InfraPower®

Inspired by Your Data Center

User Manual

ATS-02-S **GUI & SNMP for Intelligent ATS**

Designed and manufactured by Austin Hughes

Legal Information

First English printing, December 2021

Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. We are not liable for any injury or loss that results from the use of this equipment.

Safety Instructions

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40º Celsius (104º Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage to other equipment or injury to persons nearby.
- When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labelled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being dam aged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invalidate its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - ☐ Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - ☐ Repair or attempted repair by anyone not authorized by us.
  - ☐ Any damage of the product due to shipment.
  - ☐ Removal or installation of the product.
  - ☐ Causes external to the product, such as electric power fluctuation or failure.
  - ☐ Use of supplies or parts not meeting our specifications.
  - ☐ Normal wear and tear.
  - ☐ Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in business, industrial and commercial environments.

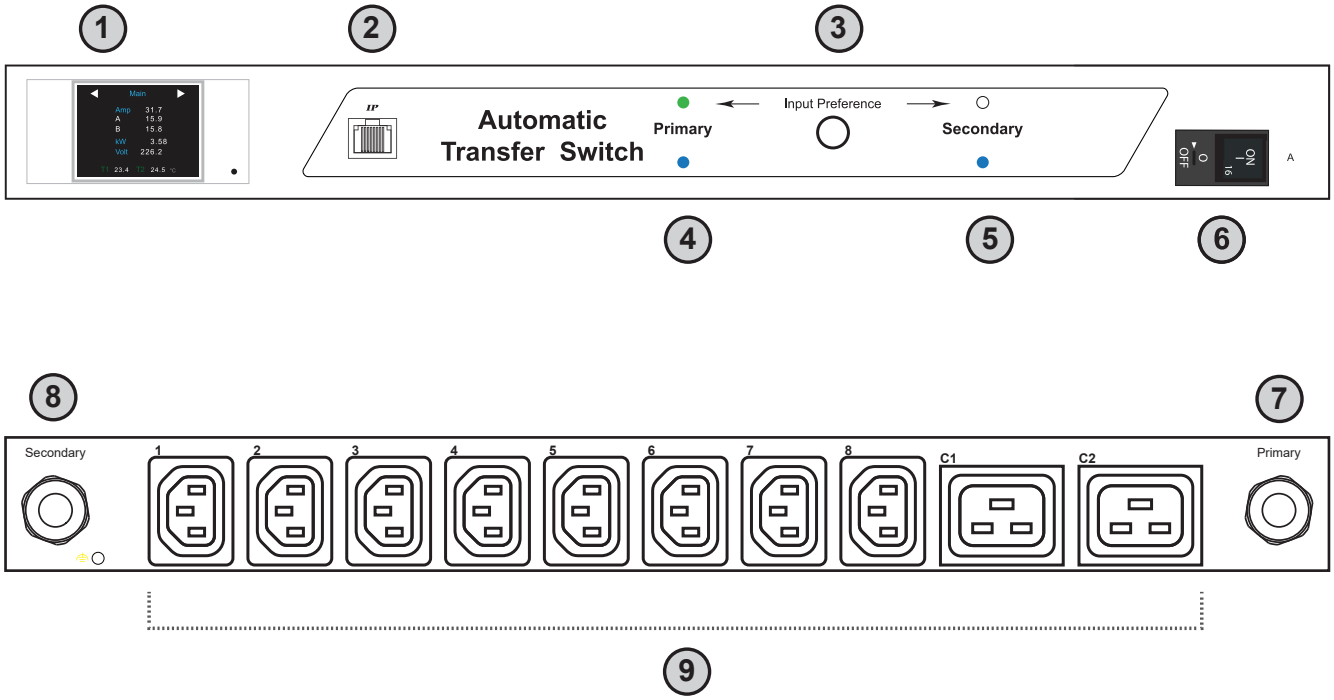
Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-position or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Contents

< 1.1 > ATS Key Features



1. 2.0" color LCD (feature w/ Touchscreen)
2. IP Port
3. Input Preference Switch
4. Power LED - primary input
5. Power LED - secondary input
6. Circuit Breaker
7. Primary Input attached with 3M cord & inlet plug
8. Secondard Input attached with 3M cord & inlet plug
9. Outlets

< 1.2 > How to switch power input

1. By Manual

- Press the local input switch button on the front panel
- Set the input preference via WEBUI / SNMP remotely

2. By Auto

- Switch automatically when the preferred input source is powered off

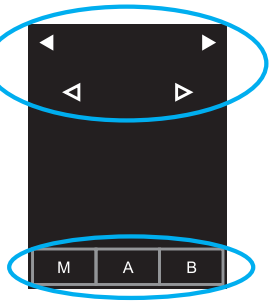
Once ATS current loading is over the rated input current, input switching is not allowed either by local or remote. However, automatic switching is NOT affected.

< 1.3 > Meter Reading & Setting

Reading

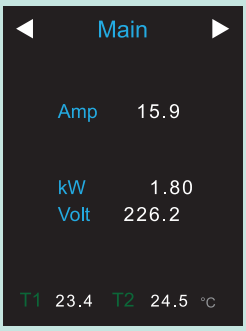
- Amp, Voltage & Power Factor
- kWh Energy Consumption
- Active & Apparent Power
- Temp. & Humidity

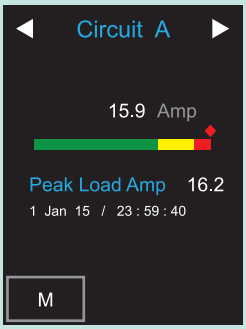
Touch Button
(Single & Dual Circuit)



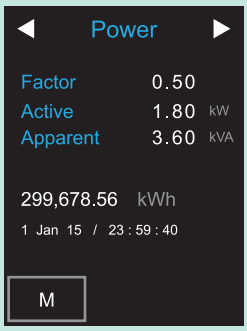
Single Circuit

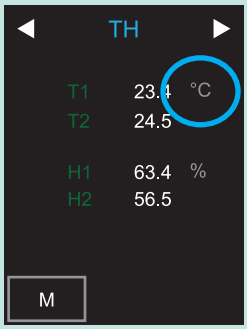
1 - 3

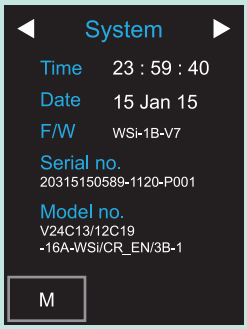


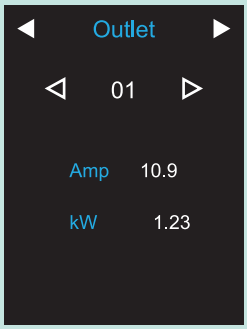


4 - 7







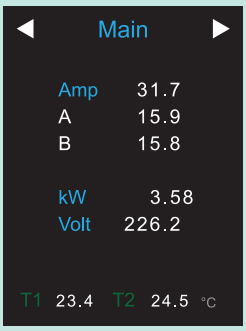


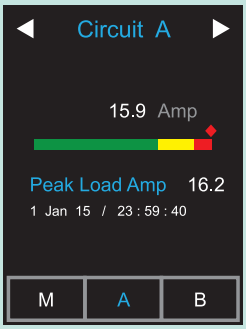
Page no.5
Touch °C / °F to change temp. unit

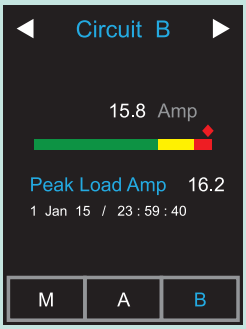
Page no.7
Wi / WSi outlet measurement PDU only

Dual Circuit

1 - 4







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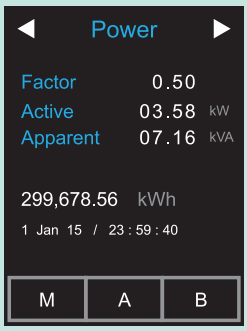
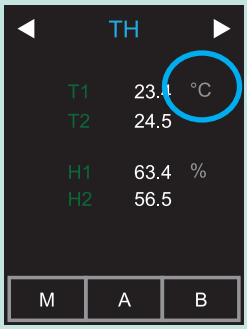
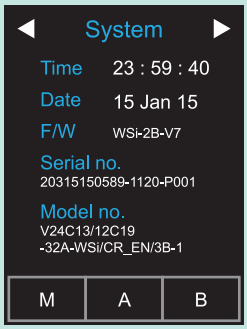
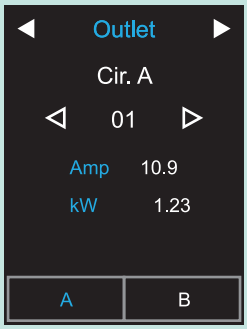






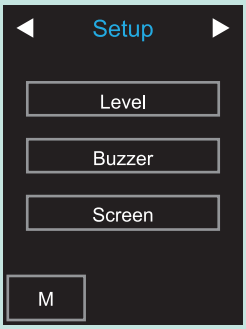


Page no.6
Touch °C / °F to change temp. unit

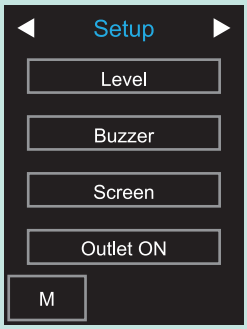
Page no.8
Wi / WSi outlet measurement PDU only

< 1.3 > Meter Reading & Setting

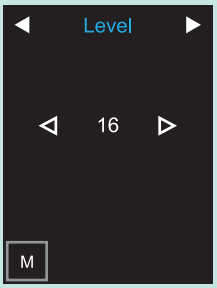
Setting



Monitored PDU



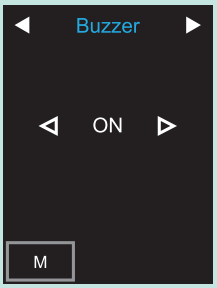
Switched PDU



PDU Level Setting

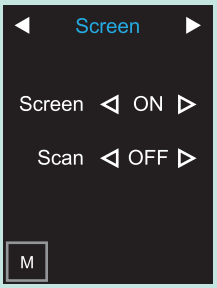
Default no. : 16

No need to change PDU level setting for iATS



Buzzer ON / OFF

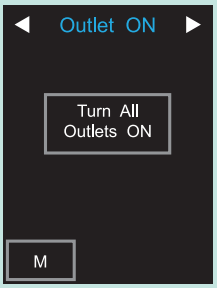
Default : ON



Default : Screen < ON > Scan < OFF >

* **OFF Screen** :
- Screen OFF in 30 seconds
- If want to turn on the screen just touch it
- OFF in 30 seconds if no any further touch

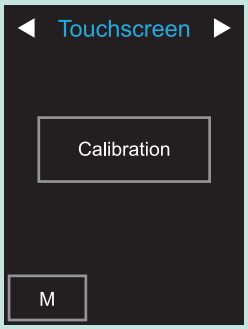
* **ON Scan :**
- Scanning starts in 30 seconds
- Then scan each page per 3 seconds



Outlet ON / OFF

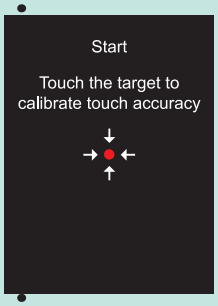
Default : ON

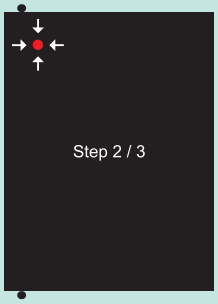
WS / WSi Switched PDU only

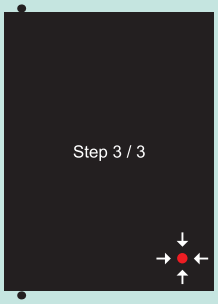


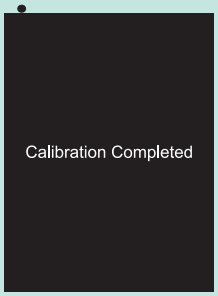
Touchscreen Calibration

If no any calibrate touch in 30 seconds, it will return to Touchscreen page









< 1.4 > Hardware Specification

230V

Electrical	Nominal input voltage	200 ~ 230V
	Acceptable input voltage	±10% nominal
	Input frequency	50 / 60Hz
	Inlet plug & cord	2 x C14 / C20 / EN 60309 / BS1363 / CEE7 plug w/ 3M cord
	Outlet connectors	C13 / C13+C19 / C19 / IEC309 / UK / Schuko / FR
	Local meter	2.0" color LCD (feature w/ Touchscreen)
	Overload protection	1 x 10-amp circuit breaker for C14 inlet 1 x 13-amp circuit breaker for BS1363 inlet 1 x 16-amp circuit breaker for C20 / EN16 60309 / CEE7 inlet 1 x 20-amp circuit breaker for Open-end 2 x 16-amp circuit breaker for EN32 60309 inlet
	Transfer time	10 - 16ms typical
	Electrical endurance	1 x 10^5 operations
	Power consumption	Approx. 8VA

Physical	Product dimensions (1U)	442 x 270 x 43.5 mm (W x D x H)
	Packing dimensions (1U)	540 x 540 x 150 mm (W x D x H)
	Net weight	4.7 kg / 10.3 lb
	Gross weight	5.2 kg / 11.4 lb
	Product dimensions (2U)	442 x 270 x 87.5 mm (W x D x H)
	Packing dimensions (2U)	540 x 540 x 150 mm (W x D x H)
	Net weight	6.6 kg / 14.5 lb
	Gross weight	7.1 kg / 15.6 lb
	Chassis color / materials	Dark / Steel

Environmental	Operating temperature	-5 to 60°C degree (23 to 140°F)
	Storage temperature	-25 to 65°C degree (13 to 149°F)
	Operating humidity	0~95%, non-condensing
	Storage humidity	0~95%, non-condensing

Compliance	EMC	FCC & CE
	Safety	CUL, LVD
	Environment	RoHS3 & REACH compliant

< 1.4 > Hardware Specification

208V

Electrical	Nominal input voltage	208V
	Acceptable input voltage	±10% nominal
	Input frequency	50 / 60Hz
	Inlet plug & cord	2 x L620 / L630 plug w/ 3M cord
	Outlet connectors	C13 / C13+C19 / C19 / IEC309
	Local meter	2.0" color LCD (feature w/ Touchscreen)
	Overload protection	1 x 20-amp circuit breaker for L6-20P inlet 1 x 30-amp circuit breaker for L6-30P inlet
	Transfer time	10 - 16ms typical
	Electrical endurance	1 x 10^5 operations
	Power consumption	Approx. 8VA

Physical	Product dimensions (1U)	4.7 kg / 10.3 lb
	Packing dimensions (1U)	5.2 kg / 11.4 lb
	Net weight	442 x 270 x 87.5 mm (W x D x H)
	Gross weight	540 x 540 x 150 mm (W x D x H)
	Product dimensions (2U)	6.6 kg / 14.5 lb
	Packing dimensions (2U)	7.1 kg / 15.6 lb
	Net weight	5.5 kg / 12.1 lb
	Gross weight	6.8 kg / 15 lb
	Chassis color / materials	Dark / Steel

Environmental	Operating temperature	-5 to 60°C degree (23 to 140°F)
	Storage temperature	-25 to 65°C degree (13 to 149°F)
	Operating humidity	0~95%, non-condensing
	Storage humidity	0~95%, non-condensing

Compliance	EMC	FCC & CE
	Safety	CUL, LVD
	Environment	RoHS3 & REACH compliant

< 1.4 > Hardware Specification

110V

Electrical	Nominal input voltage	110V
	Acceptable input voltage	±10% nominal
	Input frequency	50 / 60Hz
	Inlet plug & cord	2 x 515 / L520 / L530 plug w/ 3M cord
	Outlet connectors	NEMA 5-20R
	Local meter	2.0" color LCD (feature w/ Touchscreen)
	Overload protection	1 x 15-amp circuit breaker for NEMA 5-15P inlet 1 x 20-amp circuit breaker for NEMA L5-20P inlet 1 x 30-amp circuit breaker for NEMA L5-30P inlet
	Transfer time	10 - 16ms typical
	Electrical endurance	1 x 10^5 operations
	Power consumption	Approx. 8VA

Physical	Product dimensions (1U)	442 x 270 x 43.5 mm (W x D x H)
	Packing dimensions (1U)	540 x 540 x 150 mm (W x D x H)
	Net weight	4.7 kg / 10.3 lb
	Gross weight	5.2 kg / 11.4 lb
	Product dimensions (2U)	442 x 270 x 87.5 mm (W x D x H)
	Packing dimensions (2U)	540 x 540 x 150 mm (W x D x H)
	Net weight	6.6 kg / 14.5 lb
	Gross weight	7.1 kg / 15.6 lb
	Chassis color / materials	Dark / Steel

Environmental	Operating temperature	-5 to 60°C degree (23 to 140°F)
	Storage temperature	-25 to 65°C degree (13 to 149°F)
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	Storage humidity	0~95%, non-condensing

Compliance	EMC	FCC & CE
	Safety	CUL, LVD
	Environment	RoHS3 & REACH compliant

< 1.5 > ATS GUI ATS-02-S Key Features

InfraPower Manager ATS-02-S is a FREE built-in GUI of each intelligent ATS which allows remotely monitoring over IP.

InfraPower ATS-02-S

Features		
Capacity	IP Dongle Group	1
	ATS Number	1
	Concurrent User	1
Features	Input Source Selection	✔
	Input Source Status Monitoring	✔
	Individual Outlet Switch ON/OFF	✔
	Outlet Level kWh & Amp Measurement	✔
	Energy Consumption (kWh) Monitoring	✔
	Apparent Power (kVA) Monitoring	✔
	Active Power (kW) Monitoring	✔
	Power Factor Measurement	✔
	Voltage (Volt) Monitoring	✔
	Circuit Amp. Monitoring	✔
	Circuit Breaker Monitoring	✔
	Amp. Alarm / R. Alert / L. Alert Setting	✔

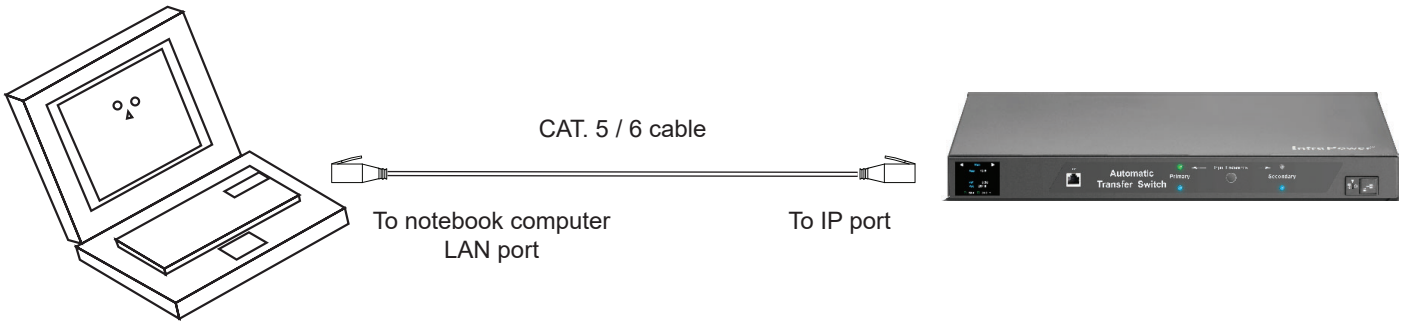
< 1.6 > IP Configuration

The following steps show the static IP setting only. For DHCP setting, please refer to < **1.10** > DHCP Setting

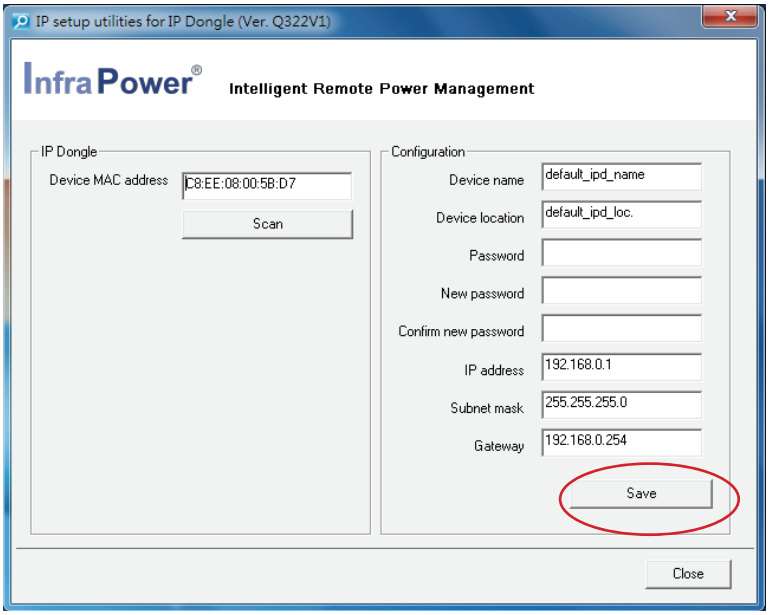
Step 1. Prepare a notebook computer to download the IP setup utilities from the link :
http://www.austin-hughes.com/support/utilities/infrapower/IPdongleSetup.msi

Step 2. Double Click the IPDongleSetup.msi and follow the instruction to complete the installation

Step 3. Connect the ATS with the notebook computer using a piece of Cat. 5 / 6 cable to configure the IP setting by IP setup utilities as below. Please take the procedure for all ATS **ONE BY ONE**



Reconnect the ATS with the network device (router or hub), after finish IP configuration.



1. Write down the new IP address and password for login purpose, refer to < 1.7 > , < 1.10 > , < 1.11 > , < 1.12 >
2. Device name NOT EQUAL to the Login name of ATS WEBUI (ATS-02-S). To change Login name, please refer to 1.9 < Login > for details.

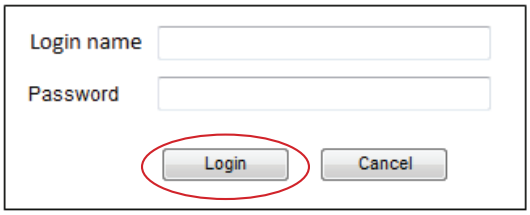
Step 4. Click **“ Scan ”** to search the connected ATS
Step 5. Enter device name in “ **Device name** ” (min. 4 char. / max. 16 char.). Default is “ **Name** ”
Step 6. Enter device location in “ **Device location** ” (min. 4 char. / max. 16 char.). Default is “ **Rack_001** ”
Step 7. Enter password in “ **Password** ” for authentication (min. 8 char. / max. 16 char.) Default is **“ 00000000 ”**
Step 8. Enter new password in “ **New password** ” (min. 8 char. / max. 16 char.)
Step 9. Re-enter new password in “ **Confirm new password** ”
Step 10. Change the desired “ **IP address** ” / “ **Subnet mask** ” / “ **Gateway** ”, then Click **“ Save ”** to confirm the changes
The default IP setting is as below:

IP address :	192.168.0.1
Subnet mask :	255.255.255.0
Gateway :	192.168.0.254

< 1.7 > ATS-02-S GUI

Each ATS provides a FREE built-in GUI, ATS-02-S, which allows user, via a web browser, to monitor the ATS status over a TCP / IP Ethernet network remotely.

Each web browser window supports only one ATS. If you install more ATS, multi windows will be required.



Step 1. Open Internet Explorer (I.E.), version 11.0

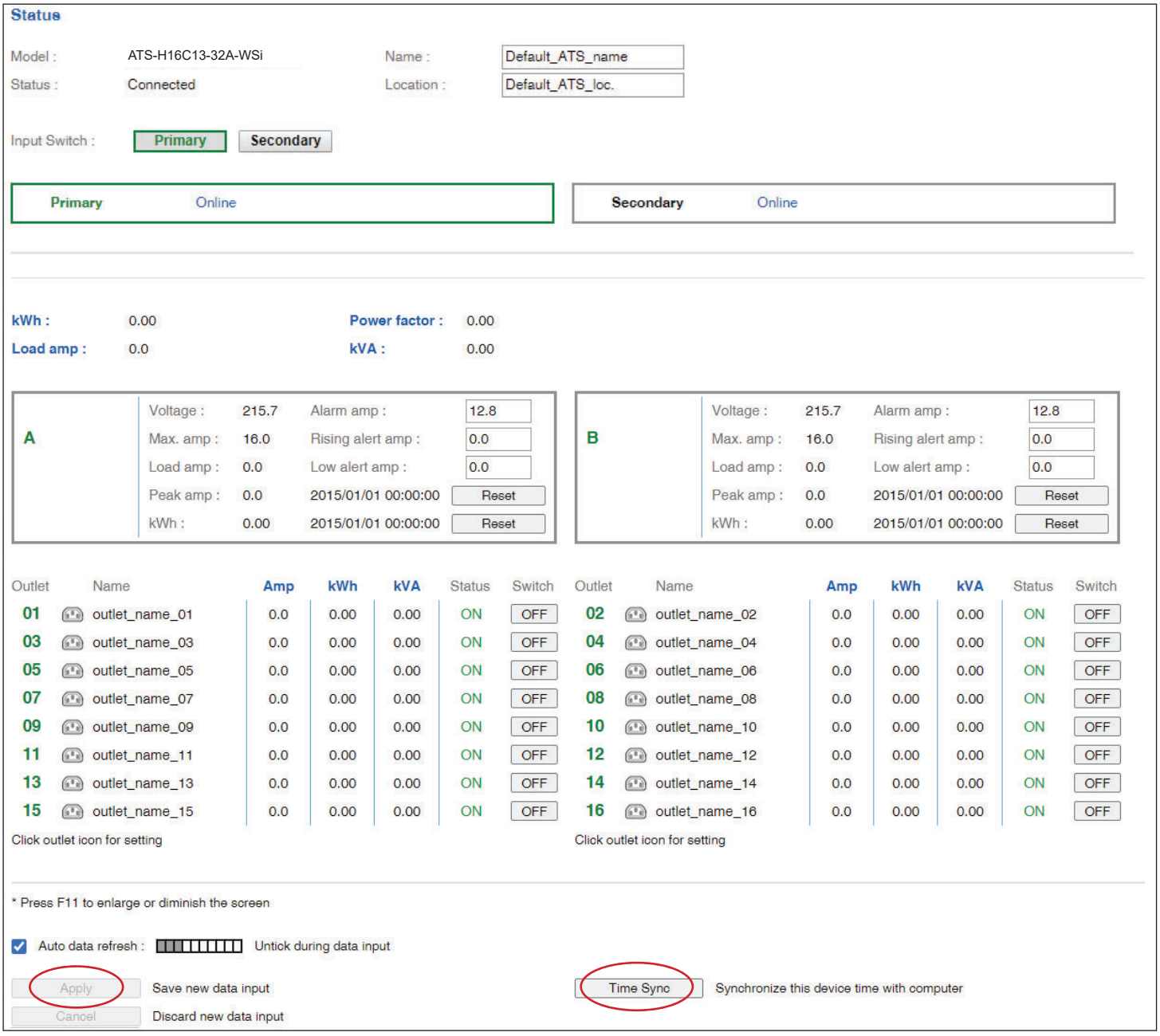
Step 2. Enter the configured ATS's IP address into the I.E. address bar
(Please refer to < 1.6 > IP configuration)

Step 3. Enter " **Login name** " , " **Password** " & Click " **Login** "
Default Login name : 00000000
Password: the one you set in Step 7 of < 1.6 > IP Configuration.

< 1.7 > ATS-02-S GUI

In < **Status** >,

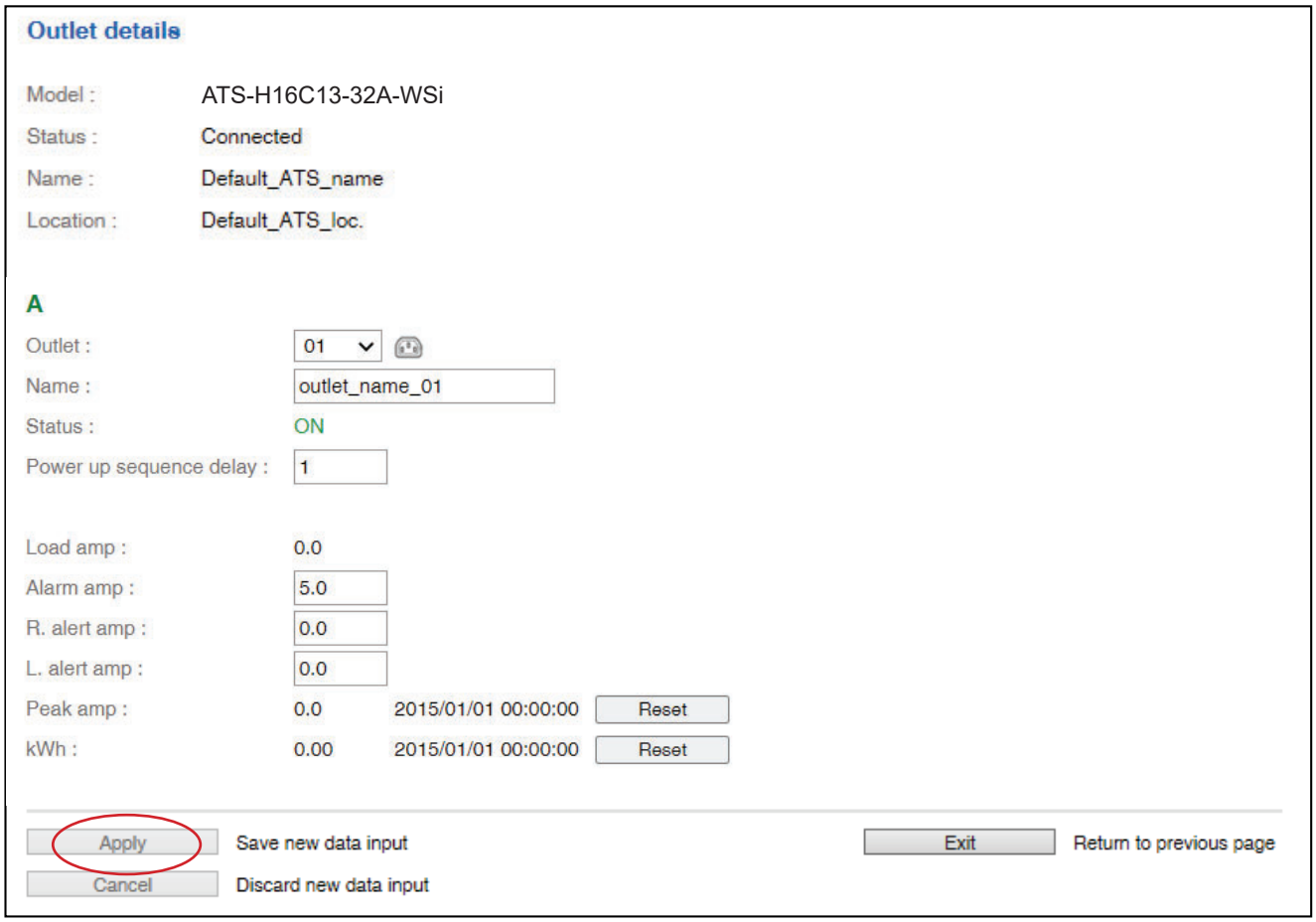
- View the installed ATS status
- View aggregate current & energy consumption of the ATS
- Select the preferred " **Input Switch** "
- Change " **Name** " & " **Location** " of ATS & Click " **Apply** "
- Change " **Alarm amp** " , " **Rising alert amp.** " & " **Low alert amp.** " of the ATS circuit & Click " **Apply** "
  Default alarm amp. = 80% of circuit's max. amp.
  Default rising alert amp. & low alert amp. = 0.0 (disabled)
- Click " **Reset** " to reset peak amp. or kWh of ATS's circuit
- Click " **Time Sync** " to update ATS's real time clock from the computer logged in the ATS.
- View latest loading & energy consumption of each outlet (Outlet Measurement PDU only)
- View latest voltage of each circuit
- Click " ON / OFF " to switch ON / OFF outlet (Outlet Switched PDU only)



Once ATS current loading is over the rated input current, input switching is NOT allowed either by local or remote

< 1.7 > ATS-02-S GUI

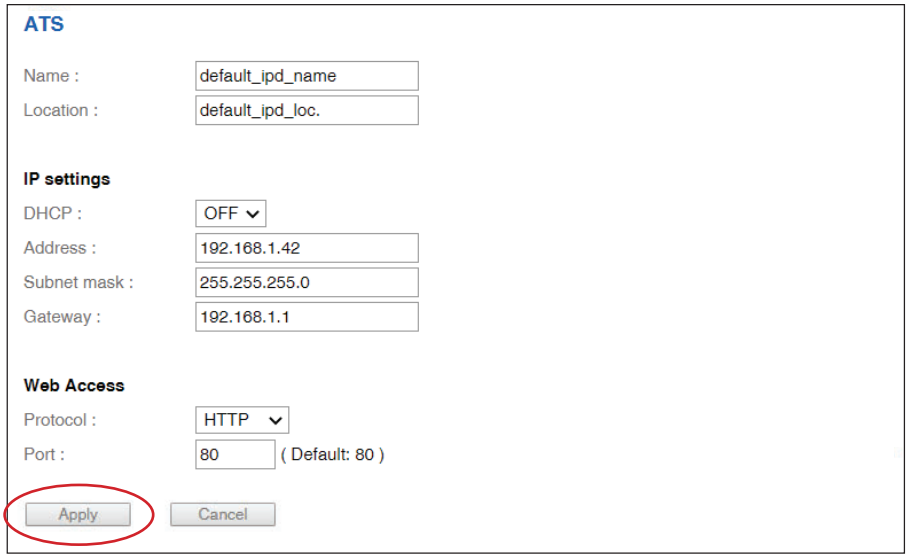
In < **Outlet Setting** >,
- Change PDU outlet name
- Change " Power up sequence delay " (Outlet Switched PDU only)
- Change " Alarm amp. " , " Rising alert amp. " & " Low alert amp. "
  (Outlet Measurement PDU only)
  Click " Apply " to finish the above settings
- Click " Reset " to reset peak amp. or kWh (Outlet Measurement PDU only)



< 1.8 > System

In < **System** >,

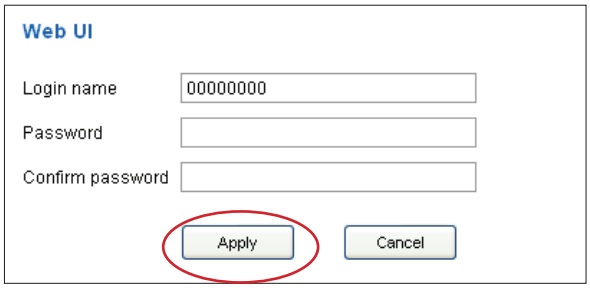
- Change the ATS name & location
- Change the IP address, subnet mask & gateway. (For static IP setting only)
- Select " **ON** " in " **DHCP** " to enable DHCP setting.
- Tick " **Force HTTPS** " to provide data transmission security.
- Click " **Apply** " to make the changes effective.



< 1.9 > Login

In < **Login** >,

- Change " **Login name** " OR " **Password** "
- Re-enter password in " **Confirm password** "
- Click " **Apply** " and " **OK** " on the pop up window to make changes effective



< 1.10 > SNMP Setup

The intelligent ATS has SNMP (v1/v2 or v3) function which is capable of integration of 3rd party DCIM to achieve centralized monitoring for power, cooling and environment factors across facilities and IT systems.

(I). Accessing MIB Files

Step 1. Click the following link to go to the mangement software download page :
http://www.austin-hughes.com/resources/software/infrapower

Step 2. Select the MIB file of the intelligent ATS

(II). Enabling SNMP Support

i. The following steps summarize how to enable the ATS for SNMP v1 / v2 support.

Step 1. Connect the ATS to a computer. (Please refer to < 1.6 > IP configuration)

Step 2. Open the Internet Explorer (I.E.) version 11.0

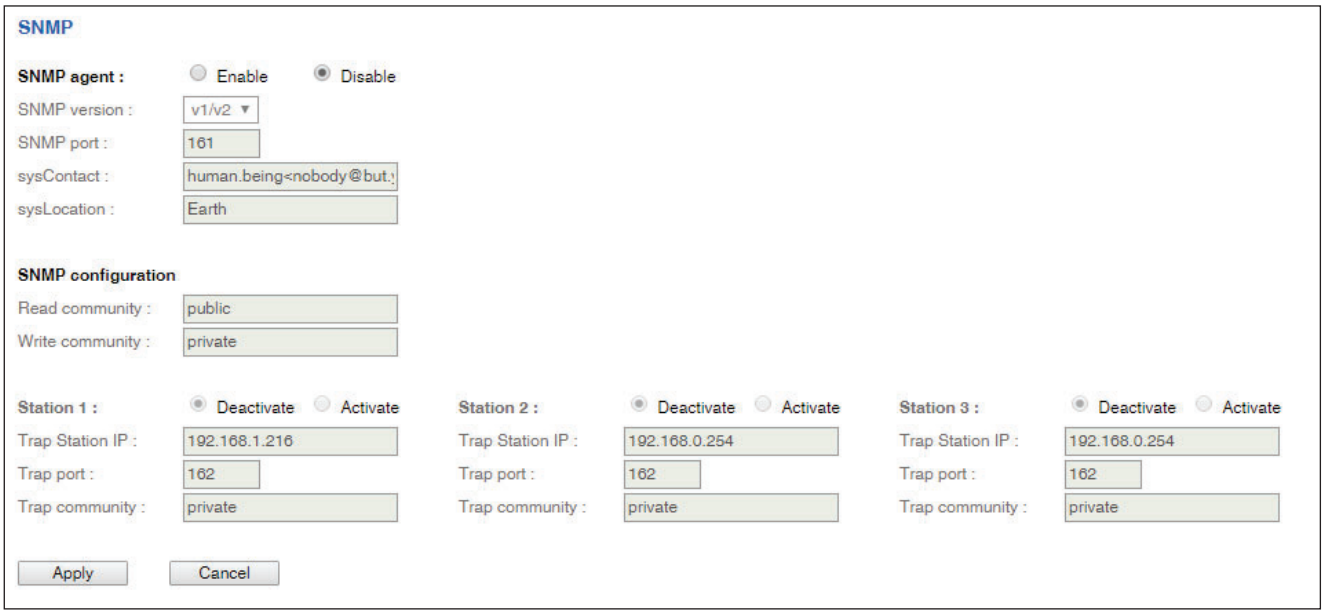
Step 3. Enter the configured ATS's address into the I.E. address bar.
(Please refer to < 1.6 > IP configuration)
Default IP address is " 192.168.0.1 "

Step 4. Enter " **Login name** " , " **Password** " & Click " **Login** "
Default Login name : 00000000
Password: the one you set in Step 7 of < 1.6 > IP Configuration.

Step 5. Select the SNMP from the left navigation pane

< 1.10 > SNMP Setup

Step 6. The SNMP settings window appears as below :



Step 7. Click **“ Enable “** in **“ SNMP agent “** to start the SNMP agent service

Step 8. Select **“ v1/v2 “** in **“ SNMP version “**

Step 9. Input **“ SNMP port “.** Default is 161.

Step 10. Input **“ Read Community “.** Default is “ public “

Step 11. Input **“ Write Community “.** Default is “ private “

Step 12. Click **“ Activate “** in Station 1 to enable the trap service

Step 13. Input **“ Trap Station IP “ , “ Trap Port “** & **“ Trap Community “** of Station 1

Step 14. Repeat Step 12 & 13 for Station 2 & 3.

Step 15. Click **“ Apply “** to finish the SNMP v1 / v2 settings

< 1.10 > SNMP Setup

ii. The following steps summarize how to enable the ATS for SNMP v3 support.

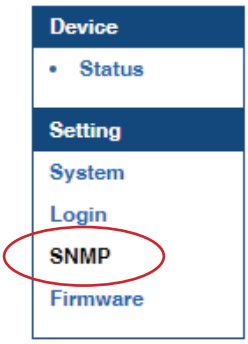
Step 1. Connect the ATS to a computer. (Please refer to < 1.6 > IP configuration)

Step 2. Open the Internet Explorer (I.E.) version 11.0

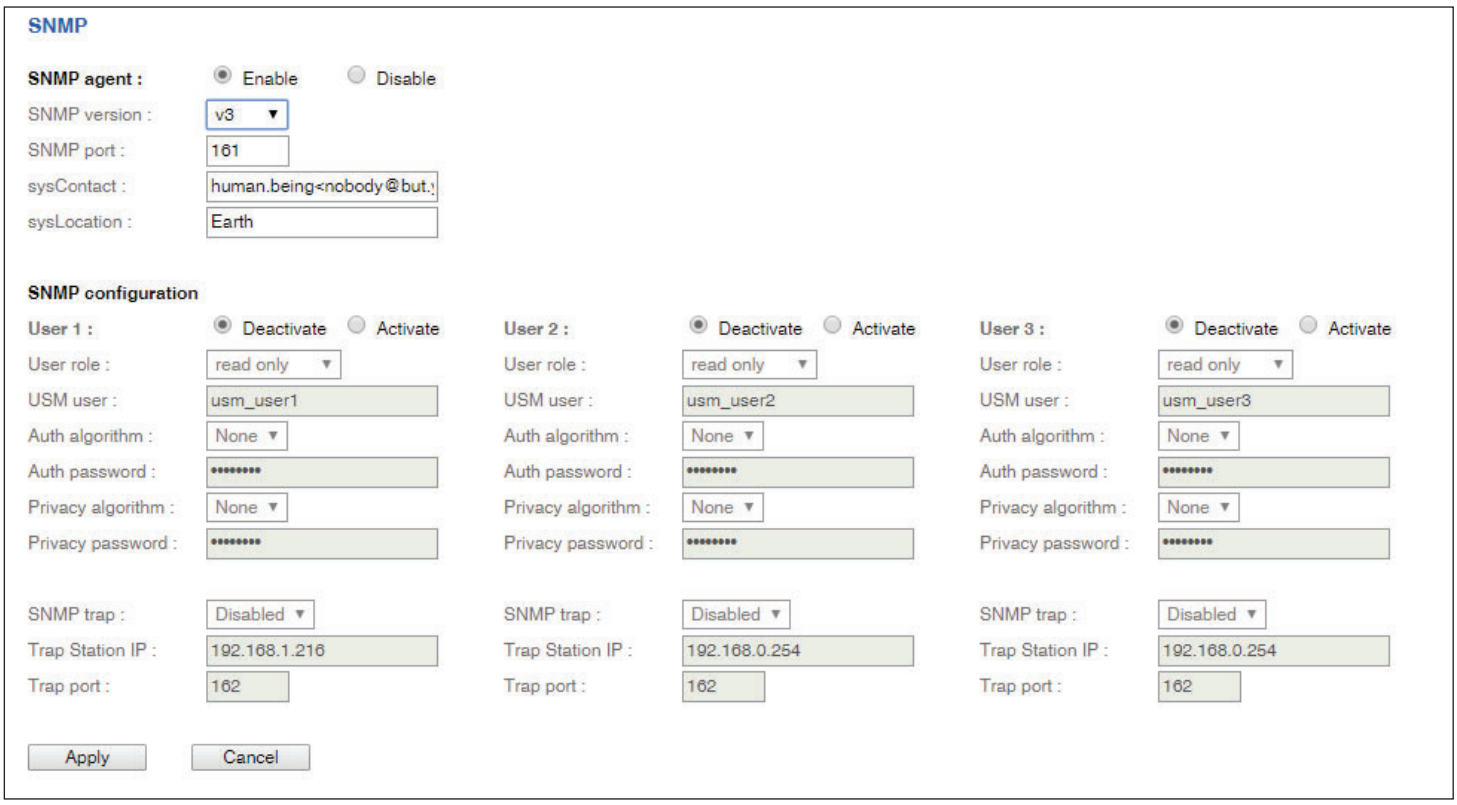
Step 3. Enter the configured ATS's address into the I.E. address bar.
(Please refer to < 1.6 > IP configuration)
Default IP address is " 192.168.0.1 "

Step 4. Enter " **Login name** " , " **Password** " & Click " **Login** "
Default Login name : 00000000
Password: the one you set in Step 7 of < 1.6 > IP Configuration.

Step 5. Select SNMP from the left navigation pane



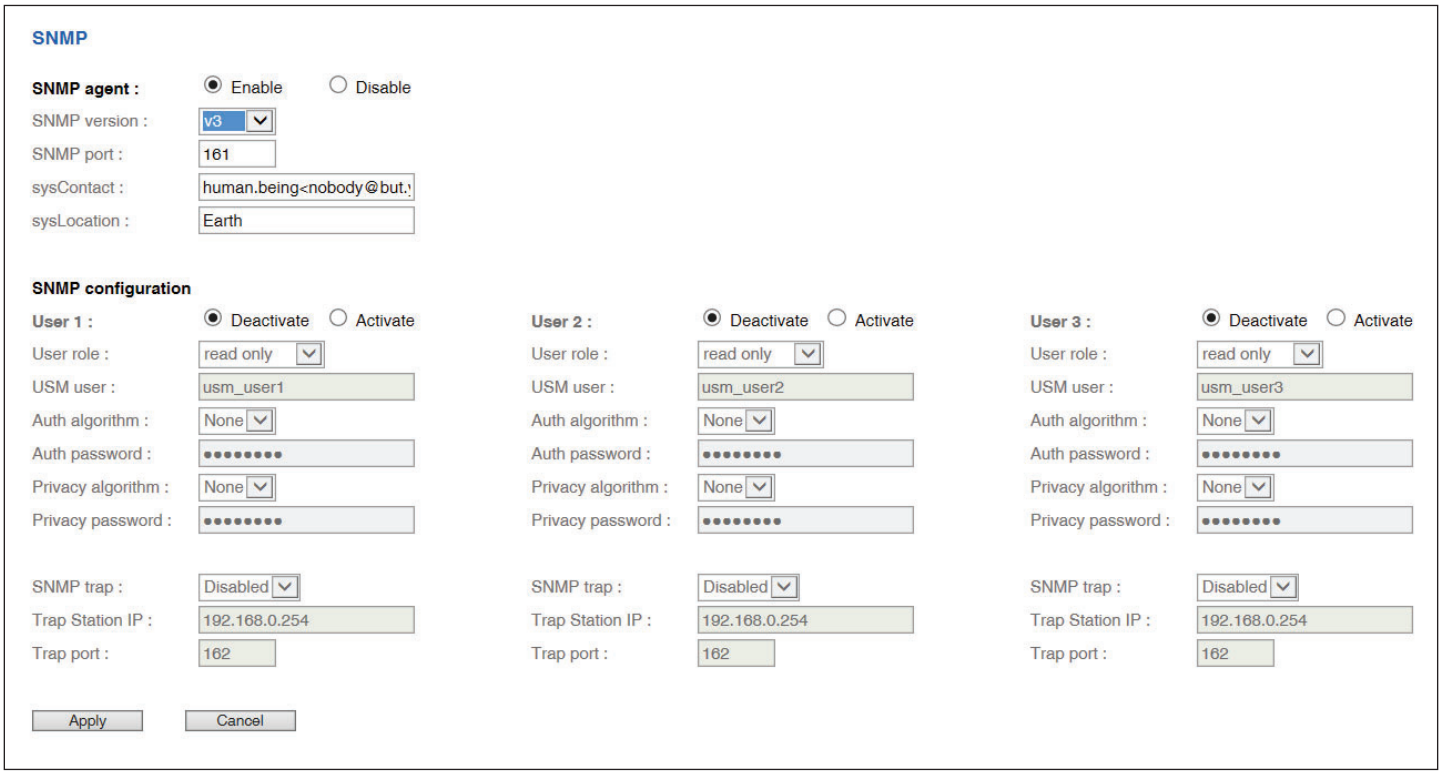
Step 6. The SNMP Settings window appears as below:



< 1.10 > SNMP Setup

Step 7. Click **“ Enable “** in **“ SNMP agent “** to start the SNMP agent service

Step 8. Select **“ v3 “** in **“ SNMP version “** & the SNMP v3 settings window appears as below :



Step 9. Input **“ SNMP port “**. Default is 161.

Step 10. Click **“ Activate “** in User 1.

Step 11. Select **“ Read Only “** or **“ Read & Write “** in User role :

Step 12. Input the name of **“ USM user “** . Default is usm_user1

Step 13. Select **“ None / MD5 / SHA “** in **“ Auth algorithm “**.
If you select **“ Read & Write “** in **“ User role: “** ,
you MUST select **“ MD5 / SHA “** in **“ Auth algorithm “**

Step 14. Input the **“ Auth password: “** Default is “ **00000000** ‘

Step 15. Select **“ None / DES / AES “** in **“ Privacy algorithm “**.
If the Auth algorithm is **“ NONE “** , NO privacy algorithm can be selected.

Step 16. Input the **“ Privacy password “**

Step 17. If you want to receive trap message, select **“ Enable “ in SNMP trap**

Step 18. Input the **“ Trap Station IP “** & **“ Trap port “**

Step 19. Repeat step 10 to 18 for User 2 & 3.

Step 20. Click **“ Apply “** to finish the SNMP v3 settings.

< 1.11 > ATS Firmware Upgrade

< Firmware Upgrade >

For function enhancement of ATS WEB UI, please take the following steps to remotely upgrade the ATS firmware :

Step 1. Click the following link to go to the mangement software download page :
http://www.austin-hughes.com/resources/infrapower/software

Step 2. Select the firmware file for intelligent ATS

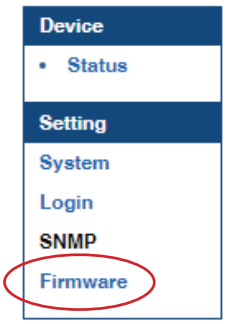
Step 3. Connect the intelligent ATS to the computer. (Please refer to < 1.6 > IP configuration)

Step 4. Open the Internet Explorer (I.E.) version 11.0

Step 5. Enter the configured ATS's IP address into the I.E. address bar.
(Please refer to < 1.6 > IP configuration)
Default IP address is " **192.168.0.1** "

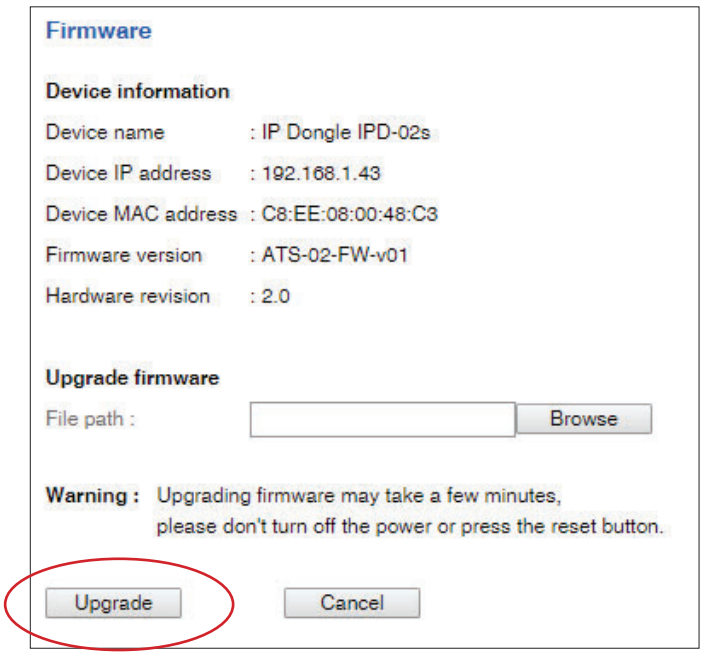
Step 6. Enter " **Login name** " & " **Password** ".
Default Login name : 00000000
Password: the one you set in Step 7 of < 1.6 > IP Configuration.

Step 7. Select the Firmware from the left navigation pane



< 1.11 > ATS Firmware Upgrade

Step 8. The firmware upgrade window appears as below :



Step 9. Click " **Browse** " and select the firmware file (xxx.img) from the specific path in the pop up window and Click " **Open** "

Step 10. Click " **Upgrade** " to start the upgrade process. It takes a few minutes to complete. (DO NOT close the web browser or refresh the web page during the upgrade process.)

Step 11. Once complete, the login page will display again. (If the login page does not display, open a new tab and try to access the login page.)

< 1.12 > DHCP Setting

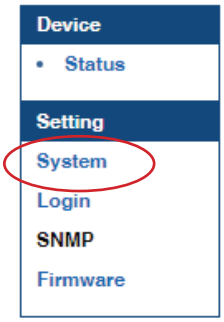
Step 1. Connect the intelligent ATS to the computer (Please refer to < 1.6 > IP configuration)

Step 2. Open the Internet Explorer (I.E.) version 11.0

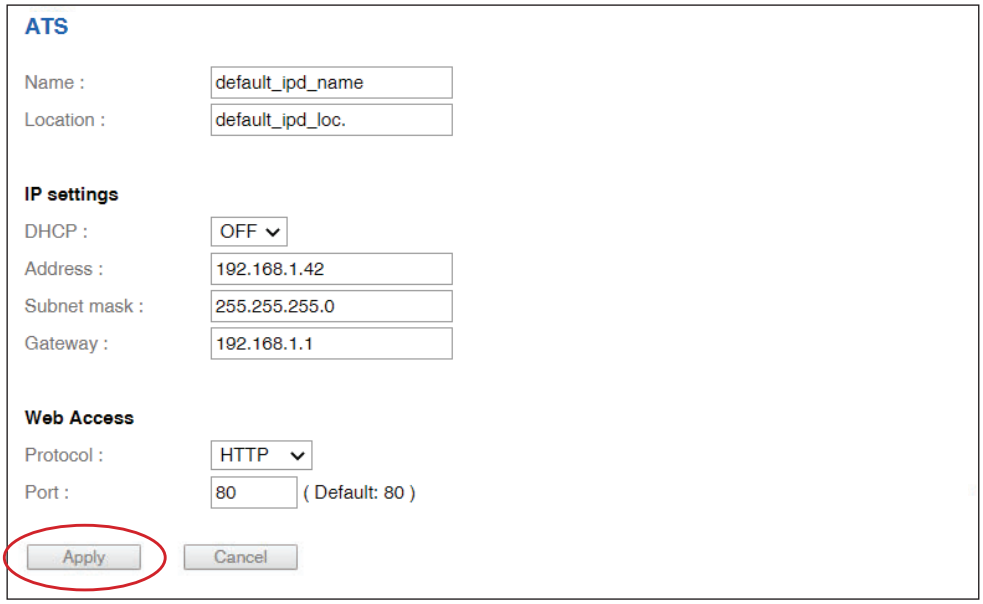
Step 3. Enter the default IP address of the Intelligent ATS into the I.E. address bar.
(Please refer to < 1.6 > IP configuration)
Default IP address is " **192.168.0.1** "

Step 4. Enter the " **Login name** " & " **Password** " .
Default Login name : 00000000
Password: the one you set in Step 7 of < 1.6 > IP Configuration.

Step 5. Select " **System** " from the left navigation pane

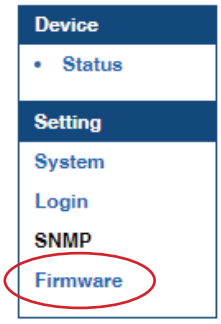


Step 6. Select " **ON** " from " **DHCP** " & click " **Apply** " to save the settings

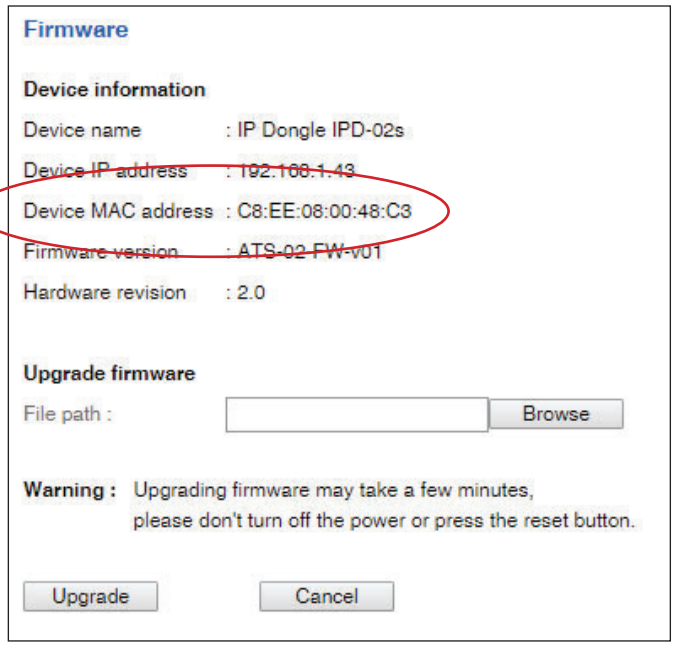


< 1.12 > DHCP Setting

Step 7. Select " **Firmware** " from the left navigation pane



Step 8. Record the " **Device MAC address** "



Step 9. Assign an IP address to the Intelligent ATS from your DHCP server.

Complete

< 1.13 > Command Line Interface (CLI) Access

Command Line Interface (CLI) allows you access the ATS via Telnet or Secure Shell (SSH) to configure the system settings and login settings.

By default, CLI access via Telnet and SSH are both enabled whereas Telnet can be disabled.

Telnet provides the basic security of authentication by user name and password, but not the high-security benefits of encryption.

If you want high security access, you can use SSH for access to the command line interface. SSH encrypts user name, password and transmitted data.
If you use SSH to access the command line interface, DISABLE Telnet.

CLI and ATS WEBUI shares the same login name & password (default login name & password are " 00000000 ")

You can change the following settings via CLI access :

i. System settings
   - Change temperature display unit : change the temp unit to be displayed in the WEBUI
   - Change system RTC date time : set the system time of the ATS
   - Change network settings : change the IP settings of the ATS
   - Change features & services
     a. Enable / disable management software support
     b. Enable / disable SNMP agent (ONLY shown when management software support is disabled)
     c. Enable / disable WEBUI
     d. Enable / disable FTP (Default is disable and it is for engineering service ONLY)
     e. Enable / disable UDP (When disabled, ATS CANNOT be found by IP setup utilities)
     f. Enable / disable Telnet

ii. Login settings
   - Change login name
   - Change login password
   - Reset to default login name & password

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