CONTROL Optimize

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

Quick facts

▶ Optimizes the use of energy in ventilation systems

▶ Minimises the need for throttling dampers

▶ Used for adding and subtracting flows within a zone(can manage 10 zones)

▶ Up to 60 zone dampers: 30 supply air and 30 extract air dampers

▶ Enables minimum fan speeds

▶ Utilizes Modbus RTU communication

▶ Used as a link between BMS and zone/room

▶ Used as a link between Gateway and zone/room

Swegon

Technical Description

Design
Functions
CONTROL Optimize is a microprocessor substation which via Modbus communicates with the air handling unit and the CONTROL Damper zone dampers in the Wise system.

CONTROL Optimize has knowledge of the position of each zone damper, and optimizes the air handling unit's pressure rise so that at least one damper will always be fully open. This reduces the power consumption of the air handling unit by up to 25 % and also contributes to making the ventilation system operate more quietly.

CONTROL Optimize can manage up to 30 supply air and 30 extract air dampers in groups of a maximum of 10 zones. The user can within each group add up and subtract the flows conveyed to a CONTROL Damper slave damper, see the example in the technical information section.

The most common variables can be communicated via Modbus. A TUNE Control hand-held terminal is needed for setting the configuration parameters. When connecting underlying zone dampers included in the Wise system, CONTROL Optimize configures itself by seeking and identifying all the controllers. This assumes that each individual zone damper has a unique Modbus ID. After it has configured itself, you need only assign the zone dampers their group membership if they are to be added up or subtracted.

The built-in control system of the GOLD unit includes a function that can be enabled for connecting CONTROL Optimize. The pressure set points of the GOLD unit are then controlled by CONTROL Optimize.

Materials and Finish
Circuit card with electronic components produced conforming to ROH requirements.

The enclosure is made of OC (polycarbonate) and conforms to Degree of Protection IP54 for tightness.

Installation
Control Optimize can be mounted at an optional location. It is advisable to locate it in the fan room.

Commissioning
Control Optimize does not require commissioning other than that Tune Control be used at the building site for defining the group to which the zone dampers belong and the summation of airflows.

Maintenance
Clean by wiping with a damp cloth only.

Declarations
The product is CE marked.

The CE Declaration and the Declaration of Construction Materials are available from www.swegon.com.

Planning
For more information about the various network possibilities, see the project manual or the technical information section.

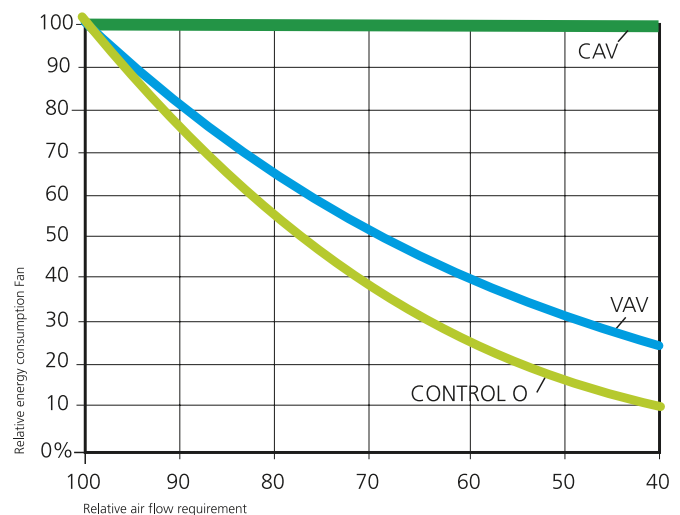Lower energy consumption with CONTROL Optimize

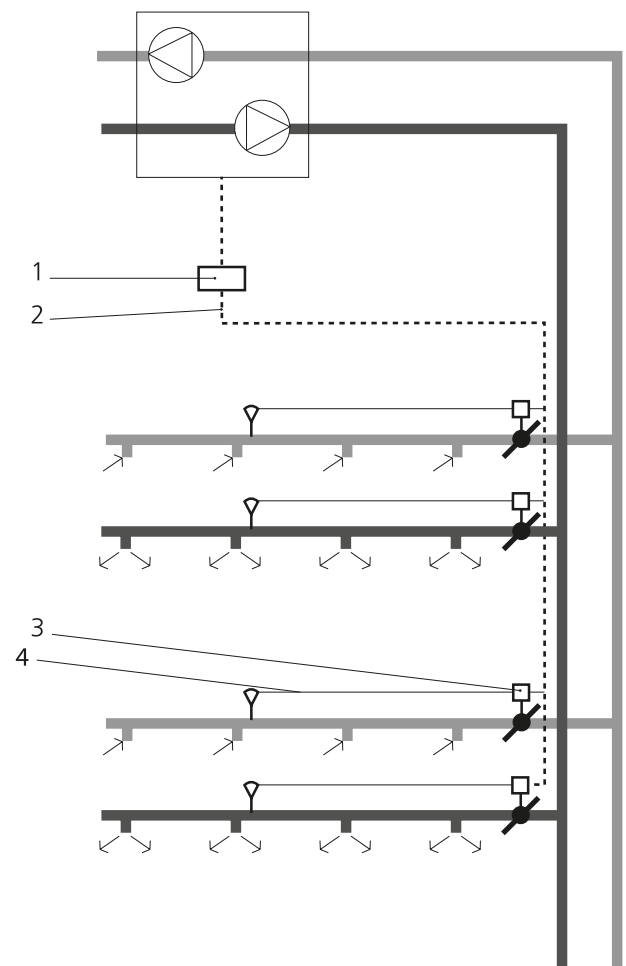Figure 1. Control Optimize reduces energy consumption.

Figure 2. Control Optimize with pressure control.

1. CONTROL Optimize

2. Modbus RTU

3. CONTROL Damper

4. 2-10 V signal from DETECT Pressure

Electrical Data

Supply voltage	24 V AC - 10 % + 10 %, 50-60 Hz
Transformer sizing:	
CONTROL Optimize	5 VA
Built-in fuse	4A
Ambient temperature:	
Operation	0°C – +50°C
Storage	-20°C – +50°C
Humidity	max. 90% RH, non-condensing
Network protocol	ModBus RTU
Connection, ModBus 1	RTU Slave
Connection Modbus 2 & 3.1-2	RTU Master
Transceiver	EIA/TIA-485
Standard	38,400 bps, 8, None, 1
BMS mode	optional 9,600- 38,400 bps
Wireless communication	433 Mhz according to EN 300220-3

Ordering Key

Product

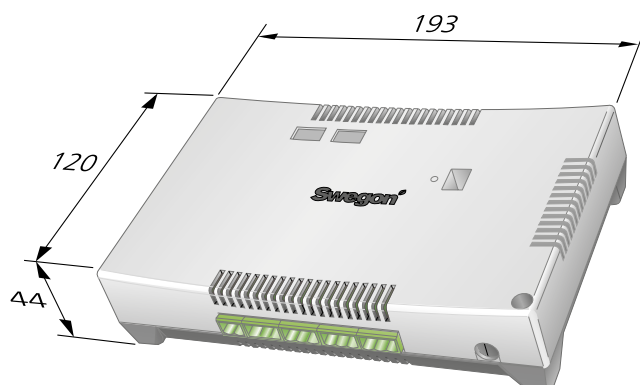|		
System optimator	Control Oa	-a
Version: 0 = Non-enclosed 1 = Enclosed, IP54		

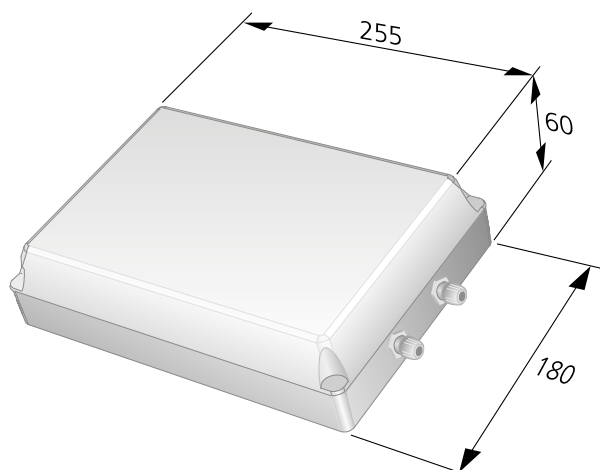## Dimensions and Weights

Figure 3. Control Optimize, non-enclosed version.

Figure 4. Control Optimize, enclosed version.

Swegon reserves the right to alter specifications.   20090605   www.swegon.com