have been set click on “save”.

*For information on setting up other sensor types please refer to the manual for your specific sensor. This will give you guidance in setting up the parameters specific to your sensor.*

## 4) Notifications

### 1. Setting up a trap

The SP8 can send an SNMP trap message to two different hosts. Whenever the status changes for a sensor that is online, a trap message can be sent.

To get to the entry point of this tutorial complete the following:-

- 1) Log into the web interface as administrator
- 2) From summary page select the Traps tab

a) On the “traps” tab there are two configurable trap receivers (“Trap 1”, “Trap 2”)

b) The traps have various fields to configure. These are explained below.

**Send Trap:** - toggles whether the SNMP trap is on or off

**Destination IP:** - The destination IP address that the trap message will be sent too.

**Community:** - This is the Community of the host that will receive this trap. This is often set to *public*

**Send Keep Alive Trap:** - Will send a trap message at the preset time interval. This is useful for informing the user as to whether the unit is still online, or for if you require collection of data at regular intervals regardless of the sensors status.

**Keep Alive Resend Intervals:** - The time interval between the keep alive traps to be sent.

A different trap message is sent for each sensor type such as temperature, humidity, and switch. The trap messages include 6 var bind fields that include the current sensor status (Normal, Critical High, Warning High, Critical Low, Warning Low, and sensorError), the current sensor value, the level exceeded, the sensor index, the sensor name and the sensor description.

## 2. Setting up E-mail notifications

As well as, or instead of, using SNMP traps E-mail notification can also be configured.

To get to the entry point of this tutorial complete the following :-

- 1) Point a browser to the IP address of the unit
- 2) Log in as administrator
- 3) Click the "Mail" tab from the summary page.

a) Click on the "Mail" tab and this brings up the mail configuration page. From here e-mail notification can be configured.



b) The individual E-mail options are described in more detail as shown below.

Mail Settings	
Send Mail	On <input type="button" value="v"/>
SMTP Server	smtp.mailhosts.co.uk
SMTP Authentication	Disable <input type="button" value="v"/>
SMTP Server Login Name	
SMTP Server Password	
Email Subject	
Timeout	15 seconds
Resend Intervals (secs)	60 1 mins, 0 secs
Maximum Times to Resend	<input checked="" type="radio"/> 0 <input type="radio"/> Unlimited
Send Keep Alive Email	On <input type="button" value="v"/>
Keep Alive Email Resend Interval (mins)	64
<input type="button" value="Save"/> <input type="button" value="Reset"/>	

**Send Mail:** - This toggles whether the send E-mail option is on or off.

**SMTP Server:** - The address of the SMTP server

**SMTP Authentication:** - Enable this option if the SMTP server requires authentication

**SMTP Server Login Name:** - The user name to login to the SMTP server

**SMTP Server Password:** - The password used to login to the SMPT server

**E-mail subject:** - The subject you wish to have for the e-mail e.g. "SP8 notification"

**Timeout:** - The timeout can be increased for SMTP servers that have poor connectivity. It is best to leave this number as low as possible while still allowing for communication with the SMTP server to continue.

**Resend Intervals:** - The time between which any resent e-mails will be sent

**Maximum Times to Resend:** - Set the number of times the notification e-mails will be resent.

**Send Keep Alive Email:** - This option will tell the unit to send a heartbeat e-mail. This is useful to tell if the unit is still online or not.

**Keep Alive Email Resend Interval:** - The amount of time between which the keep alive e-mails are sent.

**After setting the parameters click the save button.**

c) Below the 'Mail Settings' there is another section. This is for configuring who the e-mails are sent as and to be sent too.

Email Address Configuration	
Mail From	sp8@jakarta.co.uk
Mail Recipient	support@jakarta.co.uk
Mail Cc1	
Mail Cc2	
Mail Cc3	
Mail Cc4	
Mail Cc5	
<input type="button" value="Save"/> <input type="button" value="Reset"/>	

**Mail From:** - The e-mail address which the e-mails appear from. Due to anti-spam features of some SMTP servers this address must be authorized on the SMTP server otherwise the server may deny the email.

**Mail Recipient:** - The e-mail address for the e-mail to be sent to.

**Mail Cc1-5:**- Up to five additional e-mail addresses may be added.

*When you have filled in the required fields remember to click “Save”.*

d) At the bottom of the page is the ‘Mail Status’ section.

Mail Status	
Status of most recent Mail	No Status
Last Error Message	
<input type="button" value="Test Mail"/>	

**Status of most recent Mail:** - This can be either “No Status” “Success” or “Failure”

**Last Error Message:** - This is a debugging aid. If the email is not successfully sent, the reason may be found here.

**Test Email:** - Useful when the SMTP settings are first setup to ensure the e-mail is working, or anytime thereafter. Before a test mail can be generated ensure the previous fields described have been completed.

## 5) System settings

### 1. Network settings

The network settings page allows configuration of network settings for the unit such as the IP address.

To get to the entry point of this tutorial complete the following:-

- 1) Point a web browser to the IP address of the unit
- 2) Log in as administrator
- 3) From the settings page, select the network tab.

a) After clicking the “Network” tab the following page is displayed:-

b) Once on this page the network settings can be configured as indicated below:-

Network Settings	
IP Address	10.1.1.178
Subnet Mask	255.255.0.0
Default Gateway	10.1.1.2
Domain Name Server	192.168.0.1
Use DHCP	Do Not Use DHCP
Ethernet MAC ID	00-0B-DC-00-59-5B
Ethernet Duplex Mode	10 Mbps Half Duplex
<input type="button" value="Save"/> <input type="button" value="Reset"/>	

**IP Address:** - Use this to change the IP address of the unit.

**Subnet Mask:** - Use this to assign the subnet mask of the unit.

**Default Gateway:** - Assign the default gateway for the unit.

**Domain Name Server:** - The IP address of your DNS.

**Use DHCP:** - The unit can use DHCP to assign its IP address, or it can use a statically assigned IP address. To use DHCP choose “Use DHCP” from the list box and press save. To stop using DHCP choose “Do Not Use DHCP” from the list box and press save.

**Ethernet MAC ID:** - This is the MAC address of the unit and is a read only field.

**Ethernet Duplex Mode:** - The duplex mode and network speed of the unit. This is a read only field also.

*Be sure to apply the new settings by clicking on the “save” button.*

c) Below this, there are some further settings for the time and date.

System Date & Time Settings	
RTC Battery Status	Good
Time Zone	(GMT-05:00, DST observed) Eastern Time (US & Canada)
Date and Time Settings	(dd/mm/yy hh:mm:ss ex. 01/10/07 07:11:47)
Use NTP	One-time
NTP Server 1	
NTP Server 2	
<input type="button" value="Save"/> <input type="button" value="Reset"/>	

**RTC Battery Status:** - This field displays the status of the Real Time Clock battery on the unit. If the status displays “Bad”, the battery needs to be replaced; otherwise, when the SP8 does not have mains power the clock will stop running. Therefore the system time settings will need to be re-configured on every reboot.

**Date and Time Settings:** - Enter a new date and time in this field. The date and time use the following format: `date/month/year` (`dd/mm/yy`) and `hour:minute:second` (`hh:mm:ss`)

**Time Zone:** - Select the time zone that corresponds to the local time zone from this list box.

**Use NTP:** - NTP (Network Time Protocol) is used to synchronise the unit's clock over a network. There are many options in this list box. The details for each one are as follows:

- **Do Not Use NTP** - select this option to turn off the time synchronisation feature.
- **One Time** - the time is synchronized once the Save button is pressed.
- **On System Start Up** - the time is synchronized once the SP8 is turned on or rebooted.
- **Once a Month/Week/Day/Hour** - the time is automatically synchronised every month, week, day, or an hour, respectively.

**NTP Server 1 and 2:-** Set the IP address of the NTP servers to be used. The NTP will synchronise the time with the server that has the lower number of the stratum.

## 2. System tab

From the System tab you can input various settings for the unit. These settings are mostly optional.

To get to the entry point of this tutorial please complete the following:-

- 1) Point a browser to the units IP address
- 2) Log in as administrator using the admin password
- 3) From the summary page click on the "System" tab

a) The following screen is displayed:-



b) The first section is entitled “System Settings”

System Settings	
System Description	SP8 SP8373 250507
System Name	SP8
System Location	Jakarta
System Contact	Support at Jakarta
Data Collection Period	15 minutes
Display Logo	On
<input type="button" value="Save"/> <input type="button" value="Reset"/>	

**System Description** :- This is the current firmware version. This is a read only field.

**System Name / Location / Contact** : - These are used to identify the system. They are accessed via standard SNMP utilities. The SNMP utilities use these to get information about the unit.

**Data Collection Period** : - This controls how often data is collected for use in the graph function.

**Display Logo** : Turn off displaying the logo by using this option. This option can be turned off to allow the web pages to be loaded faster.

**Send Email / Trap on boot up** : - Use this option to send an E-mail and SNMP trap each time the system boots up.

**Delay Time for Email / Trap on boot up** : - The time in seconds to delay before sending the boot up E-mail or trap.

*Remember to click the “Save” button after making any changes.*

c) The next section is used for activating the requirement for a password when browsing to the unit, or changing the user and admin passwords.

Password Settings	
Use Password	On
New User Password	
Confirm New User Password	
New Admin Password	
Confirm New Admin Password	
<input type="button" value="Save"/> <input type="button" value="Reset"/>	

**Use Password** : - Toggle whether the password is required or not

**New User Password** : - Type in the password for the user account

**Confirm New User Password** : - Confirm the new password for the user account

**New Admin Password** : - Type in the password you wish for the admin account

**Confirm New Admin Password** : - Confirm the new password for the admin account

d) Next there is the options for resetting the SNMP trap settings

SNMP	
SNMP Port	<input type="button" value="Reset To Default"/>
SNMP Trap Port	<input type="button" value="Reset To Default"/>

**SNMP Port:** - Use this option to reset the SNMP port setting to its default

**SNMP Trap Port:** - Use this option to reset the SNMP Trap Port to its default setting

e) Finally you have the option for sending the syslog to a remote syslog server.

Syslog	
Clear Syslog	<input type="button" value="Clear"/>
Remote Syslog	<input type="button" value="Off"/> ▾
Remote Syslog IP Address	<input type="text" value="192.168.0.1"/>
Remote Syslog Port	<input type="text" value="514"/>
<input type="button" value="Save"/> <input type="button" value="Reset"/>	

**Clear Syslog:** - Used to clear the system log of the messages.

**Remote Syslog:** - The unit can send its syslog messages in a standard format acceptable to a remote syslog server. Change this setting to Yes to enable this option.

**Remote Syslog IP Address, Remote Syslog Port:** - Set the IP address and port of the remote syslog server to which the unit will send the log messages.