

USER'S MANUAL

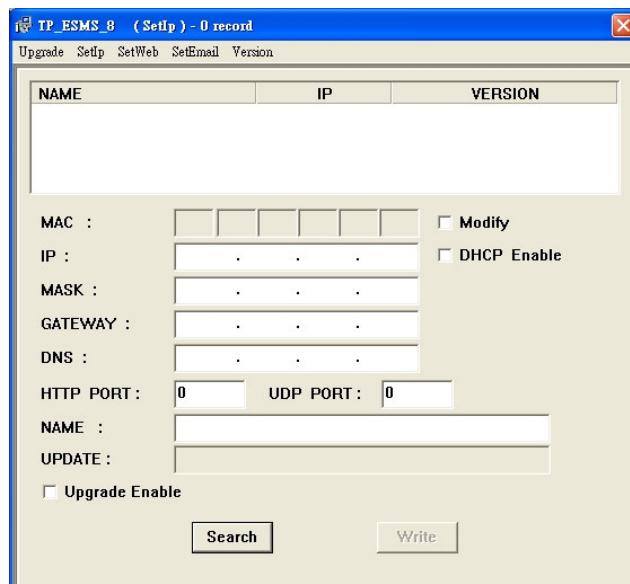
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Ver.02 Updated 2013/4/17

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1 INTRODUCTION

The TP_ESMS_8 Board is completely programmable from the menus of application software (TP_ESMS_8.exe, as provided by TOPOINT CORP). This makes it easy to set up program and utilize the features of the board device. The pages can be accessed by executable application software and then a click of the **SEARCH** button to access the device (see the Network Configuration section in Chapter 2.2). The menu tags as appeared at the top of screen will help you locate specific programming parameters and features. The Summary screen is your main page to view the current status of all monitored 8 digital inputs (D/I) status.



1.1 SET-UP

The TP-ESMS-8 application software provides access to several menus dealing with the configuration. They are divided into the following menu tags: **Upgrade**, **SetIP**, **SetWeb**, **SetEmail** (inclusive of setting SMS). The description of each tag and associated configurable parameters are described below.

2 SET IP

The SetIP settings are used to describe and configure general properties of the network. The information as entered into the unit fields of **NAME, MAC, IP, MASK, GATEWAY, DNS, HTTP PORT, UDP PORT, NAME** will appear in the front of SetIP page. Use these to help identify the unit and location so that when any one of D/I is triggered and you'll know exactly where the trigger occurs.

2.1 Automatic Network Configuration using DHCP:

For an easier set-up, the interface provides the selection of **DHCP enable**. If your network supports DHCP, i.e. in the conjunctional use with a Network Router, then simply plug the Ethernet jack into the TP_ESMS_8 unit and turn the unit on. Allow the unit to finish booting-up (a few seconds). By factory default, the selection of **DHCP enable** has always been checked. Only when DHCP enable has been checked is able to display these related parameters automatically. Leaving DHCP unchecked will lead user to modify those parameters manually. As long as user's network supports DHCP, user is strongly advised to click DHCP enable so that a detected TP_ESMS_8 will be displayed showing its IP address and MAC address (TP_ESMS_8 hardware serial number) accordingly. A double-click on the TP_ESMS_8 in the top list and then your browser will open to the status viewing page of monitored 8 D/I.

2.2 Network Configuration using a Static IP Address:

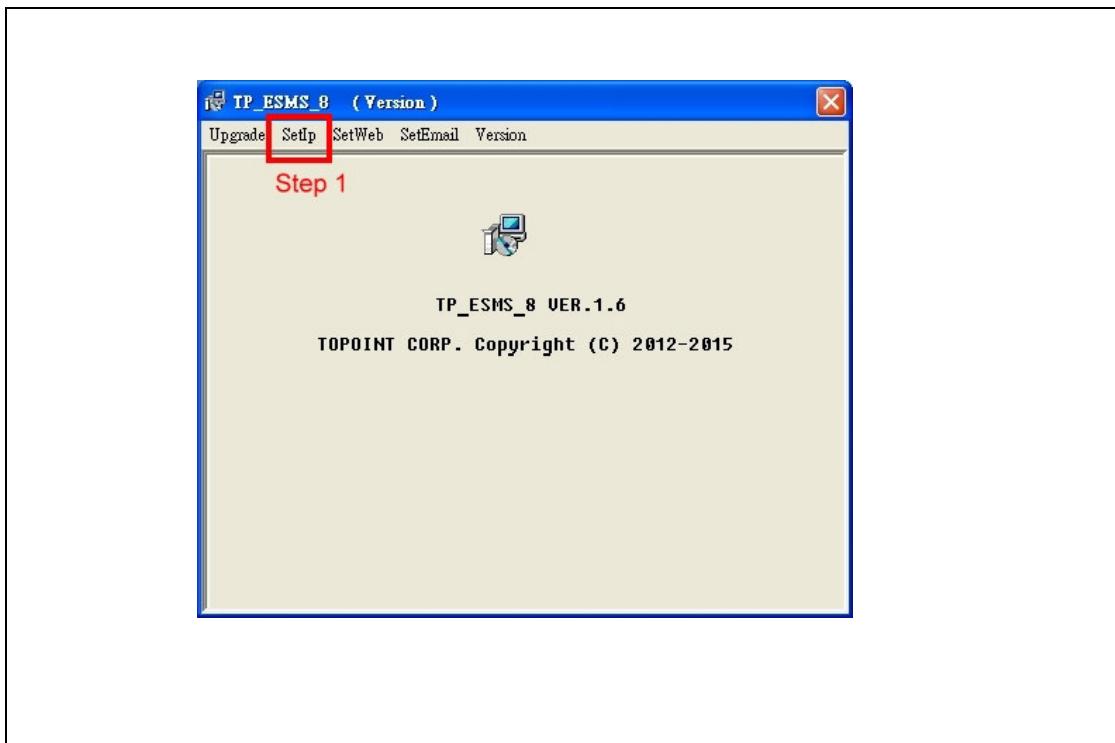
If your network does not support DHCP then your unit will set its IP address to 192.168.1.250 by factory default. This address should be temporarily set. However, leaving this address as the factory default could result in net-working conflicts if another TP_ESMS_8 unit is added to your network.

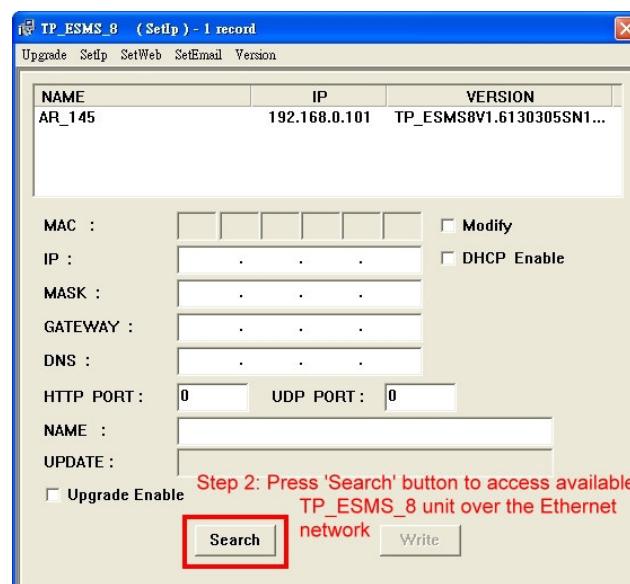
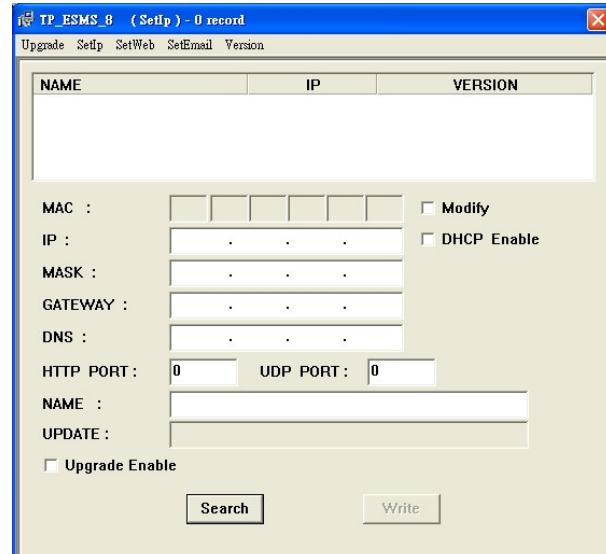
It's highly recommended that you consult network configurations and settings changes with your Network Administrator if you check **Modify** and abandon the use of **DHCP Enable**. To this end, user would like to switch over to the proper settings manually, for example, for the input of a permanent fixed IP address instead.

2.3 Set IP step-by-step

Step1:

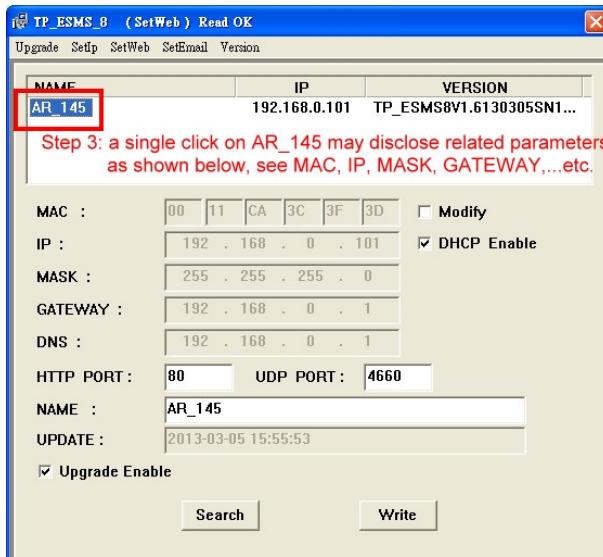
Just execute TP_ESMS_8.exe application software and it enters the front page as the following photo shows, then followed by a click **SetIP** tag on the top row in order to go into the main network configuration page. See the following picture. If your network supports DHCP then simply plug the network jack into the TP_ESMS_8 RJ45 Ethernet port and turn it on. Allow the unit to finish booting up (for a few seconds until the RUN led indicator starts to flash steadily, which is similar to heartbeat pulse. Only at this moment on, user concludes that the TP_ESMS_8 unit has started to function.





Step2 : Press **Search** button to access available TP_WEB_8 unit over the Ethernet network.
After a few moments, the detected unit is displayed on the topmost position, i.e., see the row of
AR-145 192.168.0.1 TP_ESMS8V1.6....

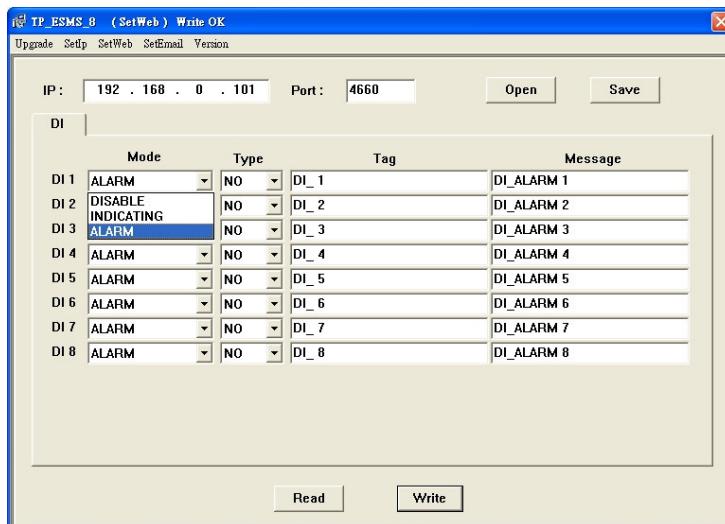
Step3: Upon the unit; for example, AR_145, has been displayed in the top row, user may proceed with a **single** click right on AR_145 (see the photo below for the blue bar), and related parameters that have been generated from board unit is to be displayed (see the photo below for the fields of MAC, IP, MASK, GATEWAY, DNS, HTTP PORT, UDP PORT, etc).



2.3.1 Network Parameter Descriptions
DHCP
Enabling this option means that the TP_ESMS_8 unit will automatically obtain an IP address on the network using Dynamic Host Configuration Protocol (DHCP). Disabling this option means that you will have to configure the network parameters manually.
MAC
This is the Media Access Control address which, in general terms, is the hardware address for the TP_ESMS_8 unit port. There is a unique address for all network devices.
IP
This is the entry field for manually configuring the IP address of TP_ESMS_8 unit on your network. This address is provided by you or your network administrator. It is formatted as a standard dotted decimal number.
MASK
This is the subnet mask which distinguishes the portion of the IP address that is the network ID from the portion that is the station ID.
GATEWAY
A TCP/IP network must have a gateway to communicate beyond the LAN identified by the network ID. A gateway is a computer or router that is connected to two different networks and can move TCP/IP data from one to the other. If your TCP/IP network has more than one LAN or if you are connecting to the Internet, you will need to know the IP address of the gateway that will transfer TCP/IP data in and out of your LAN. A single LAN that is not connected to other LANs does not require a gateway setting.
DNS
It stands for Domain Name System and the DNS translates Internet domain and host names to IP addresses. DNS automatically converts the names we type in our Web browser address bar to the IP addresses of Web servers hosting those sites.
Note: if user is in conjunctinal use with a network router under a permanent IP, he is reminded to check if the DNS fields as displayed both in the board unit and in the router should be input properly.
HTTP PORT
Allows section of the port number that the web server will use to host the web page. Default is 80. If changed from the default you must include the port number in your browser address (example: 192.168.1.250:85)

4 SET WEB

User may edit the notification contents of web which will be viewed on the web-enabled browser in case any one of 8 D/I is trigger (in other words, event occurs)



4.1 Mode

There are 3 modes available which are **ALARM**, **DISABLE** and **INDICATING** for notification options. In **ALARM** mode, TP_ESMS Board sends Email/ SMS notification as soon as event occurs. In **INDICATING** mode, the hardware board just displays its status on the web view instead of sending Email/SMS notification. In **DISABLE** mode, the hardware board simply ignores D/I status regardless of what happens.

4.2 Type

There are 2 types available, which are NC (Normally Closed) and NO (Normally Open). For example, if the D/I 1 has been preset to NC type, and once D/I 1 input is made to NO (D/I 1 input is connected to ground or lower-level voltage), the hardware board just regards that D/I 1 input as abnormal, thus, generates an event correspondingly. In other words, D/I is triggered. Likewise, if the D/I has been set to NO type, and as soon as D/I input is made to NC (D/I 1 input is connected to a higher-level voltage), the hardware board receives that abnormal signal (from D/I 1) and responds accordingly.

4.3 Tag

The configurable contents of these entry fields will be displayed on the web view, showing the real-time 8 D/I statuses. Maximum input of characters is 20

4.4 Message

The configurable contents of these entry fields will be displayed on user's email content and/or on his cellphone short message as long as there is an incoming notification. Maximum input of character is 40

5 EVENT NOTIFICATION

TP_ESMS_8 Board provides two (2) mechanisms of event notification---Email, SMS (also known as short message). Other than that, the real-time view of monitored D/I status can be viewed via a web-enabled browser.

5.1 Email Notification

5.1.1 Find a SMTP Server

User is required to find at least a suitable SMTP server(s) from a reliable email service provider(s) before setting up following parameters. A SMTP service provider is able to send user's every outgoing email.

Taking a renowned email service provider **gmx.com** for example,

- its mail SMTP server address: smtp.gmx.com
- GMX Mail SMTP user name: Your full GMX Mail email address ("example@gmx.com", for instance)
- GMX Mail SMTP password: Your GMX Mail password
- GMX Mail SMTP TCP port: 25
- GMX Mail SMTP TLS/SSL required: no

Note: If using GMX as a SMTP provider, user is noted of the consistency in the entry fields of **E-Mail from** and **Account Name**. In short, fill in your full GMX Mail email address both in the **E-mail from** and **Account Name**. The discrepancy in these 2 fields may result in sending error of outgoing emails.

User can be referred to other suggested SMTP service providers, signing up for their SMTP membership in order to get a set of approved Username and Password

In case user has an Ethernet network in the locality. Mostly, that Internet Service Provider (ISP) provides SMTP service for free.

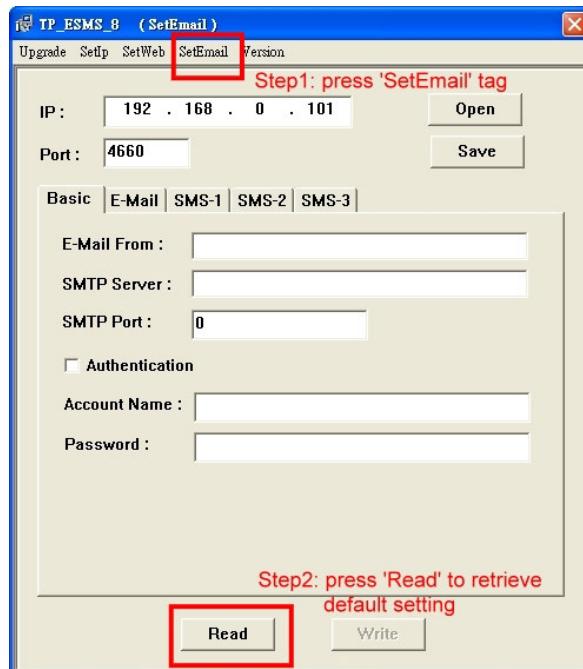
SMTP Service Provider	SMTP Mail Server	TCP Port
	turbo-smtp.com	25
	smtpcorp.com	25
	smtp.sendgrid.net	25

5.1.2 Go to Email tag

Step1: As soon as the unit AR_145 has been detected (see 2.3 SetIP step-by-step) successfully, user may proceed to Email setting by clicking the **SetEmail** tag

Note: Check the IP address and Port fields as shown at the upmost 2 rows (in this case below, it is IP:192.168.0.1/ Port:4660) should be as same as the ones as displayed in the **SepIP** tag.

Step2: Press **Read** button to retrieve existing setting. Note: the entry fields of Email From/ SMTP Server/ SMTP Port/ Authentication/ Account Name/ Password are all in the blank in the first time use.

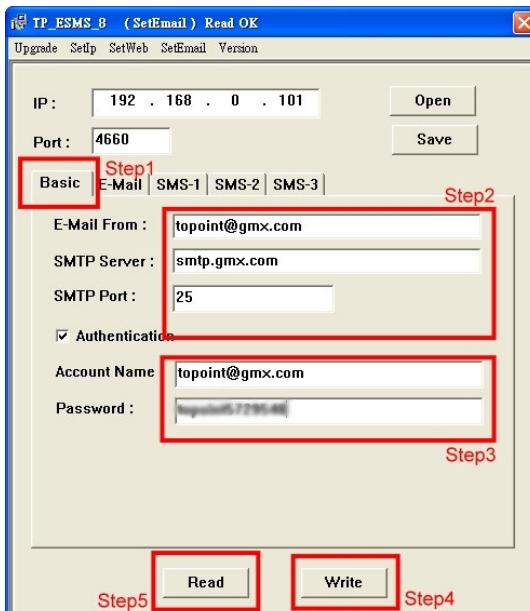


5.1.3 Set Basic Email (taking GMX for example)

After user has successfully applied for GMX mail, for example, to have a full GMX Mail email address, password, he is able to set parameters of email notification

Note: The example below is only based on GMX mail. Other email/SMTP service providers are likely to have different rules. Please always consult with your email/SMTP provider.

Step1: This tag makes user to set outgoing emails. Go to **Basic** tag by a click on it.



Step2: Fill in the fields of E-Mail From, SMTP Server, SMTP Port

Step3: Fill in the fields of Account Name, Password, followed by a check on Authentication.

Note: GMX Mail requires that E-Mail From and Account Name should be as same as each other. In this case, as the photo shown above, for example, it is topoint@gmx.com

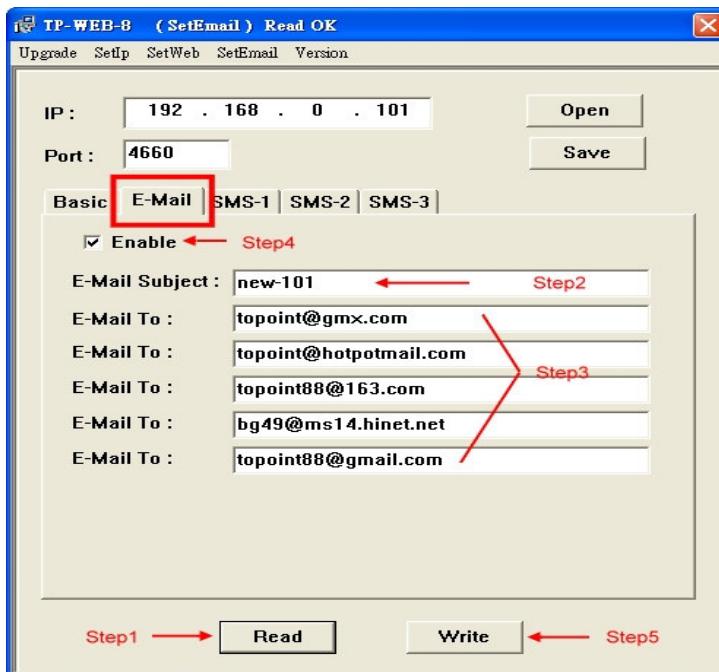
For GMX user, his outgoing emails cannot be sent if the fields of E-Mail From and Account Name is not consistent

Step4: As soon as Step2 & 3 are done, press **Write** button to write in parameters.

Step5: User is advised to press **Read** button in the end to confirm if the parameters have been displayed properly.

5.1.4 Add Email recipients of Email notification

TP_ESMS_8 Board can be added with five (5) Email recipients at most to be noted of the incidents in case D/I is activated.



5.1.5 Set Email recipients

Step1: Choose **E-Mail** tag and followed by a click of **Read** button to read existing parameters. By factory default, all blanks (inclusive of E-Mail Subject/ E-Mail to) as displayed should be blank. User is advised to take a look if the upmost IP & port is correctly displayed.

Step2: Fill in the blank (of E-Mail Subject) with a proper subject title; for example, new-101.

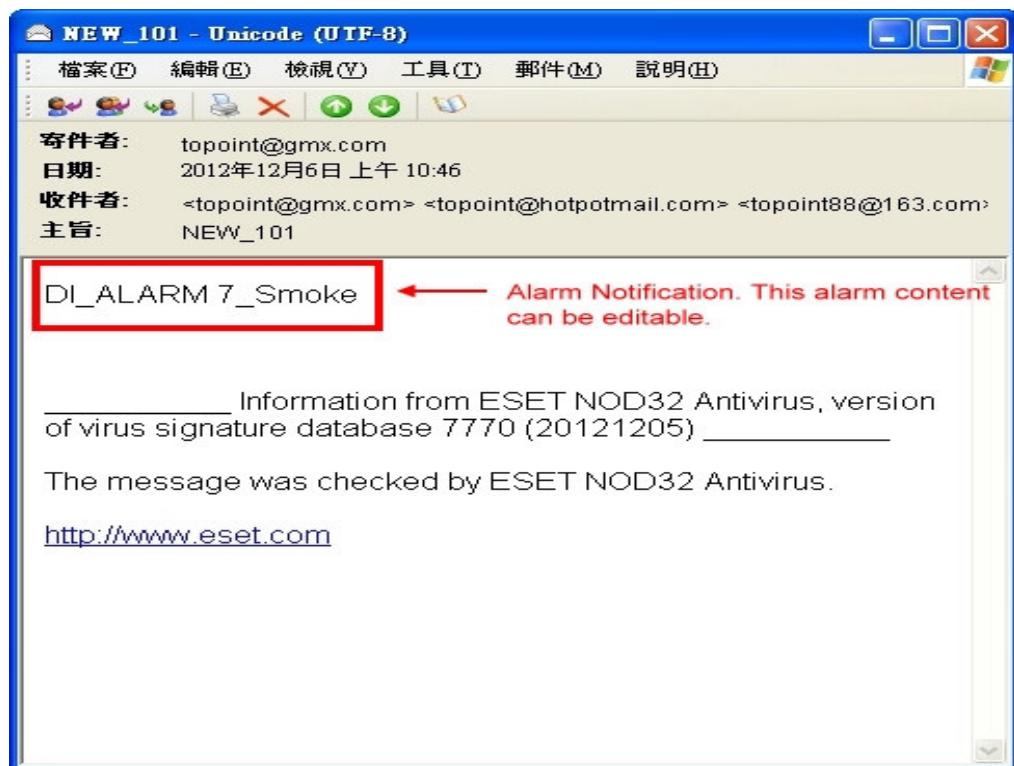
Step3: Fill in the blank (of E-Mail to) with email recipients, 5 (five) recipients at most.

Step4: Be reminded to check 'Enable'.

Step5: After one (or more than one) email recipient has been assigned, press **Write** button at the bottom to write in parameters. This write-in procedure takes a few seconds.

Note:

After a 'Write' button is done, user may press 'Read' button again to check if email recipients as displayed are in line with what have been set accordingly.

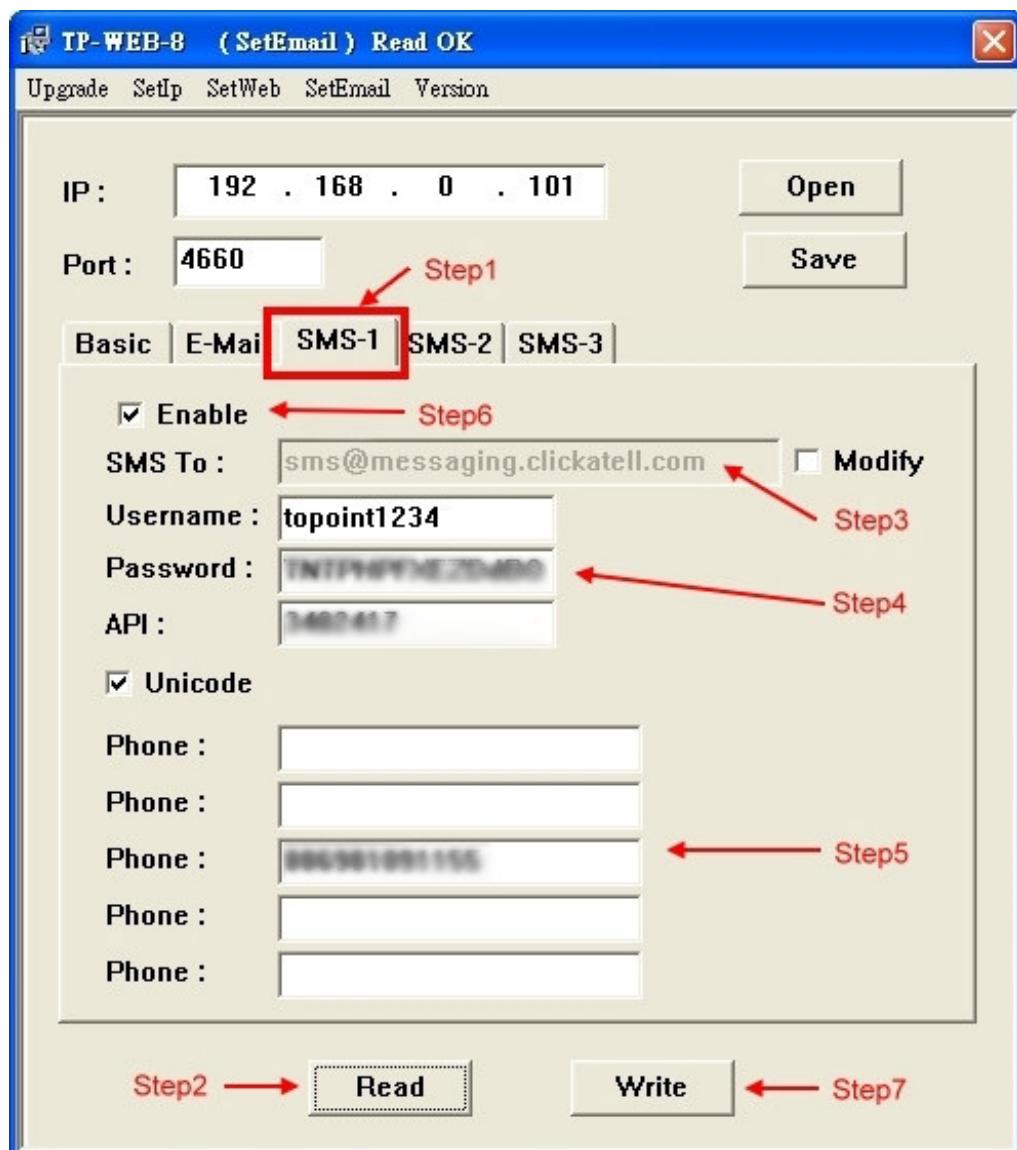


5.2 SMS Notification

5.2.1 Find a SMS provider

User will have to find a local SMS provider and sign up for membership to have a set of approved username, password, API code and some amount of credits that activates SMS delivery

Before setting up [SMS-1 tag], we suggest user sign up membership at www.clickatell.com, who is a professional SMS sending service provider.



5.2.2 SMS-1 step-by-step

Have the following information ready after a successful sign-up at clickatell.com

Username: xxxxx

Password: xxxxx

API code: xxxxx (usually, 7-digit code for the Clickatell user)

Phone: xxxxxxxx (cell phone numbers you would like to send the message to in International format e.g. 448311234567)

Step1:

Choose **SMS-1** tag

Note: TOPOINT Corporation provides two (2) mostly used formats (SMS-1/ SMS-2) that user may choose from. SMS service providers may differ slightly in their SMS-sending format. User is advised to consult with SMS service provider before he is working on the key-in

Step2:

Click **Read** button to read existing parameters. By factory default, all blanks (exclusive of IP & Port) as displayed should be blank in the first use. However, user is advised to take a look if the upmost IP & port is properly displayed.

Step3:

Fill in the blank (of SMS to) with a SMS service provider's email address. For the Clickatell user, it is sms@messaging.clickatell.com. If wanting to further modify that blank, just check 'Modify'.

Note:

1. Each SMS service provider has its own 'email to SMS' email address. User is advised to consult with his preferred SMS service provider for such information.
2. User is also advised to type in keywords of 'email to SMS' via his Google search. There're a lot of SMS service providers around who are able to offer the similar SMS sending service.

Step4:

Key in the blank (of Username/ Password/ API) with proper parameters. When you are at it, make sure that you've signed up for such information ready.

Username: xxxxx

Password: xxxxx

API code: xxxxx (usually, 7-digit code for the Clickatell user)

Step5:

Key in the blank (of Phone) with at least a cell phone number (5 cell phone numbers at max) you would like to send the message to in international format e.g. 448311234567

Step6: Don't forget to check both 'Enable' and 'Unicode'.

Step7: After one (or more than one) SMS recipient has been assigned, press **Write** button at the bottom to write in parameters.

5.2.3 SMS-2 notification format

Topoint Corporation offers another SMS-2 format to send short message. Before setting up SMS-2, we suggest that user goes with sign-ups in either one of the following SMS service providers.

SMS Provider	Website	Email Address Format
	www.smsglobal.com	country code+cellphone@email.smsglobal.com for instance, for a Taiwan recipient, it is 886981091155@email.smsglobal.com
	www.textmagic.com	country code+cellphone@textmagic.com for instance, for a Taiwan recipient, it is 886981091155@textmagic.com

Note

- For smsglobal and TextMagic users, the Email address format should be in line with the following rules; for example,
a Taiwan cellphone no. is 0981091155, then put Taiwan country code of 886 in the front and omit 0. So the required email address format should be:

886981091155@email.smsglobal.com

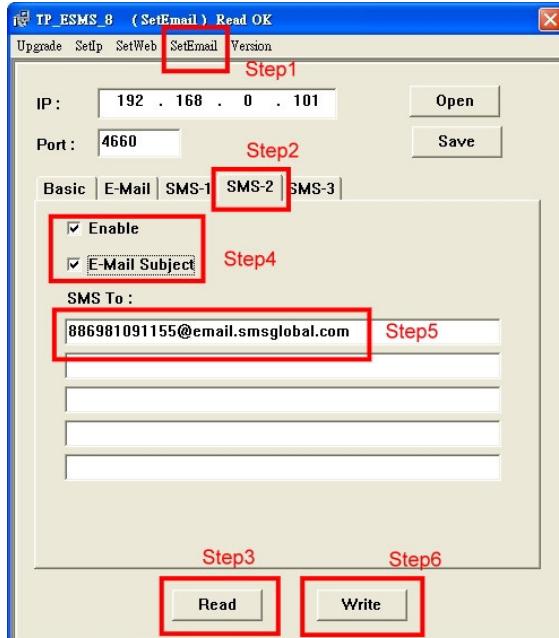
886981091155@textmagic.com

2.

User may find out that both smsglobal and TextMagic provide a web interface where user may configure his preferences. Both said above two companies support the storage of pre-defined Email addresses/ Wild Domains so that Email-to-SMS requests as sent from the pre-defined Email addresses/ Wild domains can be accepted and delivered.

With this reason, our **SMS-2** doesn't request the input of username/password. However, user is advised, prior to the use of SMS-2, to confirm again that your Email address (as stated under the tags of **Basic**→**E-mail From**) should be included in the list of pre-defined Email addresses/ Wild Domains as set in smsglobal.com or textmagic.com)

5.2.4 SMS-2 step-by-step



Step1: Go to **SetEmail** tag. Prior to this procedure, make sure that you have done **SetIP** section. See

Step2: Choose **SMS-2** tag

Step3: Press **Read** button to read existing parameters. By factory default, all blanks (exclusive of IP & Port) as displayed should be blank in the first use. However, user is advised to take a look if the upmost IP & port is properly displayed.

Step4: Check both **Enable** and **E-Mail Subject** so that SMS-2 delivery starts to function

Step5: Fill in recipients' (5 recipients at most) cellphone numbers. The format must conform to smsglobal rule. See **.2.3

Step6: Press **Write** to write in all parameters. User is advised to press **Read** button again in the end to confirm that all parameters are set accordingly.

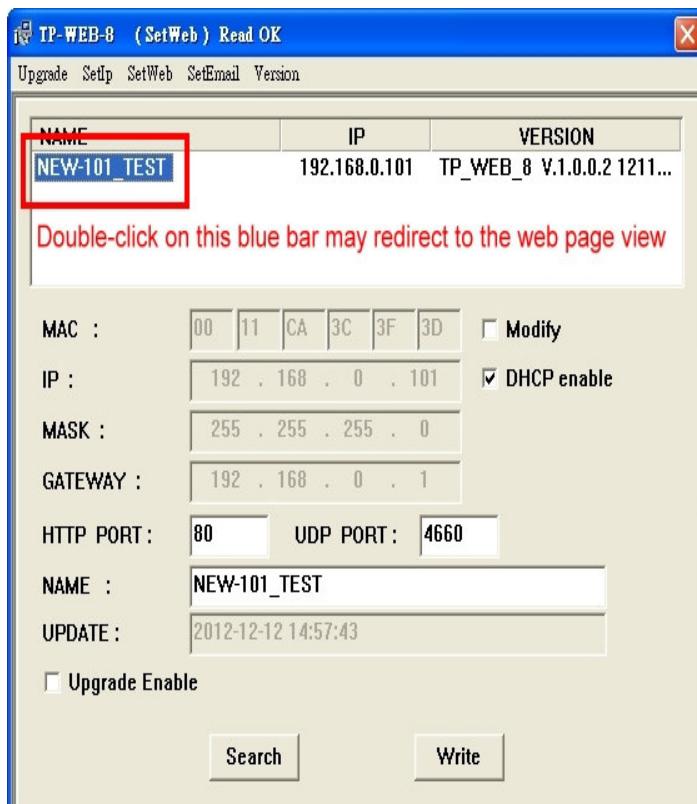
5.3 Web Display

Aside from email/ SMS notification, Web Display supports real-time view of monitored 8 D/I status no matter whether the D/I is triggered.

In addition, user may view the real-time ASCII data that are received from UART interface. As the said data can be updated once a second, user is able to view the most updated physical values thru a web-enabled browser. See picture below

5.3.1 View of real-time monitored 8 D/I status on the web page

See the picture below, as soon as the NEW-101_TEST unit is displayed, user may proceed to the web-page view of the real-time monitored 8 D/I status with a double-click on the highlighted blue bar.



5.3.2 View of real-time monitored 8 D/I status on the web page

See picture below for the screen view of real-time monitored 8 D/I status the web page.

Therefore, user may view this summary thru his web-enable browser.

As it is displayed as such:

N: NORMAL (colored in blue)

A: ALARM (colored in red)

NC: NORMALLY CLOSED

NO: NORMALLY OPEN

DATA: the display of incoming RS232 data streams (if has)

ALARM_SUMMARY_C: automatically refresh this view display on the intervals of every second.

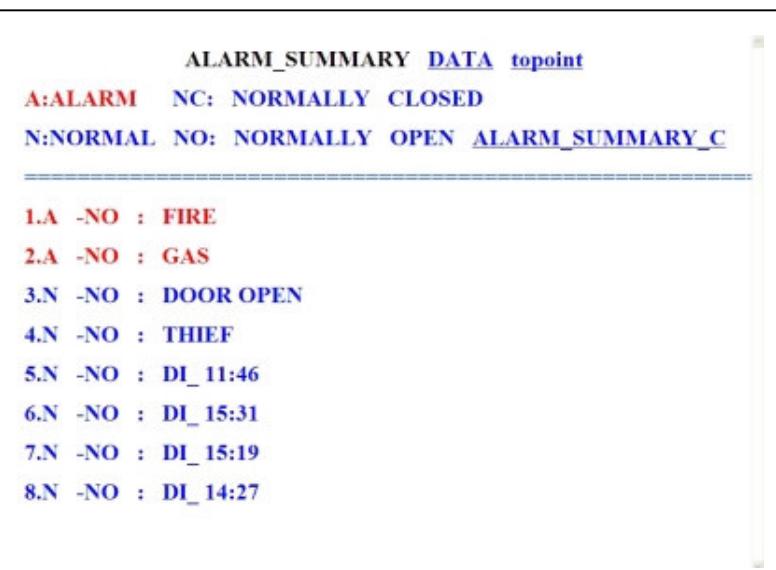


Note:

1. The display contents; i.e, FIRE, GAS, DOOR OPEN, THIEF, of screen view can be pre-edited. See **.** page for web view edition.

5.3.3 When a D/I is triggered

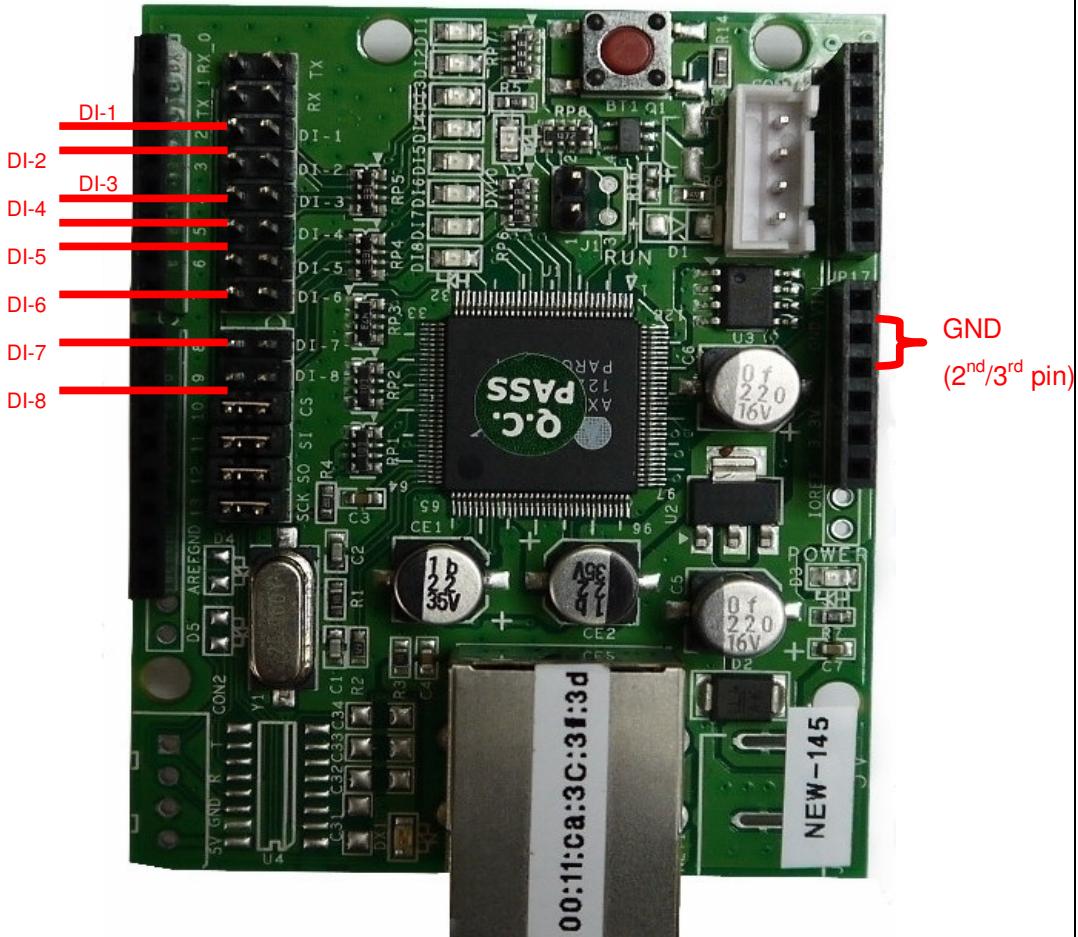
Whenever any one of 8 D/I is triggered, the web page displays abnormalities (colored in red) accordingly.



As the picture is displayed as such, both D/I 1 and D/I 2 have been triggered, the web page shows abnormalities colored in red. User may both receive email and SMS notifications (if he has set email/SMS notification to enabled selection).

5.3.4 Wiring Connection (for D/I trigger)

TP_ESMS_8 Board offers 8 D/I for trigger. See the photo below for wiring connection



5.3.5 ASCII data as received from UART interface

TP_ESMS_8 Board is able to take in ASCII data as received from UART interface and display them as such. The said ASCII data can be viewed on the real-time basis thru a web-enable browser; however, the character strings of ASCII data should conform to the following example.

5.3.6 Standard format of ASCII data

The standard format should be like this: **\$RYCX=...\\r**

R means the location of horizontal Row that an ASCII string starts; it ranges from 1-8;

C means the location of vertical Column that an ASCII string starts, it ranges from 1-40;

... means the displayed contents on the monitor screen. Its maximum length should not exceed 40 alphanumeric characters (Note: the limit depends on the location of R,C)

\\r means the termination of a ASCII string

For example, if wanting to insert a character string of ASCII data at the location of Row 3, Column 7, displaying 123 on the screen monitor, then the format and its corresponding converted ASCII codes should be:

0D,24,52,33,43,37,3D,31,32,33,5C,72,0D

To simplify this format as possible,

If user usually inserts ASCII data at forefront Columns, which always means Column=0, and at different horizontal Rows, which mean Row can be 1 or 2 or 3 or 4.....,etc Then he is able to find out that

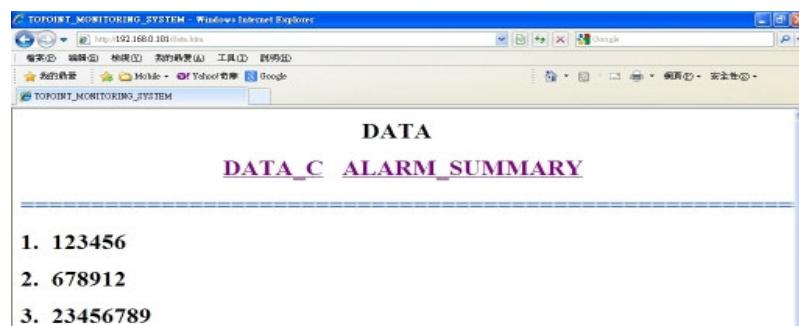
the acceptable variant of format can be: \$RY=...

With this, user can compose some ASCII data, for example

0D,24,52,31,3D,31,32,33,34,35,36,0D to display an alphanumeric string **123456**

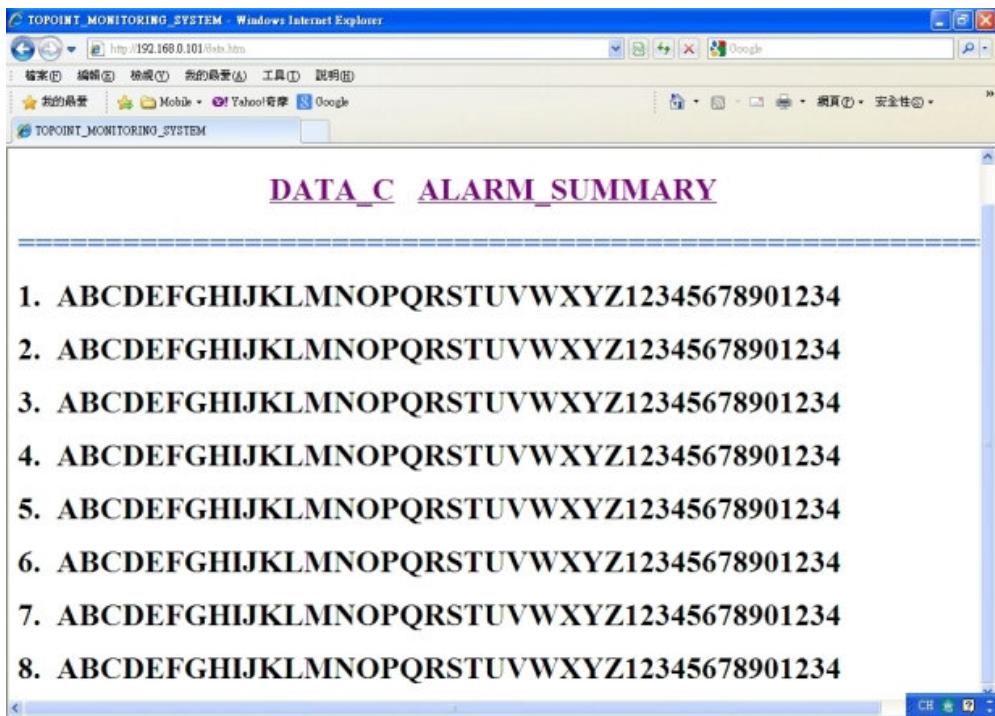
0D,24,52,32,3D,36,37,38,39,31,32,0D to display **678912**

0D,24,52,33,3D,32,33,34,35,36,37,38,39,0D to display **23456789**



5.3.7 More examples of ASCII data

As said, there are 8 rows/ 40 columns to accommodate ASCII data. The example photo below shows that grids have been covered fully.



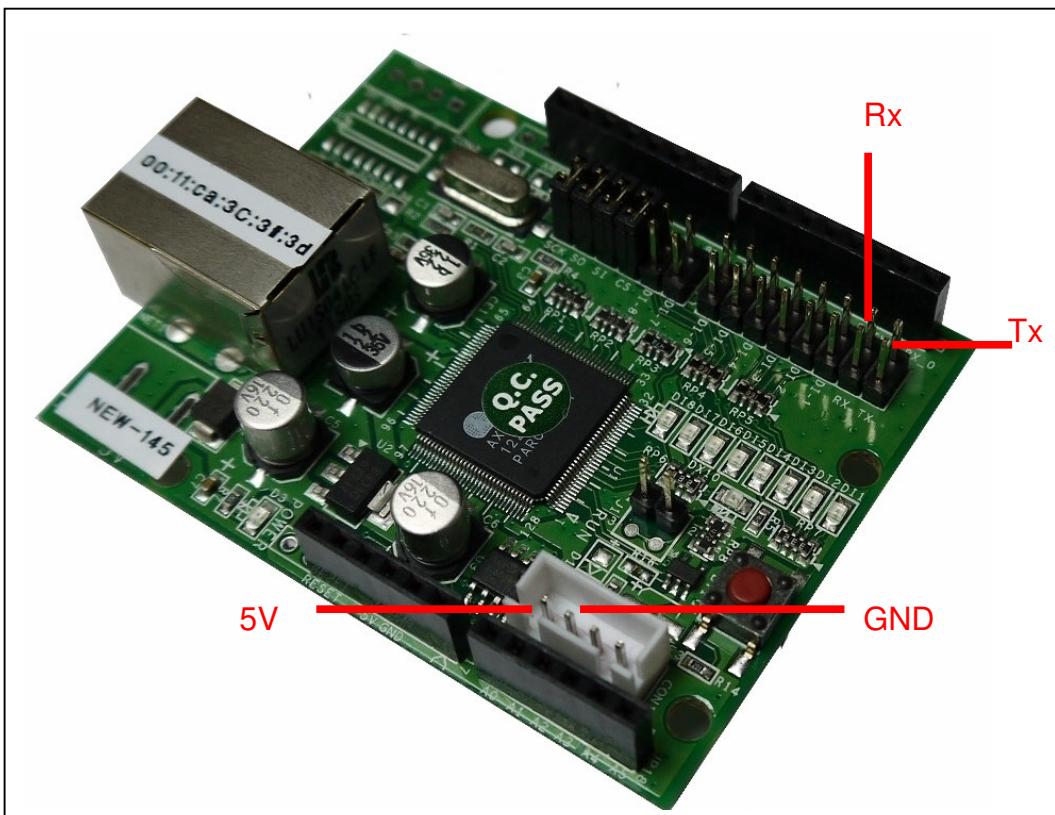
5.3.8 Go to the web-page view of ASCII data

The image illustrates a three-step process:

- Step 1:** A screenshot of the "TP_ESMS_8 (SetWeb) Read OK" software window. It shows a table with three columns: NAME, IP, and VERSION. The first row has a red box around the "NAME" column, which contains "AR_145". The IP address is "192.168.0.101" and the version is "TP_ESMS8V1.6130305SN1...".
- Step 2:** A screenshot of a Windows Internet Explorer window titled "TOPOINT_MONITORING_SYSTEM - Windows Internet Explorer". The URL is "http://192.168.0.101/index.htm". The page title is "ALARM_SUMMARY". A red box highlights the "DATA" link in the menu bar. The page content includes text: "A:ALARM NC: NORMALLY CLOSED" and "N:NORMAL NO: NORMALLY OPEN [ALARM_SUMMARY_C](#)".
- Step 3:** Another screenshot of a Windows Internet Explorer window titled "TOPOINT_MONITORING_SYSTEM - Windows Internet Explorer". The URL is "http://192.168.0.101/index.htm". The page title is "DATA". A red box highlights the "DATA_C ALARM_SUMMARY" link in the menu bar.

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- Step1: Double-click on TP_ESMS_8 device as displayed under SetIP tag
- Step2: User is redirected to the built-in browser where he can view ALARM_SUMMARY of 8 D/I status. Click on **DATA** hyperlink
- Step3: User is redirected to DATA view of ASCII strings that are received from UART interface. He may further click on **DATA_C** to activate auto refresh of web-page view on the intervals of every second.

5.3.9 Wiring Connection (for ASCII transmission)



Tx: 1st pin

Rx: 2nd pin

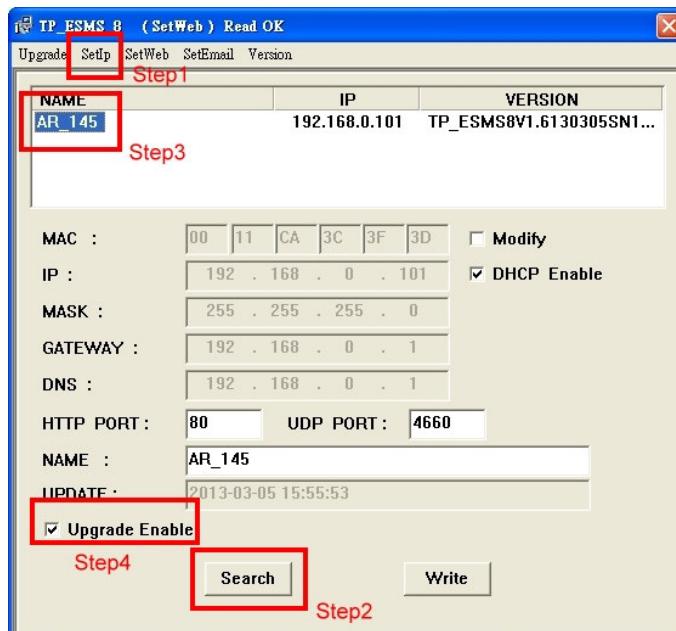
5V: TP_ESMS_8 Board may accept 5VDC in case it has to work independently (in the absence of Arduino Board)

GND: Ground

6 UPGRADE

TP_ESMS_8 accepts firmware upgrade via Ethernet LAN. See photos below for step-by-step instruction.

Before firmware upgrade, user must have newest version of TP_ESMS_8.exe application software ready. This application firmware is provided by TOPOINT CORP

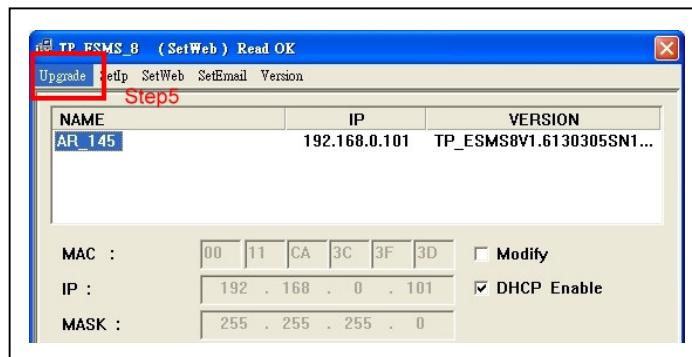


Step1: Execute the newest version of TP_ESMS_8.exe. User will have to locate a hardware TP_ESMS_8 Board first before a firmware upgrade. Go to **SetIP** tag

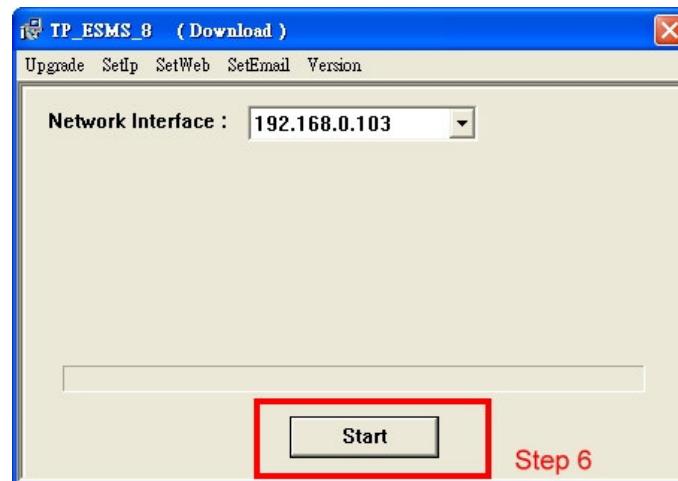
Step2: Press **Search** to find available TP_ESMS_8 Board

Step3: After a few moments of search, TP_ESMS_8 Board (AR_145) is displayed at the upmost row with corresponding IP and Version. A click on AR_145 to turn it to blue bar

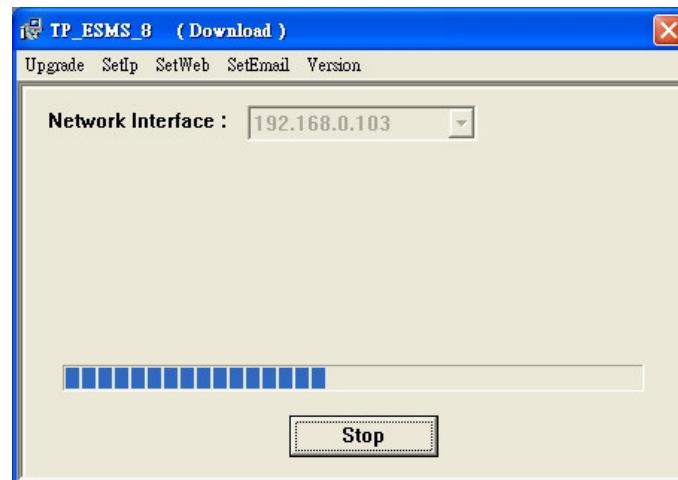
Step4: Check **Upgrade Enable**



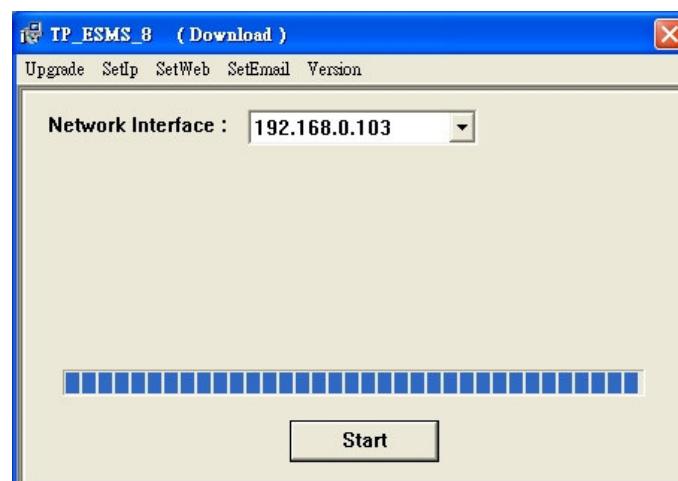
Step5: Switch to **Upgrade** tag



Step6: Press **Start** to launch firmware upgrade.



Step7: Firmware upgrade is being processed.



Step8: Firmware upgrade is finished.