

# **IP SENSOR 9216 USER MANUAL**



---

# USER MANUAL



IP SENSOR 9216

Version: 1.1

2019.07

**Warning:** Any changes to this equipment without permission may cause damages to your equipment! This equipment has been authenticated by FCC and CE, it can be prevented from the influence of harmful electronic jamming in normal business use condition.

**IMPORTANT NOTICE**

1. IP SENSOR 9216 is only designed for splash-proof shell. We have no responsibility for the possible damage caused by badly working environment
2. Please use the DC adapter provided by the dealer, we have no responsibility for the possible damage caused by using other adapter
3. Do not use IP SENSOR 9216 in strong shaking condition.
4. Please contact the dealer if IP SENSOR 9216 works improperly.

Copyright © 2006 Aviosys. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written consent of Aviosys

All other products mentioned in this document are trademarks of their respective manufactures.

AVIOSYS are exempt from notify any change of our products.

# Table of Content

<b>1. INTRODUCTION .....</b>	<b>4</b>
FEATURE .....	4
9216 FUNCTION DESCRIBETIONS .....	5
<b>2. SPECIFICATION .....</b>	<b>7</b>
9216E PACKAGE CONTENTS .....	7
MINIMUM SYSTEM REQUIREMENTS.....	7
<b>3. INTERFACE DESCRIPTION .....</b>	<b>8</b>
<b>4. HARDWARE &amp; SOFTWARE INSTALLATION.....</b>	<b>9</b>
HARDWARE INSTALLATION .....	9
SOFTWARE INSTALLATION .....	9
<b>5. INITIAL SETTINGS.....</b>	<b>10</b>
INITIAL SETTING THROUGH THE ETHERNET .....	10
READ MESSAGE FROM RS232 SERIAL PORT .....	11
<b>6. CONTROL AND SETTINGS THROUGH THE INTERNET EXPLORE .....</b>	<b>12</b>
STATE REPORT OF 9216 .....	12
IP SETTINGS OF 9216.....	13
DDNS SETTING .....	14
E – MAIL SETTINGS .....	15
CHANGE THE PASSWORD .....	16
NETWORK WAKE UP FUNCTION .....	16
SNMP SETTINGS.....	17
MONITORING SETTINGS .....	19
EXTERNAL VOLTAGE LEVEL MONITORING.....	20
FIRMWARE UPDATE .....	20
<b>7. CONTROL AND SETTING THROUGH HTTP COMMAND .....</b>	<b>21</b>

## 1. introduction

IP SENSOR 9216 is a web sensor with build-in web server which can be easy used in the industry supervise filed. With the remote net control technology, user can get the IO state of remote equipments, monitoring the voltage, temperature or working state of power supply directly in remote. User can start the fan and when the fan is not working properly it will make an alarm automatically.

User can do this in any computer connected to the internet or local area network, no need for any special program or computer. This design is easy to use, is fit for the office/industry automation or house security manage. Otherwise the popular develop tool VB/VC is provided for user to modify the applications according to your own needs.

### Feature

1. Built in web server, can be used through the Ethernet network or Internet network without computer.
2. Supported 10/100M Ethernet and TCP/IP UDP, ICMP, DHCP, HTTP protocol.
3. Built in network browser interface, you can remote receive or trigger the signal of dry contact operate the switch and check the state. Support multi platform and server application, such as Internet Explore, Netscape, Mozilla (Linux).
4. 16 route input digital signals monitoring, 8 input signals can be set to dry contact or wet contact.
5. 3 route DC voltage monitoring, 9216 will alarm if voltage is out of preset normal range.
6. Control the startup and turn off of 3 route fan, monitoring the operation of each fan, 9216 will alarm if rotate speed is lower than the preset lower limit.
7. 2 route temperature monitoring, 9216 will alarm if temperature is higher than the preset normal range.
8. Supported HTTP, SMTP, SNMP, INTERNET- fixed IP, DDNS, DHCP, LAN- virtual IP
9. Security passwords identify. Easily installed and can be updated online.
10. Supported serial port communication, indicate all kinds of real time state of 9216.
11. Supported http command.
12. **Built in Watch Dog.**
13. LED display indicates the status.
14. Develop tool SDK (VB/ VC) is provided. It can be modified to meet the user's special need.
15. Safely designed for high voltage resistance and protection for leakage of electrical currency, using nonflammable material
16. Polarity protective—no damage to your equipment if you reverse the polarity in installation.
17. It can be used separated or associated with other 9xxx series products of AVIOSYS.

## 9216 function descriptions

### 1. Voltage monitoring of 9216

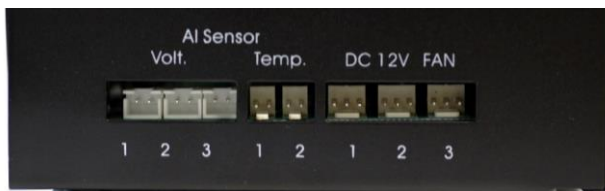
9216 can monitor 3 standard voltage of 12V, 5V, 3V. When these 3 under monitoring voltage are beyond of the predetermined upper limit or lower limit, the buzzer will make an alarm as enable .

### 2. Temperature monitoring of 9216

9216 can monitor 2 route temperature signals. The monitoring temperature can be predetermined by user. T1 is the temperature sensor for 9216 circuit board, can indicate the own temperature of 9216. T2 and T3 is outlet temperature sensors, the temperature will display to -48 degree if the sensor has not been connected. When any of the 3 sensor's temperature is beyond of the predetermined upper limit, the buzzer will make an alarm (if this alarm function is not forbidden by user). Only when the temperature is lower than the upper limit again, the alarm will stop.

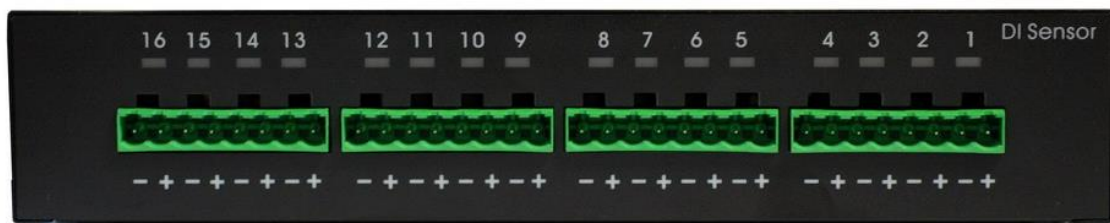
### 3. Fan monitoring of 9216

9216 can monitoring 3 route fan ( DC fan, 12V/ 0.5A ), if the working fan's rotate speed is lower than the preset value, the buzzer will make an alarm(if this alarm function is not forbidden by user)





### 4. 16 route input signals monitoring

9216 can monitor 16 route input signals; user can get the voltage lever of each route signal. There are 8 **WET** contact DI 01 ~ DI 08 , and the other 8 contacts DI 09 ~ DI 16 can be set to dry (**Default**) contact or wet contact. When a port is set to dry contact, 9216 will supply DC 5V to contact, monitoring if there is an external switch on or switch off movement.



- For DI #1~8 , the DI is always WET contact . ( Need signal with power current)
  - For DI # 9 ~16 , user can set them as Dry contact ( factory default , signal without power current ) or Wet contact ,
- Please refer the light information on each input

Light Status	DI # 1 ~8	DI # 9 - 16
WET	WET contact <ul style="list-style-type: none"> <li>● ON : No contact</li> <li>● OFF : Contact</li> </ul>	Default as DRY contact Need to adjust the DI Setup ( Blue switch SW 1 & SW2 ) to WET side.  <p>As set to WET contact , the light information is as following :</p> <ul style="list-style-type: none"> <li>● ON : No contact</li> <li>● OFF : contact</li> </ul> <p>If need DI#9 as wet contact , please adjust SW1- 1 &amp; SW2-1 as WET side .</p> 
Dry	Not Support	Default as DRY contact <ul style="list-style-type: none"> <li>● ON : Connection</li> <li>● OFF : No connection</li> </ul>

#### 5. Monitoring through RS232 serial-port

User can monitor the working state in each port of 9216 through the RS232 serial-port.

#### 6. E-mail report

When 9216 starts up or the preset alarm event happens, 9216 can automatically send e-mail report to the mailbox preset by user.

#### 7. Setting the password and IP

User can set the password and IP address of 9216, supporting control multiple 9216s in one local network.

#### 8. Setting the buzzer

User can turn off the buzzer in setup webpage, then buzzer will not alarm . User can turn off the alarm in one monitoring item, so when this monitoring item reach the alarm level , 9216 will not alarm. When one or multiple monitoring item trigger the alarm, you can cancel the alarm by pressing the alarm reset button, but when these monitoring item reach the alarm level again, the buzzer will make an alarm again.

#### 9. LED display

9216 can display its working state through the digital LED, for example:

Display from left to right :

( IP ) 192 , 168 , 100 , 99 ( Port ) 80 , ( P1 ) 3.00, ( P2 ) 0.03 , ( P3 ) 2.00 , ( T1 ) 29 , ( T2 ) -48 , ( T3 ) -48, ( F1 ) 3824 , ( F2 ) 3633 , ( F3 ) 0 .

\* IP : means following will display the IP address of 9216. IF following displays 192, 168, 10, 100 : 50 (in 5 times), it means the IP address of 9216 is 192.168.10.100 : 50.

\* V1 V2 V3 : means following will display the voltage values of 3 route monitoring voltage.

\* T1 T2 T3: means following will display the temperature values of 3 route monitoring temperature(in degree centigrade)

\* F1 F2 F3: means following will display the rotate speed of 3 route monitoring fan.

## 2. Specification

### 9216E package contents

- ✍ One set of 9216
- ✍ One 1A, 110~220V power adapter
- ✍ 2 temperature sensors
- ✍ 3 voltage sensor wires

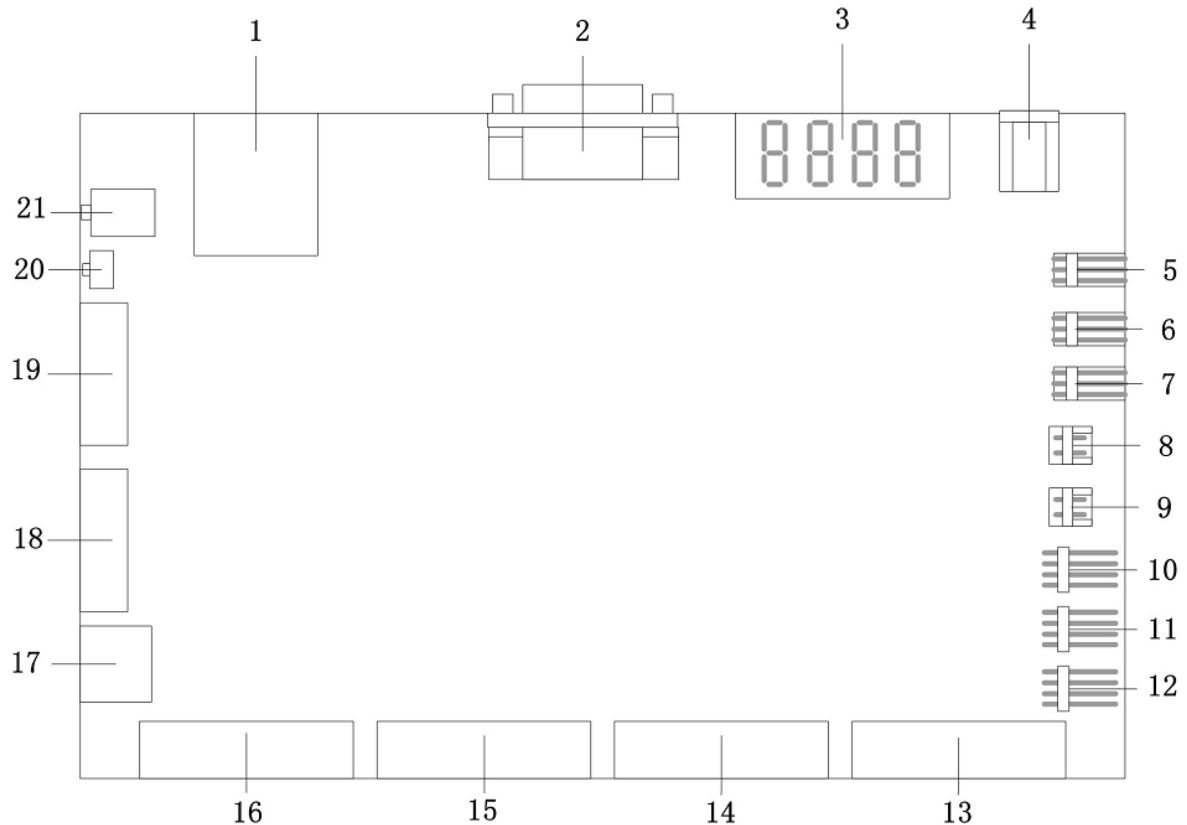
### Minimum System Requirements

- Intel Pentium III 300MHz or above/compatible AMD CPU
- WINDOWS operating system (IE5.0+SPI)
- Minimum 64MB RAM
- VGA Card: supported direct draw
- Network card with RJ45 port & Ethernet HUB or Switcher
- Internet network ( Ethernet, ADSL or other ways, depends on whether you need far end control ability or not)



### 3. Interface Description

Interface of 9216 is as the figure shows:



Description of each port:

- |  |                                 |
|--|---------------------------------|
| 1. RJ45 Ethernet port                    | 2. RS232 serial port            |
| 3. LED board                             | 4. DC 12V input                 |
| 5. Port of Fan 3                         | 6. Port of Fan 2                |
| 7. Port of Fan 1                         | 8. Port of temperature sensor 3 |
| 9. Port of temperature sensor 2          | 10. Port of voltage sensor 3    |
| 11. Port of voltage sensor 2             | 12. Port of voltage sensor 1    |
| 13. DI 1 ~ 4 port                        | 14. DI 5 ~ 8 port               |
| 15. DI 9 ~ D 12 port                     | 16. DI 13 ~ 16 port             |
| 17. DI for 12V : Internal debug purpose. |                                 |

18& 19 : . SW 1 & SW2 - Setting the type of DI9-DI16 contact to dry or wet contact. When SW2 is on, the responding contact is wet contact; when SW2 is off, the responding contact is dry contact. SW1 is responding to DI9, SW2 is responding to DI16 (**each contact needs the setting of SW1 and SW2 at the same time**)

For Example :

- A. Set DI 9 & 13 as dry contact : 1 -ON , 5 -ON , 1- ON , 5 - ON .
- B. Set DI 10 & 14 as wet contact : 2 -OFF , 6 -OFF , 2- OFF , 5 - OFF .

20. Alarm reset button: when alarming, press this button to turn off the alarm of buzzer.

( Keep pressing for 10 seconds will set the IP address and password of 9216 back to factory default )

21. Internal debug purpose.

## 4. Hardware & Software installation

Before you start to use IP SENSOR 9216, please follow the steps below

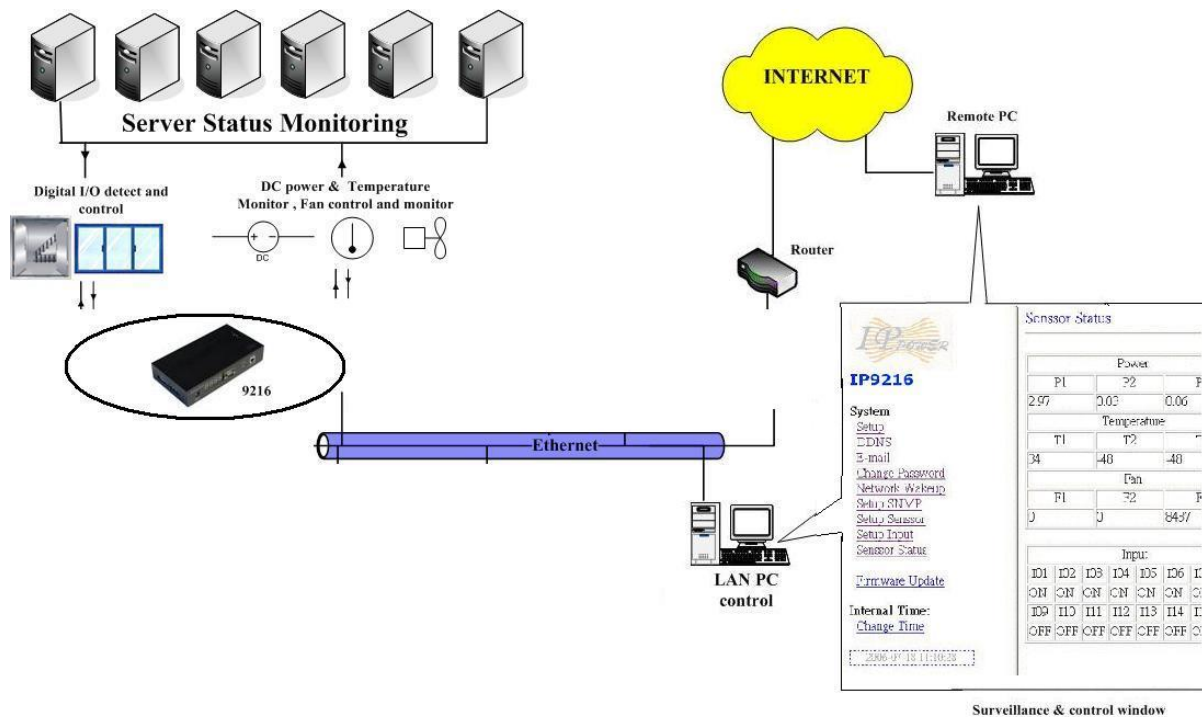
- Check the package to make sure the contents is complete.
- prepare one Ethernet HUB or Router
- Check the voltage of the power supply to make sure it is AC 110-240 volt

### Hardware installation

- 1 Connect the 9216 to HUB through network wire.
- 2 Connect the HUB or Router to the internet (May through ADSL/XDSL modem).
- 3 Connect the power adapter to the 9216.
- 4 Connect the power adapters of under control electric equipment to corresponding out port of 9216.

\* 9216 → HUB → XDSL or \* 9216 → HUB / ROUTER → XDSL

Turn on your computer and the power adapter of IP SENSOR 9216.



### Software installation

Having connected the power supply and network wire with RJ45 port to the 9216, please install the software as the follow steps:

1. Start your computer, put the install disc in the CDROM, and then find the file named **ipedit.exe** in the install disc.
  2. Copy the file to desktop or any directory you want save to.
- Start the initial setting process following the construction in next section.

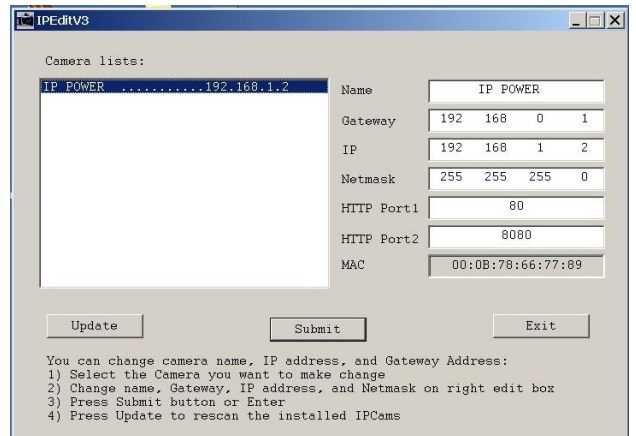
## 5. Initial Settings

### Initial setting through the Ethernet

1. Double click the Edit.exe :



2. All the IP 9200 series, IP Kamera 9000 series/IP Video 9100 series in the same subnet of the Ethernet will be found and be display in the window by the software. The default name of IP SENSOR 9216 is IP TERMINAL. **The default IP address of 9216 is fix at 192168.100.100.**



3. Click the equipment's name that you want to edit in the left of the window; it will turn fuscous, the equipment's name and IP address will display in the windows, you can rename (use numbers and letters). After that, click the update button and the new setting will be work in 20 seconds.

4. Double click the name of the equipment you want to control, the IE browser window will open and connected to this equipment in that Ethernet automatically. You also can type the IP address of the 9216 in the IE browser to open the web page of 9216. We suggest you to update the IE to version 6.0 with SP1 or higher if your IE notices you the security level is too low to open that web page.

#### NOTICE:

1. IP Sensor 9216 default setting is fixed IP address: 192.168.10.100. The IP address of your computer should in the same subnet with that of IP Sensor 9216, so that you can open the control web page. In the figure above, the IP address of 9216 is 192.168.100.168. You can make sure the IP address of your computer first, then use the **ipedit.exe** to modify the IP address of 9216. after that, your computer can connect to the 9216.
2. IF user can not enter the control web page, please set the IP address of IP Sensor 9216 and your computer in the same subnet. User can obtain the computer's IP address, subnet mask, and default gateway through the following method.

start → run → type in "cmd" → then open the MS -DOS window, now type in "ipconfig"

```

C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [版本 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Chiu>ipconfig

Windows IP Configuration

Ethernet adapter 區域連線:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . .                : 192.168.100.31
    Subnet Mask . . . . .              : 255.255.255.0
    Default Gateway . . . . .          : 192.168.100.254

C:\Documents and Settings\Chiu>
  
```

The last number of the IP address (default is 100) can be any number between 1~254, but cannot be the same with that of the computer's. If you want to use it at home, you can enter the web page by typing in the IP, the IE, or using ipedit.exe program.

\***Same subnet** : means the first three parts of the IP address must be the same, such as XXX.XXX.X.abc. For example, **192.168.1.100** and **192.168.1.123** are in the same subnet.

4. The default username and password of IP Sensor 9216 are:

**Username: admin**

**Password: 12345678**

**If forget password and can not log in webpage, please press Reset for 10 second , after few second then restart power . Then the IP address and password will be back to default value**

### Read message from RS232 serial port

User can read the system state of 9216 in PC through the RS232 serial port in 9216.

First, connect the 9216 serial port to PC serial port and make sure the connection is correct.

Then, click the **start** menu in your PC, **program---accessories---communicate---super terminal**, setting as the figure below shows:

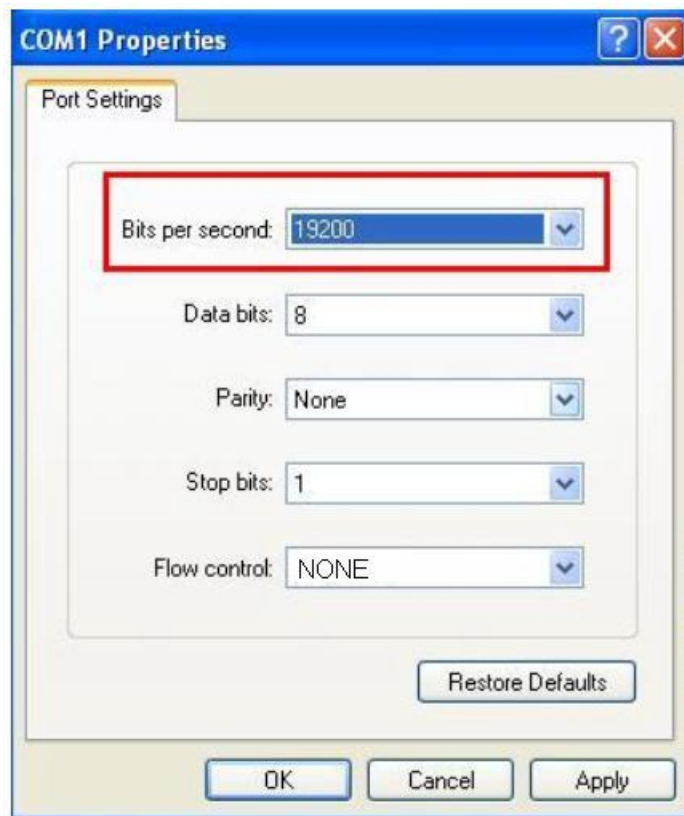
\* Bits per second ;19200

\* Data bits : 8

\* Parity :None

\* Stop bits: 1

\* Flow control : NONE



Then you can read message of 9216 from RS232 serial port.

## 6. Control and settings through the Internet Explore

### Welcom to IP Family WebControl

Please enter User name & Password.  
(maximum = 8)

User Name

Password

Type the new IP address of IP Sensor 9216 in the address field and you can enter the login web page. Input the default **username admin** and **password 12345678**, or the password set by you own, click the **OK** and then you can enter the Web Control page.

### State report of 9216

You can enter the state report webpage after you enter the user name and password. Or you can click the "SENSOR" button on the left of the webpage to enter the state report webpage.



### IP9216

#### System

[Setup](#)

[DDNS](#)

[E-mail](#)

[Change Password](#)

[Network Wakeup](#)

[Setup SNMP](#)

[Setup Sensor](#)

[Setup Input](#)

[Sensor Status](#)

[Firmware Update](#)

#### Internal Time:

[Change Time](#)

2006-07-18 11:10:28

### Sensor Status

Power		
P1	P2	P3
2.97	0.03	0.06
Temperature		
T1	T2	T3
34	48	48
Fan		
F1	F2	F3
0	0	8437

Input							
I01	I02	I03	I04	I05	I06	I07	I08
ON	ON	ON	ON	ON	ON	ON	ON
I09	I10	I11	I12	I13	I14	I15	I16
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

### 1. Power (Voltage) monitoring

The first column on the right side of the webpage is voltage monitoring ( **Maximum current for P1 is 4V** , **for P2 is 5.8V** , **for P3 is 15.5V** ) , displaying the real time value of 3 DC voltages. User can set the value in setup sensor sub-webpage. User can set the upper limit and lower limit of the voltage or turn on/ off the alarm.

### 2. Temperature monitoring

in the temperature monitoring column on the right side of the webpage, it displays 3 sets of real time temperature value( 2 sets of external temperature monitoring, 1 set of circuit board temperature monitoring). User can set the upper limit when make an alarm and the lower limit when alarm stop, or turn on / off the alarm.

### 3. Fan monitoring

in the fan monitoring column on the right side of the webpage, it displays 3 sets of real time rotate speed. User can set the lower limit of rotate speed when make an alarm or turn on/ off the alarm.

### 4. external digital voltage level monitoring

It is used to monitor the voltage in 16 route digital input port. is high level or low level. DI 9— 16 can be set to DRY or WET contact.

## IP settings of 9216

The IP settings of 9216 can be modified through AVIOSYS Network Assistant or modify it in the webpage. Click the **setup** option on the left of the webpage; you can enter the IP setting webpage as the figure below shows:

### System Configuration

ALL CAHNGED MUST BE RESTART TO TAKE EFFECT.	
IP Address:	192 . 168 . 10 . 125
Subnet Mask:	255 . 255 . 255 . 0
Default Gateway:	192 . 168 . 10 . 12
DNS:	202 . 103 . 24 . 68
DHCP Client	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
BEEPER	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Http Command Verification	<input checked="" type="radio"/> Cookie+Base64 <input type="radio"/> Cookie

Please fill in the new IP address, subnet mask, default gateway etc.

**Notice: when finish setting, you need to click *submit* button to confirm your settings.**

#### 1. IP address

Fill the new IP address you plan to use for 9216 in the IP Address column. The new IP address of 9216 must be in the same subnet with the PC, so the PC can control 9216. for example, if the IP address of your PC is 192.168.10.110, subnet mask is 255.255.255.0, the IP address of 9216 should be set to 192.168.10.XXX (XXX is from 1-255, and the IP address has not been occupied by other PC or equipments in the same subnet) .

#### 2. Default Gateway

if you local network is connect to the internet through router address mapping or gateway and you want to control the 9216 through internet, you should fill the correct gateway address in the Default Gateway column.

### 3. DNS Server

In order to make 9216 can sent state report E-mail through the Internet, you need to fill the correct DNS IP address in DNS column. Please refer to your ISP for DNS IP address.

### 4. DHCP

If your local network has a DHCP Server, you can choose to use DHCP server to gain IP address automatically. But the IP address of 9216 will change after every start, it is not good for the use of some advanced functions.

### 5. Buzzer setting

There is a buzzer on the circuit board of 9216, the buzzer will alarm when the monitoring item is abnormal. If you don't like its alarm, you can disable the buzzer in the BEEPER column or choose enable to turn on the buzzer.

### 6. cookie

you can select the web server to use cookie method or cookie+base64 method. We suggest user to use cookie+base64 method.

## DDNS Setting

DDNS Server Settings: when your network connects to the Internet through ADSL, the IP address you gain is dynamic assigned by your ISP. So the visitor maybe can not visit the 9216 in local network because don't know its IP address. We use DDNS method to solve this problem. Let's explain that using the DDNS service provided by [www.dyndns.com](http://www.dyndns.com):

First, we apply a domain name (for example, Aviosys) in [www.dyndns.com](http://www.dyndns.com) for 9216, set the domain password and select propel DNS server (for example, dnsdojo.net) for domain name resolve. Then input the Domain Name Server (host name), user name, password etc in the DDNS webpage of 9216. after that, every time 9216 start or user select to submit, 9216 will send a message package including its current IP address, domain name to [www.dyndns.com](http://www.dyndns.com), then the DNS server you choose will link the domain name of 9216 to its current IP address. So , the visitor can visit the 9216 webpage by input the domain name of 9216 (aviosys.dnsdojo.net) in the address column in browser.

**Notice: when finish setting, click SAVE button to confirm it. And click UPDATE NOW button to send DDNS message package to DDNS Server immediately.**

### DDNS SETUP

DDNS SETUP	
DDNS Server IP:	<input type="text" value="63.208.196.95:80"/>
Your Domain:	<input type="text" value="aviosys.dnsdojo.net"/>
DDNS UserName:	<input type="text" value="aviosys"/>
DDNS Password:	<input type="password" value="••••••"/>
Enable DDNS:	<input type="text" value="TRUE"/> ▾
Proxy Enable:	<input type="text" value="FALSE"/> ▾
Proxy IP:	<input type="text"/>
Proxy Port:	<input type="text" value="-1"/>
<input type="button" value="SAVE"/> <input type="button" value="UPDATE NOW"/>	

## 1. DDNS IP

Please fill in the IP address of DDNS Server and port number.

## 2. Domain

Please fill in your total domain name in Your Domain column.

## 3. DDNS user

Please fill in the DDNS domain name you applied here.

## 4. DDNS password

Please fill in the DDNS password here which you set in applying domain process in DDNS Server.

## 5. Enable DDNS

You can select true to enable DDNS function or select false to disable it.

## 6. Proxy server setting

Sometimes the message package can not send to DDNS directly, you can transmit DDNS message package through proxy server. You can use the proxy server by selecting TRUE in Proxy enable column. You can find the usable IP address and port of proxy server in some BBS, or you can use some proxy server searching software to search for usable IP address and port of proxy server.

## 7. PROXY IP

Please fill in the IP address of proxy server here.

## 8. PROXY PORT

Please fill in the proxy port here.

## E – MAIL settings

9216 can send E-mail to user to report its working state, such as starting or abnormal monitoring object, and also can report its Internet IP address through E-mail.

**Notice: when finish E-mail settings, click SAVE button to confirm the settings, click SEND button will send a E-mail immediately.**

### Setup Email

MailServer:	smtp.126.com
Pop3Server:	pop3.126.com
<b>UserName:</b>	aviosys
<b>Password:</b>	••••••
<b>Sender:</b>	aviosys
Receiver1:	aviosys@aviosys.com
Receiver2:	
Receiver3:	
Subject:	9216report
MailBody:	9216 power on
<input type="button" value="Save"/> <input type="button" value="Send"/>	



1. set the outgoing mail server (SMTP)

Suppose we use [aviosys@126.com](mailto:aviosys@126.com) as outgoing mail address, and use [aviosys@aviosys.com](mailto:aviosys@aviosys.com) as incoming mail address, then the settings will as the figure above shows:

fill in the outgoing mail server in mail server column, the outgoing mail server of [aviosys@126.com](mailto:aviosys@126.com) is smtp.126.com.

2. set the incoming mail server (POP3)

Fill in the incoming mail server in POP3 server column, the incoming mail server of [aviosys@126.com](mailto:aviosys@126.com) is pop3.126.com.

3. set the username of mailbox

Fill in the USER NAME column with the username of [aviosys@126.com](mailto:aviosys@126.com) :aviosys .

4. set the password of mailbox

Fill in the password column with the password of mailbox [aviosys@126.com](mailto:aviosys@126.com)

5. set the sender name of the mailbox

Fill in the sender column with the sender name of mailbox [aviosys@126.com](mailto:aviosys@126.com), you can fill in aviosys or other username

6. set the mailbox to receive the incoming E-mail

You can set multiple mailboxes at the same time to receive the incoming E-mails. Please fill in them in receiver1, receiver2...columns.

## Change the password

Click the change password button on the left of the webpage will let user to change the password of 9216. The default password is admin.

### Change Password

Old Password:	<input type="password" value="....."/>
New Password:	<input type="password" value="....."/>
Confirm New Password:	<input type="password" value="....."/>
<input type="button" value="Submit"/>	

## Network wake up function

User can use the network wake up function of 9216 to wake up the PC than in the same subnet with 9216. Click the network wakeup button on the left of the webpage to enter the Network Wake Up Setup webpage. Fill in the MAC column with the MAC address of the PC you want to wake up and click send button, 9216 will send a network wake up message package. Click the save button, 9216 will save the MAC address for future use.

## Network Wake Up Setup

---

MAC:	FFFFFFFFFFFF
<input type="button" value="Save"/> <input type="button" value="Send"/>	

**NOTICE:** user need to enable the 'network wake' and 'PCI wakeup' option in BIOS settings of the PC you want to wake up. We also suggest user to select 'former statues' in 'power on (manage) after power failure' option in BIOS settings of the PC, otherwise the network wake up function will not work if the power of the PC have been turned off or the PC have been turned off abnormally.

## SNMP settings

9216 can sent SNMP data packages to SNMP server appointed by user, reporting the working state of 9216 in these SNMP data packages for the user to manage it directly.

## SNMP Setup

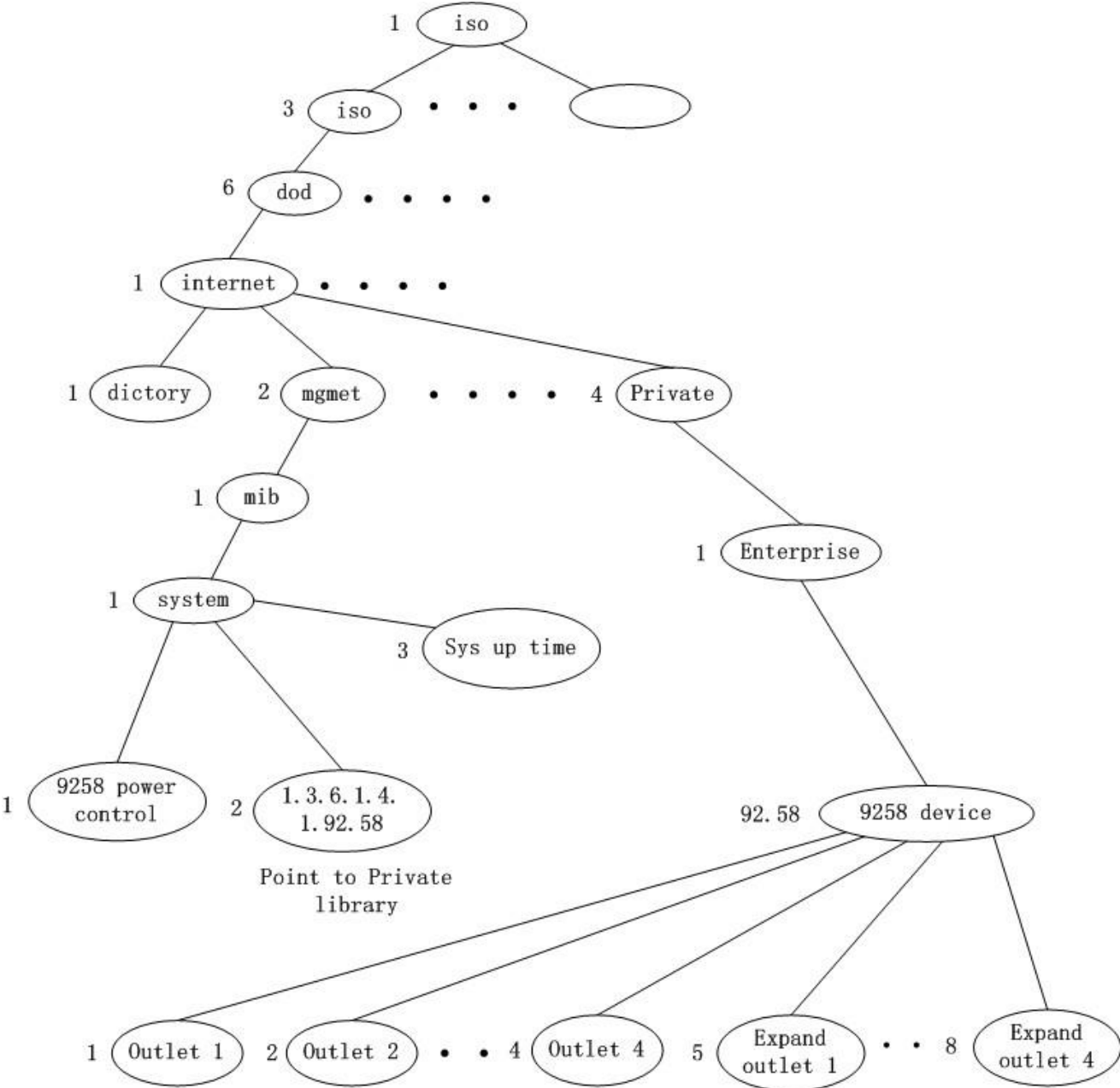
---

Trap IP:	192 . 168 . 10 . 9
Enable Trap:	Enable ▾
<input type="button" value="Submit"/>	

Click the SNMP setup option on the left of the webpage to enter the SNMP setup webpage. Fill the IP address of SNMP server in the TRAP IP column, select enable in Enable trap option and then click submit button to confirm these SNMP settings.

**NOTICE:** if 9216 can not detect the SNMP in the corresponding IP address and gain the MAC address of SNMP server, the SNMP data package will not be send out. Now the user can not use the head off tool to debug SNMP.

SNMP command format : 9216 support SNMP V1 and V2 , user can use snmp program to get the status of each port in 9216.



Return value =1 ; the relevant outlet is power on  
Return value =0 ; the relevant outlet is power off

## Monitoring settings

### Setup Sensor

Power	P1	P2	P3
V	3.32	5.07	5.31
Down	91 %	92 %	85 %
Up	121 %	122 %	123 %
Alarm	Enable ▾	Enable ▾	Enable ▾
Temp	T1	T2	T3
°C	25	28	31
Down	104 %	104 %	104 %
Up	130 %	130 %	130 %
Alarm	Enable ▾	Enable ▾	Enable ▾
Fan	F1	F2	F3
RPM	2800	2800	3003
Down	51 %	52 %	53 %
Alarm	Enable ▾	Enable ▾	Enable ▾
SAVE			

Click the setup sensor button on the left of the webpage to enter the monitoring settings webpage. User can set the values of monitoring voltage, temperature and rotate speed etc. the up limit and lower limit of alarm is calculated according to the percentage of set value. For example, if you monitoring voltage is 3.3V, the up limit is 20%, the lower limit is 10%, then the up limit alarm voltage is  $3.3V + 3.3 * 20\% = 3.96V$ , the lower limit alarm voltage is  $3.3V - 3.3 * 10\% = 2.97V$ .

#### 1. voltage monitoring

9216 can monitor 3 route DC voltages. The highest allowed monitoring DC voltage of P1 is 4V, P2 is 5.8V, and P3 is 15.5V. User can set the monitoring voltage, up limit and lower limit in this range. If input voltage is higher than the up limit or lower than the lower limit, 9216 will send SNMP alarm data package. If the beeper is enable, the beeper will alarm. If the monitoring voltage backs to the normal range or user press the reset button on the right of 9216, the alarm will stop. If any other monitor items trigger the alarm, the beeper will alarm again.

Notice: if the input voltage exceeds the allowed highest value, it may cause damage to your hardware.

#### 2. Temperature monitoring

9216 can monitor 3 route temperature sensors. T1 is the temperature sensor on the circuit board of 9216. T2 and T3 are external temperature sensors. User can set the standard temperature of each sensor, if environment temperature of sensor is high than the preset up limit, 9216 will send SNMP data package. If the beeper is enable, the beeper will alarm. If the monitoring temperature backs to the normal range or user press the reset button on the right of 9216, the alarm will stop.

**Notice: if the sensors are not connected, the temperature display in the webpage will be  $-48\text{ }^{\circ}\text{C}$ .**

#### 3. Fan monitoring

9216 can connect to F1, F2 and F3 DC 12V fans, and monitor there rotate speeds. If the rotate speed of fan is lower than the alarm lower limit, 9216 will send SNMP alarm data package. If the beeper is enable, the beeper

will alarm. If the monitoring rotate speed of fan backs to the normal range or user press the reset button on the right of 9216, the alarm will stop.

## external voltage level monitoring

9216 has 16 IO ports which can be used in monitoring external voltage level. Among them, DI1-DI8 are wet contacts, can detect the input voltage level is high or low. SW1 and SW2 together control the type setting of DI9-DI16. When SW is set to ON, the corresponding contact is wet contact, detecting the input voltage level. When SW is set to OFF, the corresponding contact is dry contact, detecting the circuit between corresponding IO port is turn on or turn off. SW1 is corresponding to DI9 and SW2 is corresponding to DI16. (The setting of each contact needs the two switches, SW1 and SW2, to work together)

### Setup Input Alarm

Input	I01	I02	I03	I04	I05	I06	I07	I08
Alarm	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Input	I09	I10	I11	I12	I13	I14	I15	I16
Alarm	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
<input type="button" value="SAVE"/>								

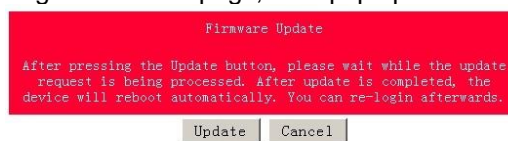
If DI is wet contact, it can be set to alarm at high voltage level (alarm option set to OFF), alarm at low voltage level (alarm option set to ON) or not alarm (alarm set to disable) 3 states.

If DI is dry contact, it can be set to alarm at circuit turn on (alarm option set to OFF), alarm at circuit turn off low (alarm option set to ON) or not alarm (alarm set to disable) 3 states.

## Firmware update

User can gain more function for IP Power 9258 through firmware update.

Click the firmware update on the right side of the page, it will pop up the following window



Click update button, it will pop up the following window



Click the Brower button to find the corresponding update file (you can download it from our web site or ask it from the dealer), then click Update button to start update firmware. When the update is finished, you must wait one minute before you restart the IP Sensor 9216.

## 7. Control and setting through HTTP Command

User can read the value of 9216 from HTTP command , the format of http command as follow :  
**http://username:password@xxx.xxx.xxx.xxx/Set.cmd?cmd=xxxxxx**

the Definition of each part in command :

username : 9216 username, factory default value is admin.

password : 9216 password , factory default value is admin.

XXX.XXX.XXX.XXX : IP address of 9216

Set.cmd?cmd=xxxxxxx as command format as 9216.

Command as follow :

Command	Description
GetInput16	read status of DI
GetVolt	read status of voltage
GetTemp	read status of temperature
GetFan	read status of fan

### **example:**

9216 IP address is 192.168.100.99

### **type following command**

http://admin:12345678@192.168.100.99/Set.cmd?cmd=GetInput16

you will get the following result :

Input:I1:1,I2:1,I3:1,I4:1,I5:1,I6:1,I7:1,I8:1,I9:0,I10:0,I11:0,I12:0,I13:0,I14:0,I15:0,I16:0,

1 means high voltage 0 means low voltage

**so** Input 1~8 **is** high voltage and Input 9~16 low voltage.