SUPERVISION® 2.0

USER MANUAL

CorroVenta
MAKING DRYING SMARTER™

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User Manual SuperVision® 2.0

Intended use

The SuperVision® 2.0 is a remote monitoring and control system developed and intended for the digital ES-family of dehumidifiers and turbines, machines that are intended for professional construction drying and water damage restoration.

The SuperVision® 2.0 consists of a gateway and up to six wireless sensor nodes, each capable of carrying two relative humidity and temperature sensors and one Wood Moisture Equivalent (WME) sensor. The gateway collects all the information from the machines as well as the sensors and sends it to an internet server where the user can access it, make required adjustments to the settings of the machines as well as starting and stopping the operation, saving travelling costs as well as time.

The installation of the SuperVision® 2.0 requires no internet access nor any preparations. Systems that are installed automatically start to report to the server. When the project is finished, a project report with measurements as well as machines used and energy consumed, is prepared more or less with the push of a button.

• High Capacity – up to 8 machines and 6 wireless sensor nodes	• Easily installed – power and communication to gateway through single cable. Battery powered, wireless sensor nodes.
• Mesh technology – for optimum coverage.	
• Robust – local buffers and acknowledged transmissions prevents data loss.	• Energy saving – allows the user to stop the machines as soon as the job is completed

Manufacturing Directive

SuperVision® 2.0 is CE approved.

Waiver of Liability

- Faulty, incorrect installations and/or incorrect use can cause damage to property and human injury.
- The manufacturer assumes no responsibility or liability for damages or injuries caused by non-compliance with the instructions herein, use for other purposes than the intended, or failure to observe its warnings. Such damage, injuries or liabilities are not covered by the product warranty.
- The product warranty does not cover consumables or normal wear and tear.
- It is the responsibility of the buyer to inspect the product at time of delivery and before use to ensure its good function. The product warranty does not cover damage resulting from use of faulty products.
- Changes or modifications to the equipment must not be made without written consent by Corroventa Avfuktning AB.
- The product, technical data and/or installation and operation instructions can be changed without prior notice.
- This manual contains information that is protected by the Intellectual Property laws. No part of this manual may be copied, stored in an information system or transferred in any form or in any way without the written consent of Corroventa Avfuktning AB.

Any comments on the contents of this document shall be sent or addressed to:

Corroventa Avfuktning AB   Tel +46 (0)36-37 12 00
Mekanikervägen 3   Fax +46 (0)36-37 18 30
564 35 Bankeryd, SWEDEN   E-mail mail@corroventa.se

Safety information

This equipment can be used by children aged eight (8) years or above and people with reduced physical, sensory or mental capabilities or with lack of experience and knowledge provided they have been given instructions and information on how it is safely used and that they understand the hazards involved.

Children must not be allowed to play with the equipment. Cleaning and maintenance must only be carried out by suitably trained and qualified personnel.

Electrical installations made in connection with the installation of the SuperVision® 2.0 shall only be made by authorized personnel in accordance with local and national regulations.

Furthermore, the following warnings and instructions shall be read and observed:

1. The SuperVision® 2.0 is intended for indoor use only.
2. The machine to which SuperVision® 2.0 is connected must not be started until the SuperVision® 2.0 gateway has been connected.
3. Do not use SuperVision® 2.0 near medical equipment without requesting permission.
4. The operation of cardiac pacemakers, other implanted medical equipment and hearing aids can be affected by interference from SuperVision® 2.0 Gateways or Wireless Sensor Nodes placed close to the product. If in doubt about potential danger, contact the physician or the manufacturer of the product to verify that the equipment is properly shielded. Pacemaker patients are advised to keep the product away from the pacemaker, while it is on.
5. Do not use SuperVision® 2.0 in areas where use of two-way radios is prohibited or restricted. The wireless sensor nodes are battery powered and are active even when the gateway is not powered.
6. Do not use SuperVision® 2.0 in an area where a potentially explosive atmosphere exists.
7. Remember that interference can occur if it is used close to TV sets, radios, computers or inadequately shielded equipment. Follow any special regulations and always switch off the product wherever forbidden, or when you suspect that it may cause interference or danger.
8. SuperVision® 2.0 operates using radio signals and cellular networks and therefore, connection cannot be guaranteed at all times under all conditions. Therefore, the system must never be relied upon for essential communication like emergency stop of connected machines.
9. Water must not come in contact with the electrical components of the equipment. If this has happened, ensure that the equipment is dry before it is used again.
10. Repairs and maintenance of the SuperVision® 2.0 must only be made by qualified personnel.
11. The SuperVision® 2.0 must never be used with any other accessories than those listed in this manual or those specifically approved by Corroventa Avfuktning AB.

For further advice on product safety and use, please contact the supplier.

Delivery inspection

SuperVision® 2.0 is available in two different configurations called the Start kit and the Standard kit, and their contents are listed in the table below.

CONTENT OF THE SUPERVISION® 2.0 KITS	START KIT	STANDARD KIT
Article number	**1006360**	**1006436**
SuperVision® 2.0 Gateway	1	1
SuperVision® 2.0 Sensor nodes incl. battery	1	2
SuperVision® 2.0 RHT Sensor	1	4
SuperVision® 2.0 RHT HP Sensor	1	1
Measuring tube HP RHT Sensor, 5-pack	1	1
Sealing compound for measuring tube	1	1
System cabel ES 0,5 m	1	1
SuperVision® 2.0 Transport case	1	1
Number of items	**8**	**12**

Product Overview

The Wireless Sensor nodes included with the SuperVision® 2.0 have the following external features:

A.   LED status indicators for Sensor communication and Gateway communication. The meaning of the indications are found below.
B.   Two connectors for RHT, Relative Humidity and Temperature sensors.
C.   Fixation points on the respective sides.
D.   3.5mm connector for WME, Wood Moisture Equivalent, sensor.
E.   Push button.
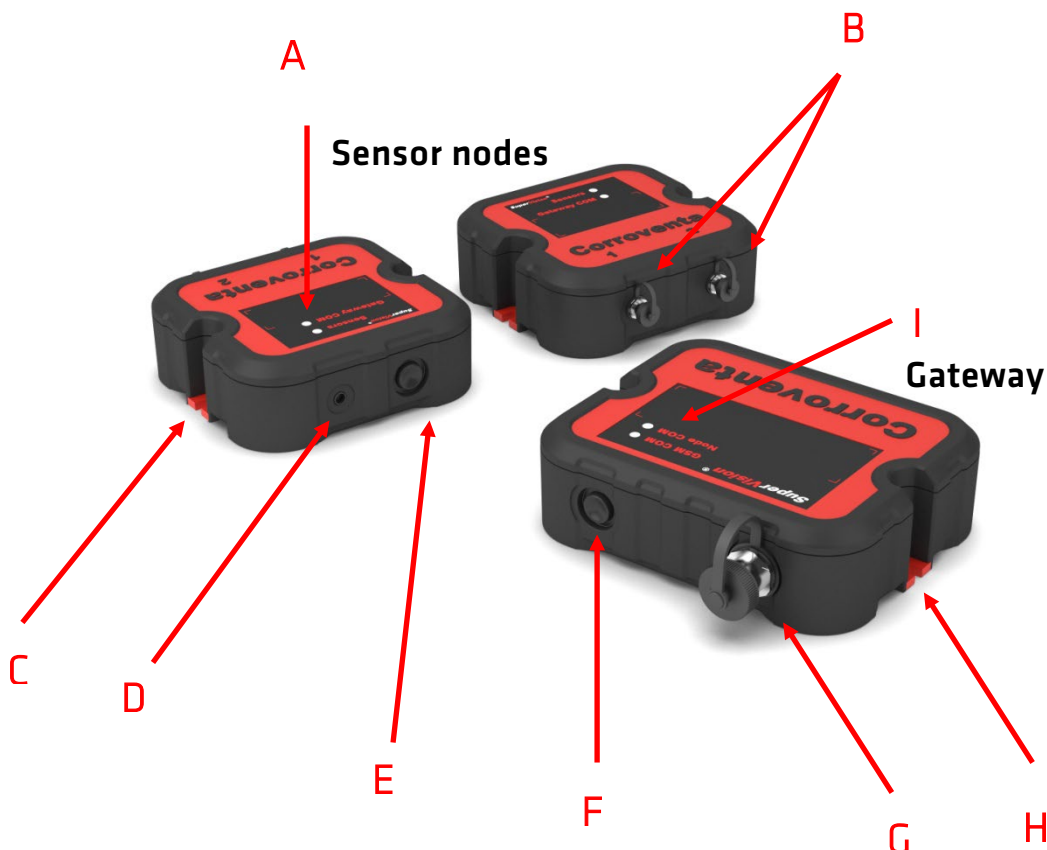
The SuperVision® 2.0 Gateway is equipped with:

F.   Push button.
G.   Connector for connection to digital ES family machine through System Cable.
H.   Fixation points supplemented also with magnetic feet for attachment to machine or other magnetic surface.
I.   LED status indicators for Data communication (DATA COM) and for Sensor Node communication. The meaning of these indications are found below.

At the front of the Gateway as well as the Sensor Nodes, there are also stickers with the respective units' serial numbers (SN). These numbers are the identities presented and used by the SuperVision® 2.0 server available through the Internet.

The meaning of the respective indications on the Gateway and the Wireless Sensor Node are found on labels at the back of the respective units.

The Gateway has one indicator for the Data communication (DATA COM), and one for the communication with the Wireless Sensor Nodes, Node COM. Under normal operation, when everything works as intended, the DATA COM indication is normally constant green, changing only when data transmissions are done. The Node Com indication is normally green with intermittent blinks, the number of which reflect how many sensor nodes are paired to the Gateway. The Gateway can hold six nodes in its list and this list is deleted by keeping the button pushed when the unit powers up.

The sensor node indicators are normally not lit in order to save battery. To check the function of all the connected sensors, up to two RHT sensors and one WME sensor, one simply pushes the button and then observes the LED indicators. If everything is working as it should, the Gateway COM indicator will turn green to say that the measurement data message sent to the Gateway has been acknowledged. Meanwhile, the Sensor indicator will blink in green once for every sensor connected and functioning. If there are malfunctioning sensors, the corresponding blinks will be red. If so, trouble shoot by removing and/or replacing sensors and then try again.
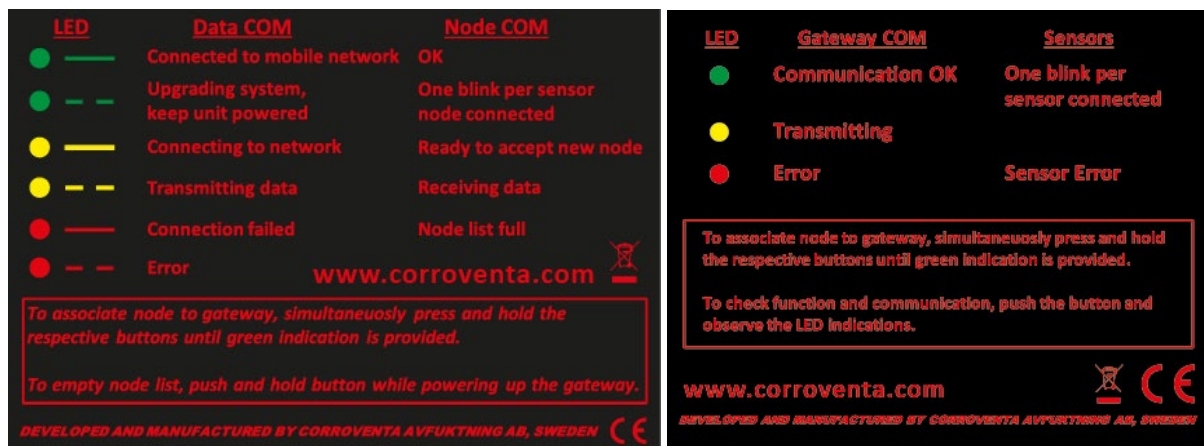
Gateway indications   *Wireless Sensor Node indications*

RHT Sensor

RHT Sensor is designed to measure temperature and humidity in the air.

HP RHT Sensor

HP RHT, High Performance, sensor has been developed to measure temperature and humidity in concrete and other dense materials. This sensor can withstand long periods of high humidity that concrete moisture measurement demands. In fact, it can also be used in freshly poured concrete without being damaged by the aggressive environment this involves.

Installation

The SuperVision® 2.0 gateway is connected to a digital ES-series machine through a System Cable providing both power to the unit and communication. If the SuperVision® 2.0 is to monitor and allow control of several machines, these machines need to be linked to each other through System Cables, allowing the gateway to communicated with them all. Up to eight (8) machines can be linked together and connected to the same SuperVision® 2.0 gateway.

Regardless of whether there is only one or several machines, once the cables are installed, a network must be created through the Network menu of the intended Master machine. Any ES-machine can serve as the Master and if the intent is only to have remote control and monitoring of all the machines, it does not matter which machine is selected for the task. The only time it matters which machine is the Master is if the machines shall cooperate locally, for instance through use of the pressure drying functionality where the turbine must be made the Master in the network.

Once networked, all machines will be started and stopped through the Master machine of the network. Through the control panel of the Master machine, it is also possible to change settings in all the other machines if that is of benefit in the situation. If not, all of the settings for the individual machine are still available on the machine itself.

Deleting wireless nodes from Gateway

If pairing a new wireless node to the Gateway does not work, it may be so that it already has six nodes associated. To clear the memory of the Gateway, switch off the power to the machine supplying the Gateway, push and hold the Gateway button while restarting the machine.

To install the SuperVision® 2.0, proceed as follows

1. Connect all the machines that are to be monitored with system cables. Each machine has two system connectors allowing the machines to be connected in a chain, from one to the other, from that to the next and so forth.
2. Connect the Gateway, preferably to the intended Master machine.
3. On the intended Master machine, enter the Network menu and select to create network, pushing the Create button.
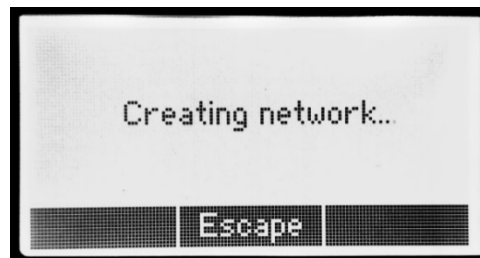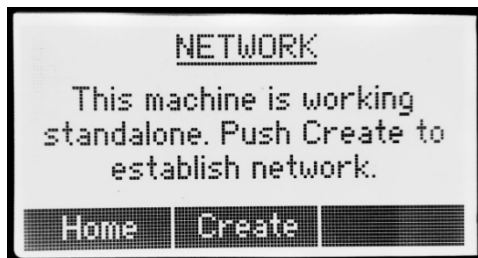
If there are several machines connected, when the creation process is through, verify that all of the machines that are physically connected are found among the slave machines listed.

If the SuperVision® 2.0 gateway is the only unit connected, when the creation process is finished, the machine will say that no slaves were found. Thereafter, with some delay, at the bottom of the screen it will present the text "SuperVision® 2.0 connected".

When returning to the default view of the machine, at the top and in front of the word Master, there will now be a SuperVision® 2.0 symbol. At first, before the gateway has established connection to the cellular network, the symbol will flash and be empty. As soon as the network connection is established, it will stop flashing and the level to which it is filled will reflect the quality of the reception.

SuperVision® 2.0 symbol:

Reflects cellular network connection. When symbol is empty and flashing, there is no connection with the cellular network.
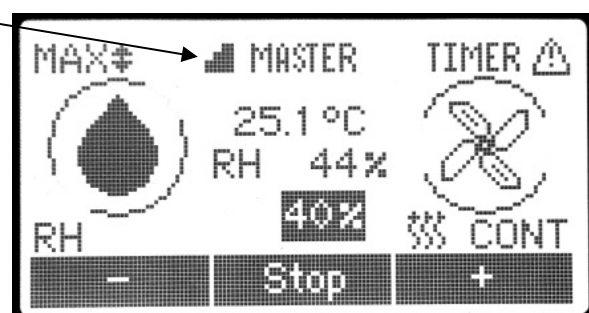
4. Once the Gateway is installed, proceed with required Sensor Nodes. If the Sensor Nodes were used with this Gateway last time, there is no need to pair them as they remember their previous settings. Continue with step 5.
    If the Sensor Nodes are new or come from another SuperVision® 2.0 system, pair the nodes, one by one, to the Gateway by doing the following:

    • Simultaneously push and hold the buttons on the Gateway and on the sensor node. When the Gateway LED on the Sensor Node turns green, the pairing is completed.

    The pairing and the function can be checked at any time by pushing the button on the Sensor Node. When the button is pushed, a measurement message is sent to the Gateway and if it is received and acknowledged, the Gateway LED on the Sensor Node will turn green. At the same time, the Sensor LED on the Sensor Node will flash once for every functioning sensor connected.

5. For each and every sensor node to be used, proceed as follows:
    Connect the RHT sensor(s) and, if required, the WME sensor. Install the Sensor Node where it is required. Push the button and observe the LEDs at the top. The Sensor LED shall flash green once for every sensor connected and the Gateway LED shall turn green to confirm that there is connection with the Gateway.
    Make a note of what Sensor Node serial number is used for given position and where the respective sensors are positioned. Alternatively, take a photo where the number is readable and where it can be seen how the sensors are installed.

6. Before leaving the site, either check the web to see that all the units are available there or check the Master machine. As soon as the SuperVision® 2.0 symbol is present in the default view, there is also a SuperVision® 2.0 menu available with one push of the upper left button. In this menu, the system presents the quality of its cellular network connection, how many Sensor Nodes it has heard and total of number of sensors connected. The last row presents how many sensor errors there are. Check that the reception is good, that the number of sensor nodes and sensors presented correspond to what has been installed and that there are no failing sensors.
    In order to ensure that the all the data collected by the system is easily found and understood during later analysis, make a note of the Serial Number (SN) of the Gateway. Furthermore, if multiple sensors are used for different purposes, make notes of the identities and the sensor inputs used for each purpose. The below is an example of what information is suitably documented at the work site in situations where there are more units and more parallel projects on-going for all details to be remembered at a later stage. An alternative to making notes of it is naturally to take pictures where the units can be identified.

Project/work order:		
Address:		
Gateway Identity:		
Wireless Node Serial No:		
	Position RHT Sensor 1:	
	Position RHT Sensor 2:	
	Position WME Sensor:	
Wireless Node Serial No:		
	Position RHT Sensor 1:	
	Position RHT Sensor 2:	
	Position WME Sensor:	
Wireless Node Serial No:		
	Position RHT Sensor 1:	
	Position RHT Sensor 2:	
	Position WME Sensor:	
Wireless Node Serial No:		
	Position RHT Sensor 1:	
	Position RHT Sensor 2:	
	Position WME Sensor:	
Wireless Node Serial No:		
	Position RHT Sensor 1:	
	Position RHT Sensor 2:	
	Position WME Sensor:	
Machine 1 Serial no:		
	Position/role:	
Machine 2 Serial no:		
	Position/role:	
Machine 3 Serial no:		
	Position/role:	
Machine 4 Serial no:		
	Position/role:	

SuperVision® 2.0 Web

At the top, to the right, are the main menus of the SuperVision® 2.0.
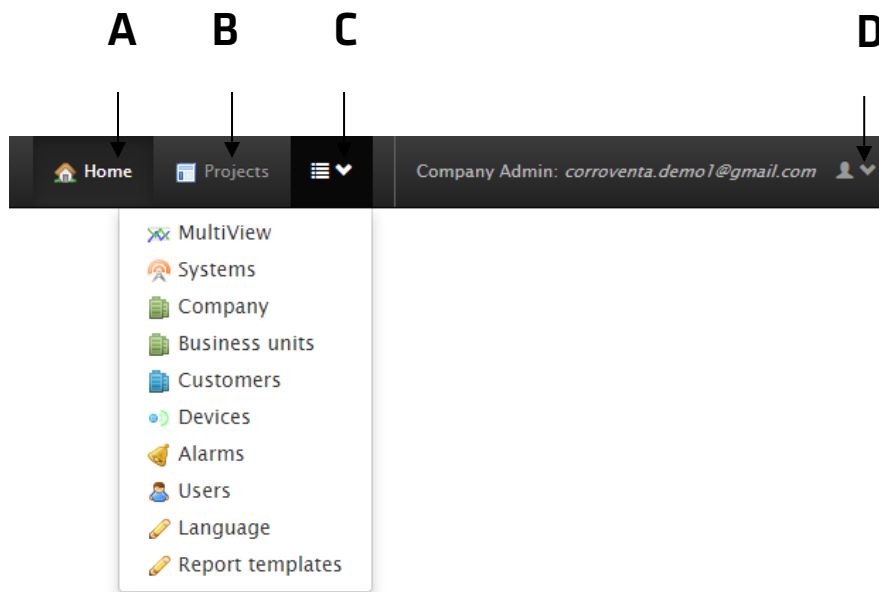
A. **Home View**   The default view. Dashboard type overview of the projects.

B. **Project View**   Provides editing of project data. Allocation to customer and user etc.

C. **Drop down menu list available through push of arrow:**

> **Multi View**   Creation of graphs for analysis and reporting.
> Creation of reports.

> **Systems**   Technical overview.

> **Companies**   Presents contact details for the company. Not involved in
> normal usage of the system.

> **Business Units**   Creation and maintenance of Business Units within the
> company. Every company must have minimum one
> Business Unit.

> **Customers**   Used for creation and maintenance of Customer
> information

> **Devices**   Allows for search of gateway, nodes and machines. To
> see where they are being used and where they have
> been used.

> **Alarms**   An overview of all the alarms defined with the on-going
> projects and their respective status.

Users	Creation and maintenance of user accounts.
Languages	Editing of languages, the translations used for the texts on the web site.
Report Templates	Overview of available templates. Template files can be downloaded for editing. The edited file is then uploaded through creation of new template in the MultiView Report mode.

D. Drop down menu with logout and settings for user account, password, language and date and time format.

Introduction to Company and Business Unit

SuperVision® 2.0 is designed to support small as well as large organizations where there are many different local offices or subsidiaries that work independently with their own set of personnel and equipment. To this purpose, the Company includes one or several Business Units, each with their own set of personnel and equipment. Users with Company Admin privileges, the highest level, can see all of the Business Units and their respective projects whereas the other types of users in the system only will see the projects and the SuperVision® Gateways that belong to their respective Business Units.

User privileges - Creation of new User accounts

In the system there are several user account types, each with different levels of rights and privileges as follows:

Company Admin

Company Admin has full user privileges and can see all of the information in all Business Units within the company.

The Company Admin can create new Business Units as well as new user accounts of all types. The Company Admin is also the only user level that allows for creation of Customer accounts that shall be available within the entire company, all different Business Units.

The company admin can also transfer SuperVision® 2.0 Gateways between the different Business Units if hardware is to be lended or perhaps permanently transferred to another office.

Unit Admin

The Unit Admin has full user privileges within the Business Unit. This user can create new user accounts within the Business Unit and also create Customer accounts available for his or her own Business Unit. Customers that might be served by several different Business units are preferably registered by the Company Admin so that the same account will be accessible within the entire company.

Project Admin

The Project Admin is authorized to manage all projects, edit and change all data including to what Customer and to what User the given project is allocated. The Project Admin cannot create new Users or Customers, only select between already existing ones.

User

The User account provides access only to the projects that has been allocated to the given User. With those projects, the User can change machine settings, use MultiView to analyse the process etc. Closing the project however, is a function that must be performed with Project Admin or Company Admin privileges.

Customer Guest

A read-only account that provides access only to the projects allocated to given Customer account. With the account, the guest can study the project view and see what is currently happening as well as studying the development using the graphs of the project view itself. The Guest does not have access to the MultiView and thus he can neither generate graphs with multiple sensor input nor create reports.

Project Guest

A read-only account that provides access only to a given project. Access is granted to the project view, not the MultiView.

User accounts can be created by Company Admin and Unit Admin users. To create and account, enter the Users menu push the Create new button at the top right of the screen. Enter the required information in the form that appears and then push the Create button.

At push of create, an email is automatically sent to the new user containing an activation link that the new user must follow to activate the account. In the email, there is also an auto-generated password that must be used for the first login.

Create new user

Name

Login Id (e-mail)

User type

Company Admin

Company

Corroventa

Language

English

Contact phone

Create Cancel

Introduction to Project
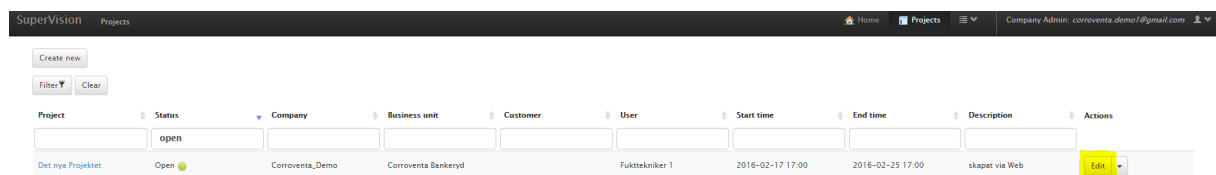
The SuperVision® 2.0 manages all data in project form. When installed and powered up, the Gateway will automatically start report data to the web server and if the Gateway does already not belong to an existing open project, a new default project will automatically be created. Administrative tasks like giving the project another more telling name, allocating it to a certain customer and so forth can be done whenever convenient. If preferred, it is of course also possible to prepare the installation by creating a project and allocating a Gateway to it.

One Gateway supports up to eight machines and ten wireless sensor nodes. For larger installations, requiring more than 8 machines or with machines physically distributed, several Gateways can be allocated to a single project, allowing the entire installation to be jointly monitored, analyzed and reported.

For ease-of-use and easy understanding, within the project, the machines and the sensors can be given alias names such as "Kitchen floor" or whatever is applicable to the installation. These names are also project specific and will not follow the hardware when they, at a later stage, are used in other installations.

Add customer details and other administrative information to the project

Open the Projects view, the table with all the projects, and for the selected project, push the Edit button at the far right, highlighted in the picture below.

In this view, a project can be allocated to a Customer.

Customers accounts, with contact information, are created in the Customer view.

Working with the project

In the project view, there is an alarm indicator with each row, normally green, that turns red if there is a problem detected with the unit or if a user created alarm has been triggered.

 The pencil symbol is used with every row/unit that can be given an alias name. For instance, a sensor node can be named "Kitchen", if that is where it is used, to make the reading and the evaluation of the results easier.

To view all the data from a sensor node, just click on the arrow symbol to the right and the view will be expanded to present all the measurements from the sensor. In the example below, there is no WME sensor connected and therefore that row is grey and the measurement replaced by dash "-".

Edit settings to machines

Each machine on the network is presented with its serial number and also a power indicator. In the example below, the power indicator is red meaning that the machine is not currently operating.

To turn the machines in the network on and off, select to change settings on the Master machine and switch Job Control on or off as required. To get the settings window, push the Settings button after the power indicator.

The Settings window presents all the settings available for the selected machine.

The example to the right is from an A2ES that acts as Master of the local network and therefore the Job Control setting is available, turning all the machines on and off.

Once all required changes have been made, push the Set button to send the order to the machine.

In the project view, the SuperVision® 2.0 presents the status of the change order so that the user will know when it has been received by the Gateway and, finally, when the actual changes have been made by the machine(s).

Create Alarms

🔔   The alarm bell icon is displayed by every measurement data that can be used for automatic alarms. With this functionality, the SuperVision® will send an email as soon as for instance the humidity has come down to target level.

To set an alarm that triggers when humidity is lower than RH 50%, push Alarm bell by given sensor value, write 50 in the value field and select "<" (less than) in the compare field.

The Alarm view presents all alarms that are currently actively monitored and their respective status, if they are triggered or not.

Analyse/Monitor the progress with diagrams - MultiView
In the MultiView, required diagrams are very easily created.

At the top, select what project is to be presented. The time frame, to and from, is automatically set to the start and end dates of the project and the time frame can also easily be adjusted in the diagram after creation.

Under Systems, the Gateway is selected. Most projects will use only one Gateway but it is possible to merge several systems into one project.

Once the Gateway is selected, all available sensors and machines are presented under Nodes and as soon as applicable units have been selected, the available data is presented under Sensors.

Once all selections have been made, push Add chart button at the bottom of the screen.

Multiple diagrams can be created and if these are of interest for use later on, the Save view functionality is found in a drop down menu at the top as indicated here to the right.
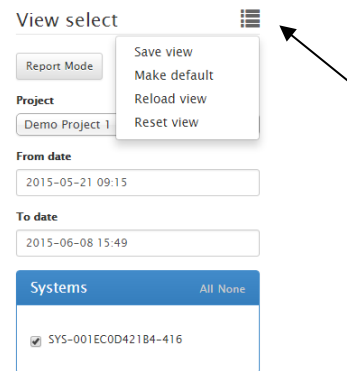
The diagrams created are easily tailored to specific needs. The time frame displayed, by default the entire project duration, is easily changed by simply dragging and dropping the start and the end markers below the diagram. In addition, there are quick selects for different time frames at the top left as well as start and end dates available at the top right.

At the bottom left, there are also zoom and y-scale panning options that can be used to further improve the presentation. If certain data points are of interest, these are shown in detail when the cursor is moved across the diagram.

- A. Y-Scale zoom and pan functions
- B. Drag and drop start and end points.

Create report

Enter the Multi View and select to enter Report mode by pushing the top left button.

To create report, select template to use in the drop down menu (C) and then push Report button (B).

The Tool button (A) provides access to the template management. Download of template for editing and upload of new edited versions as well as deletion of no longer used or valid templates.

View select

Report Mode

View unchanged.

Project
Demo Project 1

From date
2015-05-21 09:15

To date
2015-06-08 15:49

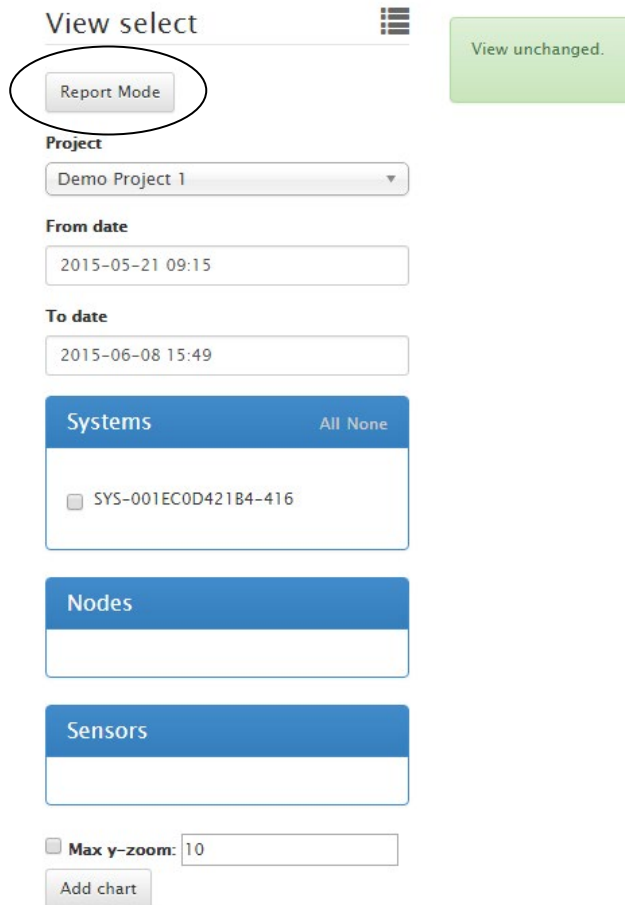**Systems**   All None

☐ SYS-001EC0D421B4-416

Nodes
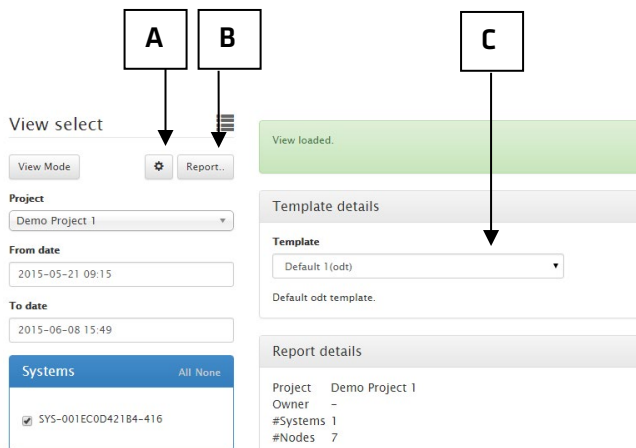
Sensors

☐ Max y-zoom: 10
Add chart

When the report is created, select to either view it or store it to disk as appropriate.

A   B   C

View select

View Mode   ⚙   Report..

View loaded.

Project
Demo Project 1

From date
2015-05-21 09:15

Template details

Template
Default 1(odt)

Default odt template.

To date
2015-06-08 15:49

Systems   All None

☑ SYS-001EC0D421B4-416

Report details

Project   Demo Project 1
Owner   –
#Systems 1
#Nodes   7

Move systems, merge and split projects

For situations where several Gateways are to be used in the same project or if a project needs to be split in two, the system has functionality for moving systems, extracting the data generated by one Gateway and importing that into another project. When doing this move, the user can select from what date the extract and import should be done which means that merges and splits are performed with the same basic operations.

How to move data

1. If necessary, create a new project to which data shall be moved. Set the start date and end date so that the time period covers the creation time of the data to be imported.
2. Open the project to which data shall be moved in the project view
3. Push the Edit button to the right in the top row.

Project	Status	Company	Customer	User	Start
Test 13	Open ●	Corroventa			2015
	Test 13 Open ●	2015-09-25 12:47 2015-09-25 12:47	Edit Close		

4. In the drop down list presented, select the system from which data shall be imported. Push Confirm.

Edit Project   ✕

Add system

SYS-001EC0D45A8C-413 – Test 12   ▾

Add system to project?

Cancel   Confirm

5. If the data is to be split, select from what date the move shall be made before confirming. Otherwise, if all of the data generated by the Gateway shall be moved, just push Confirm.

Edit Project   ✕

Select date from where the system and data is split to project. Leave empty to move the complete system.

Move date

[   ]

Cancel   Confirm

Provide Customers with access to the system

There are two ways to provide Customers or other stakeholders with access to the system, Customer user accounts and Project Guest accounts. These types of users get access to the project view and can thus see all the data gathered. Naturally, they have read-only access and are not allowed to change any settings, nor do they have access to MultiView.

A Customer user accounts is linked to a registered Customer and will thus automatically provide access to all projects that are undertaken on given Customer's behalf.

The Project Guest accounts are used to provide access only to selected projects, a case-by-case manual approach. When there are Project Guest accounts created, in the top left of the project view these are always available for inclusion in a drop down menu. To provide access to given project, select the appropriate Guest in the list and then push the blue Plus button to the right.
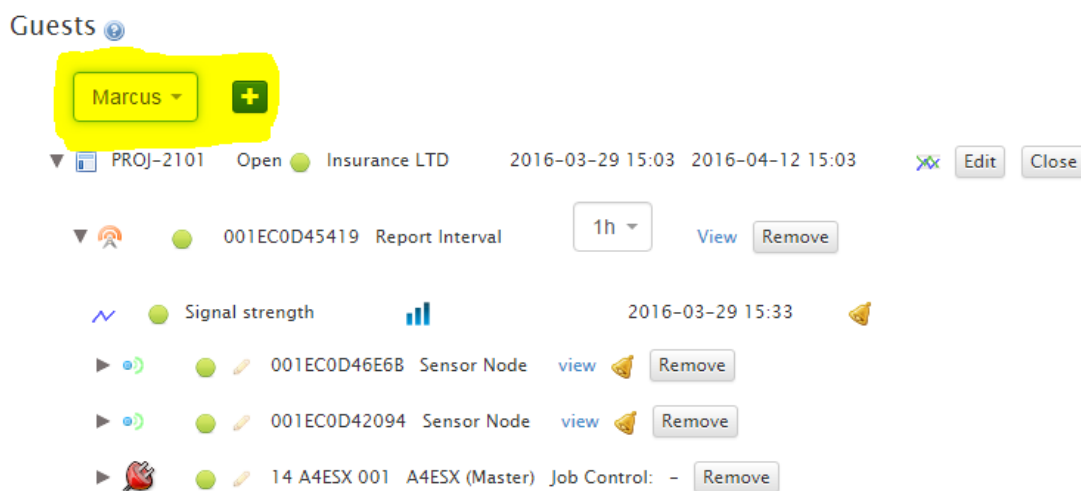
Change Contact information, Password and Language with user account

To change the password, the language or date/time formats used with the web presentation, push down arrow symbol in the top right corner of the screen and select Settings in the drop down menu that is presented.
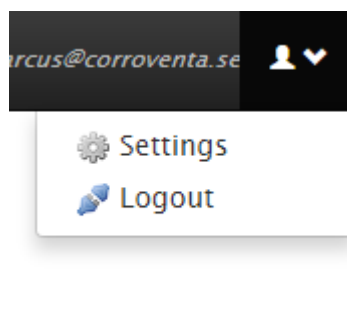
To maintain security, the Passwords used with the SuperVision® 2.0 must obey by the following rules:
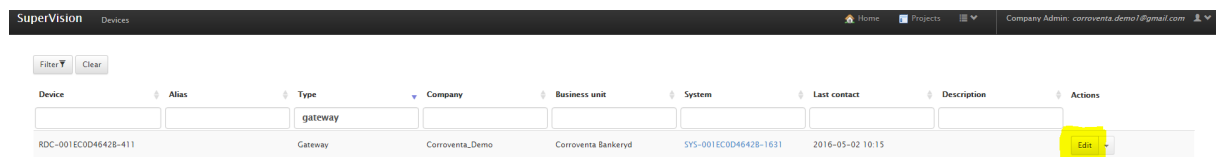
- Password length must be between 8 and 30 characters.

- The password must contain at least 1 number, 1 lower case letter and 1 upper case letter.
- It must not have the same characters more than 3 times in a row.
- It can have maximum 3 consecutive lower case characters.
- It must not be identical with the 12 last passwords.
- The following characters are allowed: a-z, A-Z, 0-9, #, -, !, @, %, &, /, (,), ?, +, *.
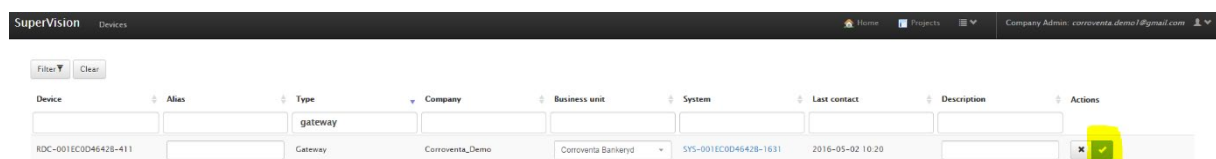
Move Gateways between Business Units, Company Admin only

With Company Admin user privileges, Gateways can be moved between Business Units to allow for equipment to be lended or moved permanently. The sensor nodes report through the Gateways they are associated with and need not be moved in the system.

Before moving a Gateway, ensure that it is not currently in use with any project and then proceed to the Devices menu. If necessary, use the filter function with the Gateway's serial number to locate the device. Push the Edit button to enter edit mode and then select the new business unit.

Push the confirmation button at the far right to save the change made.

Trouble Shooting

Symptom	Probable cause	Action
After installation of the system, when logging on to the web, there is no new project to be found.	Earlier project not closed and therefore new data is still reported there.	Close the earlier project. Notice that the closure of the project can be back dated if necessary. When the project is closed, a new project will automatically be created.
The machines are not visible/available in the project.	Installing technician never recreated the network on the Master machine and thus the SuperVision® 2.0 is not communicating with all the machines. The project was just created and all machines and sensor nodes have not yet reported any new data.	With the selected Master machine, enter the Network menu and select to create or recreate network. Wait for the data to appear. If on site , one can adjust the settings on the machine manually in order to trigger SuperVision® 2.0 to send new message. One can also push the buttons on the sensor nodes to send new measurements.
One or several of the sensor node are not visible in the new project	The sensor nodes have not yet reported any new data. New sensor nodes or sensor nodes borrowed from another system need to be paired to the new Gateway.	By default, sensor nodes report once an hour and will automatically appear in the new project when this happens. If still on site, to speed up the process, one can push the button on the sensor node to force a new message to be sent. Pairing is done by simultaneously pushing and holding the buttons on the Gateway and the sensor node until the Gateway Com LED on the sensor nodes turns green.

Sensor Node battery replacement

To replace the batteries in the Sensor Node, proceed according to below description.

Note: Wear ESD-wrist strap or take other precautions to prevent ESD, Electro Static Discharge, damage to hardware.

1. Remove the four screws holding the lid.
2. Replace the batteries.
3. Put the lid back on with the text Corroventa and the numbers 1 and 2 towards the two RHT sensor connectors.
4. Mount and tighten the four screws.

Technical data

Gateway	
Length x width x height (mm)	*133 x 108 x 39*
Operational temperature	*0 – 40 ℃*
Frequency LTE-m (5G) modem with 2G fallback	*Varies with operator and location but common bands are 800, 900, 1800 and 2100 MHz*
Frequency sensor node network radio	*868 MHz*
Weight, grams	*300*
Sensor node	
Length x width x height (mm)	*105 x 100 x 37*
Operational temperature	*0 – 40 ℃*
Frequency sensor node network radio	*868 Mhz*
Battery, 2 pcs	*3.6V Lithium AA cell*
Weight, grams	*215*

DO YOU HAVE QUESTIONS OR NEED HELP?

Visit www.corroventa.com or call us at +44 (0)161-244 95 23 to speak with an expert.
We have the knowledge and the equipment to find a solution as efficiently as possible.

Corroventa develops, manufactures, sells and rents high quality products for dealing with water damage, moisture, odours and radon. We are one of the market leaders and specialists in innovation within the industry. Our products are compact, effective, ergonomic and energy efficient. In emergency situations and during flooding, Corroventa's customers have access to one of the largest rental parks in Europe. All our products are manufactured in Bankeryd, Sweden.

www.corroventa.com

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MAKING DRYING SMARTER

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