

2012

Programming Manual

Zone Beast 23 Port

V2.1



G4



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Before you begin this course

Before you begin this course, you should have:

- Understand the basic bus Diagram Connection Topology
- Understand the Lighting and HVAC Connections Diagram
- Basic Knowledge about IP setting. (please see 2-2)
- Basic Knowledge of using Windows operating system.
- Basic Knowledge of using Windows Painter.

Prerequisites

Either

- Products overview course.
- Installation Course.

How this course is organized

Lighting and HVAC Programming Guide Course Organized in Simple way of

Product overview, Example Picture, ( Notices) , ( Advices),

( Example) .

For Training Course Request Please apply online

www.smarthomebus.com

1- Introduction

Welcome to S-BUS manual Programming Guide, you are now a Beginner Programmer who will know soon how the S-bus Programming is simple.

1-1 Objective:

After this course you will be able to program the Lights Dimmers and relays with the switches Panel, Program curtain shades control, program the Air condition setting and DDP panel, create and download different Picture on the LCD, and start with Motion sensor and Automate your Project and many more...

1-2 S-Bus products:

S-BUS Products is vary with its powerful and multi functions, it have the high power dimmer and relay, Curtain, DMX and LED controller, Wall switches and Dynamic Display Panel "DDP", HVAC2 Air condition control and different type of sensors, like Motion sensor, light intensity sensor, Ultrasonic sensor, Dry input sensor, Analog input, current sensor, Power meter, Infrared receivers and transmitter, Security and Automation, Audio Module, Rs232, Programming and integrations Module



2- Start Programming

In smart home G4 there are two ways For Programming:

- ✚ Manual Way (For Basic Programming).
- ✚ Pc /Laptop Way (For Basic and Advanced Programming).

2-1 S-Bus Programming Software overview

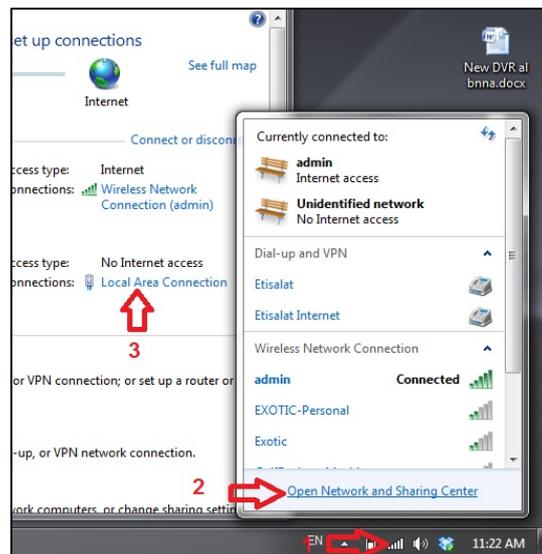
You need on this lesson: to have your computer with you. Running on windows Operating system, Smart Cloud **G4** software, Programming port SB-DN-1IP, that enable you to search for all the devices that connected to the bus network.

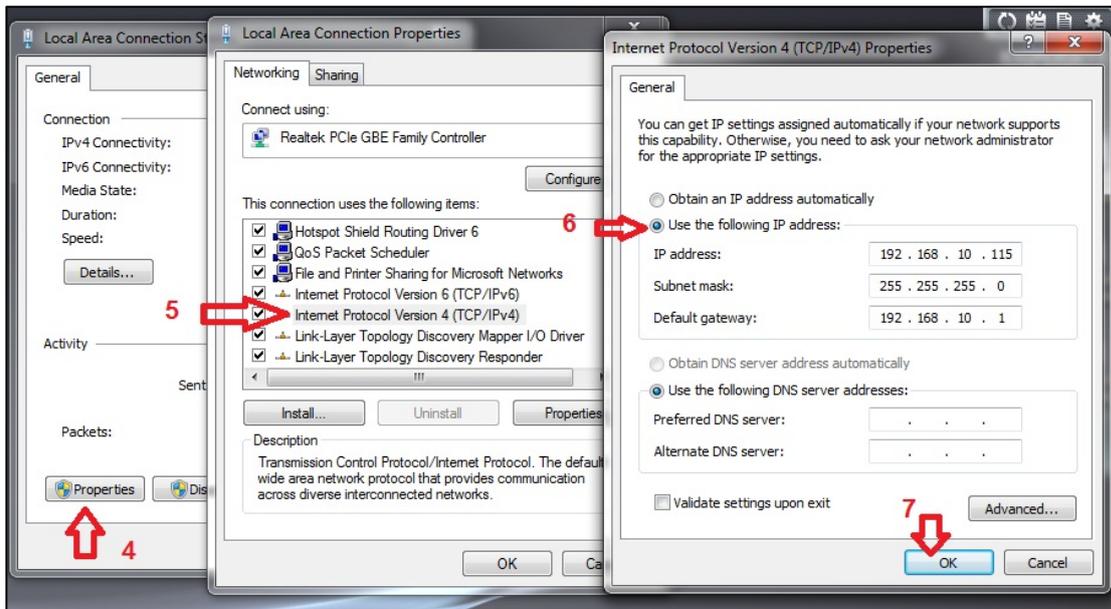
1- Install your S-bus configuration software in your Computer by pressing the **Setup** icon and follow the installation steps windows

2- Plug in your Ethernet cable (Rj45) in your pc and the other end in the **RSIP** module or **Zaduio** module then **Set** your computer IP Address, for example

IP	192.168.10.115
Subnet	255.255.255.0
Getaway	192.168.10.1

 The default address for S-bus Product is **192.168.10.xxx**

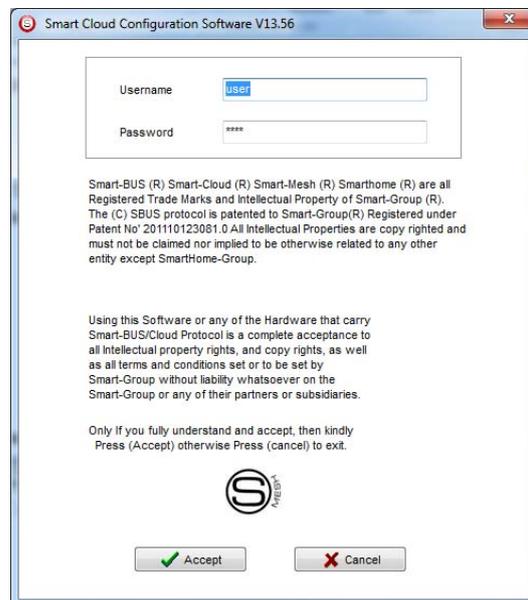




3- Run your S-bus smart cloud Software

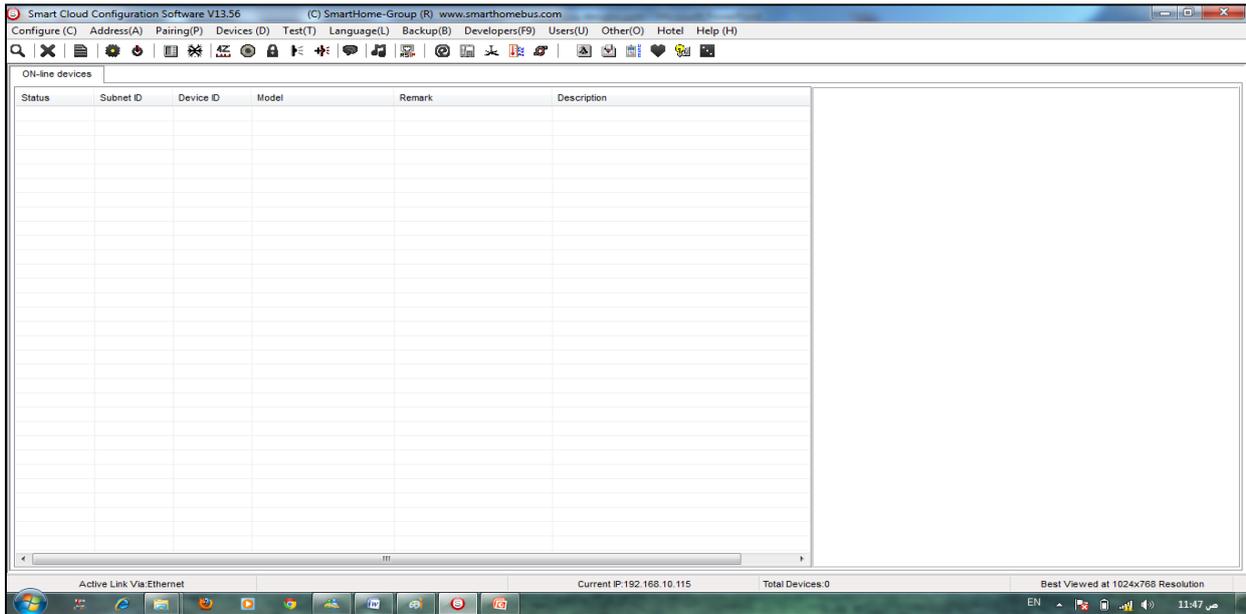


4- The Password window will open, type the default password is **user**

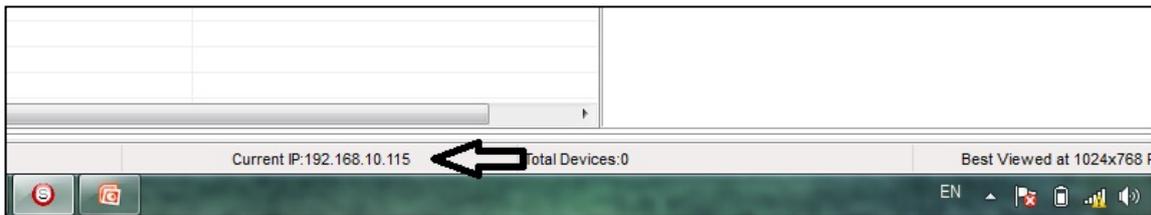


5- Your software will start





6- You can see your current IP on the footer of the software as 192.168.10.115 then your IP setting is ok.



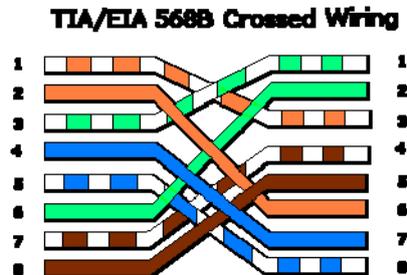
! *Set your computer IP setting before starting the S-BUS Smart Cloud.*

! *You should always reset your Module every time you change the IP Address in order the new setting to be Active.*

After you set your Module IP Address now you should connect the module to Your Computer Network in order to communicate. The connection can be in two ways

- 1- Connect the 1Port IP/RSIP Module to the HUB or Data Switch and connect your Computer to the same data Switch as standard straight cable Network wiring.

2- Without using the HUB or data switch you can use the cross cable to connect your computer directly to the IP Module, see the next cross wiring diagram of TIA/EIA 568B crossed wiring



*You can use the Line command **Ping** to check your connection.*

On your Computer, Go to start/ Run/ CMD then type Ping 192.168.10.xxx

If you see the following results similar to this Picture then your connection is successful

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Administrator>
C:\Documents and Settings\Administrator>Ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time=45ms TTL=64
Reply from 192.168.0.1: bytes=32 time=39ms TTL=64
Reply from 192.168.0.1: bytes=32 time=2ms TTL=64
Reply from 192.168.0.1: bytes=32 time=2ms TTL=64

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 45ms, Average = 22ms

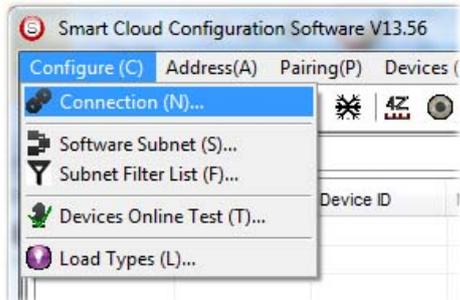
C:\Documents and Settings\Administrator>
```



Always the Programmer should carry with his programming kit the cross cable for programming without needs of the Data Switch or HUB.

2-2 S-bus Smart cloud Software basic setting

Configure

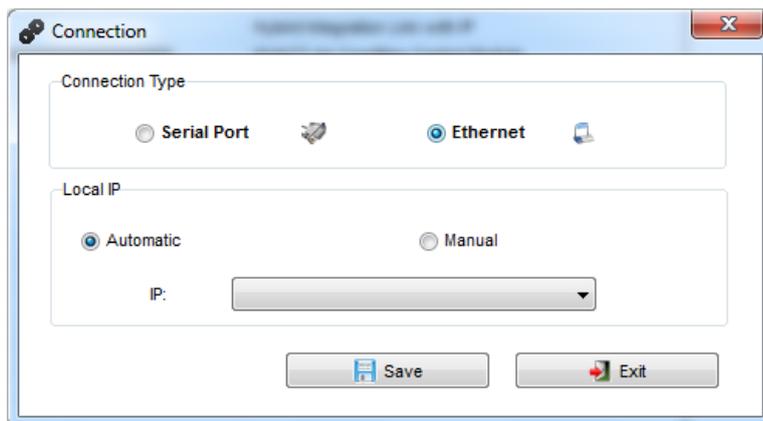


- **1- Connection**

You can change between Ethernet Connection and Serial Port connection,



the Serial Port connection is old, slow and no longer use. Always Keep the setting on Ethernet connection



Also you can choose between **obtain Local IP Automatically** (Default) , or to **input local IP Manually**.



Input local IP manually you can use it for example, if you are using in your laptop or computer Wireless and wired Network with different IP setting, and you want to choose the right one of it for programming, and don't want your S-bus software to detect your other IP address Automatically.

- **2- Software Subnet ID**

The S-bus configuration software have fixed Device ID (254), but you can change its subnet ID only, the default software subnet is (Default = 254)



The software default subnet ID address is 254, Device ID 254, this address must be unique, in case other Device has the same address you will not be able to find that Device unless you change the Subnet of the software.

- **3- Subnet Filter List:**

Here you can filter your subnet ID's that mean you can add more ranges if you have more than 254 devices so you can add another subnet ID

- **4- Devices On-Line test**

You can Deactivate or activate the auto test of Online devices (Activate is Default).

- **5- Load type**

You can add some Remarks to your Load type to use it as reference and print it out later on the excel sheet.

Address

Here you can search for the Device Addresses and load the Network and solve any conflict in the address. (For more Information see 3-2)

Pairing

You can enable pairing or disable either for one device or for all devices, disable meaning you can't program S-bus modules in manual anymore until you enable it again.

Devices

You can go here directly to Devices setting Categorized by type

Test

This is important Function to check your Lights Circuit by flashing the lights ON/OFF and then you can give it name (for more information see 3-3 section).

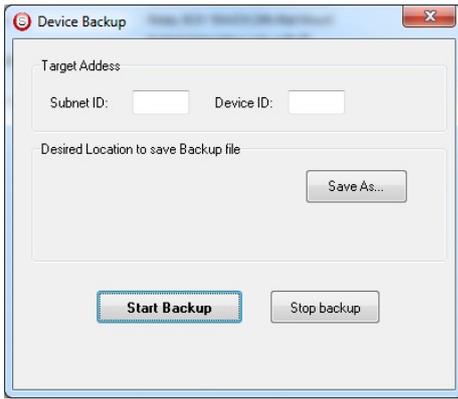
Language

You can change the Language between English and Chinese, and other Languages

Backup

Important to backup and restore your Devices address and setting.

- For Backup: put the subnet and device ID for desire device , choose the location for the backup file then click "Start backup" ,
- For Restore: put the subnet and device ID for desire device, choose the backup which you already made then click "Restore".
-



2-3 Devices address and Search:

Each of S-bus Devices must have its own Address in the Network, the Address for each Device consist of 2 parts:

- ❖ **Subnet ID**
- ❖ **Device ID**

The subnet ID can be from 0 – 254

And the Device ID can be from 1 – 254

So you can put up to 65024 Deferent Devices in the same network with deferent subnet and device ID Address

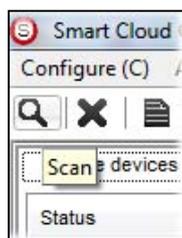
For example one of Dimmer Module Address is (Subnet 1, Device ID 5)

There is 5 ways to Search for the Devices in the Smart cloud Software

- 1- Fast Search
- 2- Advanced Search
- 3- Manually Search
- 4- Broadcast Address Device Search
- 5- Solve Conflict address search

Fast Search

The Fast search is very useful tools to test your communication and search your devices Fast , the Fast search take around 2-15 seconds to finish load the devices information in your network.



- Click on the **Scan** button
- Click on the **Fast search Button**
- Click **add all**
- Click **Exit** to exit the Window



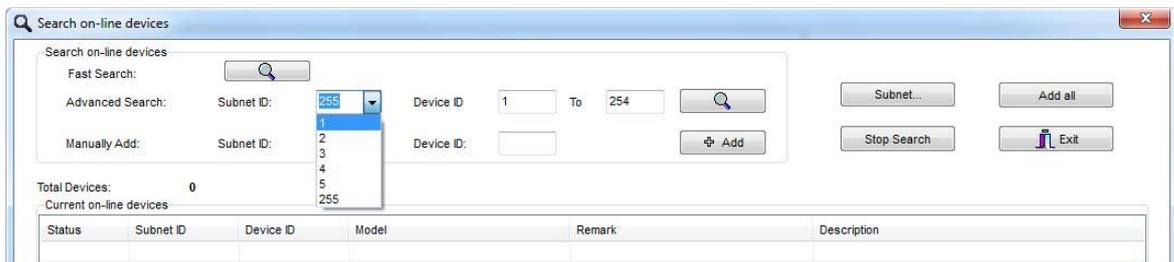
! *Fast search can't load all the Network Devices, it is only load part of the devices, it is only good for small project that contain around 10 devices, and to check the network communication with your PC.*

Advanced Search

The Advanced Search is a powerful tool for searching your Devices in the network. You can set the Subnet ID you like to search on it and select the range of device ID you want to search for.

Advanced search take 0.3 seconds for each device to load and total of 80 seconds to finish the search and load for 255 devices totally in each subnet.

- Click on the Online Search button 
- Go to **advanced search** , put the subnet ID and the range of device ID search



- Click **search ICON**
- Click **ADD ALL** after the search finish
- Click **Exit** to exit from the window
- click **stop** to stop the search
- Click **subnet** to add new subnet to the popup Menu subnet list



Use the Advanced Search Always as your standard way to Load the Devices in the Network to your computer before you program in any new project.

Manual Search

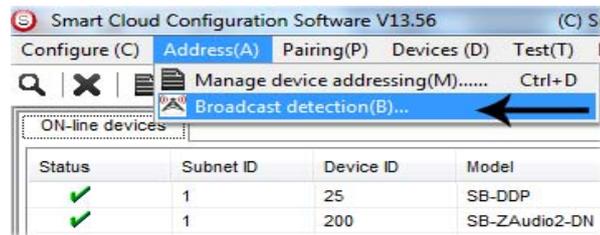
Manual Search is a very fast and useful way to add known Device ID and subnet to your network

Manually Add:	Subnet ID:	<input type="text"/>	Device ID:	<input type="text"/>	<input type="button" value="Add"/>
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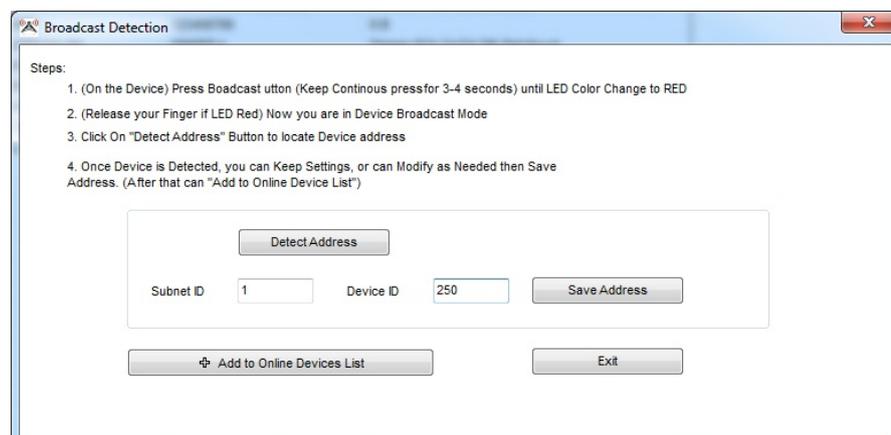
- Type the subnet and device ID that you know
- Click ADD
- Exit the Menu

Broadcast Address Device Search

This tool is important when you add new devices or you start your new Project installation, many devices could have the same Address or the communication is not yet tested, this tool is important to check the communication between your device and the bus network and to change its initial address in the first time installation.



- On your software Click **Address** then **broadcast detection**
- Go to your device like Dimmer / Relay / sensor or Panel and keep pressing the **broadcast Address button** for 2 ~ 4seconds until the button LED color change to **RED**.
- In your software in the Broadcast Detection window click the **Detect Address Button**.
- Your Device ID and Subnet well appear automatically
- To change the address just type the new subnet ID or device ID you want then click **Save Address**
- Click **ADD to online device list** to load your device in the Devices Network List.
- Click **Exit** to Close the Window

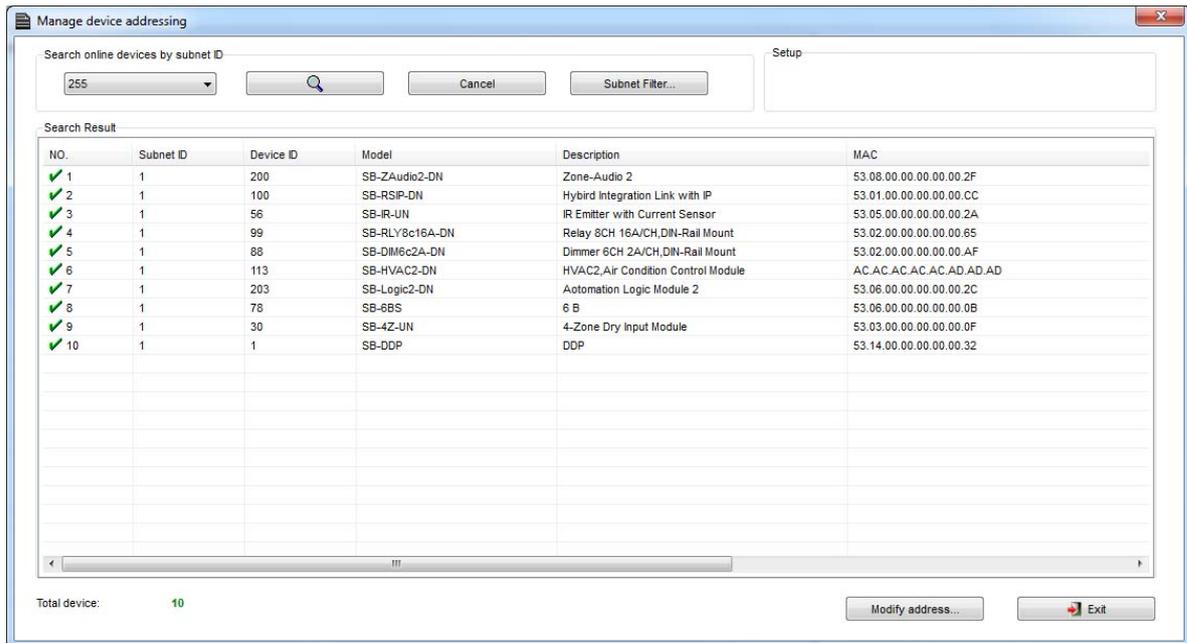




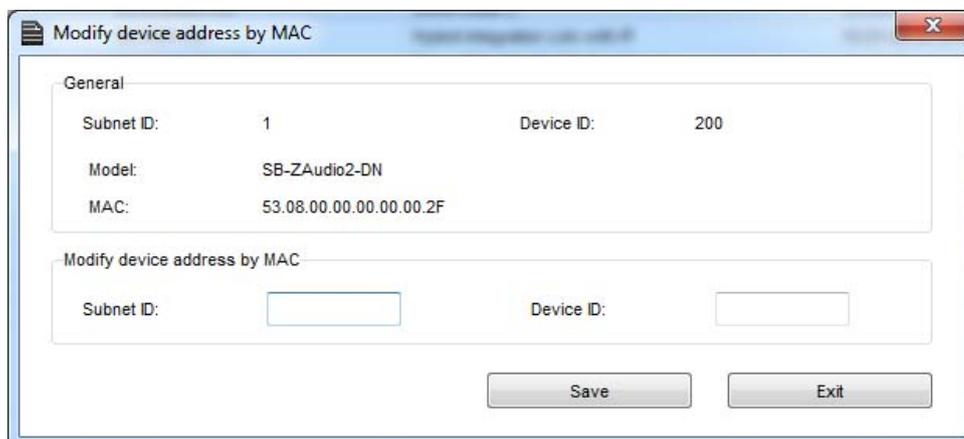
Solve Conflict address search

This type of search used to solve the conflict address, for example if 2 devices have the same address, then you can easily change the address of it without the need of disconnecting its wires from the network.

- Click **Address** or click the Address Shortcut icon 



- Select Subnet **255 (recommended)** or any desired subnet then click the search icon.
- Select the device you want to modify its address then click **modify Address** or double click on it
- New window will open, and then type the new Subnet ID and Device ID, then Click **Save**



2-4 Steps of Basic Programming

The Basic Programming for Lighting Motor and HVAC of S-bus Products has procedure of Basic Steps as following

- A- Check the communication between your computer and the Bus
- B- Broadcast each Dimmer, Relay, Motor curtain HVAC control++ initial Address
- C- Change the initial addresses to the desired one (**kindly check 2.5 for addresses range**).
- D- Give name of each Dimmer, Relay Module (Remark).
- E- Check each Lighting channel circuit if working and connected good
- F- Give name for each channel (remark).
- G- Make an excel sheet for all your Dimmers, relays, other module address and circuit name.
- H- Make Area for each Dimmer, Relay module if required .
- I- Make Scene and Sequence for each Module if required .
- J- Make safety power restore and delay time for scenes and safety as required.
- K- Check the curtain module gives it address and name.
- L- Set the channel name, the running time open and close running time.
- M- Give the switch (6 gangs) and panel (DDP) its addresses and Name.
- N- Assign the panel button to the corresponding scene or channel.
- O- Set the button graphic picture for the DDP for each button.
- P- Check the HVAC address give it address and name.
- Q-Set on off relay sequence.
- R- Set the VAV Voltage output if required.
- S- Set the safety HVAC running sequence T- assign the DDP Panel to its HVAC unit.
- U- Set the FAN speed, cool set point, type, adjust temperature sensor on the panel setting.
- V- Set the required graphic for AC, and panel basic setting
- W- Search for PIR motion sensor and give it address and name
- X- Set the sensitivity, way of triggering, motion, no movement delay and commands
- Y-connect the Z-audio 2 to the s-bus And address it
- Z-Test and enhance your programming.



Following the basic Programming steps procedure will save the programmers time and effort.

2-5 What is The Magic Line In our software ? :

In programming in all S-bus Modules you will find the same line with same fields that's why we called it "Magic Line" .

If you want to send any command you have to use this magic line.

Modify button function configuration						
Function no.	Subnet ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3
1	1	50	Invalid switch	1	2	N/A
2	10	11	Invalid switch	12	13	N/A
3	255	255	Invalid switch	255	255	N/A
4	255	255	Invalid switch	255	255	N/A
5	255	255	Invalid switch	255	255	N/A

If you notice the Command Line is contained of :

Function No. : indicated to Order/Function Number , the maximum order you can put is depend of the module .

Subnet ID : each device has subnet ID in our software you can put up to 254 subnet ID.

Device ID : additional to the Subnet ID also each device must has unique ID to avoid the conflict . and the range is 254.



Each Subnet ID can cover 254 devices and we have 254 subnet ID that means the total Number is 64516 devices.

Type : What type of order you want to send, if you notice in the following pic the system has many types depend on the module

Modify button function configuration						
Function no.	Subnet ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3
1	1	50	Scene switch	1	2	N/A
2	10	11	Invalid switch	12	13	N/A
3	255	255	Scene switch	255	255	N/A
4	255	255	Sequense switch	255	255	N/A
5	255	255	Universal switch	255	255	N/A
			Single channel lighting			
			Curtain switch			
			SMS control			
			Panel control			
			Broadcast scene			
			Broadcast channel			
			Security module			
			Zone-Audio 2			

Parameter 1 ,Parameter 2 and Parameter 3 are related to "TYPE" field like this Table :

Function type	Parameter 1	Parameter 2	Parameter 3
Invalid	N/A	N/A	N/A
Scene Switch	Area Number	Scene Number	N/A
Sequence Switch	Area Number	Sequence Number	N/A
Universal Switch	Switch Number	ON / OFF	N/A
Single channel	Channel Number	Brightness 0-100%	Fade time 0S - 60 M
Curtain Switch	Switch Number	Stop / ON/ OFF	N/A
SMS	Message	Message SMS Number	N/A
Panel	Invalid	N/A	N/A
Panel	IR Receiver	ON / OFF	N/A
Panel	Lock	ON / OFF	N/A
Panel	AC Power	ON / OFF	N/A
Panel	AC Cooling	0-30 C , 32- 86F	N/A
Panel	ACFan Speed	Auto/high/med/slow	N/A
Panel	AC Mode	Auto/Cooling/Heating/FA	N/A
Panel	AC Heating	0-30 C , 32- 86F	N/A
Panel	Rise temp	0-30 C , 32- 86F	N/A
Panel	Reduse temp	1-5 C/F	N/A
Panel	LCD Backlit	ON / OFF	N/A
Panel	LCD status ligh	1~100	N/A
Panel	Floor heating power	ON / OFF	N/A
Panel	Floor heating mode	Normal-day-night -away	N/A
Panel	Goto page	1~7	N/A

Function type	Parameter 1	Parameter 2	Parameter 3
Broadcast scene	All Areas	Scene Number	N/A
Broadcast Channel	ALL Channel	Brightness 0-100%	Fade time 0S - 60 M
Security Module	Area Number	Arming Mode	N/A
Zone-audio 2	Source Control	SD Card/Audio In/FTP Server/FM Radio	N/A
Zone-audio 2	Play Mode	No Repeat/ Repeat Song/ Continued/ Repeat all	N/A
Zone-audio 2	Play List/Radio Channel	PREV Play List/Next Play ListSpecify Play List No/PREV	N/A
Zone-audio 2	Play Control	PREV Song/Next Song/Play/Stop	N/A
Zone-audio 2	Volume	VOL	0-100
Zone-audio 2	Volume	TREBLE	Reduce/increase
Zone-audio 2	Volume	BASS	Reduce/increase
Zone-audio 2	Play Specify Song	Folder No.	Song No.

3- Zone Beat Programming

Total 3Ch Dimming, and 18 Relays, 1 temp aux, & a 1 VAV 0-10V. To be used as needed with easy assignment for following applications: lighting, dimming, HVAC, drapes & shutters, boilers or pump, Exhaust fan, Sirens/Flasher, door bell and many more (3ch dimming Each 2Amp / 17ch Relay 5A Each 1 Relay 16A for heavy Appliances), 1 temperature Sensor Input. And 1 0-10v output.

3-1 Zone Beast Channel tab

In the Zone best channel setting you can edit your Dimmer/Relays Lighting channel ,Remarks, Load type remarks, Lower Limit, Higher Limit.

Double click on any Zone beast Module on the List then the setting window will appear go to the Channel tab, and start editing:

The screenshot shows a software window with tabs for 'Device', 'Channel', 'Scene', 'Motor', and 'HVAC'. The 'Channel' tab is active, displaying 'Channel information' in a table. To the right is a 'Channel modification' sidebar with buttons for 'Remark...', 'Load type...', 'Lower limit...', 'Higher limit...', 'Switching-on delay...', and 'Protection delay...'. The table contains the following data:

Channel no.	DESC	Remark	Load type	Lower limit	Higher limit	Switching on delay(s)	Protection delay (mins)
1	Dimmer 2A	~~~~~	Undefined	255	255	<N/A>	<N/A>
2	Dimmer 2A	~~~~~	Undefined	255	255	<N/A>	<N/A>
3	Dimmer 2A	~~~~~	Undefined	255	255	<N/A>	<N/A>
4	Relay 10A	~~~~~	Undefined	<N/A>	<N/A>	0.0	0
5	Relay 10A	~~~~~	Undefined	<N/A>	<N/A>	0.0	0
6	Relay 10A	~~~~~	Undefined	<N/A>	<N/A>	0.0	0
7	Relay 10A	~~~~~	Undefined	<N/A>	<N/A>	0.0	0
8	Relay 10A	~~~~~	Undefined	<N/A>	<N/A>	0.1	0
9	Relay 10A	~~~~~	Undefined	<N/A>	<N/A>	0.0	0
10	Relay 10A	~~~~~	Undefined	<N/A>	<N/A>	0.0	0
11	Relay 10A	~~~~~	Undefined	<N/A>	<N/A>	0.0	0
12	Relay 10A	~~~~~	Undefined	<N/A>	<N/A>	0.0	0
13	Motor(Relay 10A)	~~~~~	Undefined	<N/A>	<N/A>	1.5	0
14	Motor(Relay 10A)	~~~~~	Undefined	<N/A>	<N/A>	0.0	0
15	Relay 16A	~~~~~	Undefined	<N/A>	<N/A>	0.0	0

Channel Remarks: it is another fast way to type your channels of your module in simple way.

Load type: to edit every channel load type as reference remarks

Lower Limit: in this setting you can sit the lower Limit that you can dim to, beyond this level the Light will turn off totally.



Lower Limit Option is useful when you connect a florescent Light that can't be dimmable to Dimmer module channel and you don't want it to be flickering when low voltage supply the florescent



if you don't want the florescent light to be ON while you make diming with fade time for all your channels than you can set the channel Lower Limit as 90% if connected to florescent or not dimmable light

Higher Limit: in this setting you can sit the Higher Limit that you can Ramp to, Beyond this level the Light will turn ON to the maximum level.

Switching On Delay: for industry and some motors connection needs to delay the Relay to be ON from (0 to 25 seconds) for each channel

Edit load switching-on delay		
Channel no.	Remark	Switching-on delay(s)
4	yyyyyyyyyyyyyyyyyyyy	0.0
5	yyyyyyyyyyyyyyyyyyyy	0.0
6	yyyyyyyyyyyyyyyyyyyy	0.0
7	yyyyyyyyyyyyyyyyyyyy	0.0
8	yyyyyyyyyyyyyyyyyyyy	0.0
9	yyyyyyyyyyyyyyyyyyyy	0.0
10	yyyyyyyyyyyyyyyyyyyy	0.0
11	yyyyyyyyyyyyyyyyyyyy	0.0
12	yyyyyyyyyyyyyyyyyyyy	0.0
13	yyyyyyyyyyyyyyyyyyyy	0.0
14	yyyyyyyyyyyyyyyyyyyy	0.0
15	yyyyyyyyyyyyyyyyyyyy	0.0

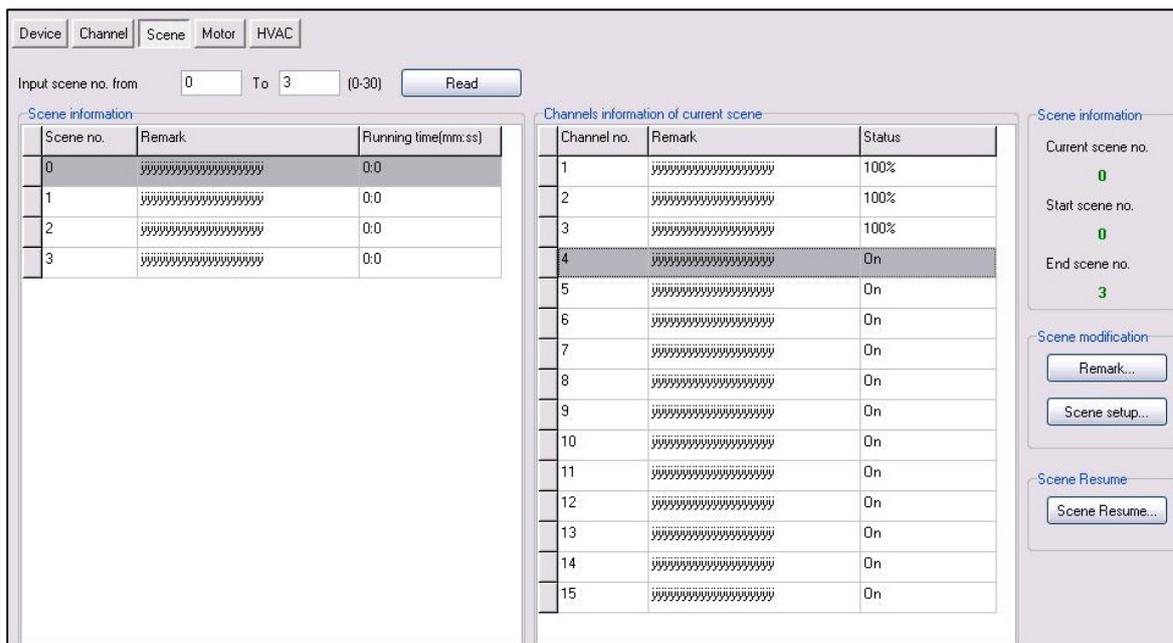
Protection Delay: is used for industry use mainly and some heavy duty Machines for safety ON by long time delay range from (0 – 60 Minutes)

Modify load protective delay		
Channel no.	Remark	Protective delay(min)
4	yyyyyyyyyyyyyyyyyyyy	0
5	yyyyyyyyyyyyyyyyyyyy	0
6	yyyyyyyyyyyyyyyyyyyy	0
7	yyyyyyyyyyyyyyyyyyyy	0
8	yyyyyyyyyyyyyyyyyyyy	0
9	yyyyyyyyyyyyyyyyyyyy	0
10	yyyyyyyyyyyyyyyyyyyy	0
11	yyyyyyyyyyyyyyyyyyyy	0
12	yyyyyyyyyyyyyyyyyyyy	0
13	yyyyyyyyyyyyyyyyyyyy	0
14	yyyyyyyyyyyyyyyyyyyy	0
15	yyyyyyyyyyyyyyyyyyyy	0

3-2 Zone Beast Scene tab

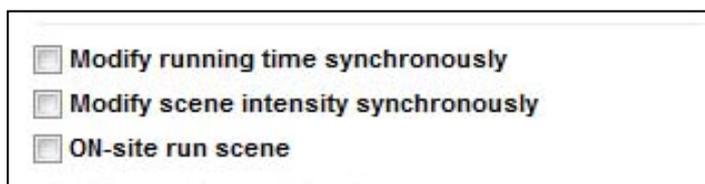
To create your scene:

- Click on the **scene** tab
- Input the scene number you want to edit From 0 To 30 then click **confirm**
- Click **scene setup** to edit your scenes



- Edit the scene by modifying the output brightness and then click the next scene on the right list to edit it.
- Edit the scene running fade time on Minutes and seconds
- After you finish editing your scenes, click **save** and **exit**.
- Click **Remarks** to give the hint name for your scenes, click **save** and **exit**

You have many tools to help you editing the scenes



- **Modify Running time synchronously** to apply the change effect for all the scenes running time together
- **Modify scene intensity synchronously**, to modify all channels output level together
- **On-site Output scene**, to see the effect Live on your room before saving the scene.



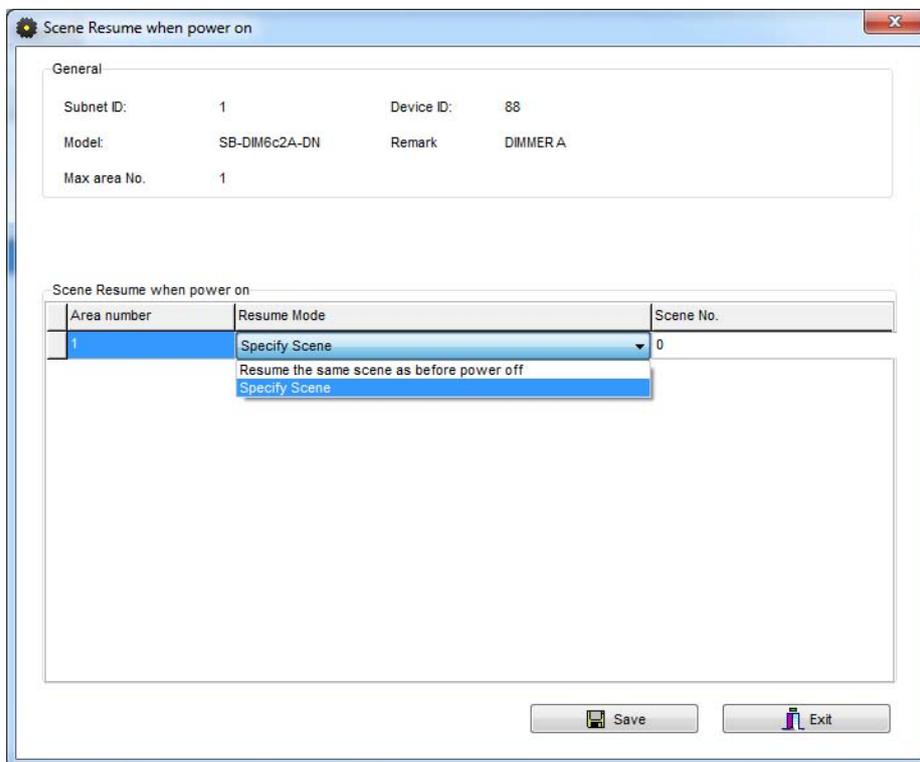
Like the dimmers and relays you have Scene No. **0** and it is not modifiable, and always Pre-Programmed as scene Off that set all the channels Lights of the area to 0%.

• Scene Resume:

This setting is very important in case of Power failure.

The scene restore is the specified scene that the module will run it once the Power restore after the electricity down.

- Click **scene** tab then click on scene Resume
- Select one of 2 options,
- **1- Resume the same scene before power off,**
- **2- specify scene**



- Remember Scene **0** it mean all Lights on the Area will be OFF when the Power restores.



Restore to scene 0 is useful for many applications to save the Electrical parts when the power came in higher load from the main usually.

3-3 Zone Beast Motor tab

1. Motor Max. Time Settings

Max. Time is the time that motor fully open or close max (180 s)

Device Channel Scene **Motor** HVAC

Enable channels for motor control

Enable motor function for CH13,CH14
 To control motor with CH13 and CH14, you must enable the motor function for these 2 channels; if motor function is disabled, CH13 and CH14 are used for normal relay.

Max. time for fully open/close: s
 (Max. 180s)

Save

Motor Control

Command Type: Single Channel Control
 Channel #: 13 or 14
 Control Status: OPEN=100, CLOSE=0
 Running Time: running time for motor, time range is 0~ max. time that is configured above. if running time is equal 0, the motor will run with time the same as max. time.

2. Running time

Command Type: Single Channel Control

Parameter 1: it's the channel No **must be** (13, 14)

Parameter 2: it's always be 100 Parameter 3: it is running time of motor, the scope of running time is 0 ~ MAX. Time

If running time equal 0, it means MAX. time. If you set the running time 5 seconds, the motor will run only 5 seconds then stop.

General

Data acquisition mode: **Device** Model: **SB-DDP**

Subnet ID: **1** Device ID: **20**

Remark: **demo kit** Current button: **1**

Mode: **Single on/off** Current page: **1**

Modify subnet ID synchronously Modify the intensity synchronously

Modify device ID synchronously Modify parameter 3 synchronously

Modify type synchronously

Modify button function configuration

Function no.	Subnet ID	Device ID	Type	Parameter 1	Parameter 2	Parameter 3
1	1	99	Single channel light	13/14	100	0

3-4 Zone Beast HVAC tab

- **General tab :**

In the temperature Type you can change the function and display settings

- Temperature Type: can be (C) Celsius or (F) Fahrenheit.
- Fan speed and Mode: you can enable or disable the options of Fan speed and mode:
- Like **High low Medium**, and Mode type like **cooling, fan, heating**, and **Auto**, to disable it to appear as option on the DDP panel

The screenshot shows a software interface for configuring an HVAC device. At the top, there are tabs for 'Device', 'Channel', 'Scene', 'Motor', and 'HVAC'. Below these are sub-tabs for 'General', 'FCU / VAV', 'Temperature Sensor', and 'Test'. The 'General' tab is active. Under the heading 'Temperature Unit', there is a label 'Temperature Unit:' followed by a dropdown menu set to 'F' and a 'Save' button. Below this is the 'Fan Speed and Mode' section. It contains two groups of checkboxes. The first group, labeled 'FAN speed', has four options: 'Auto', 'High', 'Medium', and 'Low'. The second group, labeled 'Mode', has four options: 'Auto', 'Cool', 'Heat', and 'Fan'. A 'Save' button is located at the bottom right of the interface.

- Temperature range: you can set your higher and lower set point for each mode (cool, heat, Auto) so the user can not go above the higher limit, or below the lower limit.

Temperature Range

Unit: F

Cooling Range:
From: 32
To: 32

Heating Range:
From: 32
To: 32

Auto Range:
From: 32
To: 32

Save



It is recommended always to set the Limit for Cooling, heating and auto, so the user will not make the desired to freezing or very hot level for each mode and to prevent children to do so.

- **FCU/VAV TAB:**

- **Delay for compressor and fan :**

Compressor Startup safety Delay is one of the most important settings you should take care about when you make the setting of the HVAC module

The compressor delay will prevent the HVAC Module to turn the compressor ON directly after it Turned off , Delay time of minutes or seconds always preventing the Direct ON after OFF operation, that will keep your Central unite safe, without damaging your compressors and unites.

To do the AC delay setting

- Go to **Delay** section
- Set the **delay for compressor on**, select (seconds 3-127), this setting will prevent the compressor to ON after OFF by this delay Minutes / seconds.



Compressor startup delay is the most important safety setting to protect your AC unit

Setting	Value	Unit
Delay for compressor on: [3-127 s]	127	s
Delay for compressor off: [1-10s]	10	s
Delay for fan on: [1-10s]	5	s
Delay for fan off: [1-10s]	2	s

Beside the compressor startup delay there is other function you can set in the Air condition delay section as following

Delay for switching OFF compressor: every time you switch your AC unite, the HVAC will give 0-10 seconds delay time to off your compressor.

Delay for fan on: every time you start your Fan, the HVAC will give 0-10 seconds delay time to start your Fan.

Delay for fan off: every time you stop your fan, the HVAC will give 0-10 seconds delay time to stop your Fan.

Press **save** when you finish your setting



It is highly recommended to set your compressor switch off delay to 10 seconds to give more time for the user to change his AC mode between FAN ,Heat, Cool, and make sure he select his mode, that will prevent switching OFF the compressor while the user still selecting his AC mode.



it is recommended to give different OFF time for both compressor and FAN, for example if your compressor OFF delay is 10 seconds, make your Fan OFF delay is 8 seconds, this will be better for relay action and power consumption by gradually OFF Process.



In case of power down, when the power restore to the HVAC module, the HVAC will return to its last Running mode.



Always Read the AC unit instruction and installation manuals before any installation or programming to fit the best requirement for your AC control

▪ VAV MODEL :

VAV setting is to set the Variable DC Voltage output for each fan speed from 0-10 VDC or on the AC page

- Go to **VAV**
- Set the Value of **Voltage you** want to give in each Fan speed Mode

The screenshot shows a software interface for VAV settings. At the top left, it says 'VAV'. Below that, it indicates '0-10 V'. There are three rows of settings: 'High:', 'Medium:', and 'Low:'. Each row has a text input field containing the number '0' and a dropdown arrow, followed by a small 'v' symbol. At the bottom right of the interface is a 'Save' button.



Some VAV unit use 0-5 V, also you can modify your HVAC module VAV voltage setting to adapt with 0-5 V, for example you can set it as (Low 1V, Medium 3V, high 5V).

- FCU MODE CONNECTION:

In this setting you will configure the HVAC Mode compressor Relays (M1 M2 M3).

Each one can be as (cool, Heat, Auxiliary or disable),

FCU Modes Connection

M1:	Function	<input type="text" value="Cool"/>	
Running Sequence: <small>(0-60mins)</small>	1st duration for on	<input type="text" value="15"/> mins	2nd duration for off <input type="text" value="2"/> mins
	3rd duration for on	<input type="text" value="8"/> mins	4th duration for off <input type="text" value="2"/> mins
	<input type="button" value="Save M1"/>		
M2:	Function	<input type="text" value="Cool"/>	
Running Sequence: <small>(0-60mins)</small>	1st duration for on	<input type="text" value="10"/> mins	2nd duration for off <input type="text" value="5"/> mins
	3rd duration for on	<input type="text" value="7"/> mins	4th duration for off <input type="text" value="3"/> mins
	<input type="button" value="Save M2"/>		
M3:	Function	<input type="text" value="Heat"/>	
Running Sequence: <small>(0-60mins)</small>	1st duration for on	<input type="text" value="15"/> mins	2nd duration for off <input type="text" value="2"/> mins
	3rd duration for on	<input type="text" value="8"/> mins	4th duration for off <input type="text" value="2"/> mins
	<input type="button" value="Save M3"/>		

In the AC Mode configuration you can set the function mode for each relay switch, this module support single stage and multi stage Unites, for example if you have a big unit of 2 cool compressors , then you can set the switch1 and switch 2 as cool. The table below shows you the setting and function table of your HVAC mode configuration

Setting	Usage of this Function
Function Cool	Used to configure the relay switch that will be connecting to the central AC unit cooling compressor wire
Function Heat	Used to configure the relay switch that will be connecting to the central AC unit Heating compressor wire
Function Auxiliary	Used to configure the relay switch that will be connecting to the Humidifier, dehumidifier, fresh air motor wires, FAN
Function Disable	To Disable the Relay switch , it is used when there is no connection to the relay, and it is important to disable it to save the unnecessary consumption
Sequence Running time 1st step ON, 2nd step OFF	Used for safety <u>startup sequence</u> to rest the compressor after couple of minutes of starting by 2 nd step OFF minutes
Sequence Running time 3rd step ON, 4th step OFF	Used for safety <u>running sequence</u> to rest the compressor after couple of minutes of running by 4 th step OFF minutes especially in case of multi stage compressor to let one rest while the other is starting and vice versa

- Temperature sensor tab :

In this tab you have to choose which Temp. sensor do you want to active , you have three options:

- 1- External Temperature sensor : you will connect it to **T+,T-** on the Zone beast.
- 2- From DDP : use the DDP as a temperature sensor ,since the DDP has built in temperature sensor , just put the address
- 3- From other Device : Like 9IN1 or 4T just put the address.

Device | Channel | Scene | Motor | HVAC

General | FCU / VAV | Temperature Sensor | Test

Choose temperature sensors for this HVAC

Sensor	Subnet ID	Device ID	Temperature Value	Compensation
<input type="checkbox"/> 1	Current module external temperature sensor		<input type="text"/> F	<input type="text"/> 0
<i>(Make sure the temperature sensor is connected to HVAC module)</i>				
From DDP				
<input type="checkbox"/> 2	<input type="text"/> 255	<input type="text"/> 255	<input type="text"/> F	
<i>(Make sure device is online)</i>				
From other device such as 9in1/4T and so on				
<input type="checkbox"/> 3	<input type="text"/> 255	<input type="text"/> 255	<input type="text"/> F	
<i>(Make sure device is online)</i>				

Get max. temperature from checked devices above
 Get average temperature from checked devices above
 Get min. temperature from checked devices above

Refresh Temperature for Checked Sensors

For More info please Enjoy our youtube channel : <http://www.youtube.com/SmartG4/>

