



# **Serial Manager II Programming Guide (for CTL-type Controllers)**

Version October 10, 2009

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## 1. Where to find Qbus Serial Manager?

The Qbus Serial Manager is the software program you will use to program the Qbus system. In the Qbus Serial Manager you can create outputs (on/off, timers, sequences, scenes, clocks, alarms,...) and define how to control these outputs (which button on a switch / motion detector / etc. turns on which output). All of these settings will be saved in a .qdb (Qbus DataBase) file.

The Qbus Serial Manager is freely available. You can download the latest version from our website <http://www.qbus.be/>. Click on "English" in the top right corner and you will be taken to a page where you can download the serial manager. Once the serial manager is downloaded, you will have a shortcut to the program on your desktop.

## 2. Starting the Qbus Serial Manager

When the Qbus Serial Manager application is launched, the following screen will appear on which you can select a language by clicking on a flag. Then press OK. There is no need to fill out a user name and password – this might be necessary in future versions of the Serial Manager.




## 3. Qbus serial manager command line


The Qbus Serial Manager command line looks as follows:



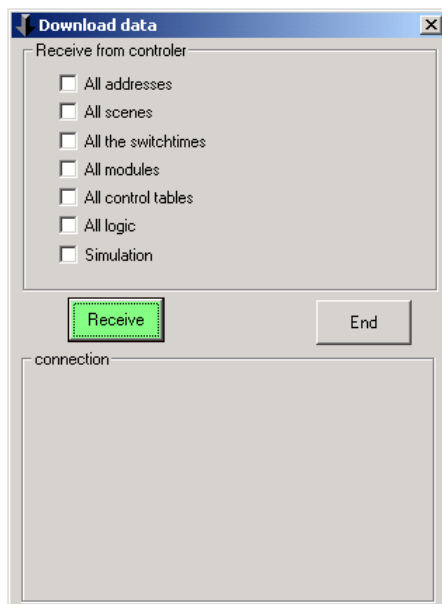
### 3.1 Open and Save

The first two buttons on the left  are for opening and saving programming files (.qdb).

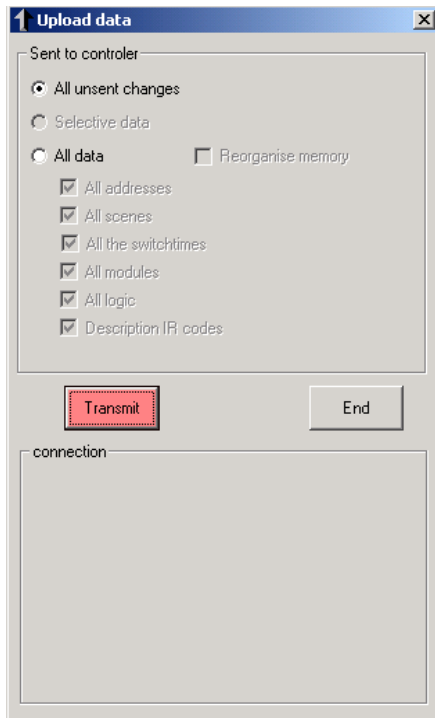
### 3.2 Upload and Download

The next two buttons  are used to ↑ upload your instructions to the controller or to ↓ download the program that is already in the controller. Use the download button only in cases of emergency – e.g. if you lost your .qdb file. As the CTL does not contain all data your qdb contains (e.g. names of outputs), you will not get all of your information back when downloading data from your controller. As a safety measure it is better to ensure you have a back-up of your .qdb file.

**Note:** You need to make sure the computer on which you are using the Serial Manager is connected to the bus via your Ethernet connection (ETH02 module) or via your Serial Port (SER02 module).



By choosing specifically ↓ download, you will get the displayed screen where you have the opportunity to choose the type of data you would like to retrieve from the controller's memory.



With the upload ↑ option you will see the screen as displayed on the left. The first time you create a .qdb file, transmit “All Data” to the controller. After this first time you can upload only “All unsent changes” if you changed some settings in your program.

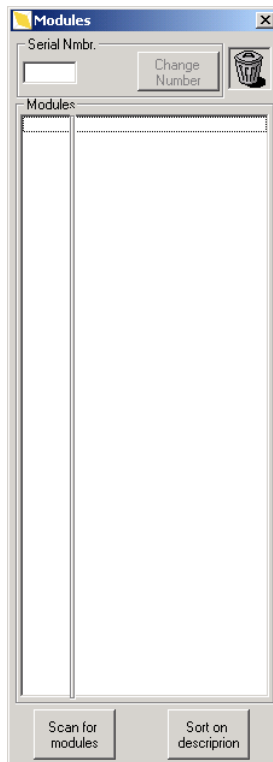
**Note:** After the addition of any materials or change in the programming you should ALWAYS upload to the controller so that all changes or additions can be put into effect. It is also NECESSARY as soon as the components and outputs are entered to upload all data because otherwise no test can be carried out for the outputs.

Everytime you make a change to the .qdb file in the serial manager, the upload arrow will turn red. This means that you need to upload changes to the controller. If you forget to do so, when you close the Serial Manager, you will get the message that you have not sent all changes to the controller. You can then select to send the changes or to ignore the changes you made.

### 3.3 Programming Modules



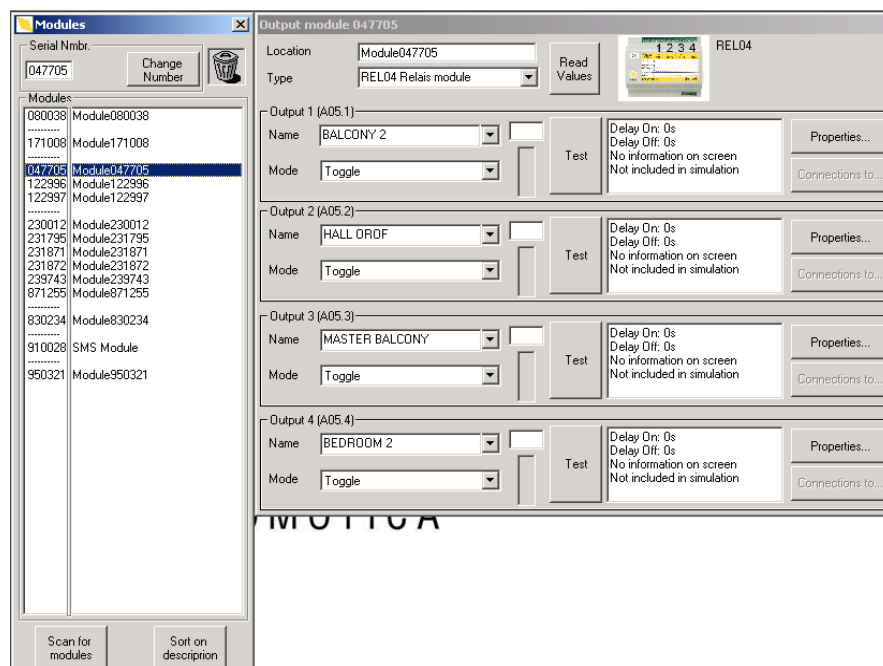
This option opens up the main programming window. The following screen appears by choosing “modules”.



On the upper left side you type the serial number for the module you want to program. Each module has its unique serial number and as soon as you type it then the related module will appear as it is shown in the following screen. The following screen contains more than one module such as relay04, relay08, dimmer, thermostats, switches, etc.

In case you want to delete a module, select it and then press the button with the recycle bin (upper right corner)

Moreover, if you want to enter the switches for use with a specific program then you can do it without having to enter the switches' serial numbers one by one. Pressing the lower left side button "Scan for modules" - "start scanning" and then pressing one by one the switches, they will be recognized and used in the program.



To know more about how to program modules in detail, see further below in this document.

### 3.4 Choosing Outputs

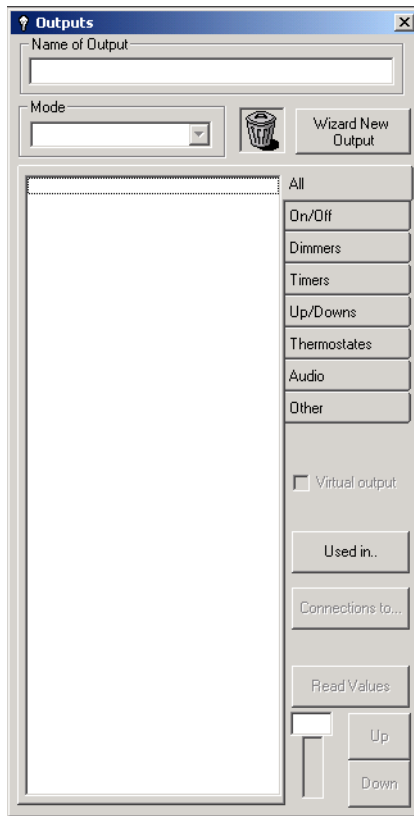


You can create outputs (dimmer, on/off, push button, timer etc). in two ways:

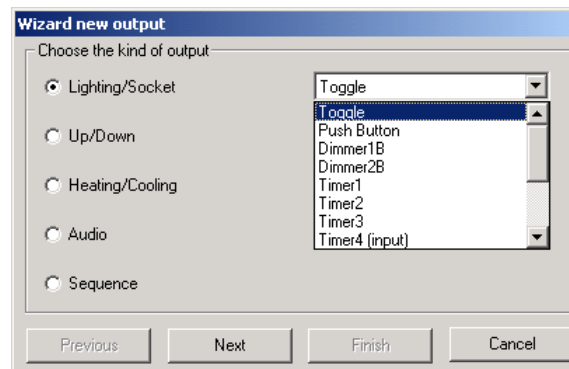
1. When programming switches, you can create outputs for each button of the switch (see "Switch Programming" below in this document).

2. You can create all the outputs you want at once without immediately allocating them to a certain switch or detector. This is what we explain in this section.

Clicking the Output Button (lamp), the following screen will appear:



In order to create a new output, use the button "Wizard New Output". The following window will then appear:



In this window, select the type of output you want to create. If you want to select lighting then use the first option as it is shown and choose the type of output. Below you'll find a list of output types you can use in your Qbus system.

Once you have selected the type of output you want, press "next" and name the output; then press "finish". The screen above shows the outputs. Using the keys on the right of the output list (All, On/Off, Dimmers,...) you can select which outputs appear so that you can find an output faster; for example, pressing the All button, all outputs will be displayed. Using the on/off button will display only the on/off contacts; the dimmer key will display only the dimmer contacts etc.

Selecting one output and pressing the "Used in" button will display information about where in your program this output is used. It provides you also with the relay or dimmer component serial number, the switches' serial number as well as the central command and scenario names where it belongs.

Finally, selecting a contact and pressing the "Read values" button will provide you with the output status at that moment (on or off). The "Test" button can be used to test this specific output as well.

## Toggle

The toggle option is the one also referred to as "on/off". Push once will turn the output on, push again and it will turn the output off.

## Push Button

Only when the button is pushed the output is active - e.g. for a door bell. Do not confuse the push button on the switch with the push button option! You can use the push button on the switch for any mode (on/off, push button, timer,...), one of which is the push button mode.

## Dimmer1B / Dimmer2B

Dimmer 1B stands for Dimmer on one button (when dimmer is off push the button once for the dimmer to go to 100%, then push once to go to 0%, or hold the button to get the dimmer to the right level of light. Dimmer 2B stands for dimmer with 2 buttons; this will give you one Dimmer2B (Up) output and one Dimmer2B (Down) output that you can allocate to two different switches.

## Up/Down1B / Up/Down2B

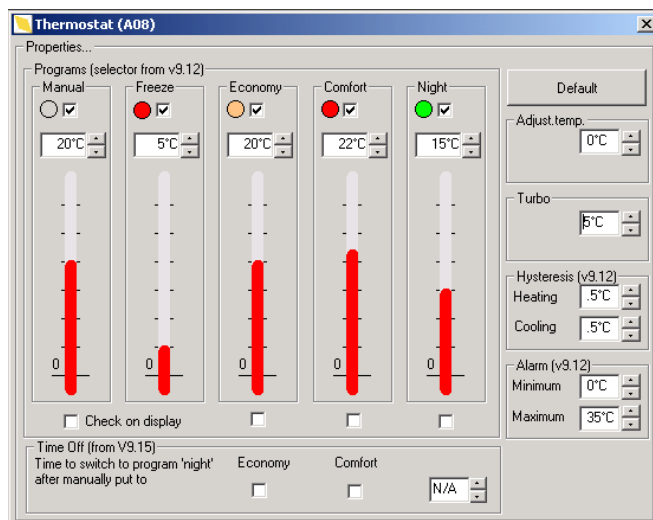
Similar as for Dimmers, there is a Up/Down1B option (to use one button) and an Up/Down2B option (for two button control of the shutter / motor – one up/open and one down/close).

## Intermittent

The Intermittent function gives you the option to intermittently turn on / off an output (e.g. garden sprinklers).

## Thermostat

By selecting a thermostat in a THI or clicking on “properties” in a thermostat switch (SWC04T/XXX), the following thermostat screen will appear.



This screen shows 4 thermostat programs and the manual operation. By clicking the fields right underneath the program names, you can select which programs you want to control from the thermostat.

The ‘turbo’ option can be used if you have an additional valve or circuit you can control to speed up the heating in the room. In that case, you might want add heating from this second controlled heating unit (turbo heating = heating from both units) if the difference in degrees between the setpoint and the measured temperature is e.g. 5 degrees Celsius. The “hysteresis” defines the difference in degrees that is needed in order to engage the heating system. This is to avoid oscillation between heating and cooling in case you control both heating and cooling. E.g. if you want the heating to kick in when temperature is below 20 degrees and cooling to happen if the temperature is above 20 degrees you will get constant oscillation between cooling and heating. Setting the hysteresis at 0,5 degrees means that heating would start when the temperature is at 19,5 degrees and cooling when temperature is at 20,5 degrees. On the alarm option define the highest and lowest temperature threshold and select whether you want to close a contact (this can be achieved through the relay) or to create an alarm



which will notify you through your mobile phone (if you have SMS module) or via Ethernet (if you have an Ethernet port on the controller).

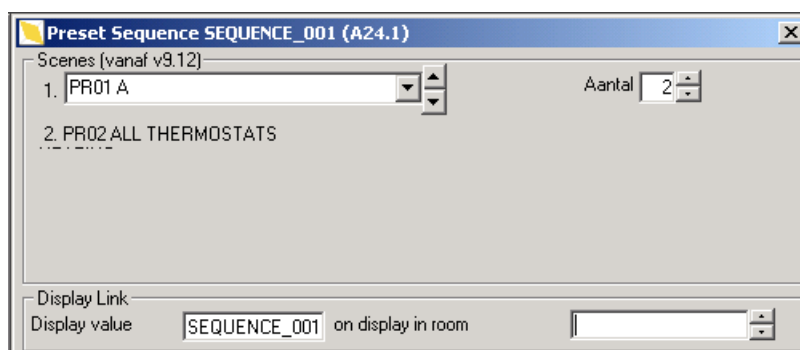
In the “check on display” box you can select which programs you want to see on the display of your touch screen TSC5.8 if you click on the Check Status button of the TSC5.8.

The “Time to switch to program ‘night’” boxes can be used to automatically have the system switched from Economy or Comfort program to the Night program after a selected number of minutes.

## Sequence

**A “sequence” uses only scenes and these have to be sequential.**

The following screen will appear as soon as the “sequence” is selected.



On choice 1 place the first scenario and then the 2<sup>nd</sup> one follows automatically because it's the next one in the scenario sequence as you have made them. This means that when you press the sequence recall control button, the first button press will execute the position 1 scenario and the next button press will execute the position 2 scenario. The process is looped. With the “Aantal” option on the right you can select the number of scenarios that this sequence includes, i.e. if we placed 3 or 4 then 4 scenarios will be displayed. Choose the first one and the rest will follow the one set as primary according to the sequence that these scenes were made. Controlling them can be achieved from the control point by looping the pressure on the sequence control button.

## Timers

In the Qbus software you can select 5 different timer modes:

### Timer 1:

With each push on the button a timer is activated or de-activated. For example in a hallway, one push on the button turns the light on for a given period of time (to be defined by yourself by clicking on the “Properties” button where you can select the time in minutes or seconds by clicking on the “Min” or “Sec” button), a second push on the button turns the light off.

### Timer 2:

With each push on the button the timer is reset to its defined time. For example if your timer is set to 3 minutes, each time you push the button the timer will start to run for 3 minutes. This timer does not work with motion detectors – motion detectors keep counting down the time set in the detector module.

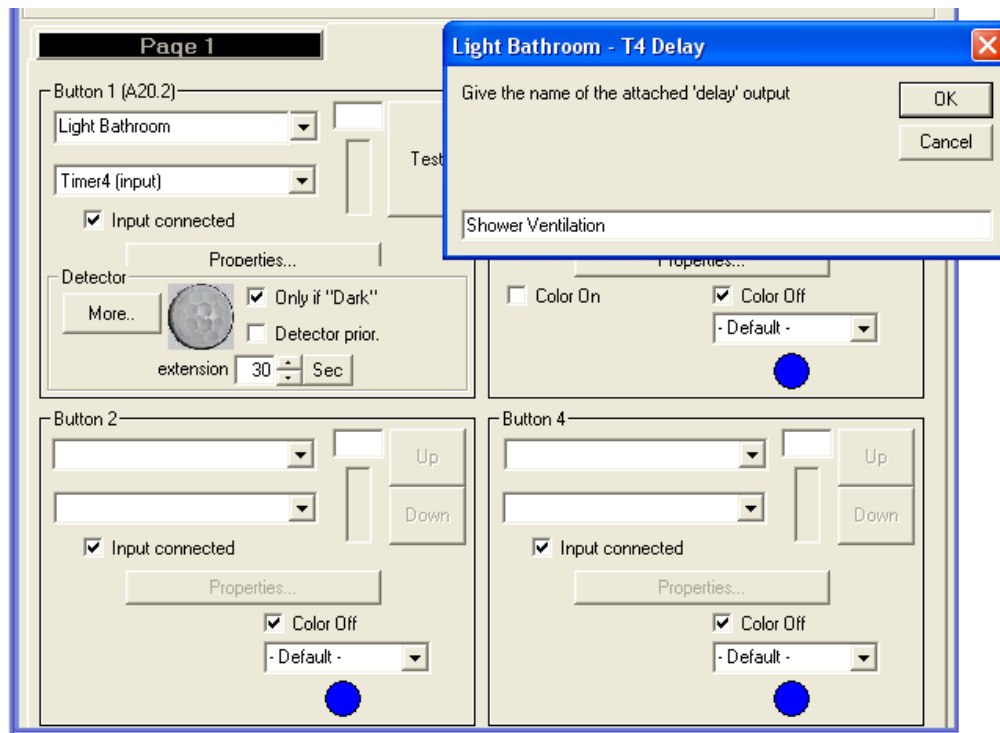
### Timer 3:

The first push on the button will activate the timer. A second push on the button will activate the on-off mode – hence the timer value will be of no importance anymore. A third push of the button will turn off the output. For example, at the front-door, you want to use a timer but also have the opportunity to keep the light on indefinitely without the timer shutting it off automatically. By selecting Timer 3 and setting it for e.g. 3 minutes, if you push the button the timer will be activated for 3 minutes and then the light will be shut off. If you push the button twice, the light will remain on until you push it a third time – then the light will turn off.

#### Timer 4:

This is a coupled timer: an impulse (pushing a button, detecting motion,...) will activate an output (e.g. output 1). After a delay (can be defined by the user) a second output will be activated (e.g. output 2 chosen by the user). When output 1 is deactivated, after a defined delay output 2 also will be deactivated. Example: when coming home in the evening the motion detector outside turns on the front-door lighting and 1 minute later the hallway light.

To program this timer, you need to allocate Timer4 input for the first output. When clicking on “enter” a pop-up screen will ask to define the output that will be linked (after a delay) to this first output (this will be define as Timer4(delay). You can define the delay time by clicking on “Properties”.

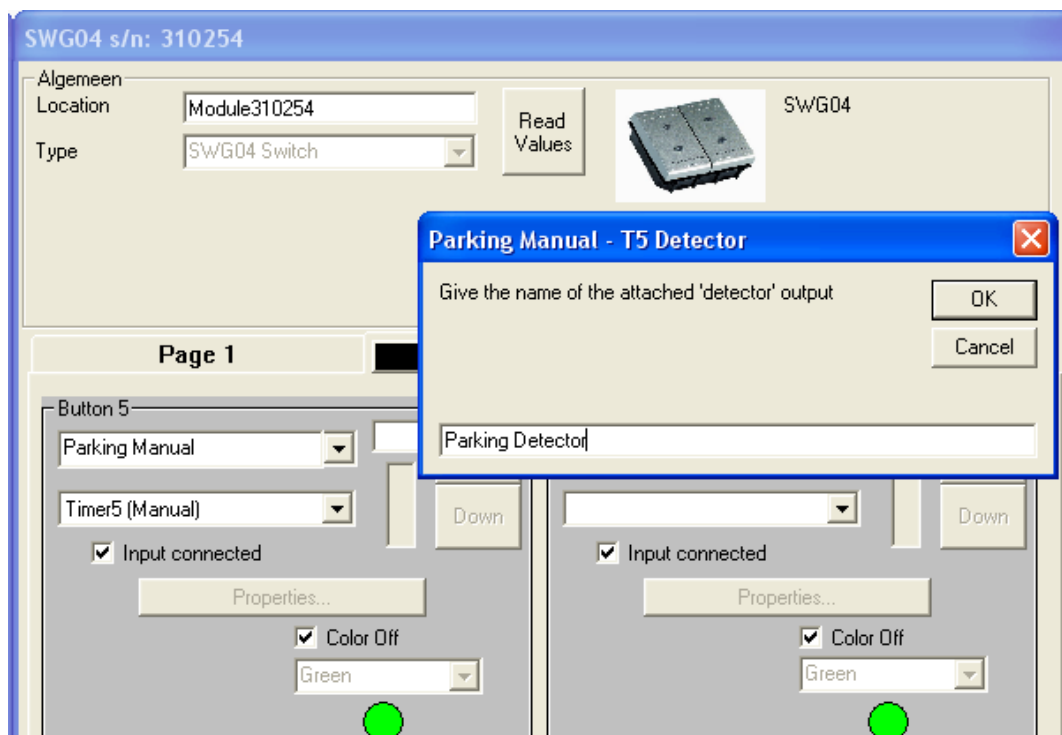


#### Timer 5

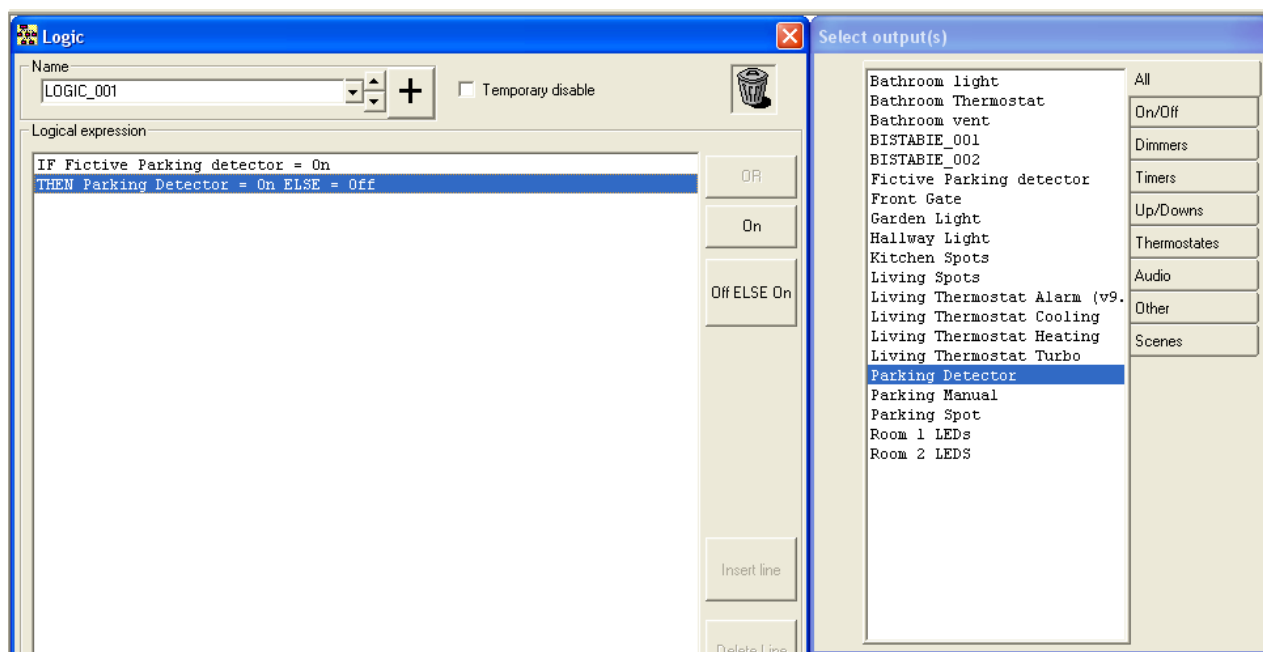
With this timer you can couple a manual input (a switch) and a detector input. A detector will only activate an output if it detects motion or if the light level falls below a defined level (see below in programming MDI/MDO). In the Qbus system, a detector has priority over a switch. This means that if you plan to control an output that is controlled by a detector also by a switch, this output will not react on the command given by the switch if the parameters of the detector are not matching (e.g. no motion was detected or the light level is still too high – the detector will turn off your output immediately after you have given the command by the switch to turn it on).

You can circumvent this issue by using a Timer 5. Here's how you program a timer 5:

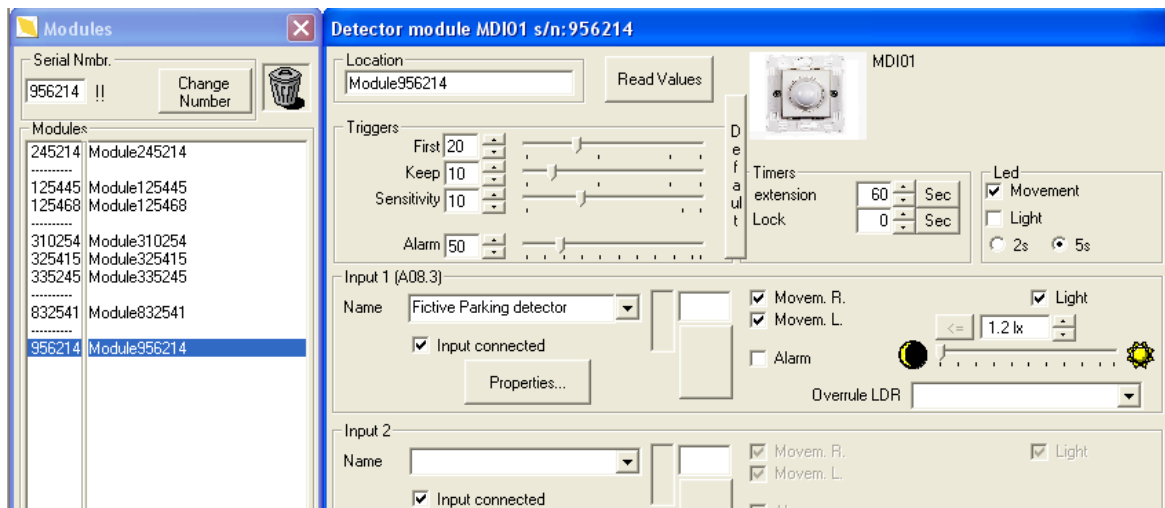
- Step 1: create new output (Timer 5 Manual) on the switch you want to use to control that out from. When you click “enter”, you will be asked to give a name to the output you want to control by the detector (you will have two names for the same output, one controlled manually, one controlled with the detector – add “manual” or “detector” behind the output so you can distinguish between both).



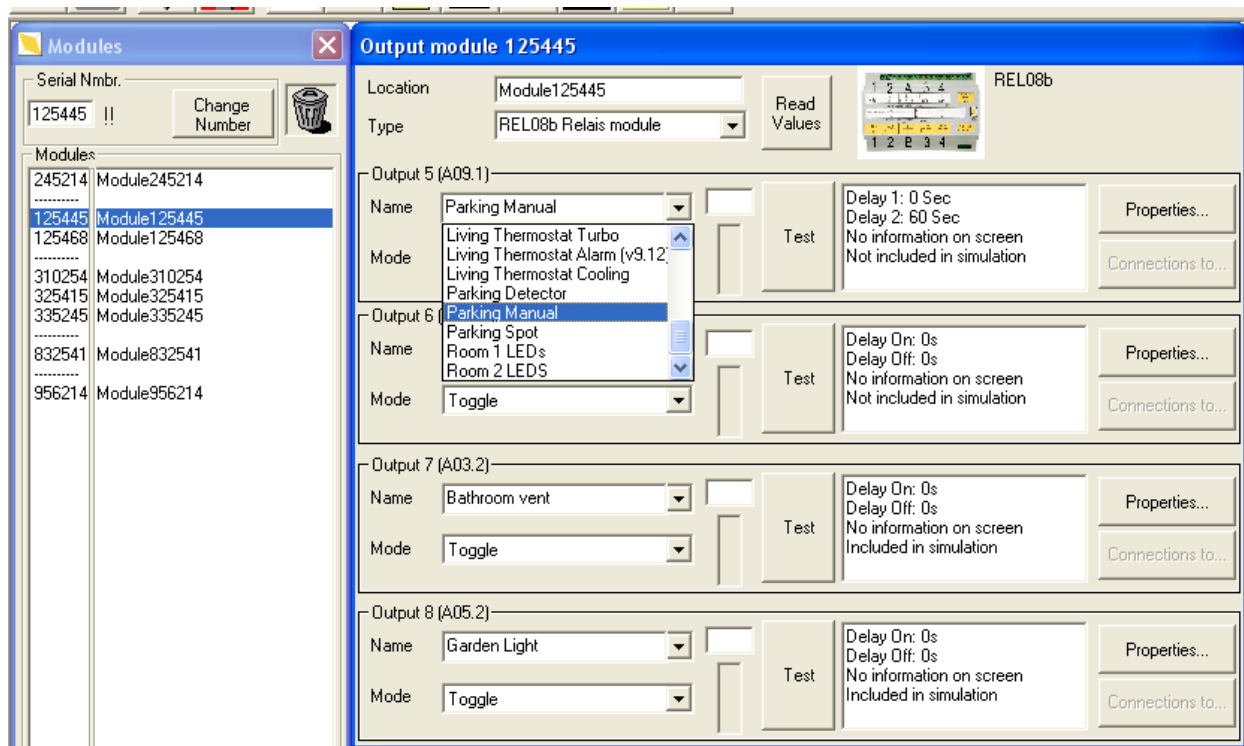
- Step 2: you need to link the Timer 5 Detector part to the detector you will use to control this output as well. If you program an SWC04M, you can link this Timer 5 Detector directly to a button. However if you will use an MDI or MDO as detector, you will need to make a fictive output as MDI or MDI only can control toggle outputs (not timers). In this case, first create a fictive toggle output, and link this fictive output via logic to Timer 5 Detector



- Step 3: in the MDI or MDO, use the fictive output as one of the controlled output: now when the MDI will detect something, it will turn on the fictive output which will on its turn activate the Timer 5 Detector part (as both are linked through logic).

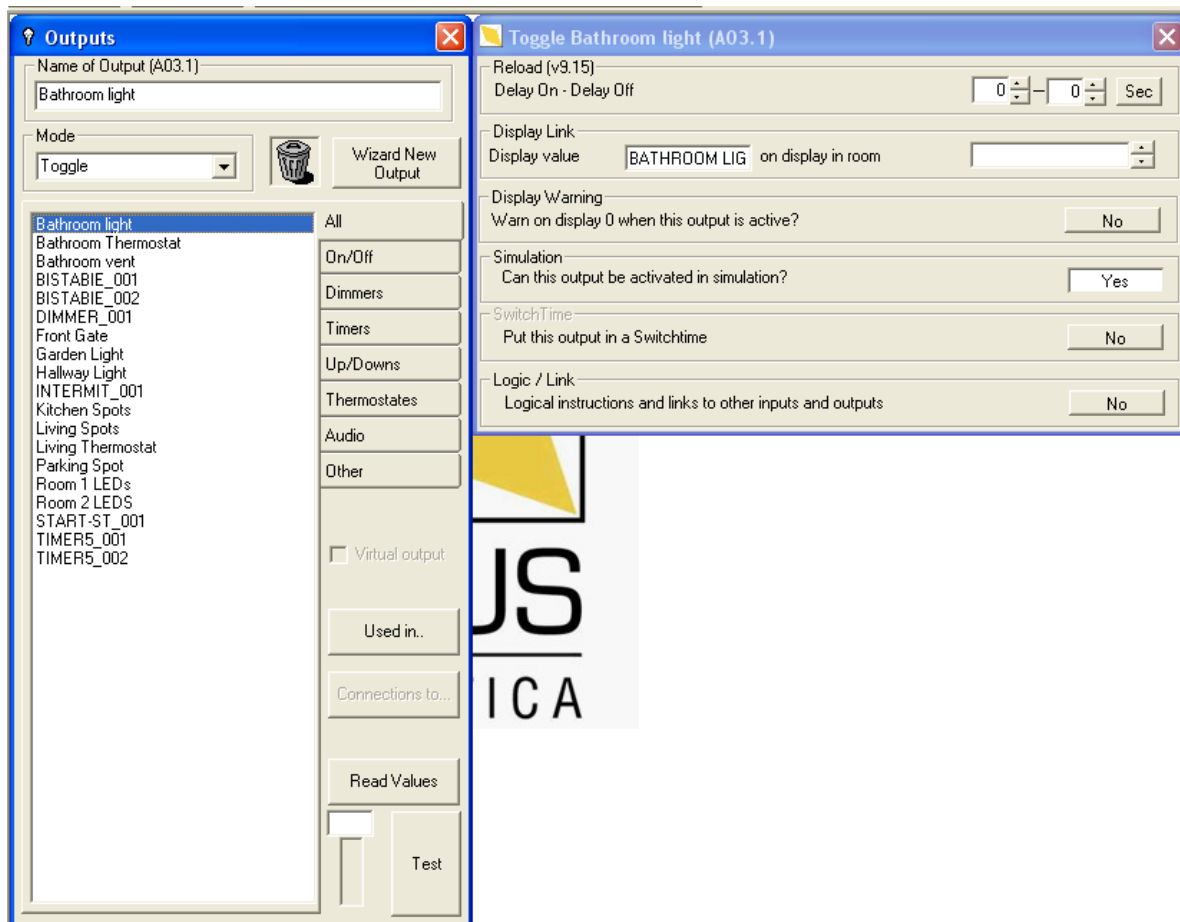


- Step 5: in order to determine the priority of the Manual control over the Detector control of the output, you need to allocate the Manual output to the relay to which the output is connected. Now your manual control will have the priority and will be able to overrule your detector.

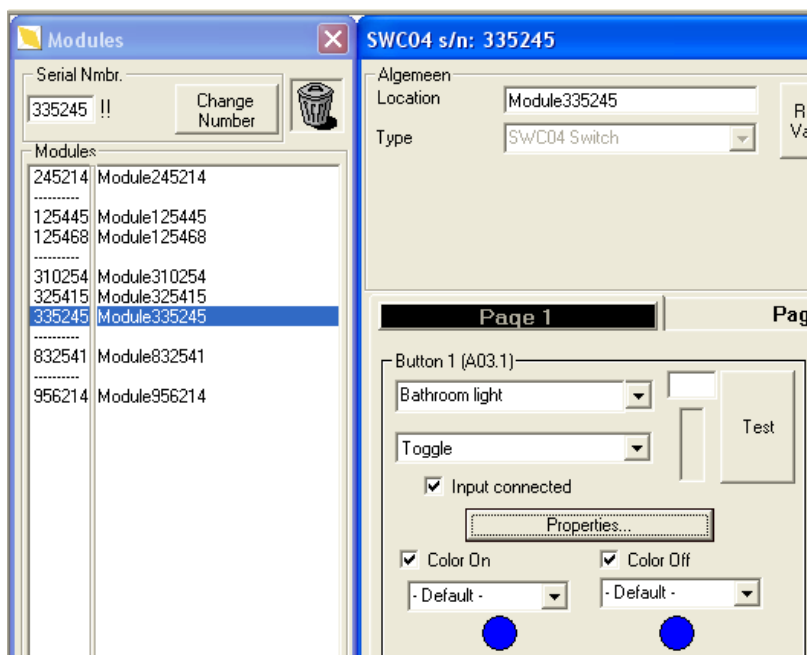


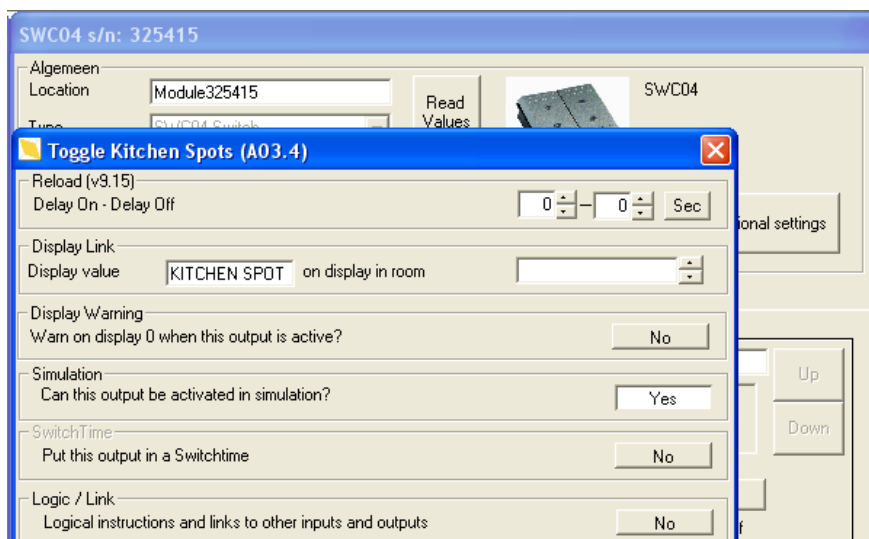
## Output Properties

Each output will show a properties page on the right hand side. These are the properties correlated for this particular key.



You can also go to the properties of an output directly from the switches in the Modules field of the Serial Manager





**Reload:** add a delay for activating or de-activating the selected output (delay between when you push the switch and the (de-)activation of the related output).

**Display Link:** the name that will appear on a display (e.g. TSC5.8)

**Display Warning:** Warning on a display when the output is still active. E.g. on a TSC 5.8. you can check status – this will give you an overview of all outputs that are still active and that were selected through the properties screen to show if they are still active via display warning.

**Simulation:** does this output have to be taken into account for the presence simulation tool that is a standard part of the system? E.g. not useful to have a thermostat output or a light in a hallway with no external windows to be part of a simulation.

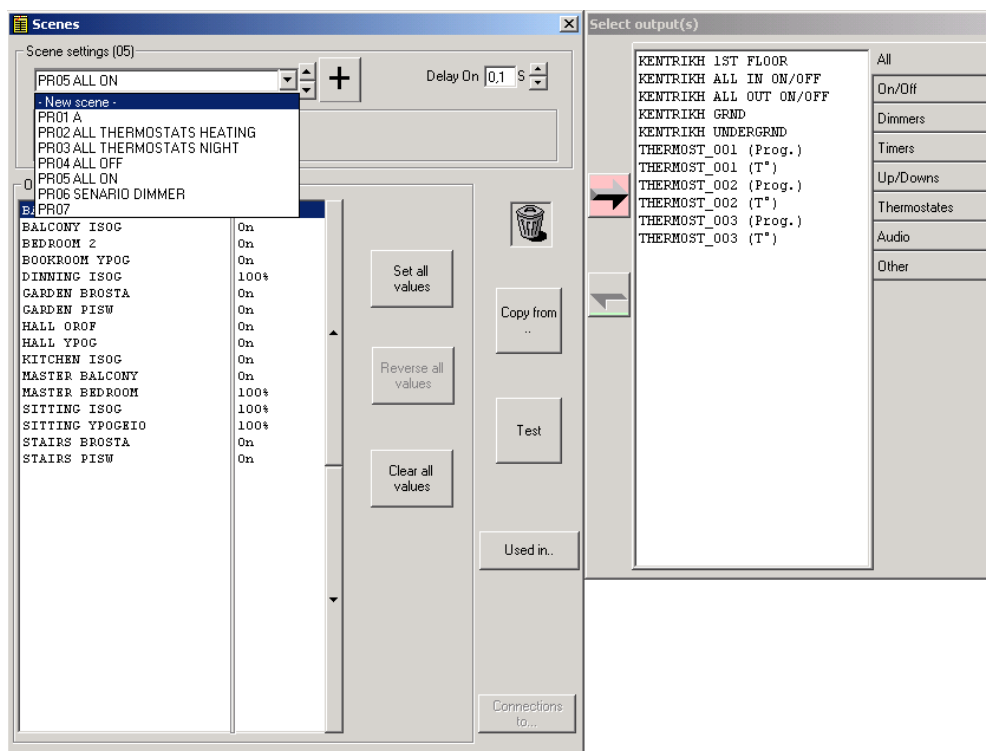
**Switch Time:** not active

**Logic / Link:** used to create multilinks. A multilink is a setting whereby you can control multiple outputs from one switch. It is not the same as a scenario – with a scenario you can set multiple outputs to a predefined level. A multilink allows you to actually control multiple outputs together (e.g. increase or decrease all dimmers in your living room together; with a scenario you can only activate them). See under item 3.5 how to work with multilinks.

### 3.5 Choosing scenes



Qbus provides you the option to create scenes. A scene is a complete situation where lights, blinds, dimmer etc participate so that you can have a complete result within your area. Selecting the scene button will display the following screen.



On the right side of the screen the startups contained in your program are displayed. On the left side of the screen, select “new scene”. Next, either by double clicking or by using the → and ← buttons, move the startups you want in the scene you are creating. Change the startup values based on what you want to do, selecting the related startup and using the up or down buttons (↑↓) located on the right side of the scene screen. The “set all values” option activates all the scene startups while the “clear all values” option sets all scene startups in an off status.

If you are making two opposite scenes, complete the first one, then create a new scene using the “copy from” button and copy the previous scene; afterwards, use either “clear all values” or “set all values” depending on what situation you want to attribute to the new scene.

**Note:** when you are using thermostats in your scenes, be aware that ONLY thermostat programs night – economy – comfort can be controlled with scenes. If you put a thermostat in “Freeze” mode, your thermostat is off (compared to the “off” setting in a regular thermostat). This setting overrides any scene – it will remain off until you change it to a program Night – Comfort or Economy. If you put your thermostat in “Manual” mode, this means you want to control the thermostat only manually, not through scenes. The Manual mode is not really necessary – even when you put your thermostat to a program Night – Economy or Comfort you can adjust the set temperature.

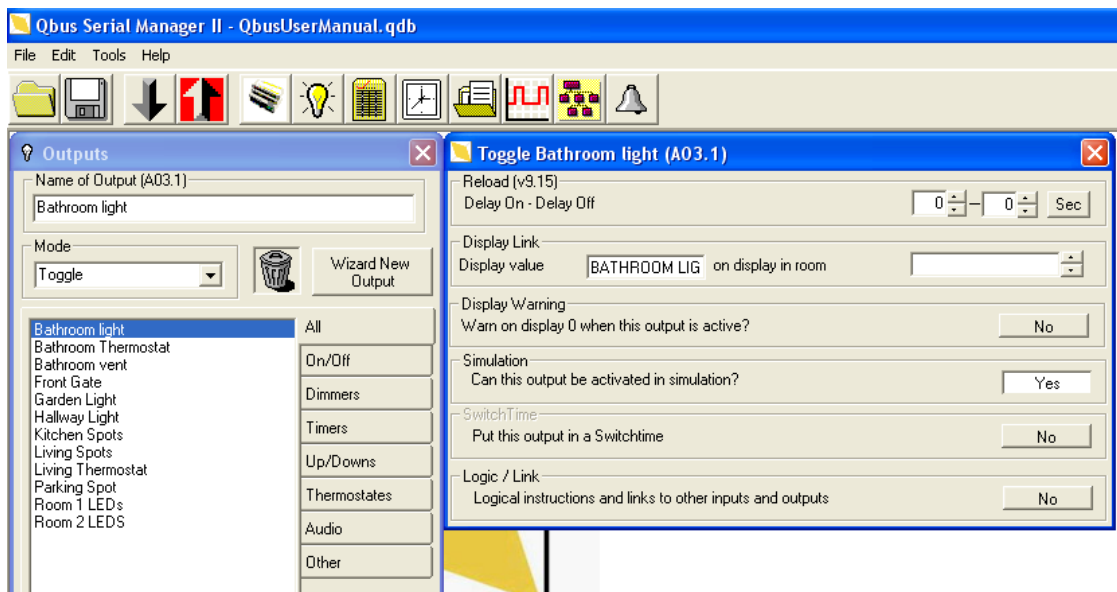
## Simulation

This application can be used when you are away to simulate someone is actually home. The Qbus system can be set to record all the events that happen on the bus, and will play these events when the simulation tool is activated.

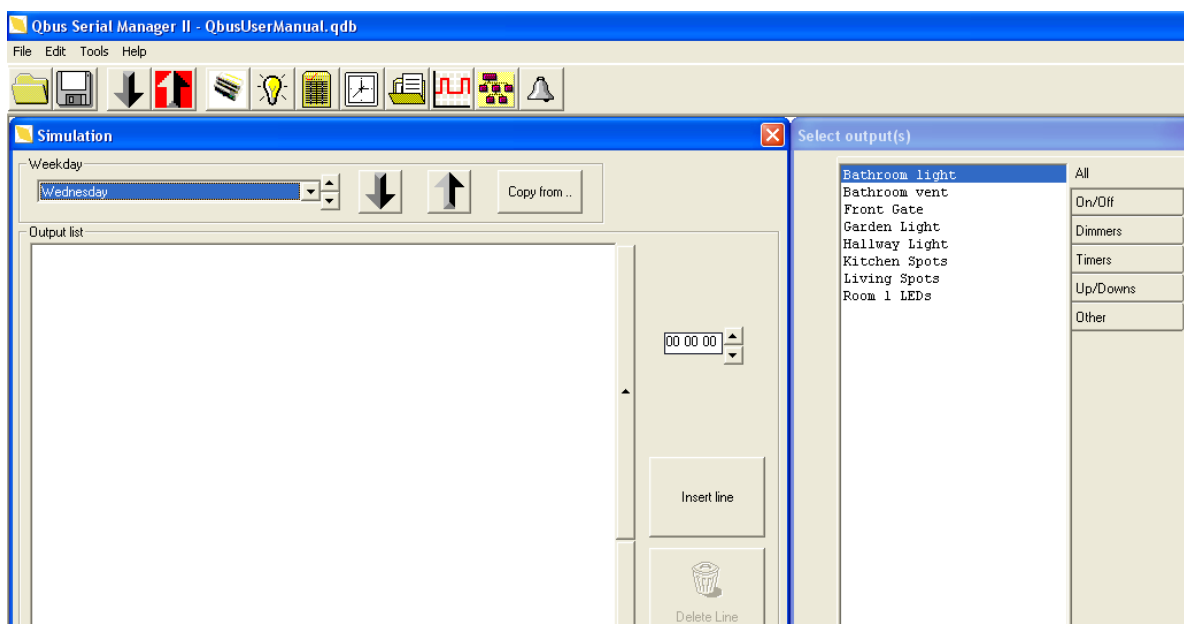
### Step 1: Select outputs

First of all, you need to select which outputs will be part of the simulation. E.g. it makes no sense to include heating outputs – is not visible from the outside and would be a waste of energy.

Click on the Output Button to see the list of outputs you created in the qdb. For each output you can select if you want this specific output to be activated in a simulation:



Once you have selected all outputs you want to be activated in a simulation, you can check that list by clicking on the “Edit”-button, then on “Simulation” which will give you a screen that will contain only those outputs that have been selected to be activated in a simulation.



## Step 2: Record simulation

Now that you selected all the outputs you want to use during simulation, you need to record the events that happen during a regular time period so these same events can be replayed during the simulation. In order to record a simulation, you need to allocate one button of a switch or touch screen to “Record Simulation”.

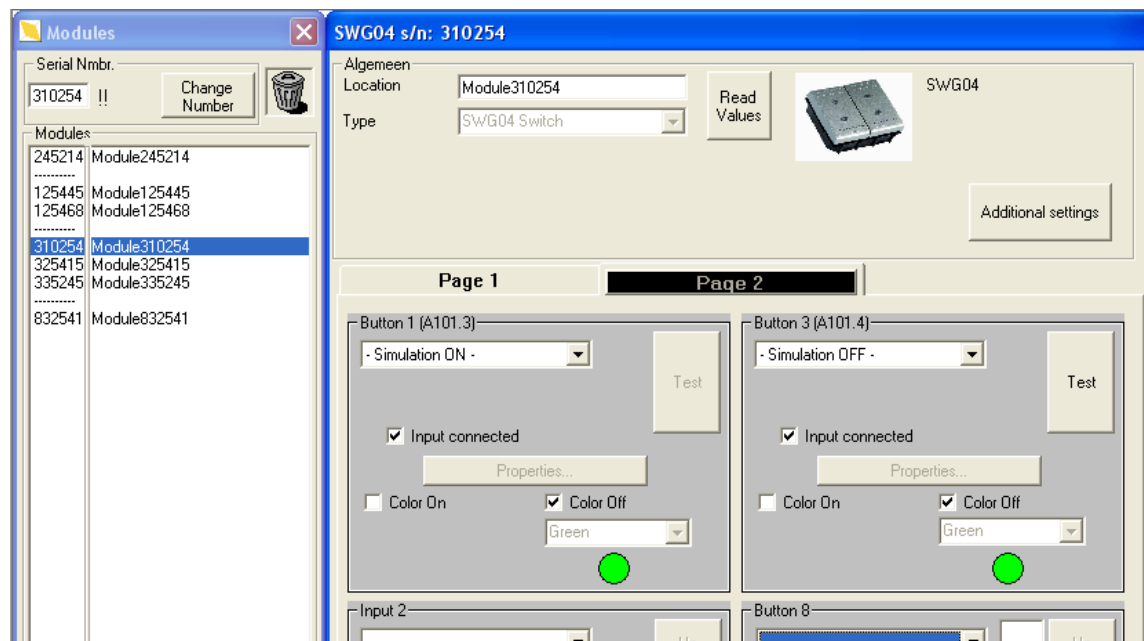
Using a Switch:

**For CTL version 9.17 or lower (check CTL version by clicking on “Tools”, “Setup” – bottom left of the screen will show you Controller Properties with the version number.)**

You will need to allocate two buttons to record a simulation. Click on a button, select “Scenes” and scroll down till you find “Simulation ON”. On another button on the same switch, you need to click on “Scenes” and scroll down till you find “Simulation OFF”. To record a simulation, you need to press both the Simulation ON button and the Simulation OFF button at the same time. Hence you need to

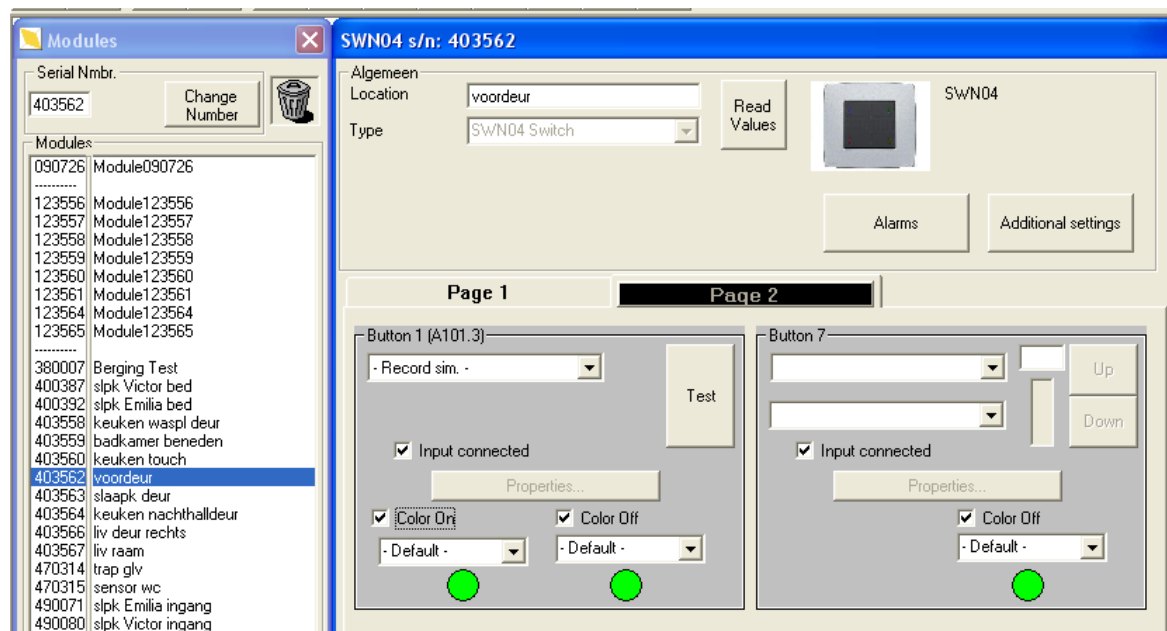


make sure that you programmed Simulation ON and Simulation OFF on two buttons on the same switch that can be pressed at the same time (for Niko switches will be both buttons on the left or both on the right, for Bticino needs to be both upper or both lower buttons.)



**For CTL version 9.18 or higher (check CTL version by clicking on “Tools”, “Setup” – bottom left of the screen will show you Controller Properties with the version number.)**

On the specific switch you want to use, click on a button, click on “Scenes” and scroll down till you find “- Record sim -”. When you want to start recording, click on that button. Be aware the system will start recording at midnight.



### Using a Touch Screen

You can allocate the Record Sim button to the touch screen. In the control table, you can select Scenes in the Output list and select the required simulation button.

### Remarks:

- The recording of a simulation will start the next midnight (if you click on “record simulation” at 10 am, it will start recording at 0:00h). The system will record until you stop recording by pushing the button again. If you do not stop recording, the system will continue to record – if it

reaches the end of the week, it will overwrite the events it recorded during the same hour the week before.

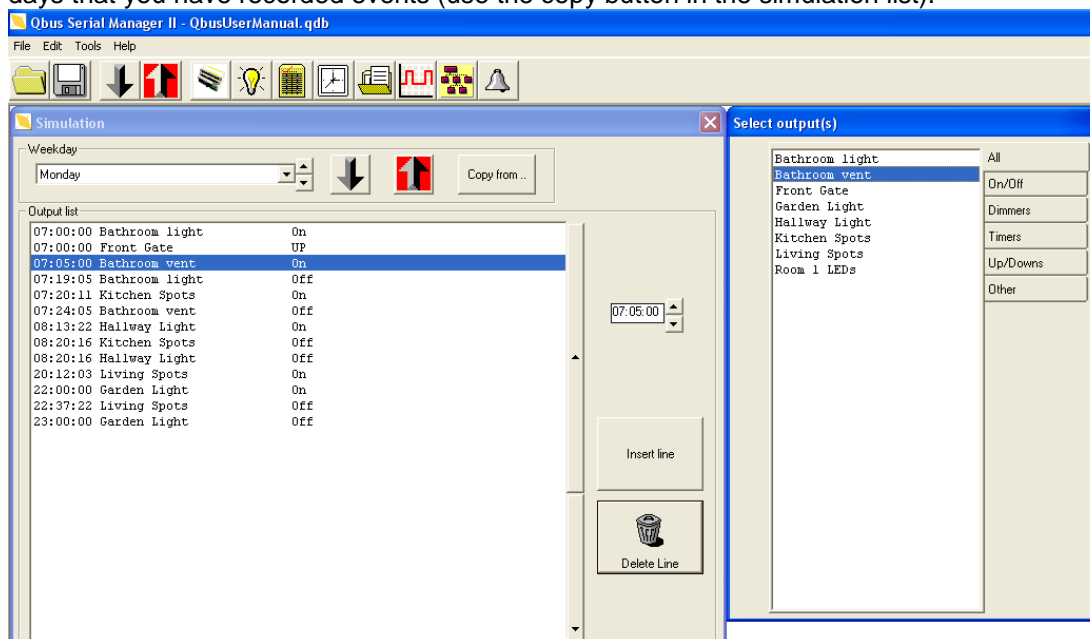
- The system will record up to 51 events during one hour.
- To download the recorded events to your .qdb file, go to “Edit”, “Simulation”, and click on the arrow pointing downward in the Simulation list. This will download only the recorded events from the controller. If you changed certain events in the simulation list you can upload the adapted simulation list to the controller by clicking on the red upload arrow.

### Step 3: Play the simulation

You can activate the simulation by clicking on the “Simulation” button you can allocate to a switch or to a control table in the same way as you allocated the “Record Sim” button (see above). When you click on “Simulation”, the simulation will start playing the next hour (click Simulation ON at 13:26h, it will start at 14:00h).

The simulation will play the events on the same day, hour, minute and second as it recorded the events. You can check the list of events per day and time by clicking “Edit”, “Simulation”. In this screen you can select the respective day and see the list of events recorded. You can alter this list by adding events (click on “Insert Line” and then on the output you want to add). You can alter the times in the output list (select an output in the simulation list and change the time using the clock on the right), the status of the output (click on the arrow up or down on the right hand side of the simulation list).

As the simulation tool records all events per day, you will need to record for an entire week in order to have a list of events for every day in the simulation tool. If you only recorded one day, the simulation will only run during that specific day. You can however add events to other days as well by copying days that you have recorded events (use the copy button in the simulation list).



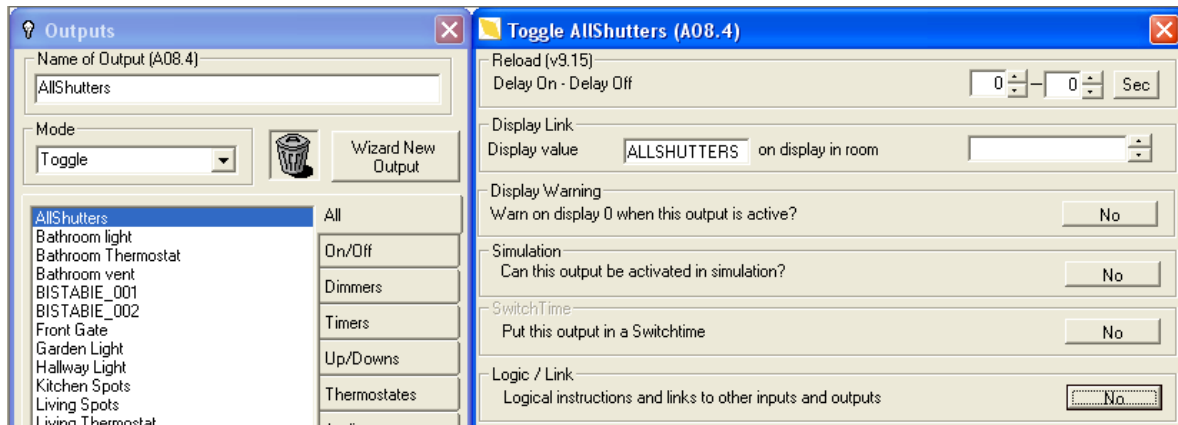
## Multilink

A multilink is a setting whereby you can control multiple outputs from one switch. It is not the same as a scene – with a scene you can set multiple outputs to a predefined level. A multilink allows you to actually control multiple outputs together (e.g. increase or decrease all dimmers in your living room together; with a scene you can only activate them).

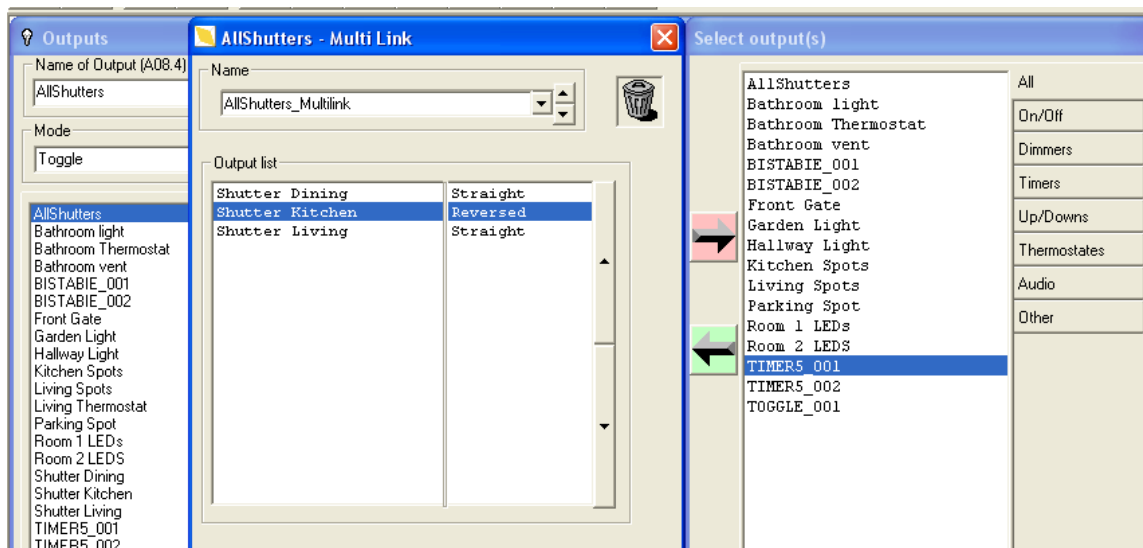
Multilinks are mostly used to control all dimmers or all shutters in a room / building at the same time. Here's how we program multilinks:

Step 1: create a fictive address called e.g. AllShutters (go to “outputs” in the Serial Manager and use the Wizard New Output).

Step 2: In the Properties field of the newly created “AllShutters” output click on the “No”-button next to Logic/Link



You will be able to select a new multilink – e.g. called AllShutters Multilink, and select all the shutters from the list on the right hand side that you want to control via the same two buttons (one button for up, one for down).



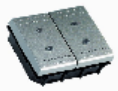
Now all that's left is to allocate the AllShutters Fictive output to a switch – using the pushbuttons on that switch you will be able to control all shutters at the same time.

SWC04 s/n: 325415

Algemeen

Location:

Type:



SWC04

**Page 1**
**Page 2**

**Button 1 (A13.3)**

☒ Input connected

☒ Color On:  ☒ Color Off:

**Button 3**

☒ Input connected

☒ Color Off:

**Button 2 (A13.4)**

☒ Input connected

☒ Color On:  ☒ Color Off:

**Button 4**

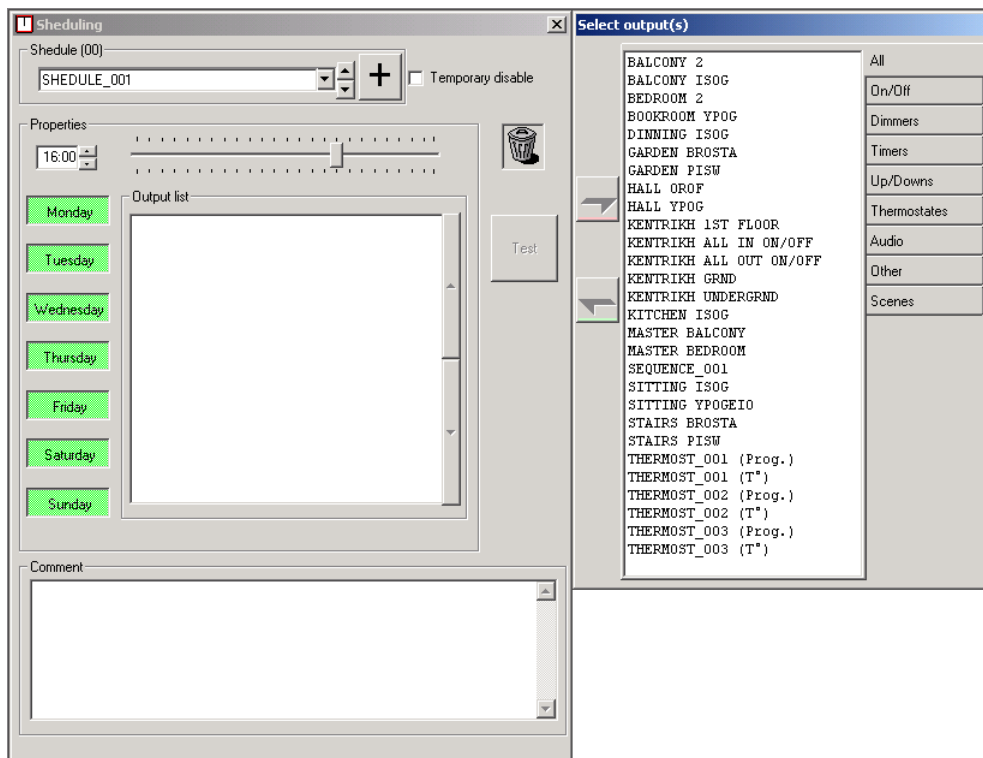
☒ Input connected

☒ Color Off:

### 3.6 Setting Schedules (Weekly Program)



Qbus has an integrated timer. Selecting this button will display the following screen.



On the right side the screen with all the outputs appears again.

On the left side of the screen you can create a "new schedule" and set the time when you want it to be activated. Then, move all outputs you would like to include in the schedule and set the status you want them to have when this schedule is recalled by use of the arrows (↑↓). The days of the week in green color are the selected ones, i.e. they are the ones on which you want the program to be activated during this specific selected time. If you don't want this activated every day then deselect the days you don't want this activated.

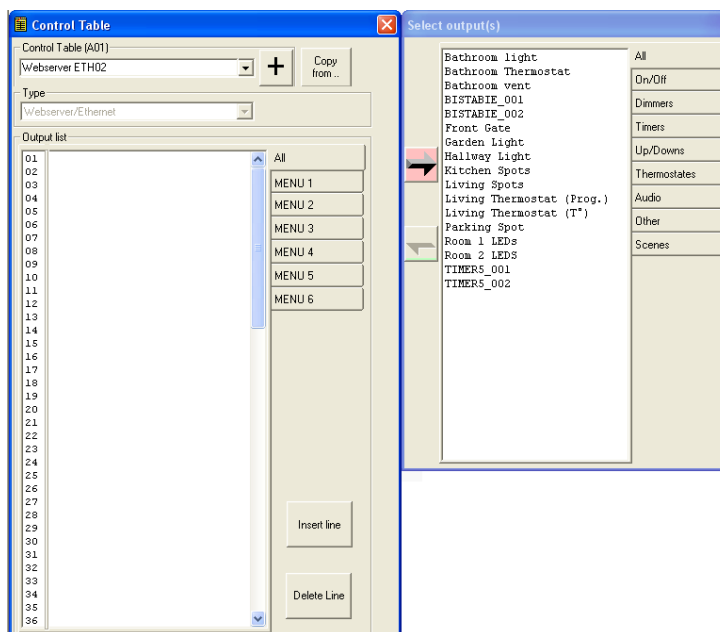
**Note:** Make sure to create 2 schedules – one when you want certain outputs to be activated, and one when you want the outputs to go off.

### 3.7 Control table selection



The Qbus Control Tables are in essence a list of outputs you want to control using a THI, a TSC5.8 or SMS module. When you select a new control table, you will also need to select the "Type" of module you will use to link it to.

The following screen will appear once a control table is selected.



The outputs are displayed on the right side of the screen. The tables are on the left side of the monitor. Table 001 is usually the first one and that is usually made into the touch screen table. In order to create it use the menu buttons on the right side of the left side of screen. Select Menu 1 and double click on the menu button so that you can rename it as you want. Then, having selected menu 1, move the outputs your want in menu 1. Similarly select menu 2 and move the desired outputs for menu 2, etc.

The buttons "insert line" and "delete line", you can add a line between outputs if you have forgotten to move some of them or to delete what in the end you won't need. Using the "delete line" the related output is not deleted from the actual program; it is only erased from the table or menu.

You also have the option to not use menus but just the "All" list. If you use menus, you will first need to select the menu and then the output when you use the module that will have the Control Table linked to it (TSC, THI, SMS). If you only use the "All" list you can scroll through all the outputs directly without needing to go through the menus.

**ATTENTION!!** The Ethernet sees and controls ONLY table 001. That is the reason that table 001 is created as the monitor control table so that we can also control this same table from the Ethernet.

### 3.8 Infrared Samples



The infrared functions in the Qbus system can be used in two ways:

- 1) By using one of your available remote controls (one for the TV / audio-system / airco / etc) you can control outputs in the Qbus system (e.g. push a number on your remote control to turn off all lights). This is done via Qbus switches with infrared ports (SWC04I/XX or THI01).
- 2) You can use Qbus input devices (switches, touch screens, detectors,...) to control devices that you usually control with a remote control (airco, TV, audio,... - e.g. automatically turn on your airco when the temperature is more than 24 degrees Celsius). This is done via an Infrared Emitter (IRG04).

In any case, the first step will be to teach your Qbus system the infrared codes from your remote control. You can do this by creating infrared samples as described below.

## Creating Infrared Samples

### Through an SWC04I/XX

#### Step 1:

If you use Bticino switches: press the two upper or lower buttons of the switch at the same time for about 5 seconds until all leds on the switch turn steady red.

If you use Niko switches: press the two buttons on the left or the two buttons on the right at the same time for about 5 seconds until all leds on the switch turn steady red.

#### Step 2:

Press a random key on the remote control while pointing to the infrared button on the SWC04I/XX. The color of the leds will turn yellow.

#### Step 3: Sampling the codes

During the sampling sequence, you need to send to the switch the ir signals that represent channel 1-12 (in this order). On the universal remote control, you need to select a "device" button (SAT2, AUX, ...) that you will dedicate to the control of your Qbus system.

You will need to go through all 12 channels when sampling even if you plan to use less than 12. After you have sampled the codes you can allocate each code to control a certain output (see below).

Press the key on the remote twice per channel. The key will now be used to switch on and off the respective Qbus output.

Ex. Press "1" – leds will turn blue, press "1" again, leds will turn green. Press "2" – leds will turn blue, press "2" again, leds will turn green. Continue this until you did this for all twelve channels. At the end of the sampling the leds of the switch will blink for about 3 seconds.

### Through a THI01X/XX

#### Start of Sampling

1. Make sure the THI01X/XX is in channel mode (press IR button)
2. Press the "+" and the "-" button at the same time
3. On the screen of the THI01X/XX you will see "LEARN IR?". To confirm press a random key on the remote control while pointing to the infrared port of the THI01X/XX.

#### Sampling sequence

Follow the instructions of the THI01X/XX

Explanation of the requested codes by the THI01X/XX:

- Press switch "+": this will be the button on your remote control to turn an output on
- Press switch "-": this will be the button on your remote control to turn an output off
- Press Switch ">": this will be the button on your remote control to go to the next output in the THI01X/XX table
- Press Switch "<": this will be the button on your remote control to go to the previous output in the THI01X/XX table
- Press Switch "M": this will be the button on your remote control to select the desired menu
- Press Switch 0-F: equals numbers 1-16. With these buttons on your remote control you can select the desired output.

#### End of sampling

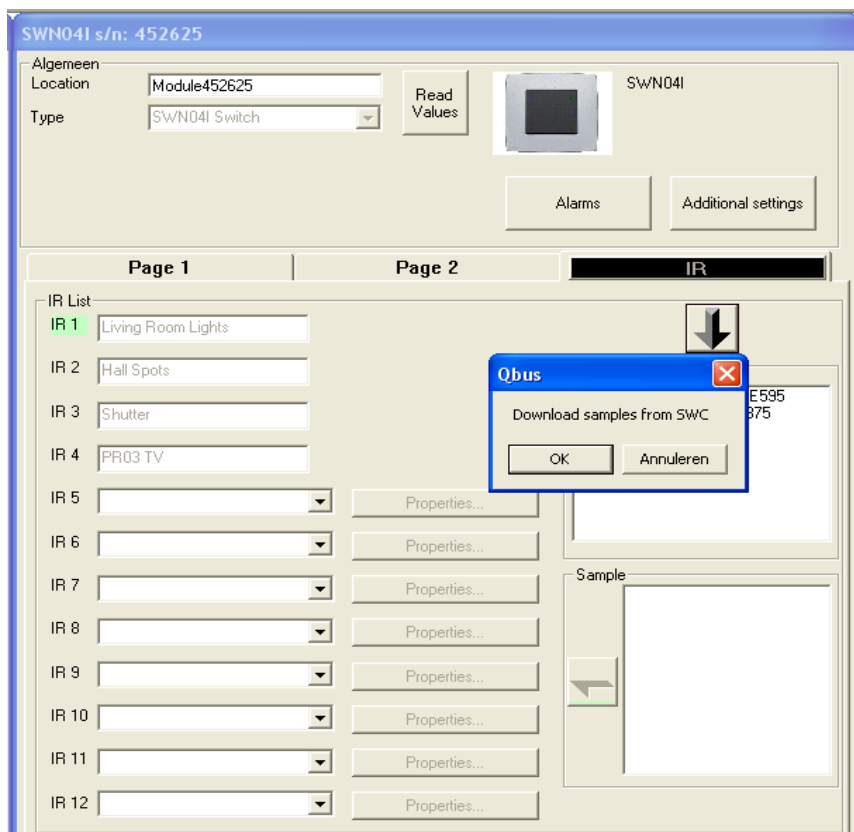
After sampling the last code (switch F) the bottom line on your THI01X/XX will be filled with stars. This marks the end of the sampling procedure.

## Allocate outputs to the sampled Infrared codes.

### Through an SWC04I/XX

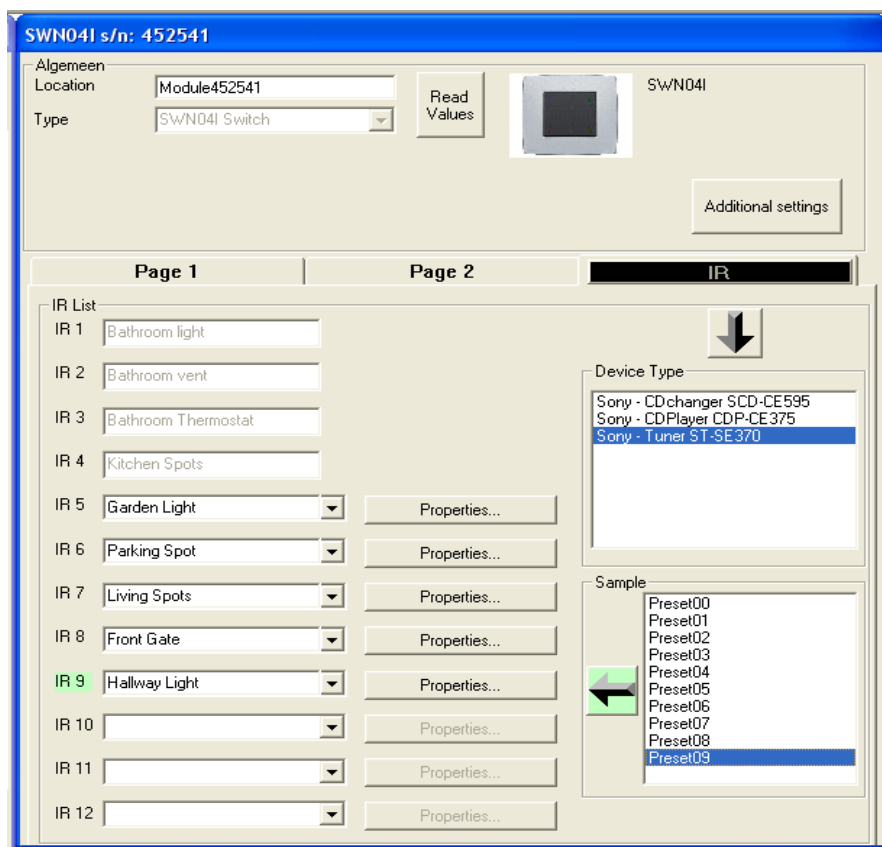
When you Select the infrared switch in the Modules menu of the Serial Manager, go to the IR page. On this page you will see 12 IR fields. In these fields you can select which output you want to activate with the respective IR code. The first 4 will automatically contain the 4 outputs of page one of the IR switch. Output 5-12 you can select.

Now you need to link the outputs with the respective IR codes of the remote control you plan to use. You already entered the 12 infrared codes into the Qbus system by following the steps explained above. On the IR page, click on the arrow pointing down to download these samples you already entered (see screenshot below).



You will see the date and time of the samples you created. By clicking on that date and time stamp you will see the 12 samples individually appearing in the box called "Sample" on the IR page. Double-clicking each sample will cause it to be allocated to the Output in the IR List that is highlighted in green.





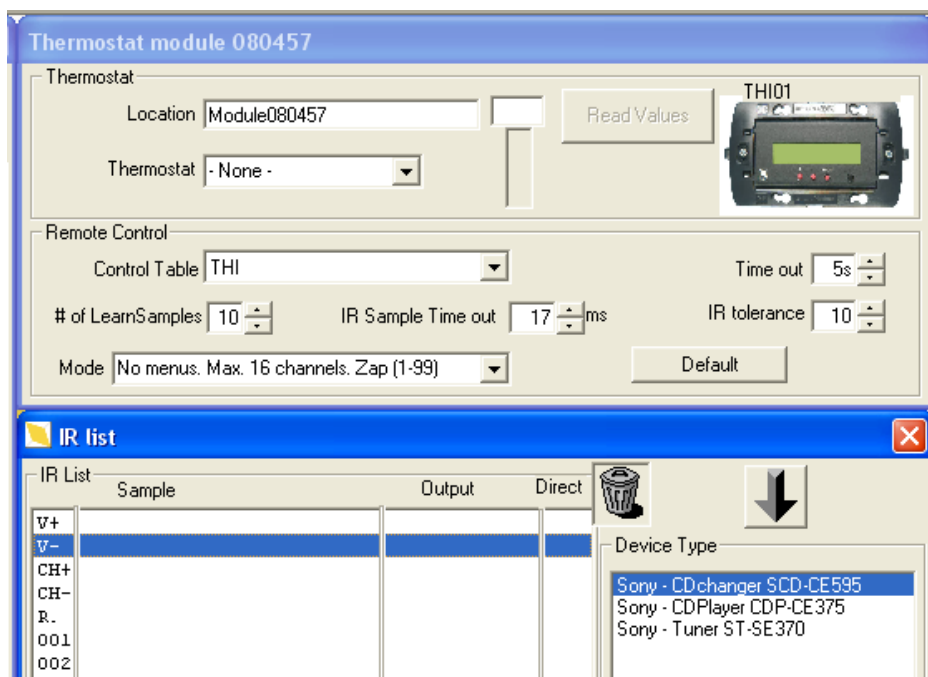
Upload these new settings to the controller and you can control your Qbus system with your remote control.

**Remark:** you can give a name to each sample (e.g. 1,2,3,... FFW, Back,...) and to the sample collection by going to the sample menu in the Serial Manager. When you downloaded the samples by clicking on the arrow in the IR page of your IR switch as explained above, you will see in the Sample Menu a sample collection called "Other". Double-click this "Other" and you will be able to change the name of each sample.

## Through a THIO1X/XX

In order to couple IR samples with outputs via a THIO1 module, you first need to create a Control Table (see section 3.7). Make sure to add all the outputs you want to control with your remote control in this control table; the maximum number of outputs that can be controlled via your remote through a THIO1 is 16.

In the THI module screen, you need to select the respective control table you want to link to the THI.



In the “mode”-field in which you can select how you will control your THI:

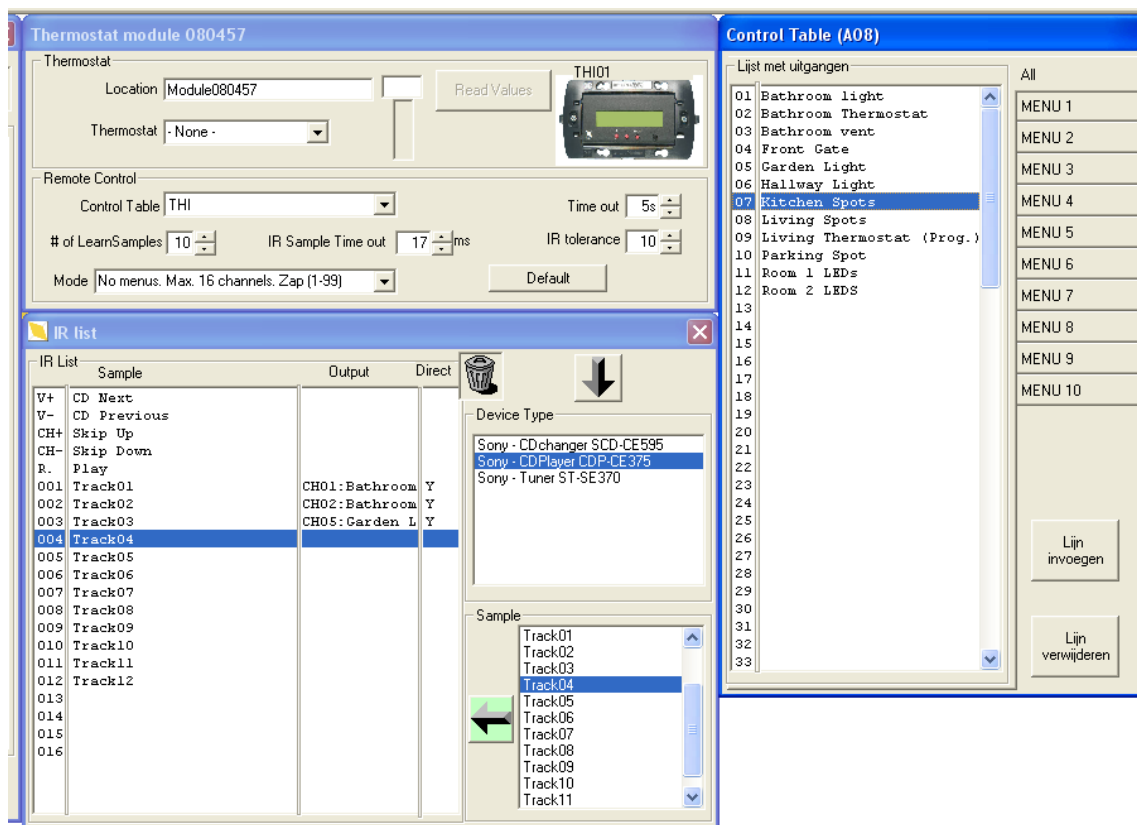
- “Menus like set up in the Control Table”: you can first select among 10 different menus and then one of the 10 outputs you can put in each menu
- “No Menus max. 16 channels”: you can allocate 16 outputs directly to 16 channels on your remote control, and zap through any other outputs above the 16 directly linked ones using the up/down buttons of your remote control.

By clicking on the downward pointing arrow you can download the IR samples you entered into the THI as we described above in the section “Creating Infrared Samples”. When you download this list you will see the date and time that you created these samples; clicking on that date and time in the Device Type Menu will give you the list of samples in the “Sample”-screen below.

Next, you need to allocate each sample to the IR list on the left (highlight the function in the IR list you want to allocate the sample to and double-click on the respective sample). Take the following in mind:

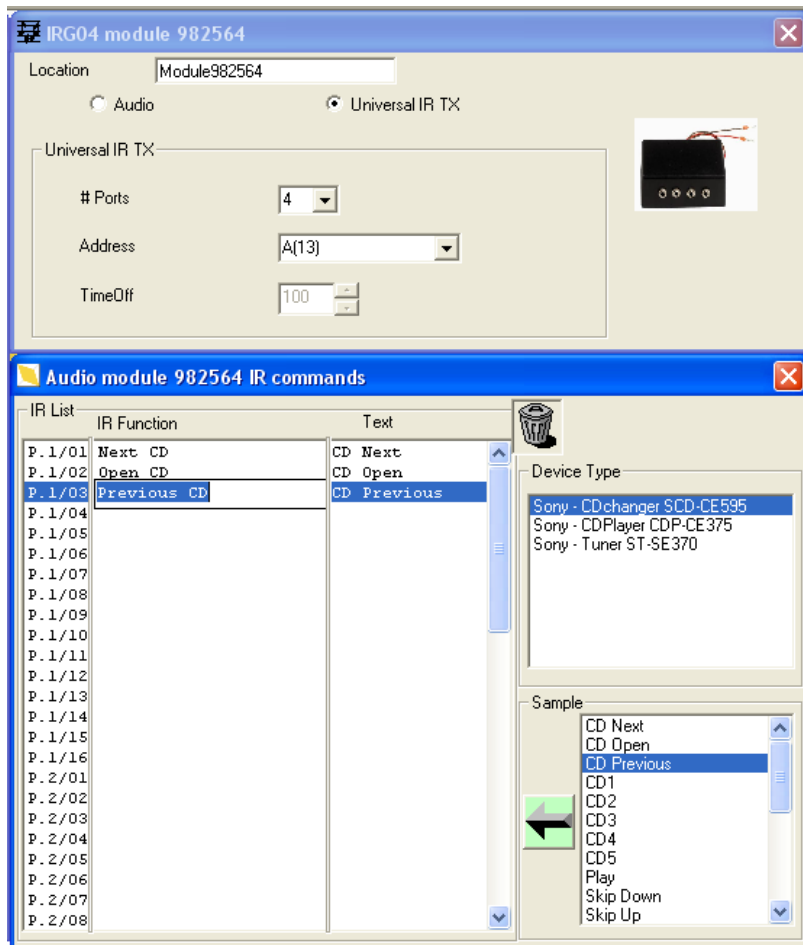
- “V+”: this will be the button on your remote control to turn an output on
- “V-”: this will be the button on your remote control to turn an output off
- “CH+”: this will be the button on your remote control to go to the next output in the THI01X/XX table
- “CH-”: this will be the button on your remote control to go to the previous output in the THI01X/XX table
- “R” or “M”: this will be the button on your remote control to select the desired menu

Once you allocated all the samples to the IR list, you need to allocate outputs to the samples. You can only choose certain outputs from your Control Tables for the “menu” –button and for samples 001-016. The V+, V-, CH+, CH- commands can only be allocated to specific samples you generated.



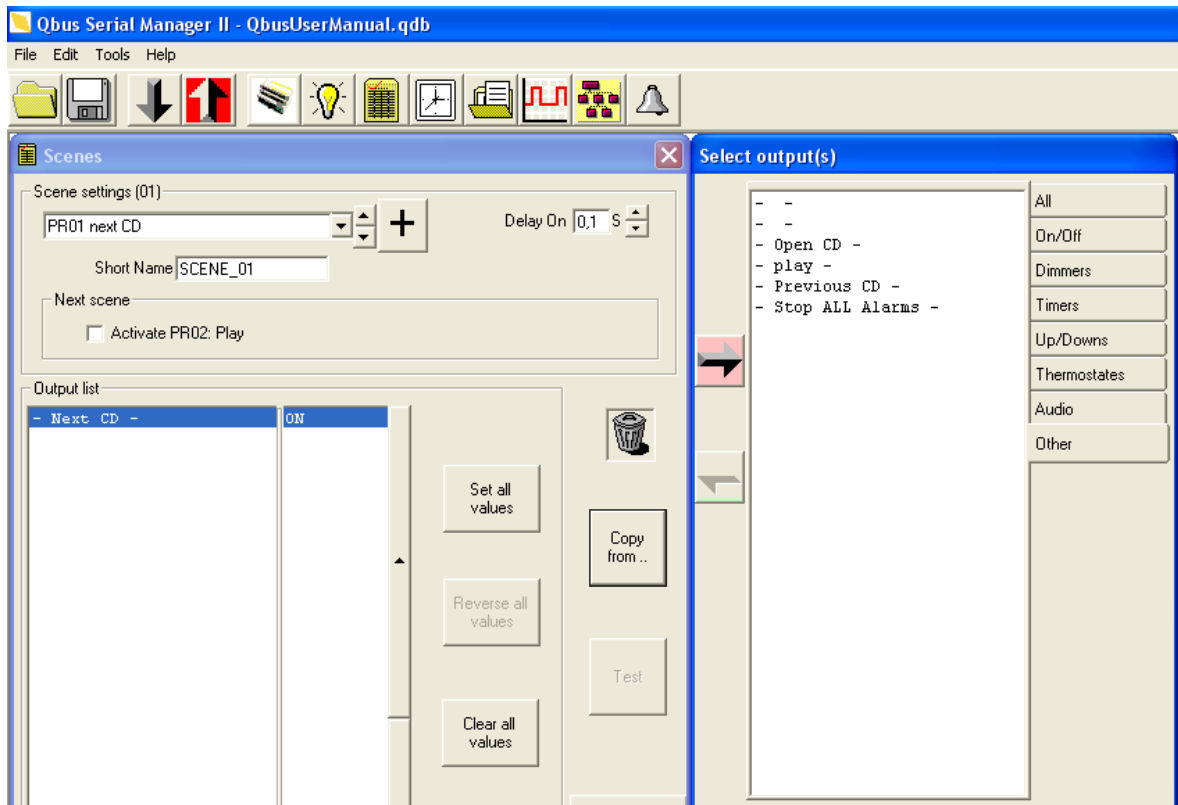
## Emitting Infrared Code via the IRG04

When you are on the programming screen of an IRG, select "Universal IR TX". You can select how many ports of the IRG04 you will be using (you can use 1 port to send out 64 codes, 2 ports to send out 32 codes or 4 ports to send out 16 codes each). Then you need to create a new address – an IR list will appear corresponding to the number of ports you selected and will use (if 4 ports selected you will get an IR list with four times 16 codes – p.1/01 to p. 4/15).



Next, you need to select the Device Type you want to control (you will need to sample the infrared codes you want to use in to the Qbus system first according to the instructions given under “Sampling IR Codes”), and then double-click on the samples to link them to a specific port and code. You can enter a name in the IR Function.

If you now want to send out these infrared ports via a Qbus input device, you will find these allocated IR codes under the Scenes or Scheduling buttons in the Serial Manager – under “Other” in the output selection screen. In order to link these IR-codes to a button on a switch or a control table of a touch screen, you will need to first create a scene, select the respective code you want to use (play CD, next, volume up,...) and on its turn link the required scene to a switch or control table.

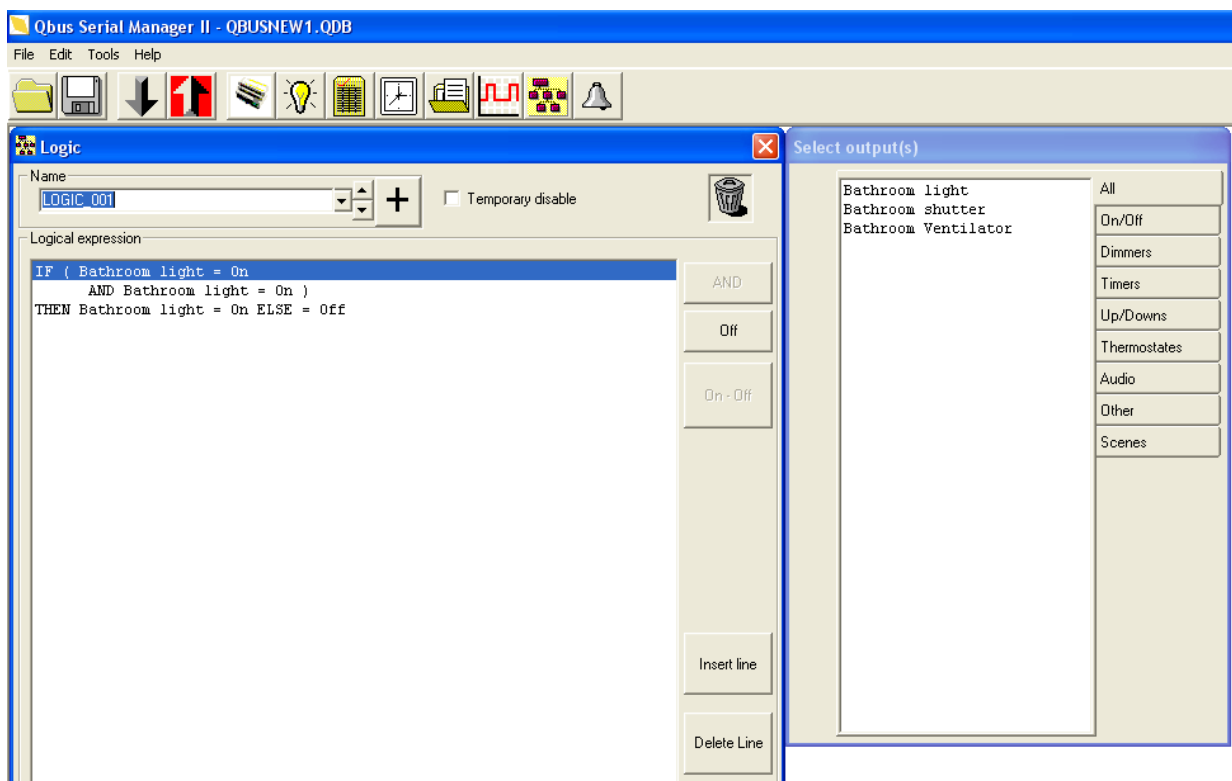


### 3.8 Creating Logic Functions



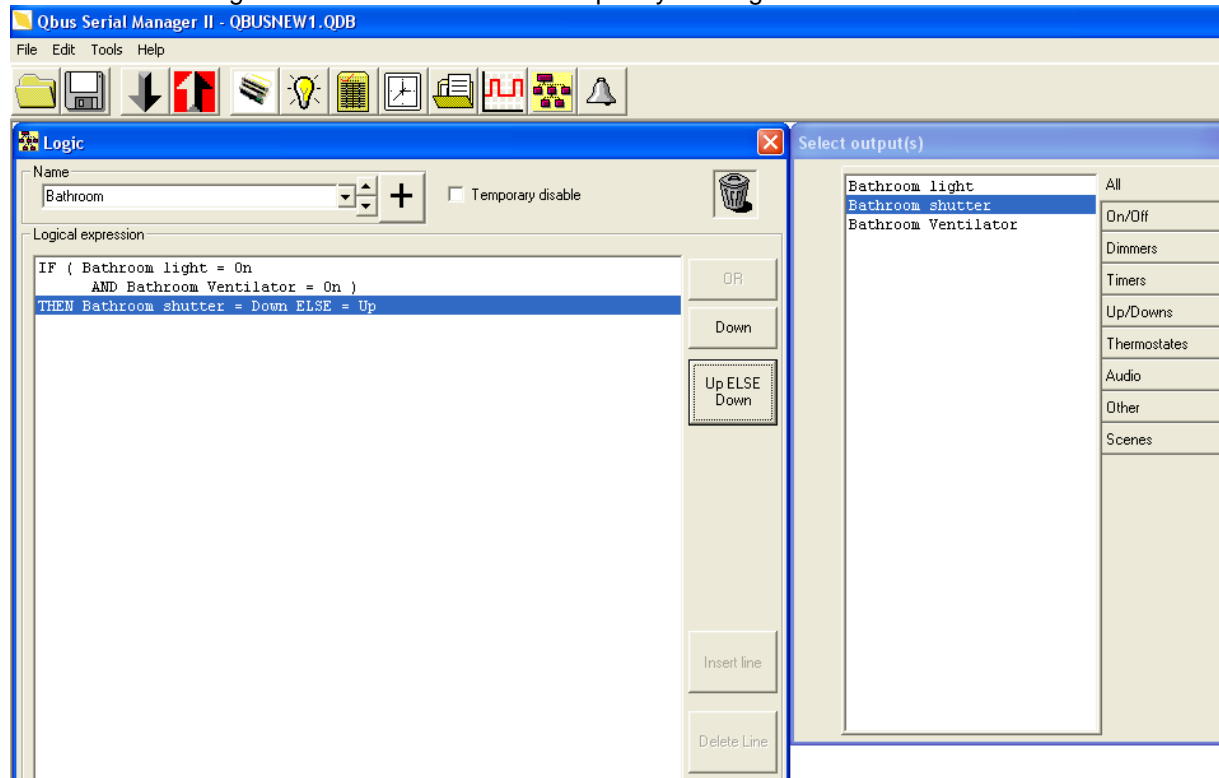
You can create logic functions in the Serial Manager by clicking on the icon above in the command line. You first need to have outputs available before you can create logic functions.

In the Logic menu, click on the big “+” sign to create a new logic function. Automatically, an “if – then – else” logic will appear using a couple of the outputs you created.



By double-clicking on the output list, you will enter that respective output in the line that is highlighted. You can add or delete lines by clicking the "Insert line" / "Delete Line" buttons. You can change the logic between AND and OR requirements by clicking on the AND / OR button when the AND / OR line that needs to be changed is highlighted (e.g. if bathroom light is on AND bathroom ventilator is on, then close bathroom shutter; this can be changed to if bathroom light is on OR bathroom ventilator is on, then close bathroom shutter).

You can also change the desired status of the output by clicking on the On/Off button.

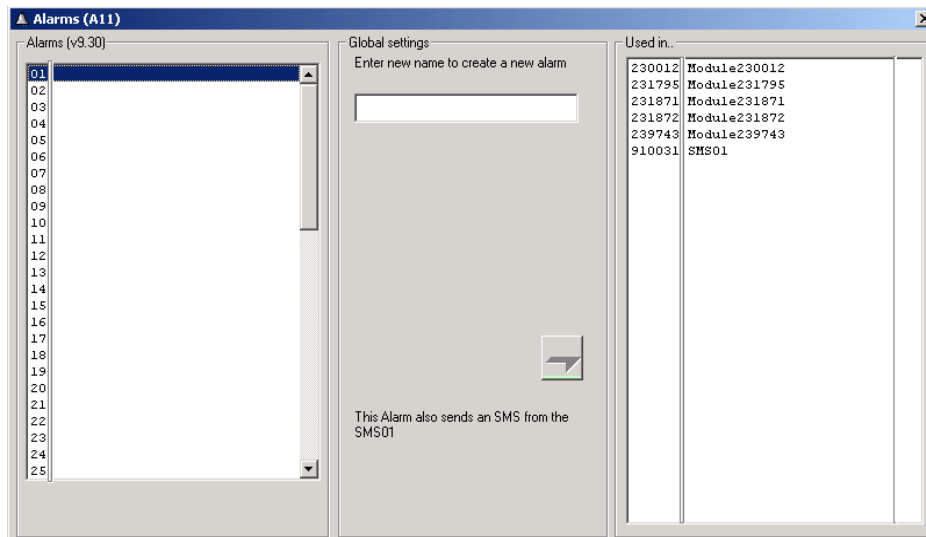


### 3.9 Choosing an alarm

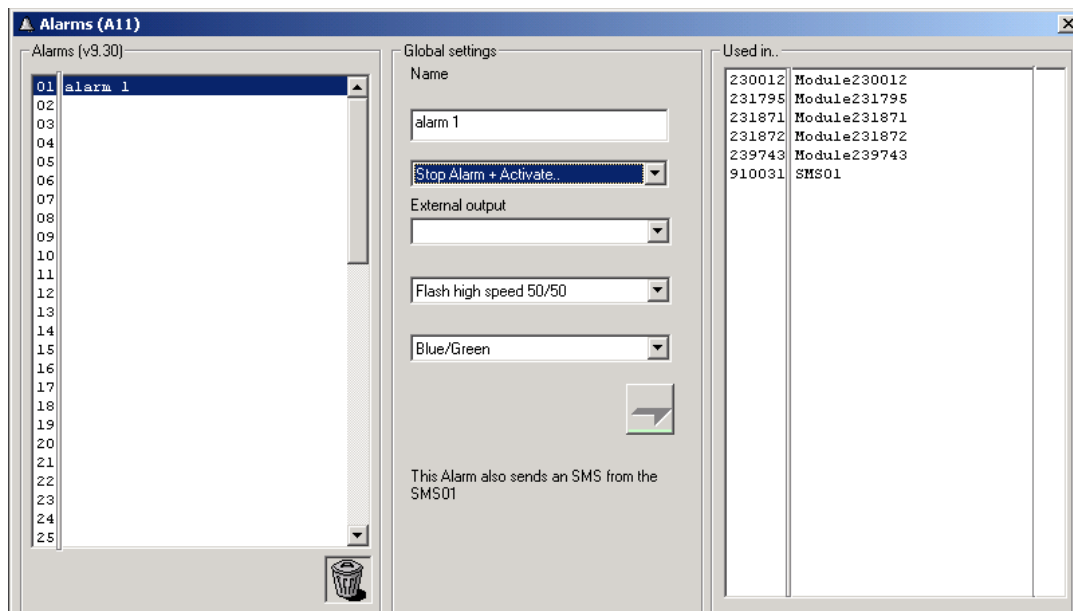


Qbus gives you the opportunity to receive notifications for certain selected situations. This can be accomplished through the Alarm function. The type of notification can be virtual, e.g. through an LED switch notification, of either all or selected ones, or it could be written, through a text message to a mobile phone.

Selecting the Alarm menu from the program the following screen will appear.



Giving a name to an alarm in essence creates a new alarm. So the screen above takes the following form.



The selection used under the name is usually that which is displayed on the screen above.

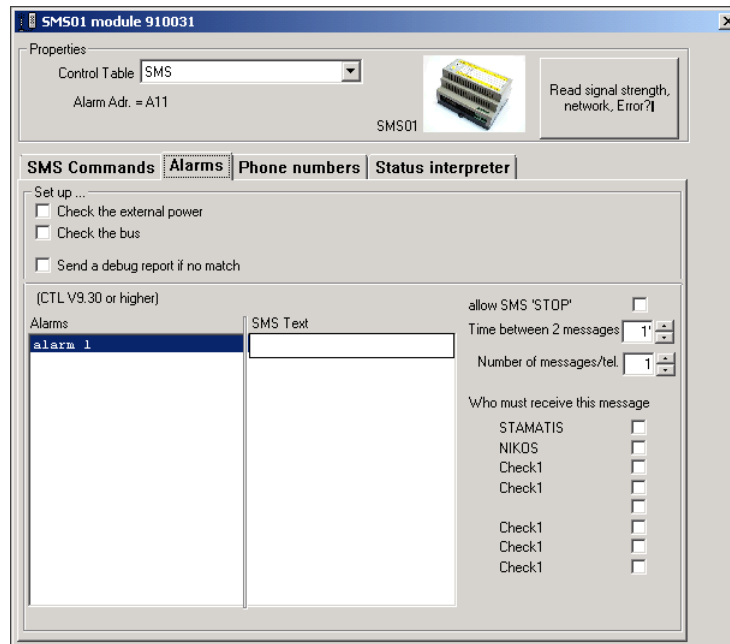
The “external output” option can accept a selection or not. The selections it can accept are either scene or timer. With this option, when the alarm is activated, if you press any switch whose LEDs are blinking the respective contact or scene will activate while at the same time the alarm is deactivated because the system understands that someone is aware of the event.

The next option after “external output” provides the opportunity to define the frequency in which the LEDs will blink while the last option provides the opportunity to select the notification color change.

Selecting either one switch or all of them and then pressing the green arrow, you can pass the setting to the selected switches.

The alarm activation setting is done through logic. By logic, we mean that when one or two things happen at the same time then the corresponding alarm will be activated.

Setting up the alarm for SMS, in order to receive also a text notification, is done as follows. Go to the SMS module through the modules option on the program command like and then choose the alarms tab; the following screen will appear.



In the screen above enter the sms text, i.e. the text that will be sent to your mobile phone; choose from the right side of the screen the phones for the people you want to receive the message from this specific alarm. If you make a second alarm you will have to select again the phone numbers of the people you want to receive the message because it might not be necessary for everyone to receive all the alarms.

The options above the names let you set the repetition time, in case the alarm is not detected initially.

## 4. REL08 – REL04 – DIM04 – ANR04 – INP0x programming

Programming the modules' table follows the same logic with all the table's modules. What differs is their operation which, per se, does not affect the program's logic.

In order to program the table's modules, go to the Qbus serial manager application and on the command line press the option modules.



The following screen will appear; on that screen's left side write the module's serial number. Each component is comprised by a unique serial number which is identified by the application. All components have a serial number. Only REL08 is an exception; it has two serial numbers: one for the first 4 outputs and another for the next 4.



As soon as you write the component's serial number, the right hand side of the programming screen of this particular component will appear. On the upper part of the module's programming screen provides the opportunity to register its location depending on which table it is found and its position on the table. Next, note the component outputs.

After having created the outputs beforehand, go to each output in the option "name" and assign to the component the respective controlling output. The "mode" option passes automatically when we set the output because through this parameter a specific output has been defined. The control is simply done through the option "Test" found next to each output after we have previously uploaded the changes and the new application data.

A second alternative, if you have not created a certain output, is to go from the mode option and select the output type; this will immediately display an indicative name for the related output which you can change and rename at that point.

Through the "properties" option, next to each output, you can check the properties of the related output.

In the case of the REL08 and REL04, you enter the program's thermostats in the Heating option as well. This way, the thermostat is correlated to a relay contact which is the one that closes and controls the electrovalve.

**Note:** When you want to control blinds, select the UP/DOWN 2 button and you can go through the UP button on the one output while with the DOWN on the other. You can do the same for the switch. When it's a dimmer, then select the dimmer 1 button.

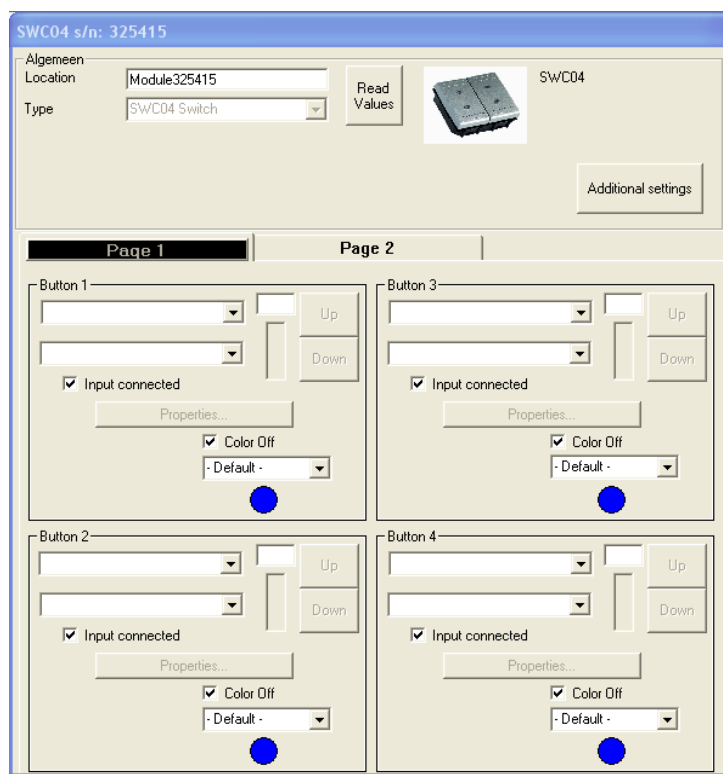
## 5. SWITCH PROGRAMMING

The switch in essence is the system's user interface. Its control is very simple like the one of a conventional switch.

Each switch can execute 4 + 4, i.e. up to 8 operations. These operations can be simple startups (ON/OFF), dimming, scene recall, central commands and anything that the system can handle.

In order to program a switch, follow this procedure:

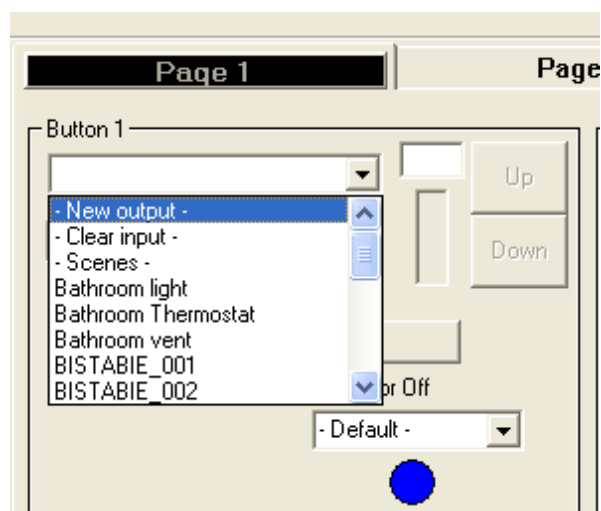
When you entered the serial number on a switch as mentioned above in this document under 3.3, you will see the following screen appearing:



The screen above is the programming screen for a switch where the 4 commands for the switch are displayed. These commands are placed in such a way that the upper left field on the screen (Button 1) will be the upper left side of the switch as you look at the switch, etc.

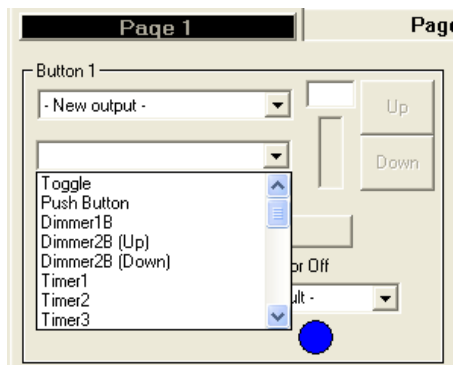
**Note:** You can always tell the right position of the switch by making sure the serial number on the back of the switch is legible (so not upside-down).

In order to program the switch, click on the drop-down box next to the first button; there you can select outputs that you already created or create a new output. On how to create outputs see item 3.4 in this document.

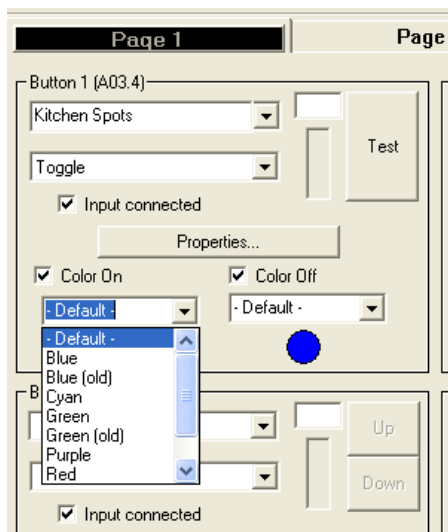


In the drop-down box underneath the output selector you can select the mode of the new output that you want to create. In case you have selected an existing output the mode will already be mentioned

in that box. See item 3.4 in this document for an explanation on the different types of output you can select.



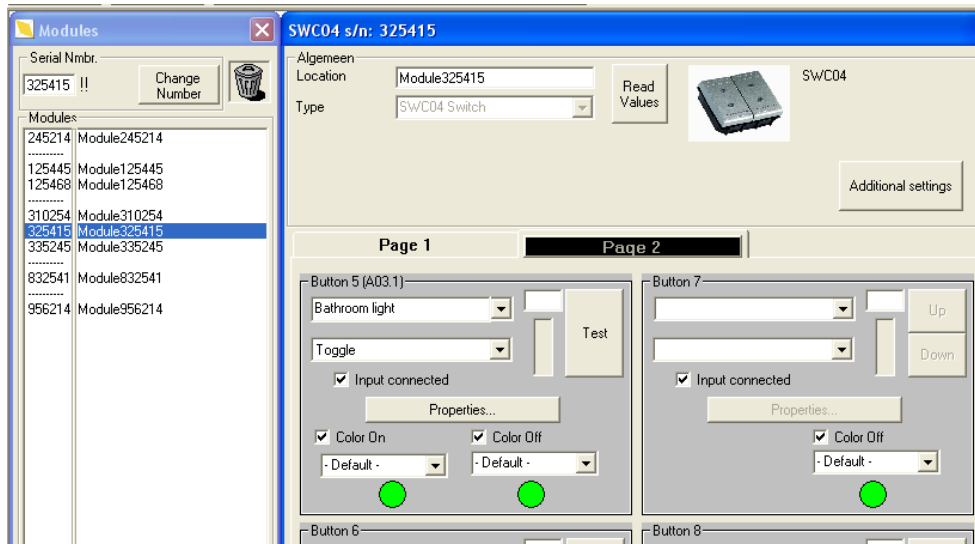
Moreover, for each switch button, as can be seen from the screen below, you have the opportunity to choose the standby LED color (color off) for each button as well as the operational status color (color on) or even to deactivate completely all the color through the option given above each color. It is recommended to use different colors for different outputs – e.g. blue for on/off, yellow for dimmers, green for scenes, etc. This will enhance the user-friendliness of the system.



The UP/DOWN and TEST buttons on each key next to the startup gives the opportunity to test if the chosen startup is operational and if it's the one we want to light up on this particular key for this particular switch.

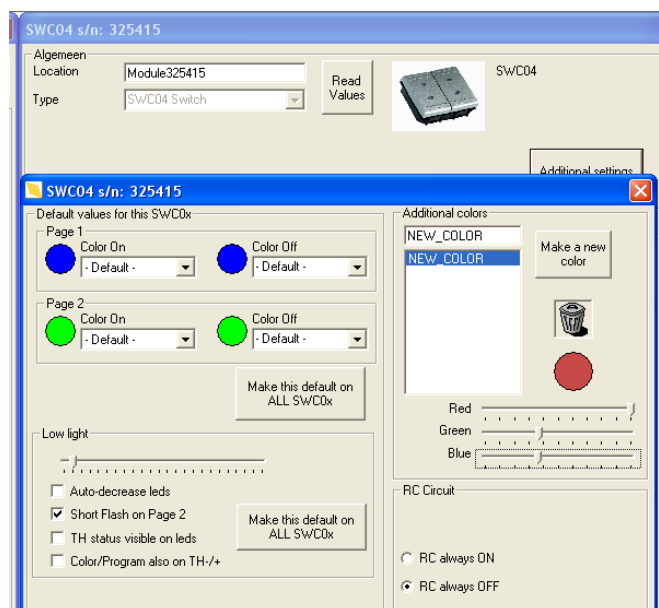
The properties option takes you to the startup properties correlated for this particular key. See item 3.4 – Properties for further explanation on these properties.

These switches as mentioned in the beginning have the capacity for 4 + 4 operations. The other 4 operations are found on page 2 on the upper side of the window. Selecting this page, an identical screen is displayed with the 4 keys where you follow exactly the same configuration method.



**Attention:** Toggling between pages is done by simultaneously pressing the switch and the 2 buttons. As soon as this is done all 4 keys of the startup's 2<sup>nd</sup> page are controlled. This 2<sup>nd</sup> page selection lasts for 2-5 seconds and then the switch reverts back to the first page startups. You might want to use the second page of a switch for outputs you do not activate regularly (e.g. shutters).

**Additional Settings:** This option will display the following screen.



### Default values for this SWC0x

This option can set the standby and operation colors for all page 1 and 2 LEDs and by pressing the "make all this default on all SWC0x" they become the default for all the switches for this particular project.

### Low light

This option can set the LED lights by moving the bar to the right – left (a good suggested lighting is approximately at 9 – 10).

The "auto decrease LEDs" option is used so that when the switch is left a lot of time without being used then the LED lighting is decreased.

The option "short flash on page 2" is used so that when you use the 2<sup>nd</sup> page of the switch's commands, the LEDs blink in order to give indication that you are located on page 2.

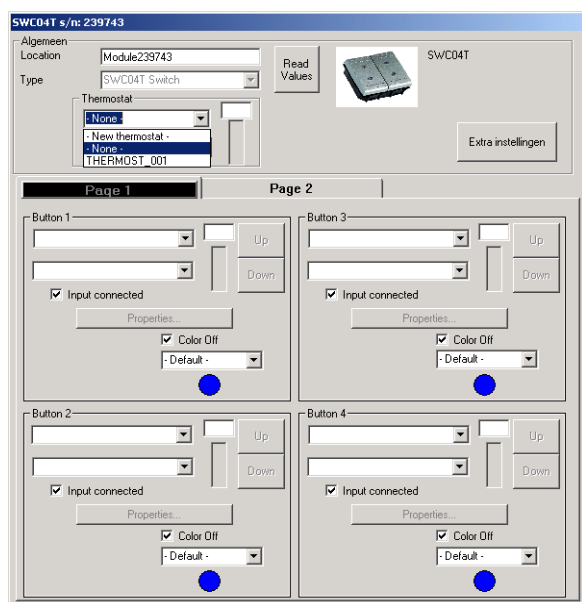
The option “TH status visible on LEDs” is used when you control the thermostat from the switch; this will make the LEDs change color depending on the temperature so that you can see the temperature level at the moment.

The “color/program also on TH” option can let you select the thermostat's programs (night, comfort, etc) and to provide the respective LED color indication.

Finally, you are given the option to select the colors of your choice and to use them for the LED colors.

### Thermostat switch

Beyond the simple switches there are switches which have an integrated sensor for temperature and which also function as thermostat beyond the normal switch functions. Their difference is in the programming which is beyond the conventional startups of a simple switch and which also gives the option to program the thermostat. The following screen is a switch programming screen.



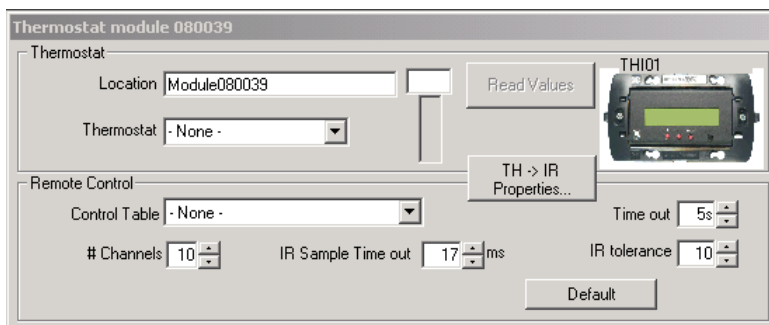
Note that besides the two fields on the upper part of the screen, the switch location is mentioned along with the type and a third field that has to do with the thermostat. This way you can add a new thermostat or to use one of the ones already made. The thermostat settings are the same with those mentioned for the THI.

## 6. THI01

### Programming the THI01

THI is a central control unit that includes an electronic thermostat. It can control a number of outputs or scenes. Moreover, it has an integrated infrared receiver which can be tuned with any remote control.

Its programming initially is done by entering in the Qbus serial manager the THI serial number which is located at its back side. The following screen will appear.



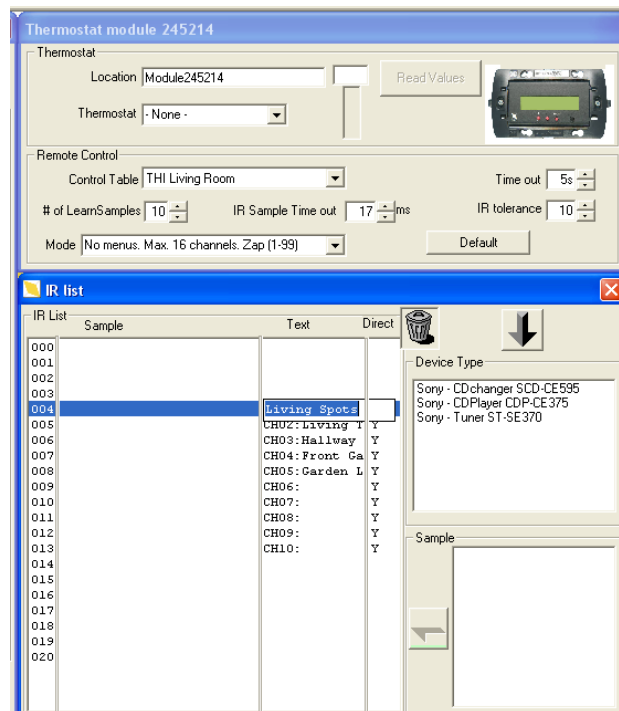
On the first field (location) write the control unit's location in the area.

In the second field select the thermostat you want the THI to control. This can be a new thermostat controlled only by the THI but it could also be a thermostat that you already entered before (e.g. for a

Switch or a touch screen with thermostat functionality). See above under the different output modes (3.4) on how to program thermostats.

In the “control table” field you can select a control table you want to allocate to the THI. See above in item 3.7 on how to make a control table.

After you select the relevant control table you want to control via your THI, the following screen will be displayed:



By selecting the required Control Table, the outputs you selected in that control table have now been entered automatically in the THI. Keep in mind this list is meant to display the link between the outputs you can control through the THI via the buttons on the THI and the Infrared samples you have generated to control your Qbus installation remotely via your remote control. This is why it seems that the first 4 fields on the list are empty and that you can only see 20 “samples”. The first 4 fields (number 000-003) are not empty - by clicking on these fields you will see that these have been allocated to Volume Up, Volume Down, Channel Up and Channel Down (which you will need in case you want to control remotely). From field 004 on you will see the outputs you selected in the Control Table. In this specific list you will only see the first 10 outputs from the control table (so till field 013), however in case the Control Table contains more than 10 outputs, the remaining outputs will also be entered automatically in the THI (up to 99 outputs) and you'll be able to control them.

The other fields in the THI screen (# Learn samples, IR Sample Time out, Mode,...) are needed to use a remote control – see item 3.8 above to learn more.

## Using the THI01



The temperature displayed on the thermostat's monitor during standby displays the area temperature at that moment and not the temperature that you have selected.

Pushing the IR button you are able to browse through the outputs that have been allocated to your THI via the control table (see above). Once you pushed the IR button shortly, you can use both the IR button and the TH button to browse through the outputs from high to low (using IR button) or from low to high (using TH button). If you keep the "down" button (IR) or the "up" button (TH) pushed in, you will browse through the list 10 outputs at a time (from output 1 to 10 to 20...). When you get to an output you want to control, you can use the + or – buttons to activate or de-activate the respective output. If you control a dimmer, one push on the + button will bring the dimmer to 100%, one push on – button to 0%, keep the button pushed in if you want to dim to a certain percentage. On Channel 0 you will be able to check the status of the system (using + or -); this will display those outputs you selected to be shown on a screen in case they are activated (see under 3.4. Selecting Outputs – where we discuss the Properties of the different Output Modes). If you do not push the IR button anymore, the screen will go back to its standard setting (showing local temperature) after 5 seconds.

In the THI standby status using the TH key select any of the Manual, Freeze, Economy, Comfort or Night programs. You can correct the pre-set temperature for each program in steps 0,5°C using the +/- button of the THI.

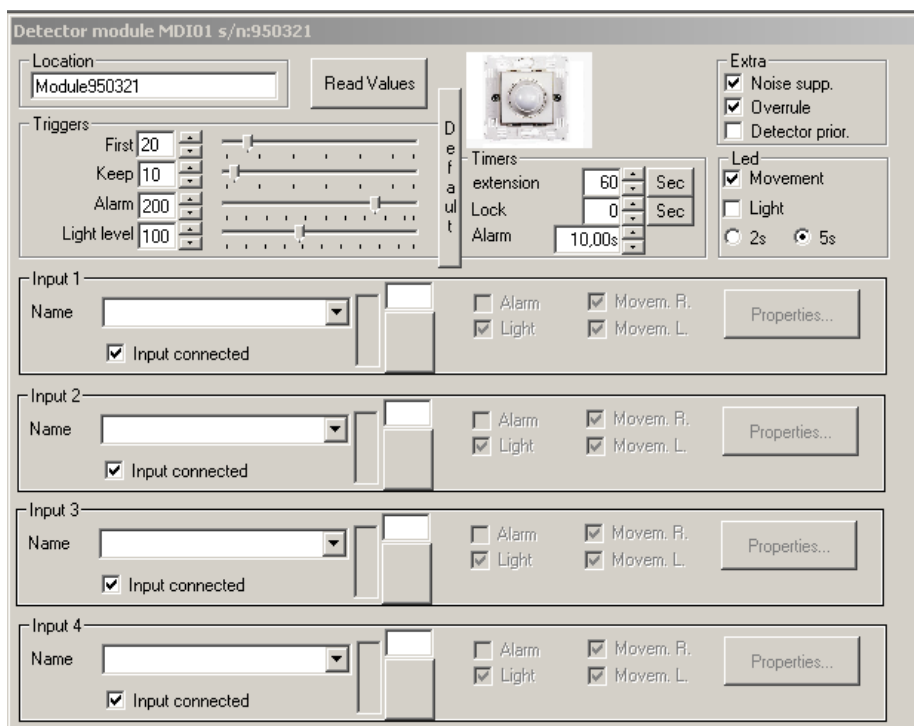
## **7. MOVEMENT – MDI01 (indoor) / MDO01 (outdoor)**

### **SPECIFICATIONS**

- It's a movement sensor with regulated angle and light sensor placed internally
- The detection zone is up to 7m in a radius of 110°
- Possibility to recognize movement origin, i.e. if the movement is coming from the right to from the left within the detection zone.
- The MDI can be programmed in function of the ambient light level – only works if ambient light is below or above a certain level.

### **PROGRAM PARAMETERS**

The following screen is displayed when the component properties are selected:



Detector module MDI01 s/n:950321

Location: Module950321 [Read Values]

Triggers: First 20, Keep 10, Alarm 200, Light level 100

Timers: extension 60 Sec, Lock 0 Sec, Alarm 10,00s

Extra: ☒ Noise supp., ☒ Overrule, ☐ Detector prior.

Led: ☒ Movement, ☐ Light, 2s 5s

Input 1: Name [ ], ☒ Input connected, ☐ Alarm, ☒ Light, ☒ Movem. R., ☒ Movem. L., [Properties...]

Input 2: Name [ ], ☒ Input connected, ☐ Alarm, ☒ Light, ☒ Movem. R., ☒ Movem. L., [Properties...]

Input 3: Name [ ], ☒ Input connected, ☐ Alarm, ☒ Light, ☒ Movem. R., ☒ Movem. L., [Properties...]

Input 4: Name [ ], ☒ Input connected, ☐ Alarm, ☒ Light, ☒ Movem. R., ☒ Movem. L., [Properties...]

**ATTENTION!! : Only Toggle type inputs can be controlled**

## PROGRAM PARAMETERS

### Trigger

The parameters of this field set the trigger sensitivity.

First: It is the size of the movement required to activate the output.

Hold: It is the size of the movement required to keep the output activated. It cannot tolerate values greater than the option first; only smaller or equal.

Light Level: This is the required level of light in order for the light sensor output to be activated. The light sensor can be seen through the "Read values" option and you CANNOT take the light level (lux) from the bus.

Alarm: The amount of movement detected as soon as the alarm time set in the timers-alarm option passes.

### LED field

You can select the point where activation will take place, from the movement or light level or both.

### Timers' field

Extension: This represents the extension of time for the outputs to remain activated. The smaller timer value is 2 seconds and in this case the outputs remain activated for 10 seconds. Consequently, the startup has a default time of 8 seconds.

Alarm: This represents the time for the sensor detected movement, meaning the time from the moment it will start up and detect movement until the moment the movement will stop being detected. This is used in order to limit startups caused by pets.

Lock: This represents the time after which the sensor will stop operating and in essence will "lock" the startup.



### INPUT field

Movement Right/Left: Activation of the sensor based on the incoming movement to the movement zone with origination from left or from right. If you choose both then it scans both sides of the movement origination.

The light option lets MDI detect movement only if the light level is below the set one. This is useful during the day so that the output does not get activated during the day but only the night.

**Note:** The MDI01 controlled outputs can simultaneously be controlled by some switch. There are option that provide prioritization (e.g. to a switch) or a temporary output deactivation. For better operation, the Light option should not be selected for every single input.

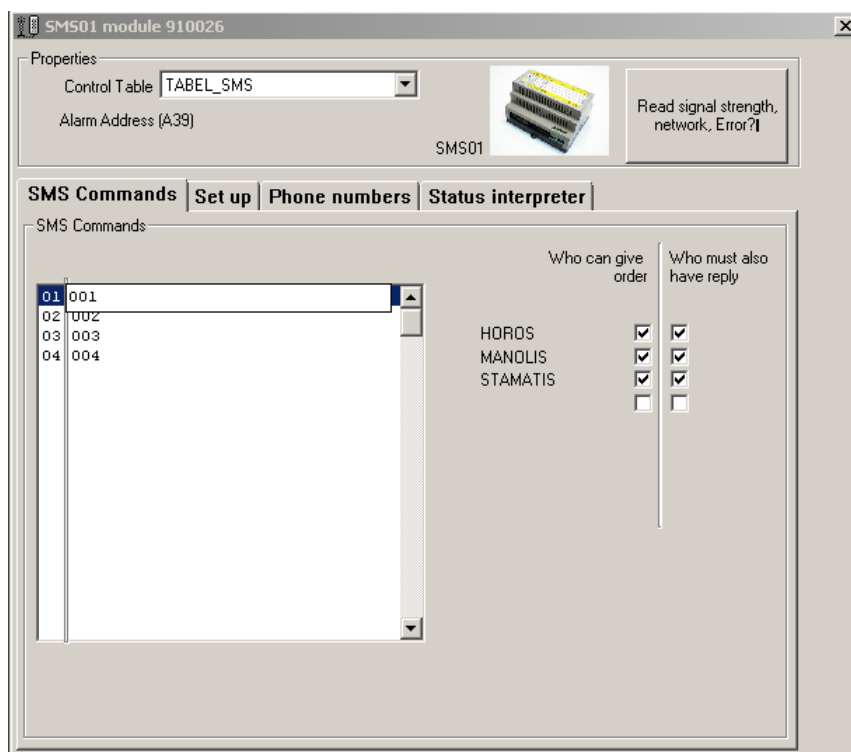
## 8. SMS MODULE – SMS01

### PROGRAM PARAMETERS

Initially connect the 230V AC power supply unit and the bus communication cables (FTP CAT5).

#### **Sim card installation**

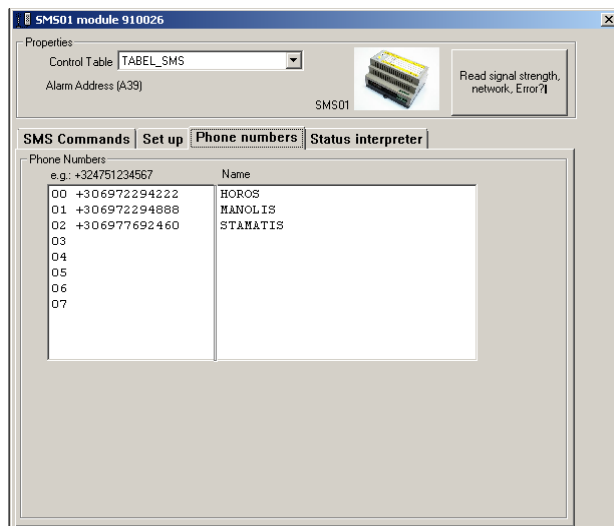
Install initially the sim card on a mobile phone and **deactivate the PIN**. If you are using a new SIM-card, place a call and send an SMS to test the SIM-card. Then place it in the SMS unit. **MAKE SURE TO INSERT THE SMS CARD INTO THE SMS MODULE BEFORE YOU START PROGRAMMING.** After installing the sim card, go to the device properties in the Qbus program and check whether the device has signal by pressing the option "Read signal strength network, Error?" "Displayed on the first option tab on the device properties and then enter the table you want to be controlled by the sms unit in the option "control table" as displayed below.



If everything is okay continue, otherwise check the previous steps for any erroneous actions.

## TELEPHONE NUMBERS' INSTALLATION

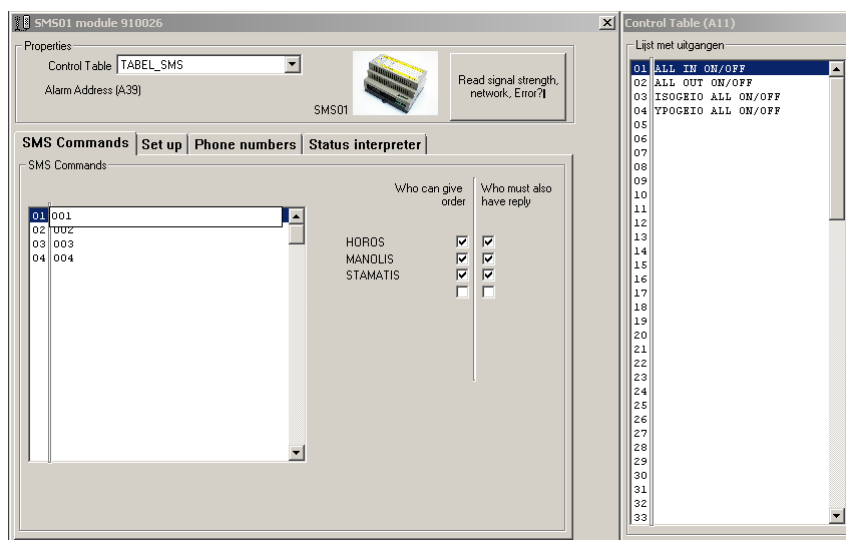
Afterwards by accessing the “phone numbers” tab, install the telephone number from which the Qbus system can be checked. ONLY the numbers installed can give commands to the system. If any third party knows the communication number they CAN'T give a command because the system will not recognize the number. This is ensured by the option (v) next to the number names as displayed in the previous screen in the “sms commands” tab.



**ATTENTION:** Before each entered telephone number (only mobile phones), you should enter the country prefix.

## COMMAND ADDITION

After you finish entering the telephone numbers and names, as you would want them displayed, go back to the first tab “sms commands” and choose from the “control table” the startups which you want controlled through SMS. The startup selection is done through the table by double clicking and is automatically entered in the sms commands' table as displayed above. Before this, the message that the sms unit has to be deactivated will be displayed for 30 seconds. Follow its instructions.



For your own convenience rename the startups with numbers, e.g. 001, 002, etc so that there is no need to write the whole text in your mobile in order to send a command. Also, this point and at this screen you can enter the names you want to be able to give commands to your system.

Finally, go to the “status interpreter” tab and press “Default” so that the commands will appear as in the following screen.

The screenshot shows the 'Status interpreter' tab for the SMS01 module 910026. The 'Properties' section at the top shows 'Control Table' set to 'TABEL\_SMS' and 'Alarm Address (A39)'. Below this, there's a 'SMS01' label and a 'Read signal strength, network, Error?' button. The main area is divided into several sections: 'On/Off', 'Dimmers', 'Thermostat (+)', 'Thermostat (Prog.Sel.)', 'Up/Downs', and 'Scenes'. Each section contains multiple rows of controls with labels like 'ON', 'OFF', '1', '0', 'YES', 'NO', 'HALF', 'MAX', 'MIN', 'ECON', 'COMF', 'UP', 'DOWN', and 'Scenes'. Each control has a corresponding value or status. On the right side, there is a 'Default' button.

The commands shown above are defined as follows: If you want to turn on a relay contact (on/off) all you have to do is write the contact name as it was entered in the “sms command” tab then insert a space and write ON or 1 or YES as the following table shows. Similar procedures are used for dimmers, blinds, etc.

Moreover, you can be notified if the system has a malfunction at the bus or if there is a power interruption. You can do this by going to the “SETUP” option tab and selecting “Check the external power” and “Check the bus” which respectively checks for the system’s supply as well as the bus signal operation as is displayed in the following screen. The sms unit through the “send a debug report” option notifies you whether the message was not delivered or whether the command was not executed.

The screenshot shows the 'Alarms' tab for the SMS01 module 910026. The 'Properties' section at the top shows 'Control Table' set to 'None' and 'Alarm Addr. N/A'. Below this, there's a 'SMS01' label and a 'Read signal strength, network, Error?' button. The main area is divided into 'Set up...' and 'Alarms' sections. The 'Set up...' section has checkboxes for 'Check the external power' and 'Check the bus', both of which are checked. There are also 'Timeout' fields for each, set to '60' and '3' respectively. A checkbox for 'Send a debug report if no match' is also present. The 'Alarms' section has a table with two columns: 'Alarms' and 'SMS Text'. The 'Alarms' column contains a list of 'n/a' entries. The 'SMS Text' column is empty.

Setting up the alarm for SMS, in order to receive also a text notification, is done as follows. Go to the SMS module through the modules option on the program command line and then choose the alarms tab; the following screen will appear.

In the screen above enter the sms text, i.e. the text that will be sent to your mobile phone; choose from the right side of the screen the phones for the people you want to receive the message from this specific alarm. If you make a second alarm you will have to select again the phone numbers of the

people you want to receive the message because it might not be necessary for everyone to receive all the alarms.

The options above the names let you set the repetition time, in case the alarm is not detected initially.

**DO NOT ACTIVATE ANY OUTPUT (DO NOT PUSH A BUTTON / TRIGGER A MOTION DETECTOR / COMMAND AN INFRARED PORT /....) WHILE UPLOADING THE SMS CONFIGURATION TO THE CONTROLLER. THE UPLOAD WILL TAKE ABOUT ONE MINUTE. IF YOU GET A TIME-OUT (MODULE NOT FOUND), JUST CLICK ON “RETRY”.**

## 9. ETHERNET MODULE – ETH02

### PROGRAM PARAMETERS

The Ethernet ETH02 unit allows the Qbus to communicate with a PC or a network. It can be connected to a network card of a PC or to a switch or router through an FTP RJ45 cable.

This unit has an integrated web server for the online manipulation of a control panel (96 channels and 6 menus) through any internet browser.

A protocol for the operation and control through TCP/IP is also provided. This allows the user to use any preferred software (Windows, Linux, etc) along with the Q\_bus.  
The Qbus connection is protected using a password for each user.

The ETH01 unit can operate without additional power supply. We can operate the bus with a simple connection. In this case the bus consumes 90mA. If we remove 2 jumpers and connect an external 12V power supply (AC or DC) then this unit will consume only 10mA for the bus. 1 power supply can be used for 1 device. The ETH02 SHOULD ALWAYS be supplied with 230V AC power.

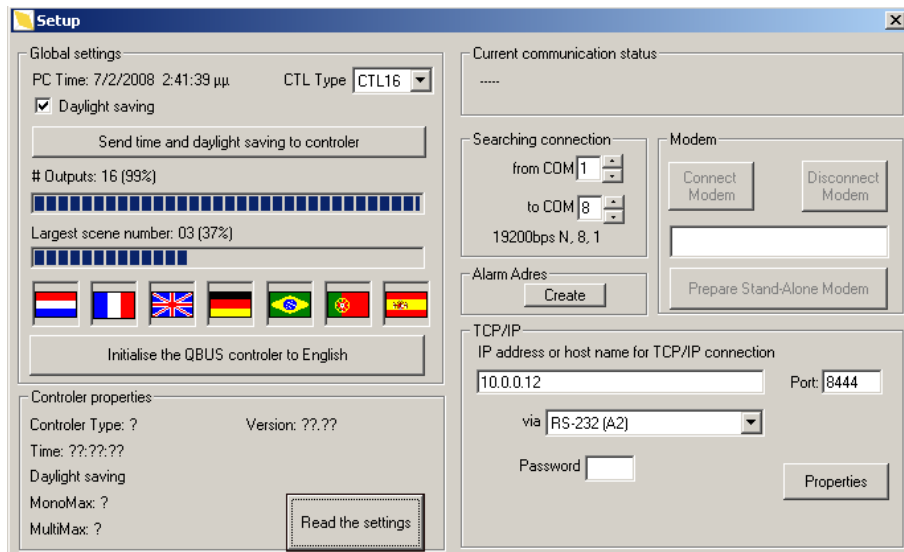
When the unit is activated, the Ethernet LEDs will blink green-orange until it starts. When the network is disconnected then both LEDs should turn off. Is a correct 100Mbit connection has been made using a network cable or a router, switch, PC, etc then the left LED will be green. For any Ethernet communications, the right LED will be flicker. Moreover, there are 2 LEDs that display the bus operation. When the bus is connected then the right LED will light up for 2 seconds and for each data packet transfer the LEDs will light on and off.

Each device has a MAC address in the format of 00:20:4A:xx:xx:xx. Despite all this though, in order for the device to operation on a network, an IP address has to be assigned.  
When on device is powered, it does not yet have an IP address. Usually, the device is connected to a local network (LAN) which is connected (most likely through a switch or a hub) to a router. This last one has an integrated DHCP which ensures that every connected device has an IP address.

Note: Connect first the network cable and then activate the device in order to acquire an IP address through the DHCP. It can obviously also be connected directly to a PC and in the case a cross cable is required (the grey cable that comes with it). It is recommended to initialize with the cross cable directly connected to a PC and then connect it to each network.

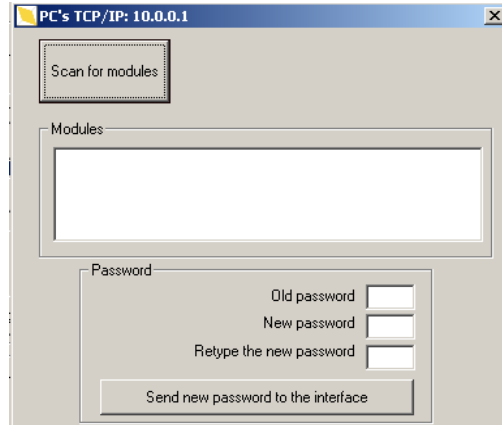
## 10. PC – SETUP

When the IP address becomes available, you can enter it in the Qbus serial manager II by going to the option Tools→Setup where the following screen will appear where you will enter the IP address in the lower right side in the “IP address or host name for TCP/IP connection” option.



When you try to install the first communication, it will search first for the IP address and then for the COM ports. The indicator "TCP/IP active" will be displayed on the upper right side of the screen.

You can also find the IP by pressing the Properties option located in the lower right side of the screen as in the above displayed screen and then this will lead you to the screen as displayed below' there press the option "Scan for modules" as is displayed below. This selection will display a list of all connected Ethernet devices. By double clicking on the found device, the IP address will be entered in the previous screen Setup.



### Regarding communication

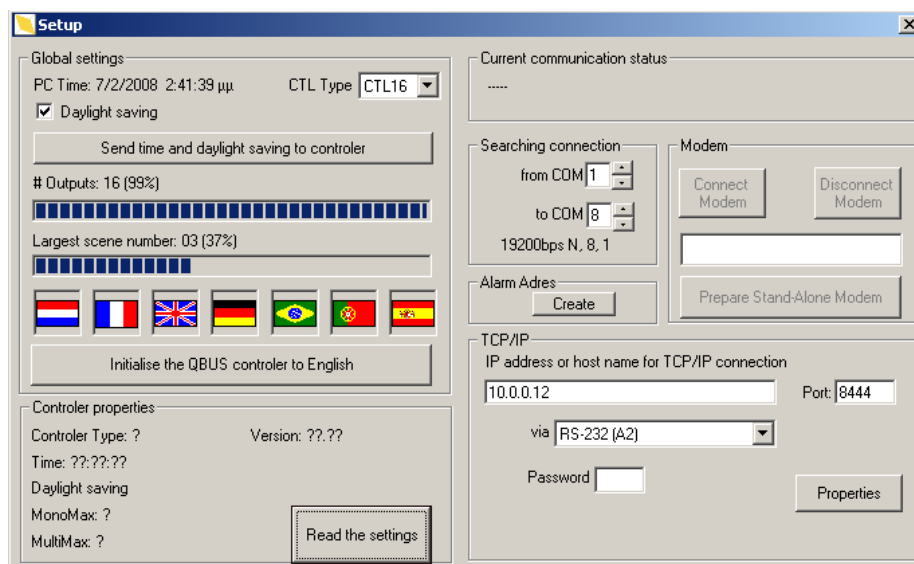
When the devices are connected to a router, the IP addresses are usually 192.168.1.x etc. If though there is no DHCP then the IP addresses are of the format 169.xxx.x.xxx. For this reason, when an ETH0x is connected to a PC via a cross cable then the PC and the Ethernet have to start with the same 3 digits. IP addresses of the format 127.0.0.0 are not used.

An IP address assignment can be done through TELNET and it can later be integrated through the setup.

The devices are supplied without password. If the devices connect to the internet or if you want to make changes through the internet it is necessary to set a password. In order to set a first time password, erase the old password and place a new one two times and it is entered in the interface. This is accomplished via the screen displayed above; after setting a password 2 times, press the option "send new password to the interface".

**Attention !!** Communication always takes place through ports 8444 and 8445 which is entered in the "setup" window in the command "Port" next to the IP address.

This means that: The setup screen should include the following:



- The selected communication ports: Port 1 → 8
- IP address and Port: 8444
- And the communication means via RS232

Of course, in the Properties (lower right side) you can find a new device and change the password.

## **10.1 Web-Server**

Each device has an integrated web server. This is a graphics environment from which the user can administer the Qbus system's outputs. In order for this to happen, the controller has to be equipped with a 9,17 firmware or newer.

\*\*\* The ETH0x always uses the control settings from table 1.

The initial page opens from a browser using the address [http:// xxx.xxx.x.x :8444](http://xxx.xxx.x.x:8444), where xxx.xxx.x.x is the IP address and 8444 is the communication port.

## 10.2 Telnet

The device also has an integrated TELNET interface. This interface is accessible through port 9999, e.g. TELNET 192.168.2.44 9999

Selection 0 on the menu allows the user to define the device either dynamically (0.0.0.0) or it can be permanently preselected.

The used mask is: Net mask: 255.255.255.0

Also, now, you can set a password (maximum 4 characters).

The gateway can also be adjusted and has the local router address. It usually is x.x.x.1

Set the HTTP communication port (default 8444) through option 3.

Select the standard parameters (baud rate 19200, port 8444 ....) through option 7.

Option 8 is used for cancelling, option 9 to store the settings and exit.

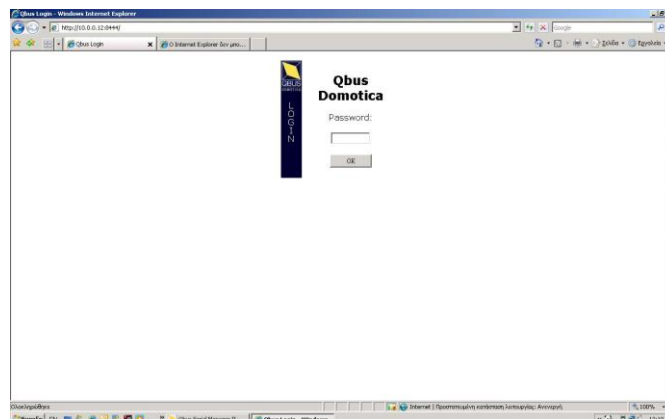
## 10.3 Connection through the Internet

If you want the Ethernet device to communicate through the router externally then a number of ports have to be forwarded to the local IP address. This is called "Port forwarding" or "Virtual server"; through a web browser (MS Internet Explorer, Mozilla Firefox, etc.) go to the router's address (e.g. 192.168.2.1) and follow the corresponding router's instructions. In essence, what you are doing is correlating the ports 8444 and 8445 of the router and entering the IP assigned to them.

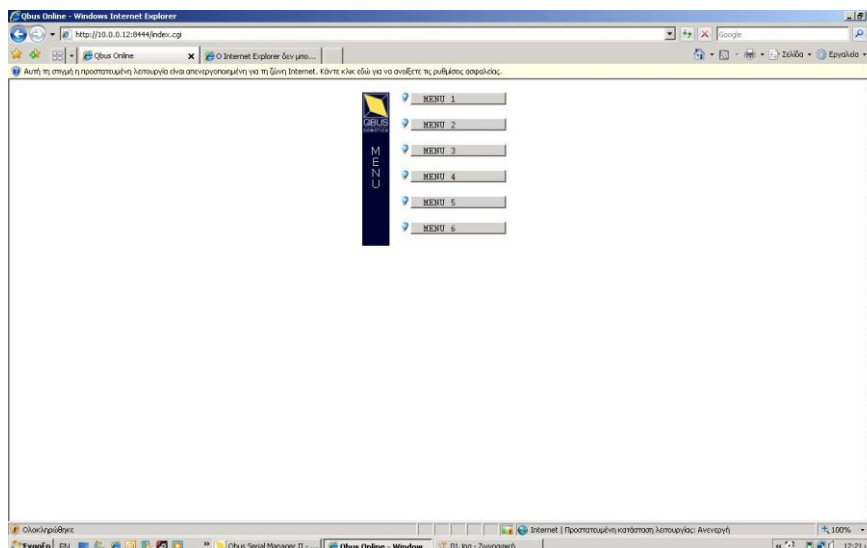
Certain providers might change the available IP (especially for ADSL users). It is quite hard trying to remember 4 digits. That is why there are certain services, which allow the transformation of an IP address into a name (e.g. <http://www.dyndns.org>). Entering the site allows you to activate a name e.g. MUOWNNAME.DYNDNS.ORG. Of course that is done after registering at the site so that there will be no necessary codes for the user to login. Then, through the site you can correlate the name you want to the IP.

### Internet Explorer environment

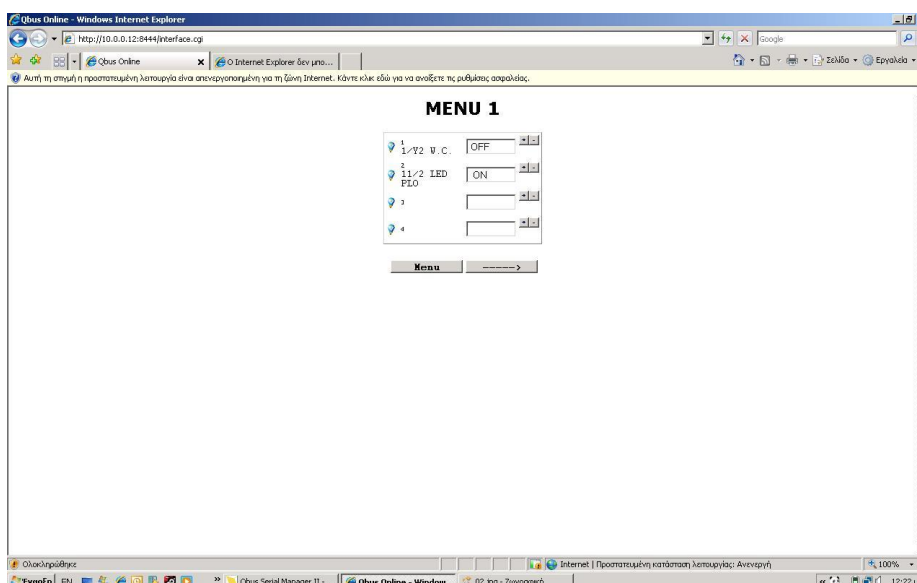
The control environment as it is displayed through the internet explorer is as follows:



The screen above is the initial screen displayed when you use your password and enter the environment.



This environment has 6 menus which are displayed based the name you assign to them through a related Ethernet table. By choosing one of the menus, you enter in the corresponding menu page where startups, awnings, blinds, thermostats and anything else you might want to check is listed. An indicative environment of for example menu 1 is the following:



Each menu is comprised by more than one page depending on the amount of controlled elements. Using the → key, you can move to the next page while with the menu button you can come back to the initial menu screen.

## 11. PROGRAMMING GENERAL NOTES

- With a simple switch you can control a switch, a dimmer, blinds, or even a thermostat. Specifically for a thermostat, you can either have manual operation of +/- of the temperature or you can toggle between preselected thermostat programs like comfort, night, etc. By having each program startup a different LED on the switch, the user will recognize which program is in use. **Disadvantage:** During the manual operation of the thermostat via switch, you won't know the temperature value, i.e. you will not know by how much you are raising or



lowering the temperature and in this case you have to have either a monitor or a THI01 to be able to see the temperature values.

- It is advisable to use one table per screen. Even if you want the same table for 2 screens, then copy the first to the second and use one screen for one and one for the other. This will help avoid getting stuck or getting confused giving commands.
- When you have more than one MDI and you want all of them to be controlled by the same startup then do NOT set the same startup for all of them but create virtual startups individually for each MDI and create logic that will turn on the same thing.
- The sequence creation is for 3 scenes and up. For two scenes you can enter the first scene and the second one you can link to the same button (in the switch programming screen) by pressing a bit longer on the same switch button.
- If you are using Infrared commands, be aware that an SWC02I (2-button-switch with Infrared port) can NOT be used to program the IR commands – you can only use this one to give the commands. You need an SWC04 or a THI to program IR commands.