

# Super WISE®

System product for Swegon's system for demand-controlled ventilation

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Super WISE

## Quick facts

- ▶ Pressure optimisation of the supply air and extract air fans
- ▶ Addition and subtraction of flows within a zone
- ▶ Handles 80 zone dampers distributed among 10 zones and 60 rooms/zone, a total of 600 rooms
- ▶ Gateway to intelligent building automation
- ▶ Communication via Modbus RTU, Modbus TCP, BACnet TCP
- ▶ Integrated web page for supervising airborne and waterborne indoor climate systems down to room level

# Technical description

## Operation

The Super WISE is a communication unit which via Modbus RTU communicates on one hand with Swegon's GOLD air handling unit, on the other with Swegon's underlying products that are included in the WISE and CONDUCTOR systems.

Super WISE has three main functions:

- Pressure optimisation of air handling units
- Gateway to intelligent building automation
- Web page for supervising ventilation/cooling systems

### Pressure optimisation of air handling units

Super WISE replaces Swegon's previous product, CONTROL Optimize, for the optimisation of a ventilation system. Super WISE has knowledge of the position of each zone damper, and optimizes the pressure of the air handling unit so that at least one zone damper will always be at least 90% open. This reduces the power usage of the air handling unit by up to 25% and also contributes to making the ventilation system quieter. See Figure 1.

### Gateway to intelligent building automation

A ventilation system intended for communication with Super WISE should be wired and addressed (Modbus ID) according to Swegon's instructions. This way all the component products with logic equipment will fall in under the Super WISE in a logical tree structure. The structure is also reflected as a "flat" structure, with which an intelligent building automation can communicate. Super WISE handles the following protocols: Modbus RTU, Modbus TCP and BACnet TCP. Detailed information about the communication structure and parameter lists are available for downloading at [www.swegon.com](http://www.swegon.com). See Figure 2.

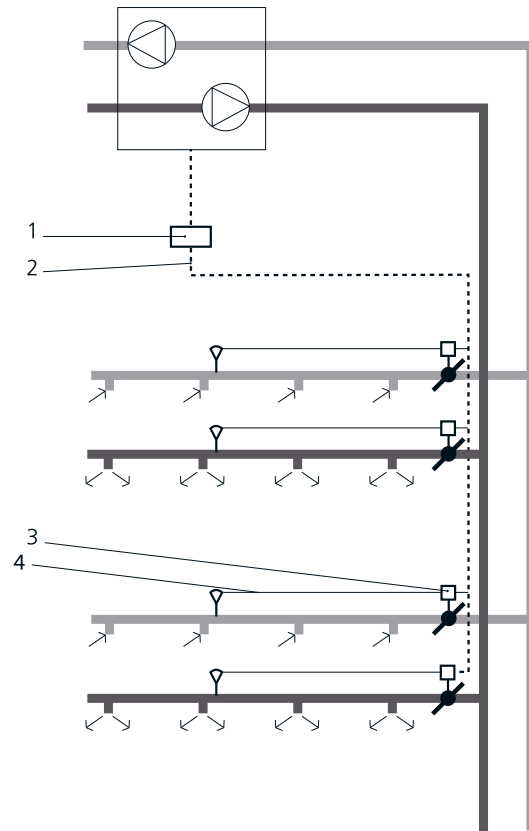


Figure 1. Pressure optimisation of air handling unit  
 1. Super WISE  
 2. Modbus RTU  
 3. CONTROL Damper  
 4. 2-10 V signal from DETECT Pressure

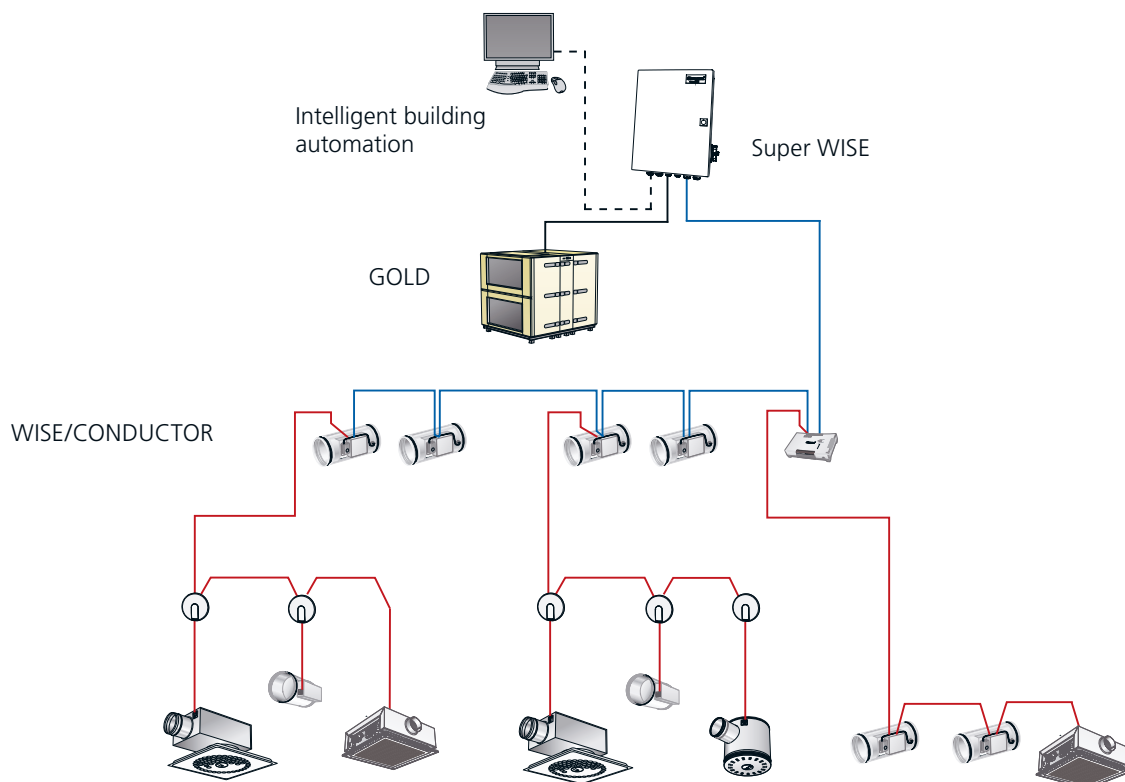


Figure 2. Modbus structure, WISE/CONDUCTOR.

**Web page for supervising ventilation/climate systems**

Super WISE also contains a web page that presents the entire underlying ventilation/climate system in a clear and easy-to-understand manner. Zone and room illustrations present the actual values and the set points. Changeable parameters for all the room and zone products are easy to access in the web structure. Manual for the web page is available for downloading at [www.swegon.com](http://www.swegon.com).

Super WISE

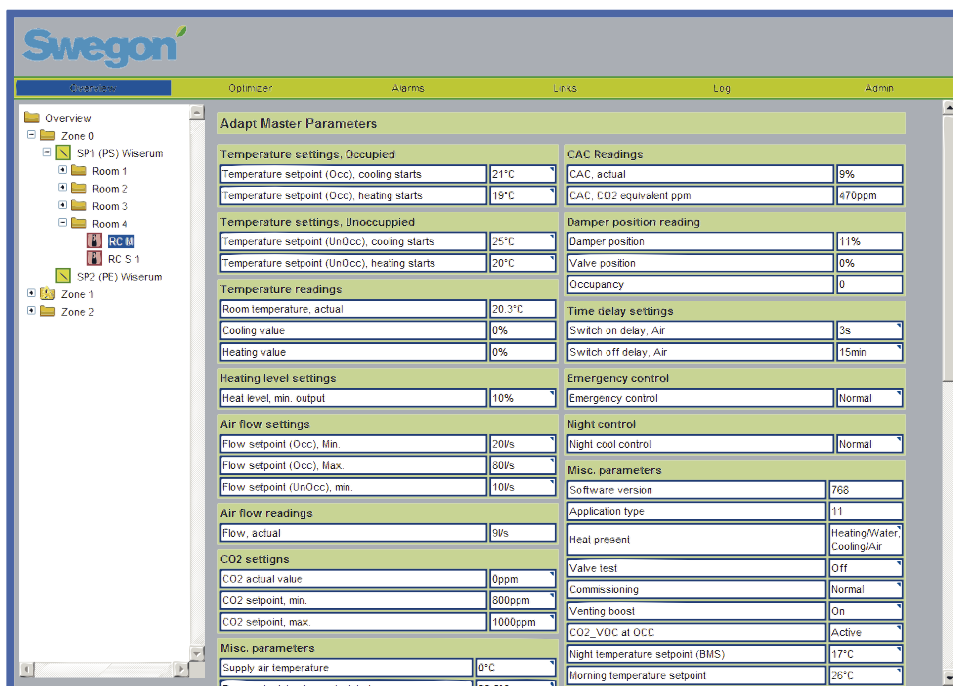
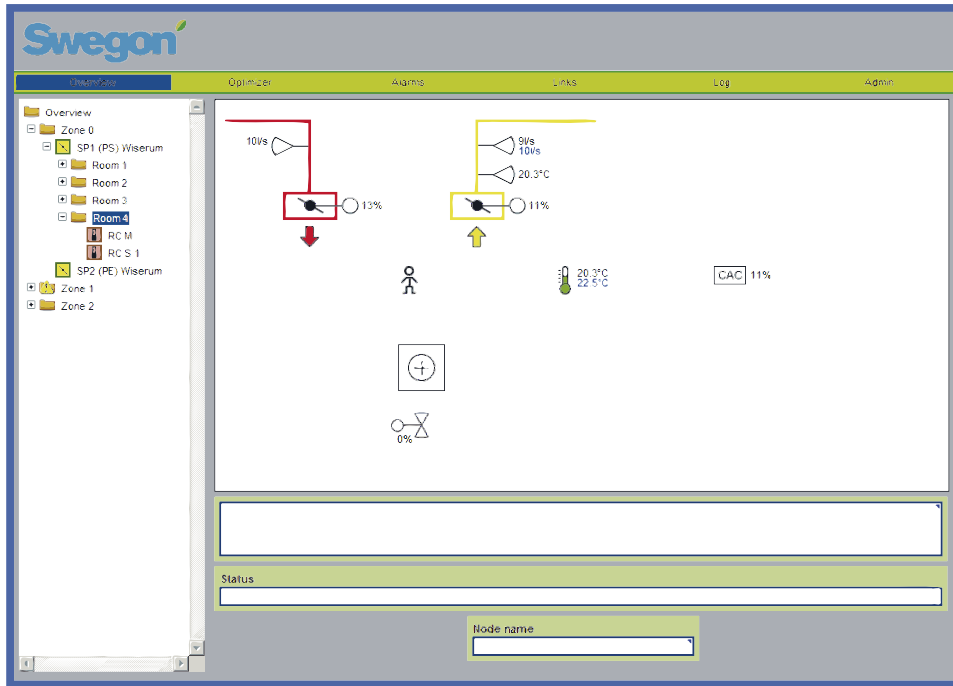


Figure 3. Web page, for the supervision of ventilation/climate systems with room function and parameter adjustment respectively, which presents read and write values.

### Project planning

The super WISE is well-suited for both large and small ventilation systems. If the air handling unit is centrally located, one Super WISE is used per air handling unit to be able to manage optimising the pressure of the air handling unit. When Super WISE is used in combination with decentralised ventilation, the Super WISE communicates with all the air handling unit ventilation/climate systems, however not with each air handling unit. Super WISE can communicate with only one air handling unit.

### Commissioning

With Super WISE installed in the system, commissioning becomes much simpler. Using a computer and the integrated web page, you obtain a clear picture of the entire system such as pressure drop, airflows and damper blade positions.

### Installation

Super WISE can be mounted on a wall. Four screws are used for this purpose. Super WISE is well-suited for installation in a fan room.

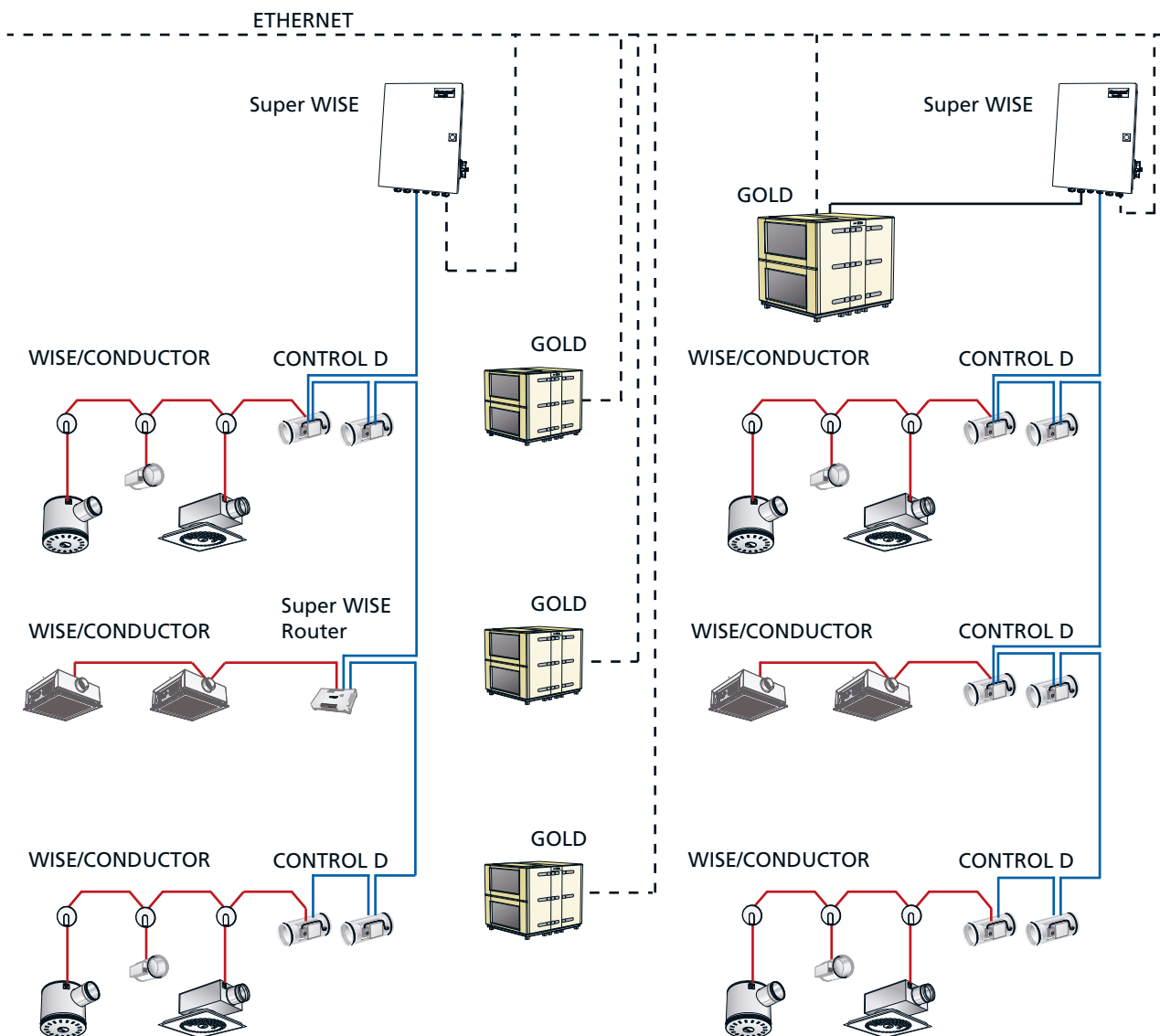


Figure 4. Super WISE in combination with decentralised and centrally located air handling units respectively.

## Connections

A computer with web browser and support for Java applications is required for managing and operating Super WISE. The computer can either be connected directly to Super WISE with a cross-connected CAT5 cable with RJ45 connectors or to a network (hub, switch or router) with a straight (not cross-connected) CAT5 cable. Connect the cable to the outlet marked ETHERNET in the Super WISE. See Figure 5.

Super WISE is delivered from the factory with a fixed IP address. The first time you communicate with the Super WISE, use the Golden Gate Config software that can be downloaded from [www.swegon.com](http://www.swegon.com). For more detailed information about how to wire Super WISE to underlying WISE/CONDUCTOR systems, intelligent building automation and GOLD air handling unit, refer to the installation instructions. Detailed information about communication with Super WISE and using the web page can be read in the web page manual that is available for downloading at [www.swegon.com](http://www.swegon.com).

## Technical data

Supply voltage	230 V AC, max. 10 A
Enclosure class	IP 65
Ambient temperature	-20 – +40 °C
at relative humidity	10 – 95%
Dimensions (W x H x D)	300 x 400 x 120 mm
Weight	8000 g

## Ordering key

### Product

Communication unit	Super WISE	a
Version		

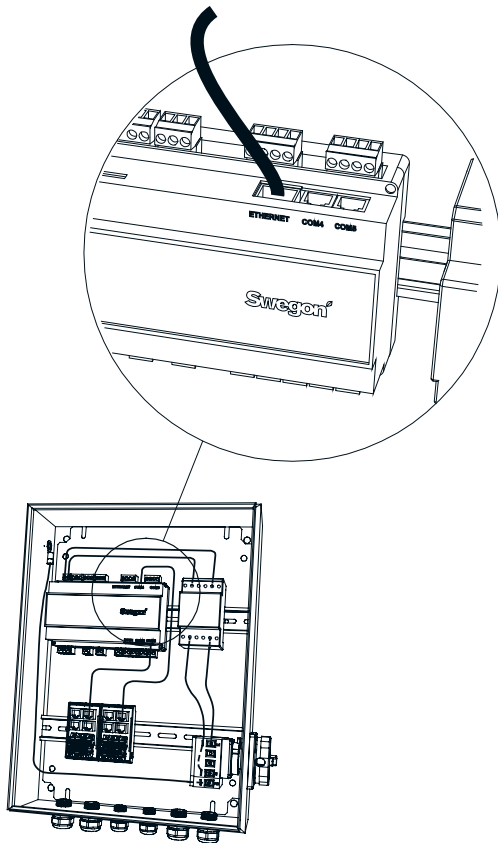


Figure 5. Wiring.