

SWICCT

Manual - Swegon Indoor Climate Configuration Tool



Contents of the SWICCT Manual, Version 1.22

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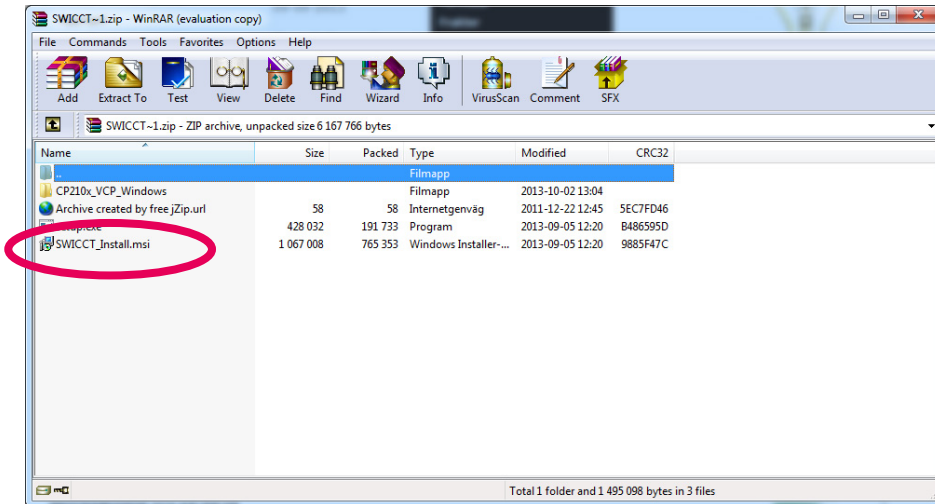
Section 1: To install the SWICCT

The program is available for downloading at [www.swegon.com /Support/ Software](http://www.swegon.com/Support/Software).

Click on Open



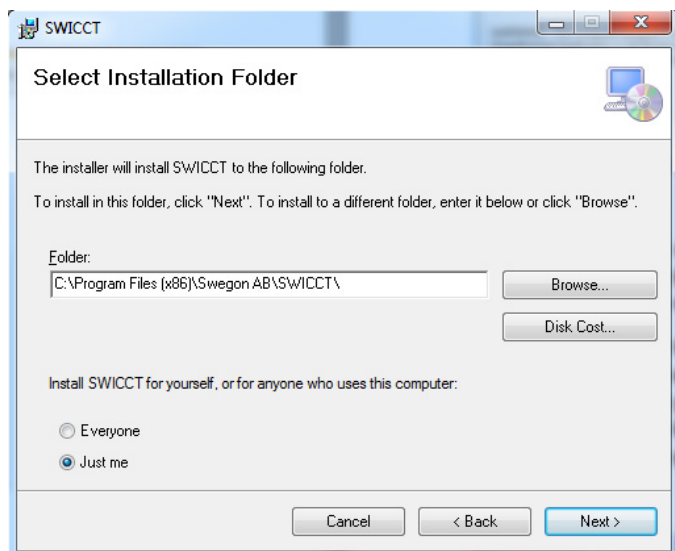
Start installing the software by clicking on "SWICCT_Install.msi". If your are reinstalling the program, make sure that previous version has been uninstalled before you start the new one.



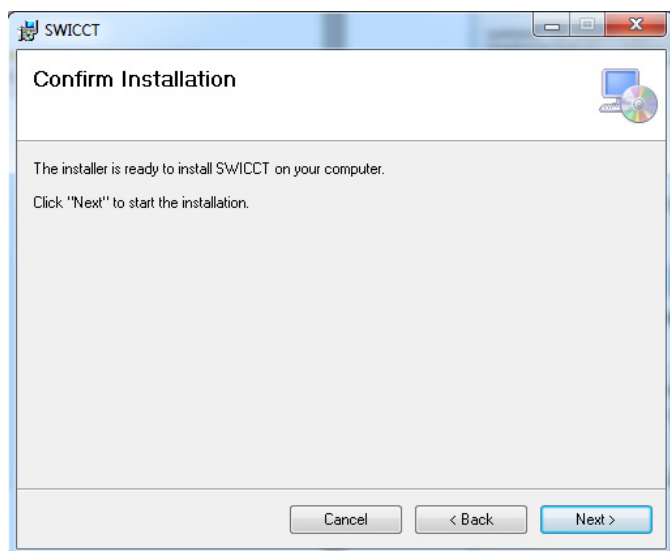
When this box appears, click on "Next".



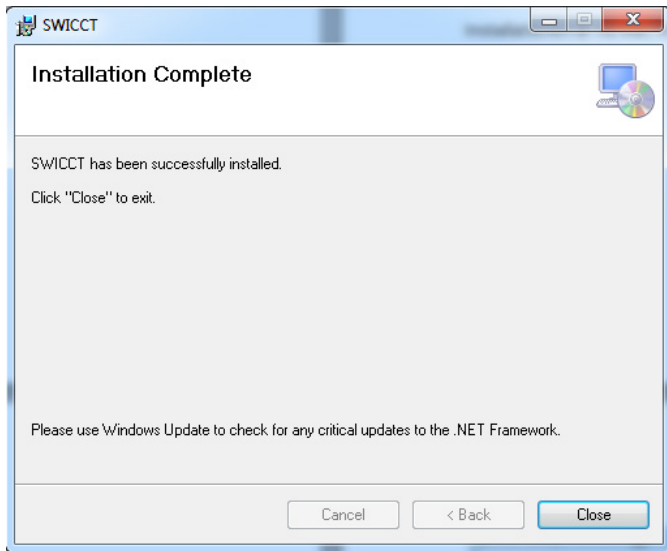
Press "Browse" to choose a spot in your computer where you can put the software. Then click on "Next".



The installation is now ready to start. Click on "Next".



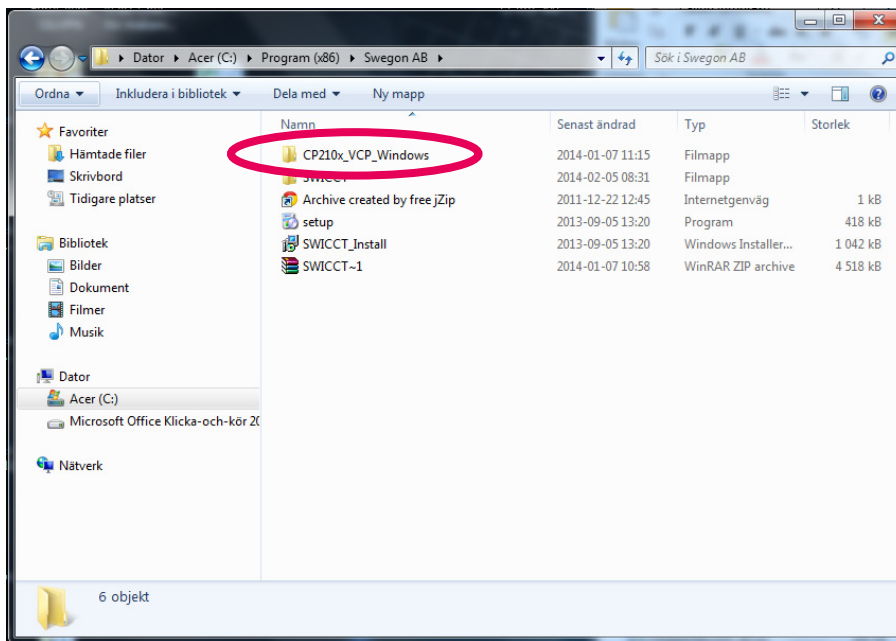
The installation is now completed, click on "Next".



To install the driver for cable

The installation file for the driver is located in the folder you downloaded from the home page.

Open the "CP210x_VCP_Windows" subfolder.

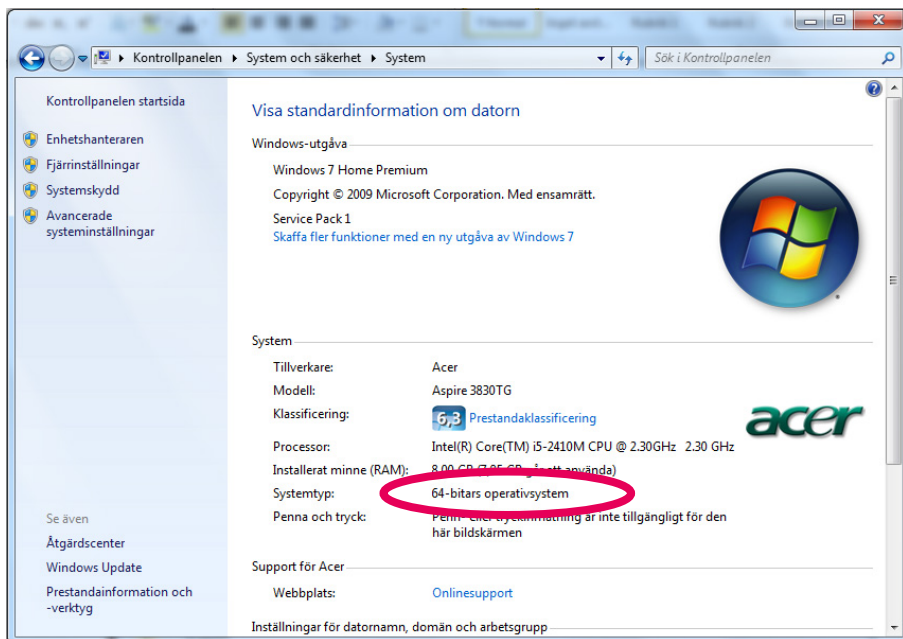


Select the driver based on the type of operating system in your computer, i.e. 32/64 bits, "CP210xVCPInstaller_x86.exe" or "CP210xVCPInstaller_x64.exe". Double-click on the installation file that fits the type of operating system in your computer (x64 = 64 bits and x86 = 32 bits).

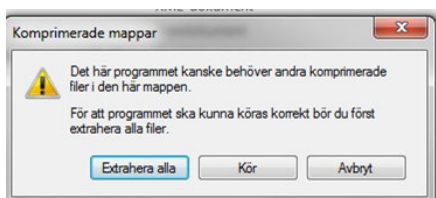
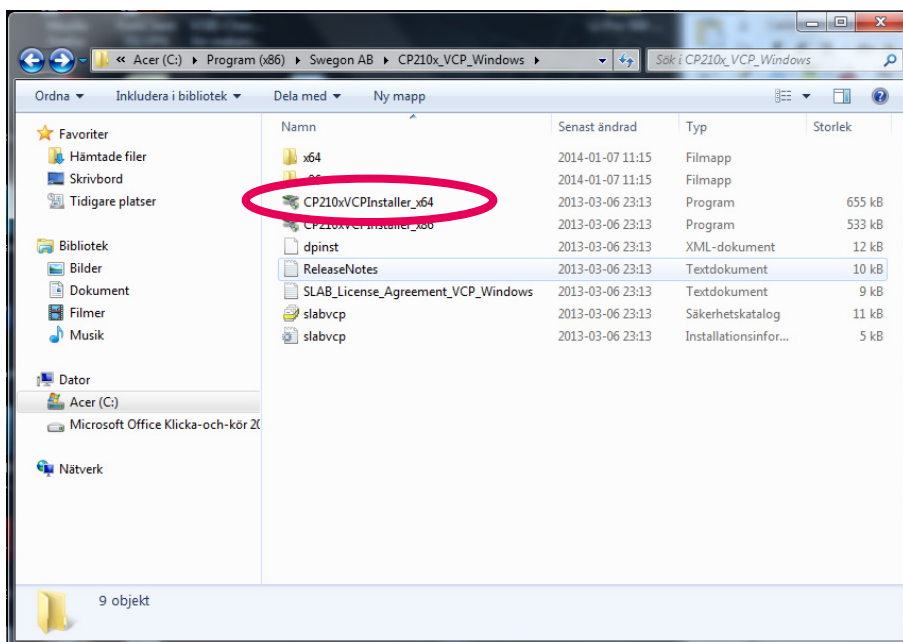
What type of system do I have?

(Based on Windows 7).

To determine what type of system your computer has, go to the Control Panel and click on "System and Security". Then click on System. You can determine what type of system you have under "Type of system".



Now you can install the driver that fits your type of system.

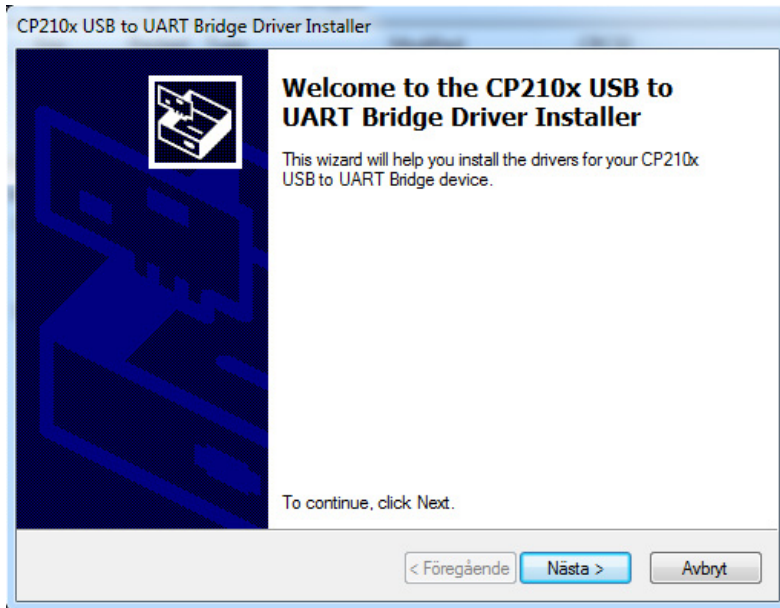


If you are requested to extract compressed folders, do so...

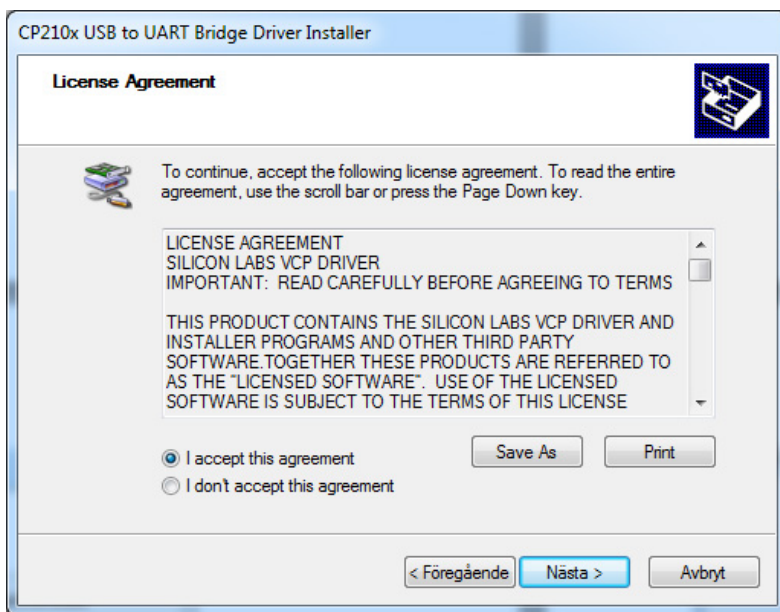


....and open the "CP210x..." folder and then double-click on the CP210xVCPInstaller file.

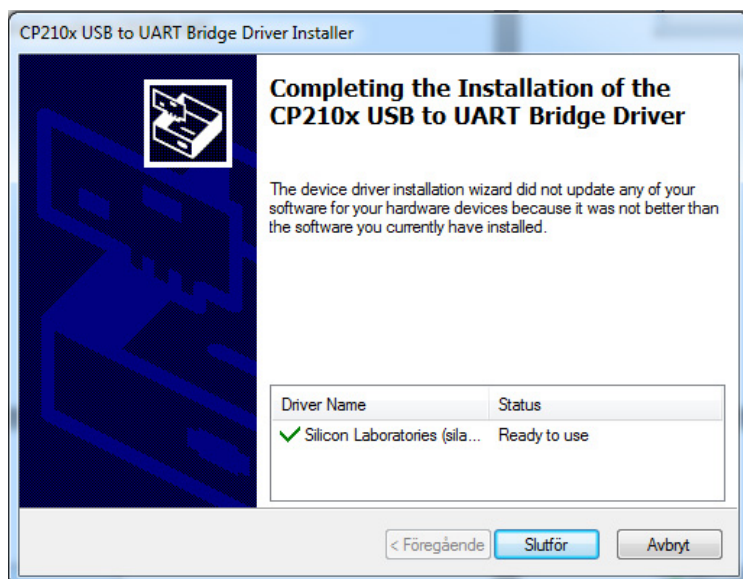
When this box appears, click on "Next".



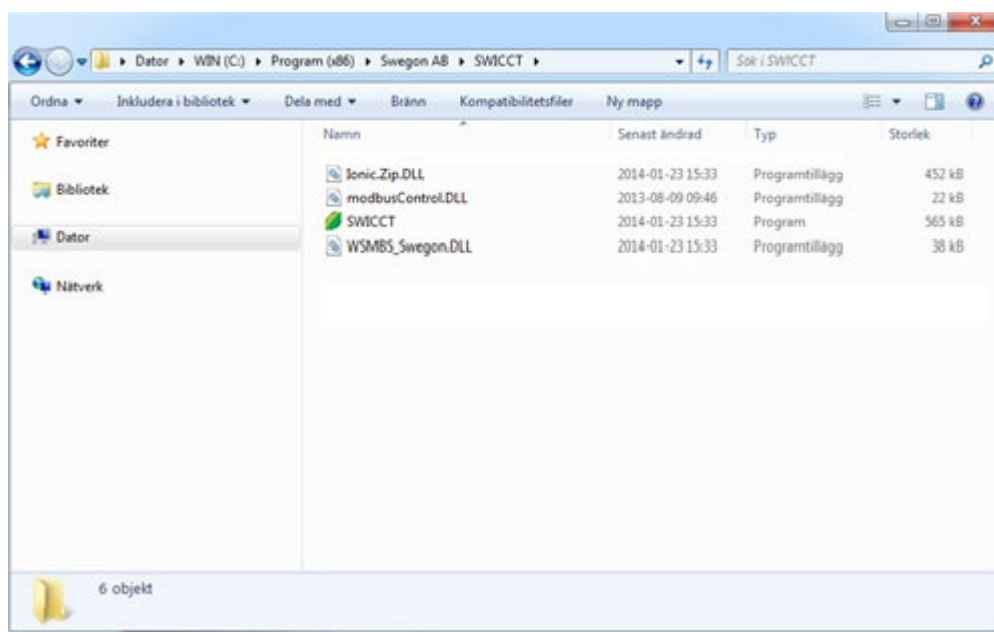
Read through the license agreement, select "I accept the agreement" and then click on "Next".



The driver for the unit has been installed, click on "Finish".

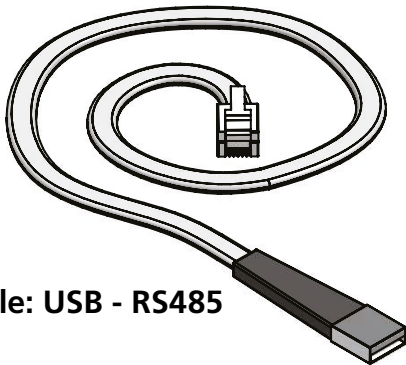


When the installation has been completed, you will find a folder named "Swegon AB" at the previously selected place in your computer. Then open the "SWICCT" folder.



Section 2: To connect the unit

This is what you need for using the SWICCT.



Cable: USB - RS485

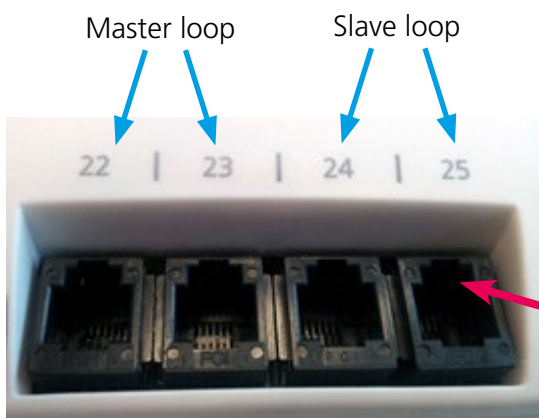


Silicon Labs VCP Software for
Windows XP/Server 2003 Vista/7/8
Download VCP (3.49 MB)



SWegon Indoor Climate
Config Tool

There are two options on how you can connect up to the system, on the loop or on an individual controller. Each controller has four ports, numbered: 22, 23, 24 and 25. Port 22/23 belongs to the master loop and Port 24/25 belongs to the slave loop. These are completely independent of one another. The sensor modules are connected to the slave loop. The connections between master-slave-slave are also connected to the slave loop. The master-slave connection is done on the master loop. To connect up to the slave loop, use either Port 24/25 or a sensor module. To connect up to an individual unit, connect into its master loop, Port 22/23.



The sensor modules should have different IDs. The ID of a sensor module can be changed by screwing the back side of the sensor module as illustrated. To read the temperature from a specific sensor module, select this reading under "Service mode" - "Temperature settings". The sensor module should then have ID 1.

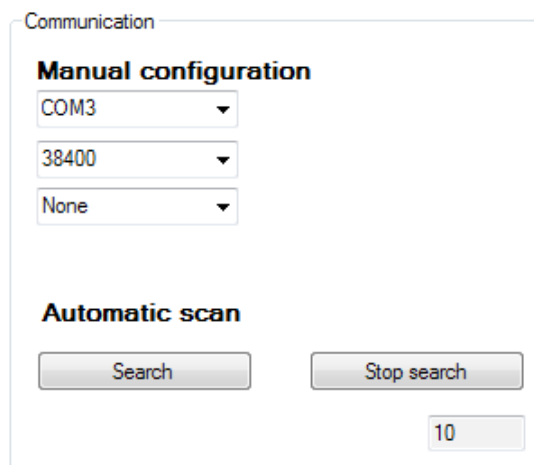


The ID on the Sensor module can be changed here by turning the arrow to an appropriate ID digit.

This sensor module has ID 2.

To connect up to an individual unit

If you want to connect up to an individual controller, connect into its master loop (Port 22 or 23). The unit's Modbus ID is then shown in the tree.

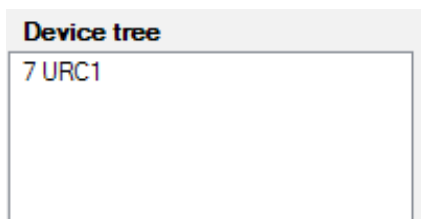
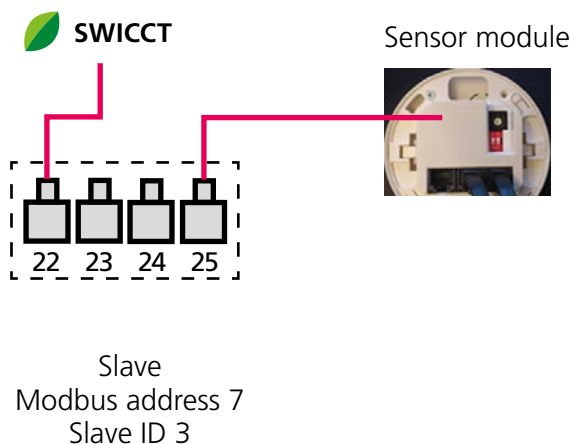


When you are connected up to a unit's master loop, search for it by clicking on "Search". The unit will appear in the tree and you can then click on "Stop search".

Further particulars on how to search for units are explained under the heading "Connection settings" in the next section.

SWICCT

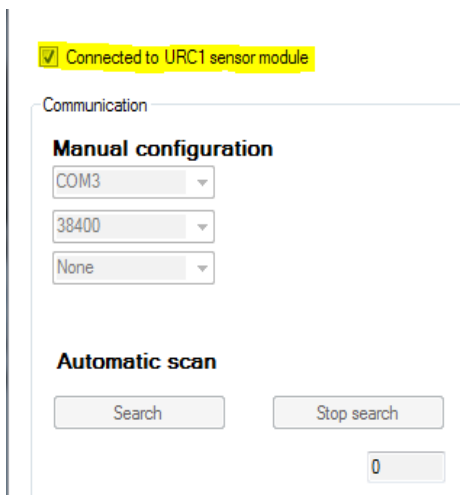
The unit is now identified by its Modbus address in the tree. In the case shown in the image, the controller has Modbus address 7. Accordingly, this is not the same as "Slave ID". If you intend to make a change in a specific unit and you are unsure of its ID, you can connect up to the master loop of the specific unit. It looks the same in the tree regardless of whether you connect up to a slave or a master.



7 URC1 → Slave with Modbus ID 7.

If you connect up to a master it looks the same, i.e. the master's Modbus ID is shown in the tree.

To connect up to a slave loop

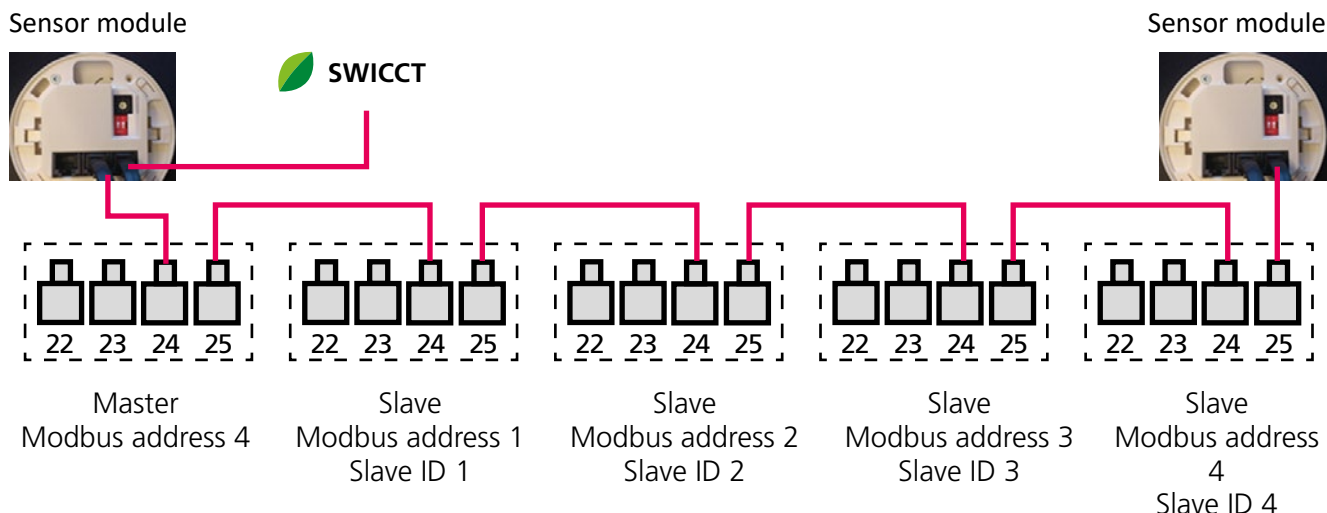


When you connect up to a sensor module or the slave loop, you should mark an X in the "connected to URC1 sensor module" box when you are searching for units.

Further particulars on how to search for units are explained under the heading "Connection settings" in the next section.

When you connect up to a loop the controllers are identified by their slave ID, the master gets ID 0. Two examples of different connections and how this is shown in the tree in SWICCT are shown below.

Example: Master-slave-slave-slave-slave



```

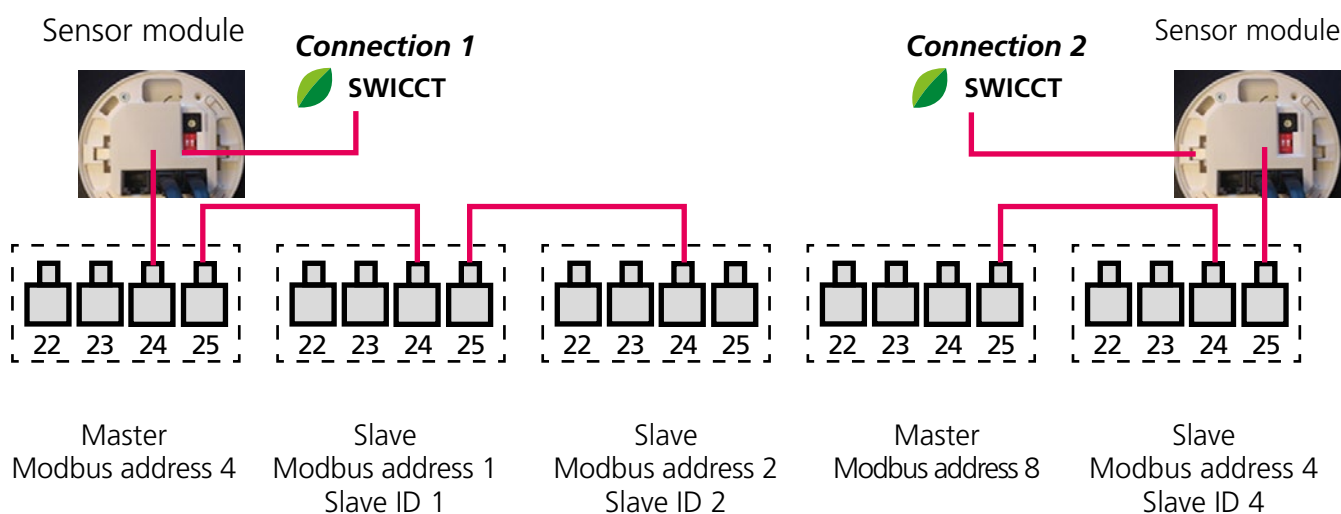
Device tree
0 URC1
  ... 1 URC1
  ... 2 URC1
  ... 3 URC1
    
```

- 0 URC1 → Master
- 1 URC1 → slave with "Slave ID" = 1
- 2 URC1 → slave with "Slave ID" = 2
- 3 URC1 → slave with "Slave ID" = 3

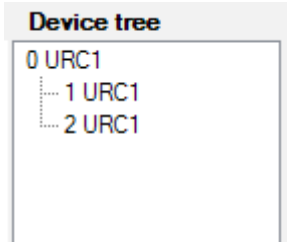
In this position you can mark the relevant unit in the tree for adjusting the settings. By connecting up to the slave loop, you are benefited by being able to change several units by simply connecting up to one point. What is important is that you can keep an eye on which unit is located in a given rum and its ID.

Example: Master-slave-slave/master-slave

When you have a system divided into master-slave-slave/master-slave, this involves two separate loops and it is necessary to connect up to two different places in order to reach all the units. Accordingly, this must be done in two steps: first connect up to one loop (Connection 1) and then connect up to the second loop (Connection 2).



Connection 1



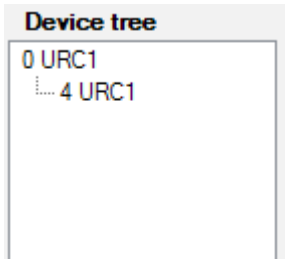
0 URC1 → Master with Modbus ID 4

1 URC1 → Slave with Slave ID 1

2 URC1 → Slave with Slave ID 2

With this connection you can reach Loop 1, master with Modbus ID 4 and slaves with Slave ID 1 and 2.

Connection 2



0 URC1 → Master with Modbus ID 8.

4 URC1 → Slave with Slave ID 4

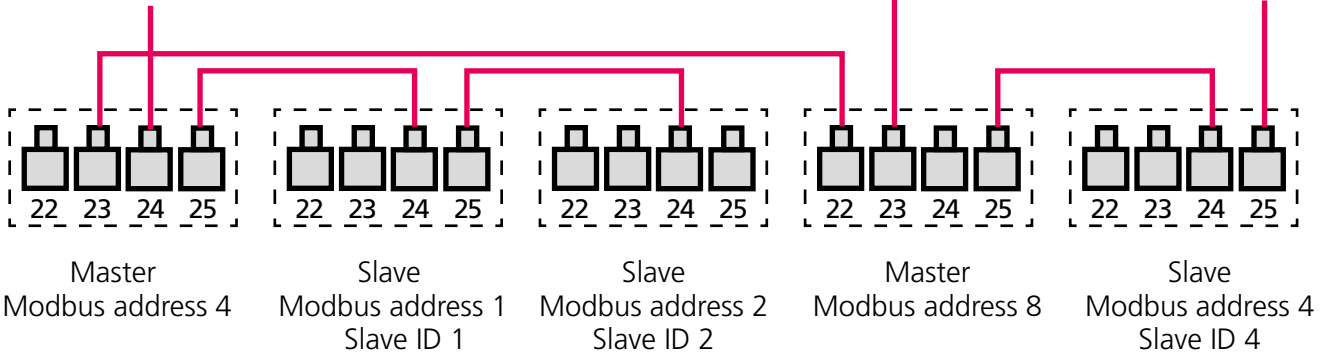
With this connection you can reach Loop 2, master with Modbus ID 8 and slave with Slave ID 4

If you start from the same connection as the one above but interconnect master-master via their master loops (Port 22/23) and connect on the SWICCT via the master loop on one of the master units illustrated below then you can see both masters in the tree.

Sensor module



Sensor module



Device tree

```

    4 URC1
    8 URC1
    
```

4 URC1 → Master with Modbus ID 4

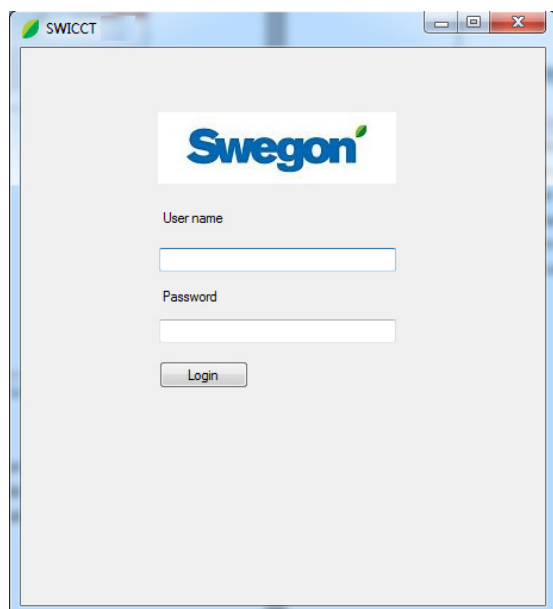
8 URC1 → Master with Modbus ID 8

Connected on the master loop included on master interconnected through the master loop, the slaves are not visible. (connected as shown above)

Section 3: Using the SWICCT

Logging in

Open the program and log in by entering the following:



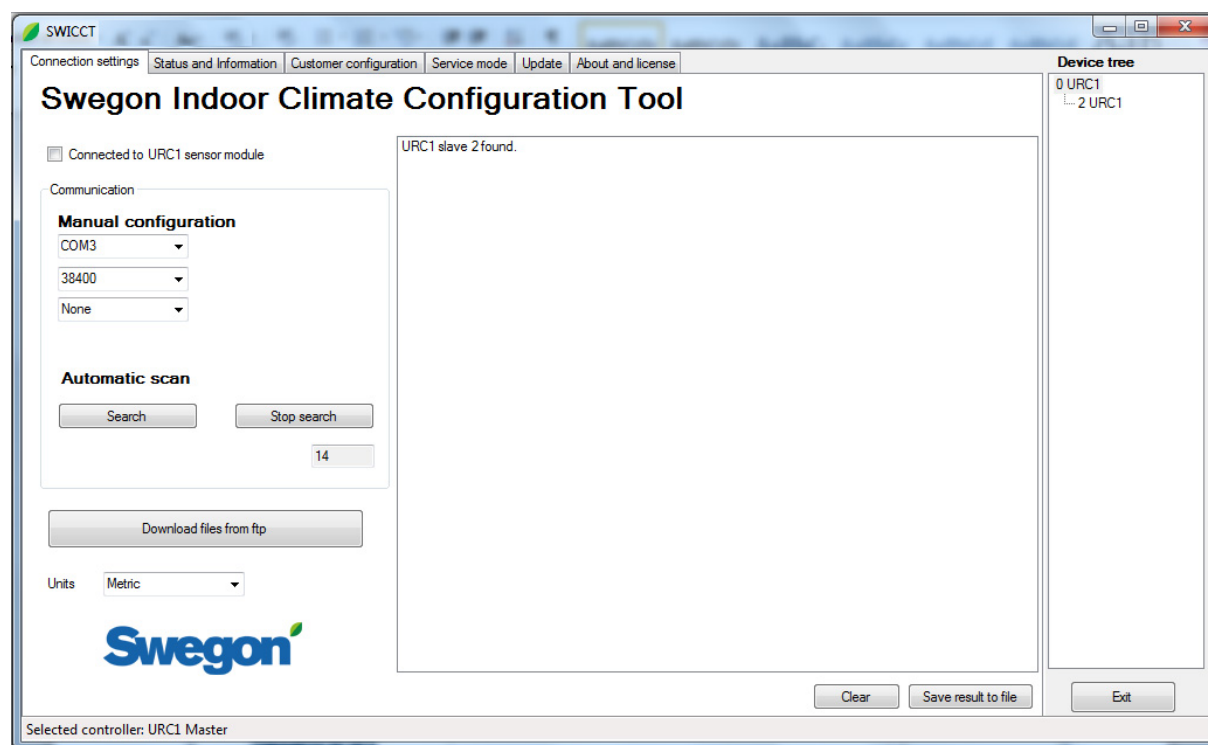
User name: service

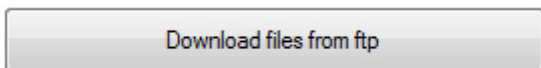
Password: servicepw

If nothing happens when you enter your "Login", you have probably entered an incorrect user name or password.

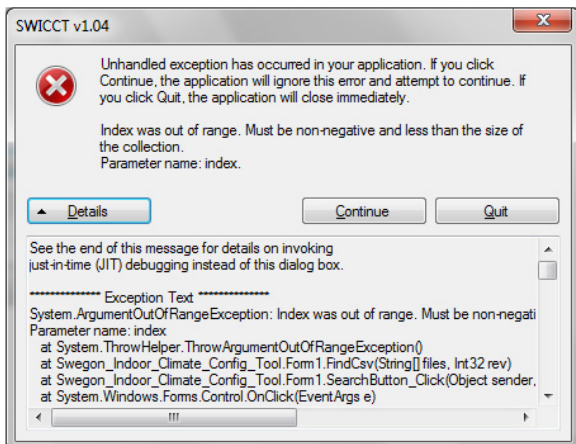
Connection settings

Here you can enter settings for finding the relevant unit/units that are connected up. Instructions on how you connect up to the unit can be found under Section 2 "To connect the unit".



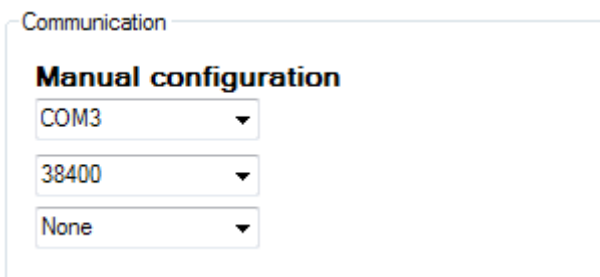


If you have opened the program for the first time, you must fetch the files from the "ftp" server. To do so, click on "Download files from ftp".



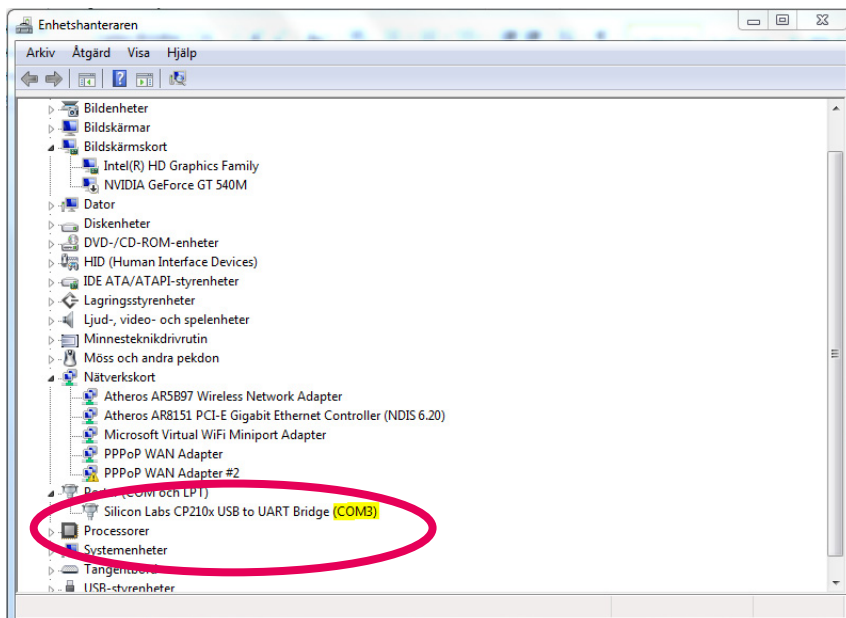
If this box appears when you are trying to search for units, this is probably because you have forgotten to download the files from the server.

To search for the unit:



Select which com port, speed and parity is in use.

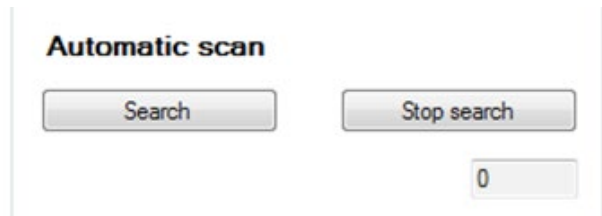
To find which port is active:



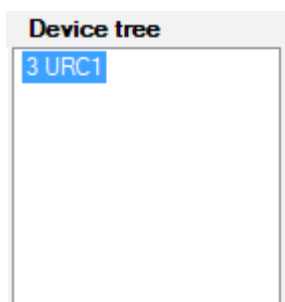
Open the unit manager. Go in under "Ports (COM and LPT)" where the ports that are active are shown, in this case COM3.

Connected to URC1 sensor module

Marked by an X if you are connected to the Slave loop by means of a sensor module. The units found on the loop are shown in the tree to the right. Mark it if you want to enter a change and proceed to the next tab.



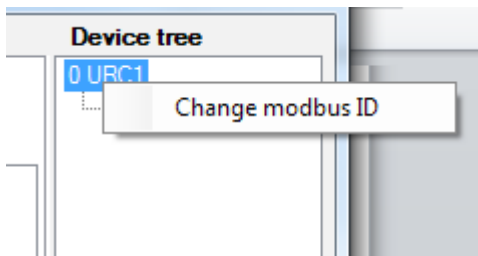
If you are connected up to an individual unit, click on Search; the unit should then appear in the tree.



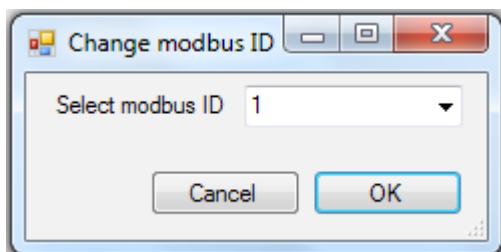
Mark the unit and proceed to the next tab.

To change the Modbus ID:

if you want to change the Modbus ID of a unit, right-hand click on the unit in the tree. It is not possible to change the ID of a slave if you are connected up via a sensor module. To change the ID of a slave, you must connect up to the specific unit's master loop. This results in a change of Modbus ID.



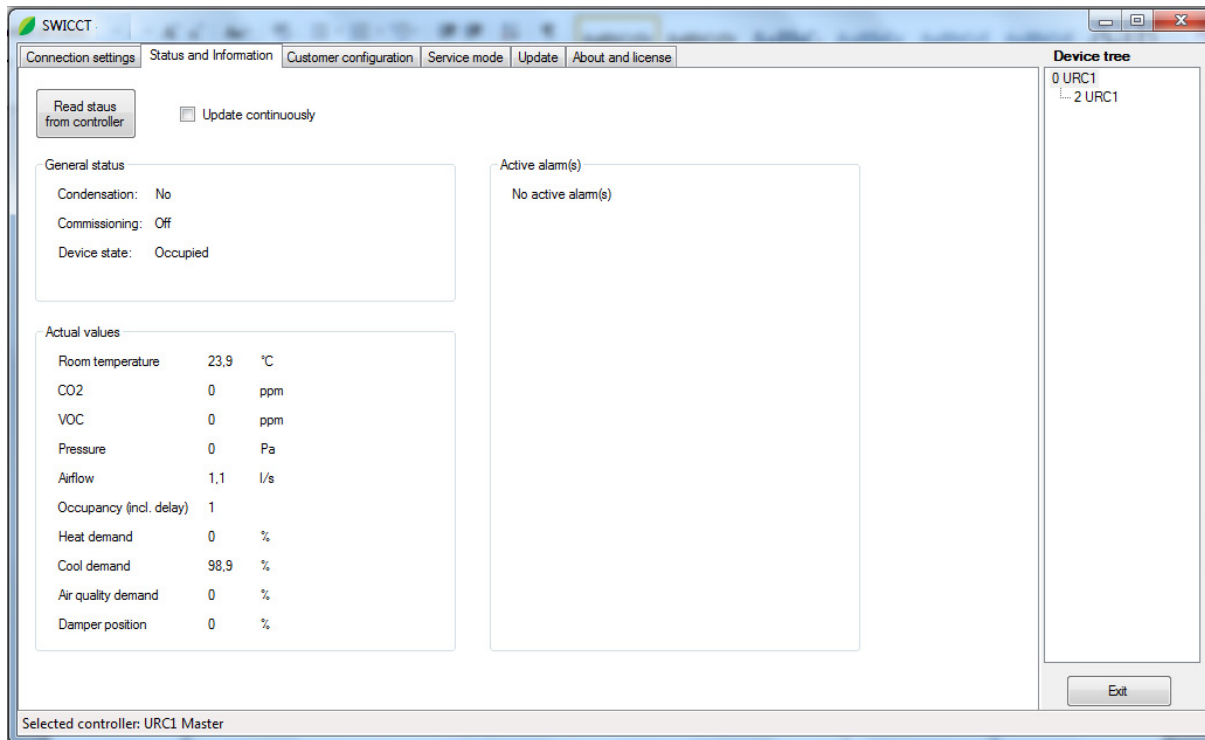
It is possible to change the Modbus ID by right-hand clicking on the unit in the tree.



A scroll bar will then appear. Select which Modbus ID you want to give the unit.

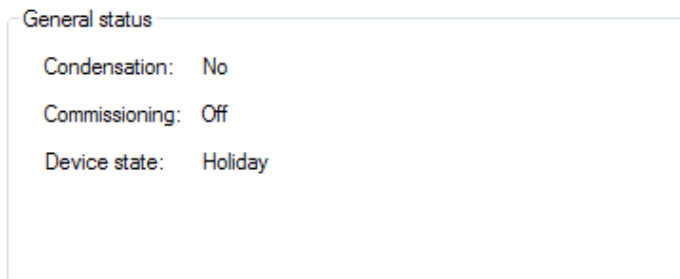
Status and information

The status of the product read by means of selected sensors is shown under this tab.



Click on "Read status from controller" or mark an X in the "Update continuously" box to see the current values.

General status



Description

Condensation: Yes or No, indicates whether or not condensation alarms are connected

Commissioning: On or Off depending on whether the system is operating in the commissioning mode

Device state: Status on the controller: if the controller is a slave, only "slave" is shown.

Actual values

The readings transmitted from the sensor modules connected to the loop are shown here. If several sensors are used, you can choose under the "Service mode" tab and under "Temperature settings" whether a specific sensor should read the values or whether a mean value should be calculated.

Actual values		
Room temperature	23,9	°C
CO2	0	ppm
VOC	0	ppm
Pressure	0	Pa
Airflow	1,1	l/s
Occupancy (incl. delay)	1	
Heat demand	0	%
Cool demand	98,9	%
Air quality demand	0	%
Damper position	0	%

- Room temperature: Shows current operation status
- CO₂ / VOC shows current air quality level
- Pressure: Current nozzle pressure on master (N.B. – Will show zero when the damper is closed)
- Airflow: Shows the room's supply airflow
- Occupancy: Signal from occupancy sensor, 1 = Occupancy, 0 = No occupancy
- Heat demand: Indicates the room's heating demand as a percentage
- Cool demand: Indicates the room's cooling demand as a percentage
- Damper position indicates possible extra air triggered by the air quality sensor

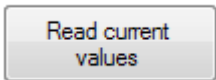
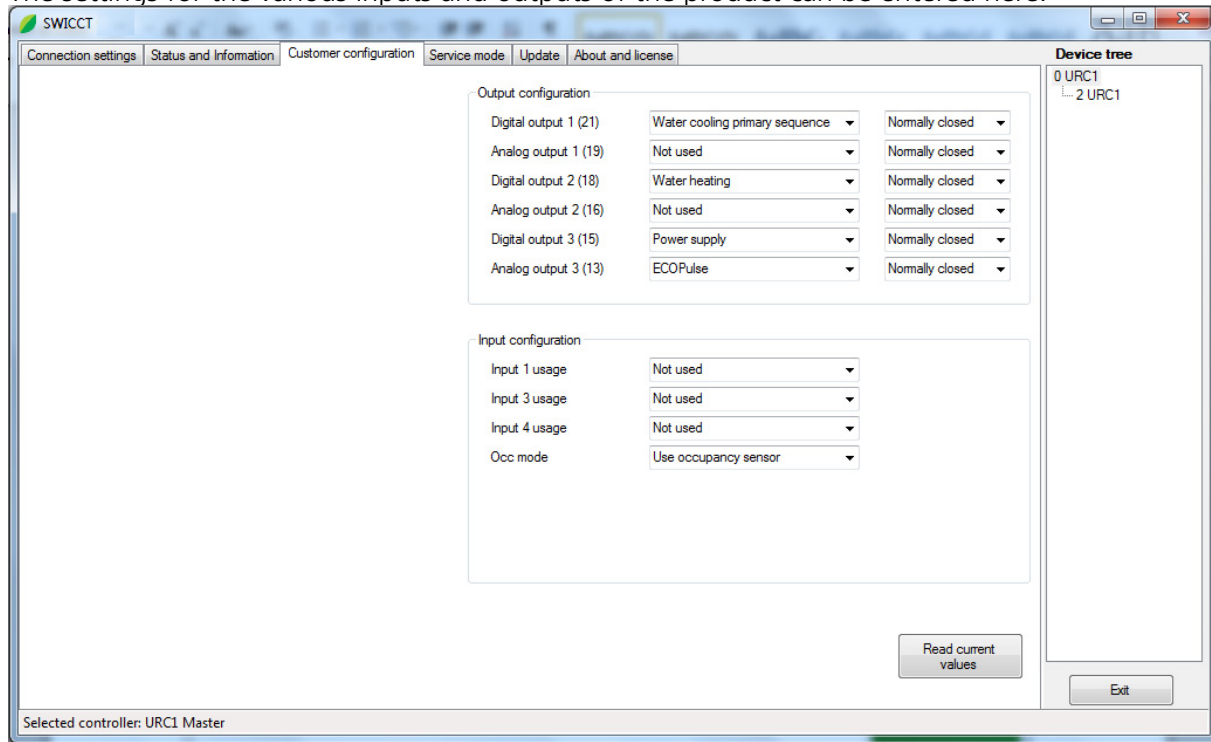
Active alarm

Active alarm(s)
No active alarm(s)

Possible active alarms are shown here.

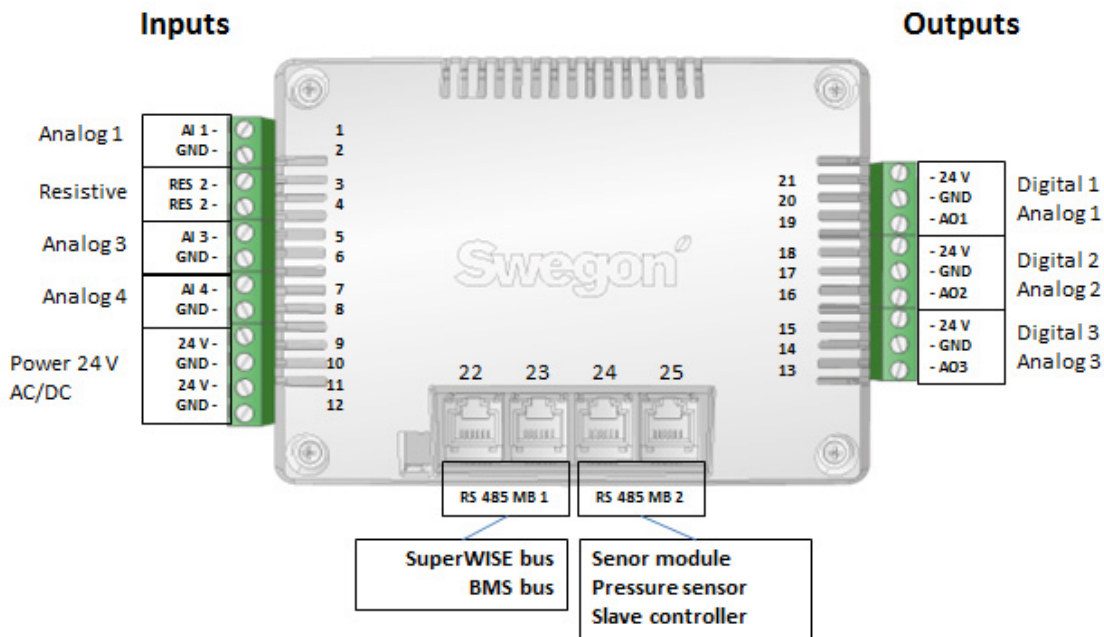
Customer configuration

The settings for the various inputs and outputs of the product can be entered here.



Click on "read current values" enable the current settings for the product to be read into the system.

URC1



Output configuration

Select the settings to be used for the various ports. Various settings for each port are available in the scroll-down lists. The settings are dependent on how the product is wired and what functions it has. All the configurations are selectable as "normally closed" or "normally open" however NO/NC is used only with thermal actuators.

Output configuration

Digital output 1 (21)	Water cooling	Normally closed
Analog output 1 (19)	Not used	Normally closed
Digital output 2 (18)	Water heating	Normally closed
Analog output 2 (16)	Not used	Normally closed
Digital output 3 (15)	Power supply	Normally closed
Analog output 3 (13)	ECOPulse	Normally closed

Digital output 1, 2, 3 (21, 18, 15)	Description
→ Not used	No signal on the output
→ Power supply	24V constant supply out from the output
→ Water cooling	24V when there is a cooling signal
→ Water heating	24V when there is a heating signal
→ Water change over 2 pipe	24V for cooling/heating demand
→ Water cooling primary sequence	Cooling sequence 0-50% 24V
→ Water cooling secondary sequence	Cooling sequence 50-100% 24V
→ Water heating primary sequence	Heating sequence 0-50% 24V
→ Water heating secondary sequence	Heating sequence 50-100% 24V
→ Light Control	Lighting output on/off signal
Analogue output 1, 2, 3 (19, 16, 13)	Description
→ Not used	No signal on the output
→ Water cooling	0-10V for a cooling demand
→ Water heating	0-10V for a heating demand
→ Water change over 2 pipe	0-10V for cooling/heating demand
→ Water change over 4 pipe	For 6-way valve, 0-5V=cooling, 5-10V=heating
→ Water cooling primary sequence	Cooling sequence 0-50% 0-10V
→ Water cooling secondary sequence	Cooling sequence 50-100% 0-10V
→ Water heating primary sequence	Heating sequence 0-50% 0-10V
→ Water heating secondary sequence	Heating sequence 50-100% 0-10V
→ ECOPulse	Control signal for integrated damper at 3 different operating modes
→ 2step	Control signal for integrated damper at 3 different operating modes
→ Variable	Control signal for integrated damper at 3 different operating modes
→ ADAPT analogue extract air	Calculated 0-10V signal for extract air (ADAPT Damper)
→ ADAPT slave supply air	ADAPT Parasol slave (control signal to internal damper)
→ Light Control	Lighting output control signal

Input configuration

Select the settings to be used for the various ports.

Input configuration

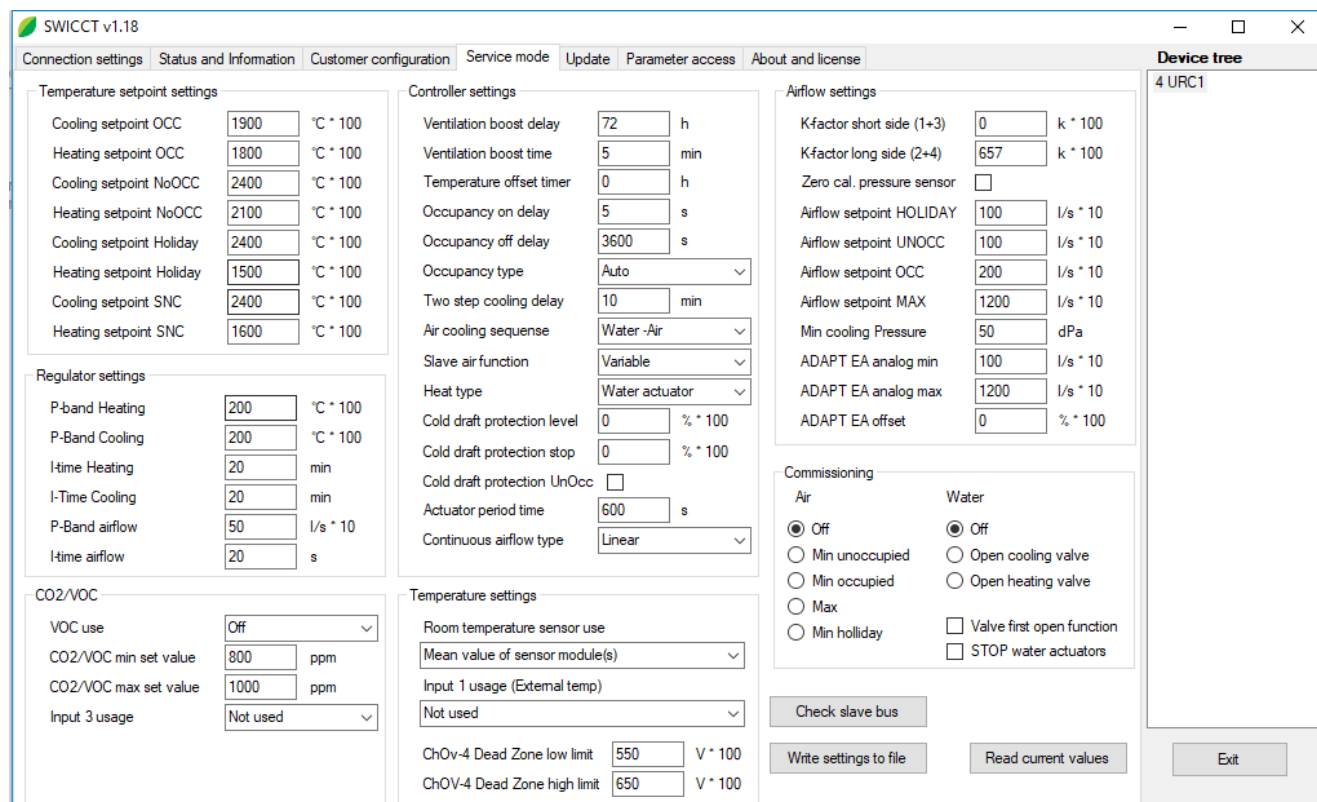
Input 1 usage	Not used ▼
Input 3 usage	Not used ▼
Input 4 usage	Not used ▼
Occ mode	Use occupancy sensor ▼

Description of the options available for selection for the various input ports.

Input 1 usage	
→ Not used	Not used
→ Room Temperature	External temperature sensor is used
→ Change over temperature	Ext. Temp sensor for change-over is used
→ Temperature (read only)	Only temp. reading, no regulation
→ Window contact NO	Window contact normally open
→ Window contact NC	Window contact normally closed
Input 3 usage	
→ Not used	Not used
→ CO2 0-10V	CO2 sensor with 0-10 V control range
→ CO2 2-10V	CO2 sensor with 2-10 V control range
Input 4 usage	
→ Not used	Not used
→ Keycard switch NO	Keycard switch normally open
→ Keycard switch NC	Keycard switch normally closed
→ Window contact NO	Window contact normally open
→ Window contact NC	Window contact normally closed
→ Change-over contact NO	Change-over contact normally open
→ Change-over contact NC	Change-over contact normally closed
Occ mode	
Use occupancy sensor	Detect occupancy/no occupancy
Always occupied	Force to occupancy mode

Service mode

Under this tab you can adjust the settings of the various modes of the product, for instance. The switch-on of various modes can also be forced, for measurement and checks, for instance.



Temperature setpoint settings

Specify the temperature limits that shall apply to the relevant mode of the product.

Temperature setpoint settings		
Cooling setpoint OCC	2300	°C * 100
Heating setpoint OCC	2200	°C * 100
Cooling setpoint NoOCC	2400	°C * 100
Heating setpoint NoOCC	2000	°C * 100
Cooling setpoint Holiday	2500	°C * 100
Heating setpoint Holiday	1600	°C * 100
Cooling setpoint SNC	2400	°C * 100
Heating setpoint SNC	1500	°C * 100

Description

Switch-on temperature, cooling/heating in the following:

- OCC Occupancy mode
- NoOCC No occupancy mode
- Holiday Holiday mode
- SNC Summer night cool

Regulator settings

Regulator settings		
P-band Heating	<input type="text" value="200"/>	°C * 100
P-Band Cooling	<input type="text" value="200"/>	°C * 100
I-time Heating	<input type="text" value="20"/>	min
I-Time Cooling	<input type="text" value="20"/>	min
P-Band airflow	<input type="text" value="400"/>	l/s * 10
I-time airflow	<input type="text" value="60"/>	s

Description

P-band and I-times for regulation of water and air.

CO₂/VOC

CO ₂ /VOC	
VOC use	<input type="text" value="Off"/>
CO ₂ /VOC min set value	<input type="text" value="600"/> ppm
CO ₂ /VOC max set value	<input type="text" value="1000"/> ppm
Input 3 usage	<input type="text" value="Not used"/>

Description

- The use of VOC air quality sensor
 - Off – No sensor should be used. Used for actively indicating that an already registered sensor has been removed. Otherwise the system will initiate an alarm.
 - Auto, detects whether a sensor is connected
- Min. value in ppm for regulation with an air quality sensor
- Max. value in ppm for regulation with an air quality sensor
- The regulator steplessly regulates the airflow between these values.
- Input 3 usage: Choice whether a 0-10V or 2-10V sensor is used

Controller settings

Controller settings		
Ventilation boost delay	<input type="text" value="72"/>	h
Ventilation boost time	<input type="text" value="5"/>	min
Temperature offset timer	<input type="text" value="0"/>	h
Occupancy on delay	<input type="text" value="5"/>	s
Occupancy off delay	<input type="text" value="3600"/>	s
Occupancy type	Auto ▾	
Two step cooling delay	<input type="text" value="10"/>	min
Air cooling sequense	Water -Air ▾	
Slave air function	Variable ▾	
Heat type	Water actuator ▾	
Cold draft protection level	<input type="text" value="0"/>	% * 100
Cold draft protection stop	<input type="text" value="0"/>	% * 100
Cold draft protection UnOcc	<input type="checkbox"/>	
Actuator period time	<input type="text" value="600"/>	s
Continuous airflow type	Linear ▾	

Ventilation boost delay: After how many hours of no occupancy the airflow should be boosted for ventilating the room

Ventilation boost time: How long should the boost mode run

On delay: Delay of signal transmission when occupancy is detected

Off delay Delay of signal transmission when no occupancy is detected

Occupancy type

- Auto Occupancy sensor in Auto operation mode
- Occupancy forced Boosted airflow during occupancy
- No occupancy forced Boosted airflow during no occupancy

Two step cooling delay: Delay between steps when two-step cooling is run

Air Cooling sequence

- Air-Water-Air Water first
- Air-Water Air first

Slave air function:

Alternative regulation function, slaves, can be made here (Variable = standard procedure)

Heat type:

“Radiator” should be selected if radiators are used or floor heating is used. On a heating demand, boosted airflow to supply extra air is blocked.

Cold draft protection level (for Heat type radiators): How much should the heating actuators open for cold draft protection.

Cold draft protection stop (for Heat type radiators): In response to which cooling signal should the cold draft protection switch off (heat actuator closes)

Cold draft protection UnOcc: Cold draft protection when there is no occupancy

Actuator period time: Length of period for actuator

Continuous airflow type:

- ADAPT Parasol Position for ADAPT Parasol
- Normal Position for analog motor damper
- Linear Position for PARASOL Zenith VAV

Airflow settings

Airflow settings		
Kfactor min flow	<input type="text" value="51"/>	
Kfactor max flow	<input type="text" value="416"/>	
Zero cal. pressure sensor	<input type="checkbox"/>	
Airflow setpoint HOLIDAY	<input type="text" value="50"/>	l/s * 10
Airflow setpoint UNOCC	<input type="text" value="40"/>	l/s * 10
Airflow setpoint OCC	<input type="text" value="200"/>	l/s * 10
Airflow setpoint MAX	<input type="text" value="320"/>	l/s * 10
Min cooling Pressure	<input type="text" value="200"/>	dPa
ADAPT EA analog min	<input type="text" value="NOT_FOU"/>	l/s * 10
ADAPT EA analog max	<input type="text" value="NOT_FOU"/>	l/s * 10
ADAPT EA offset	<input type="text" value="NOT_FOU"/>	% * 100

Description

- C-factor of relevant product's min. flow
- C-factor of current product's max. flow
- Zero point calibration (done immediately)
- Airflow to the room in Holiday mode
- Airflow to the room in No occupancy mode
- Airflow to the room in Occupancy mode
- Airflow to the room for boost/max. mode
- Lowest permissible nozzle pressure so that the cooling valve will open
- Min. airflow for slave-controlled extract air damper
- Max. airflow for slave-controlled extract air damper
- Offset between supply air and extract air (positive or negative pressure in the room)

Temperature settings

Temperature settings		
Room temperature sensor use	<input type="text" value="Mean value of sensor module(s)"/>	
Input 1 usage (External temp)	<input type="text" value="Not used"/>	
ChOv-4 Dead Zone low limit	<input type="text" value="550"/>	V * 100
ChOV-4 Dead Zone high limit	<input type="text" value="650"/>	V * 100

Description

- Room temperature sensor use
 - Mean vale of sensor modules Uses the mean value from the sensor modules included in the loop
 - Sensor module with MB ID 1 Uses the temperature reading from the sensor module with Address 1.
 - External temperature sensor Uses only the temperature reading from external temp. sensor
 - Mean value of sensor modules and ext. Temp. sensor Uses the mean value of sensor modules and external Temp. sensor
- Input 1 usage (External temp)
 - Not used No external temperature sensor is used
 - Room temperature Measures the room temperature and regulates according to it
 - Change over temperature Use of the sensor in a change-over system
 - Temperature read only Sensor measures only temperature, no regulation
 - Window contact NO Use of window contact which is normally open
 - Window contact NC Use of window contact which is normally closed

Commissioning

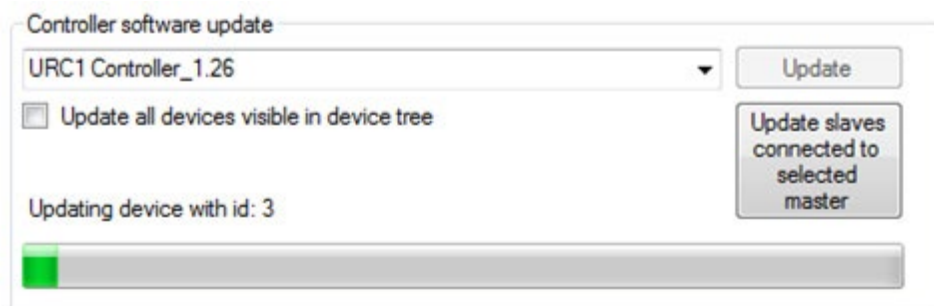
Commissioning		Description	
Air	Water	Air	Water
<input checked="" type="radio"/> Off <input type="radio"/> Min unoccupied <input type="radio"/> Min occupied <input type="radio"/> Max <input type="radio"/> Min holiday	<input checked="" type="radio"/> Off <input type="radio"/> Open cooling valve <input type="radio"/> Open heating valve <input type="checkbox"/> Valve first open function <input type="checkbox"/> STOP water actuators	– Off – Min/Max	No commissioning mode activated Operate the damper in the forced mode
		– Off	No commissioning mode activated
		– Open	Force the valves to open

Valve first open function: Energises the actuators for 6 minutes to activate them. (Supplied in open condition, will now close)

STOP water actuators: Closes the actuators

Update

Browse and fetch the latest program update.



“Update slaves...”: Updates the underlying slaves with selected software