

A-SENSE-VAV and UG-A-SENSE-VAV

Carbon dioxide and temperature controller



TECHNICAL DATA

Power supply:	24 V AC/DC $\pm 20\%$, 50-60 Hz
Current drain:	< 3 W (120 mA) average
Linear outputs:	OUT1 and OUT2, 0-10 V DC or 0-20 mA, R_{load} < 500 ohm configured with jumpers for voltage/current, OUT4, 0-10 V DC or open collector Max 0.5 A, 60 V DC/40 V AC configured with jumper
Relay output:	OUT3, NO. Contactless relay, min. load 1 mA/5 V, max. load 0.5 A/125 V AC; 1 A/24 V DC
Operating temperature:	0 to +50 °C
Storage temperature:	-20 to +70 °C
Operating humidity:	0 to 95% RH (non-condensing)
Start time:	1 min. (@ full spec ≤ 15 minutes)
Sensor life expectancy:	>15 years
Measurement principle:	Non-dispersive infrared (NDIR) with automatic baseline correction (ABC)
Gas collection:	Diffusion
Response time (T1/e):	2 min. diffusion time
Accuracy:	Normally $\pm 1\%$ of measuring range $\pm 5\%$ of measured value
Annual zero point drift:	< $\pm 0.3\%$ of measuring range
Temperature measurement principle:	Thermistor
Measuring range:	-20 to +60 °C
Accuracy:	± 0.5 °C
Dimensions for room inst. (h x w x d):	120 x 82 x 30 mm
Dimensions for duct inst. (h x w x d):	287 x 150 x 110 mm
PC software:	UIP4

FEATURES

- Cost-optimised for direct control of damper or speed-controlled fans
- Alternative/additional control outputs
- Gives reduced energy costs with demand-controlled ventilation
- Automatic self-diagnostics
- Typical maintenance interval > 5 years
- Enclosure options, wall and duct
- Communication port for PC, GSM-module or local network
- LonWorks as an option

FUNCTION

OUT1, OUT2 and OUT3 are pre-programmed outputs for demand-controlled ventilation. OUT4 is intended for connection to a linear heat activator, if requested.

- OUT1 = control signal according to demand for cooling and air quality (with flow reduction in extreme cold)
- OUT2 = control signal according to demand for air quality only
- OUT3 = ON/OFF according to demand for air quality only
- OUT4 = control signal according to heating demand

Set points for temperature (air cooling and additional heat) and air quality (CO₂) can be adapted individually via the unit's maintenance pushbuttons.

When a set point is changed, all control curves for this parameter are shifted parallel.

The standard configuration for A-SENSE-VAV, with associated settings, is typical for many VAV applications. Other control parameters and strategies can also be programmed from a PC with suitable software. For this purpose, eight freely programmable linear functions (P-band) and two timer functions controlled from the DI1 terminal are available.

Up to four of the twelve available functions can be addressed to each of the four outputs in such a way that the total, or alternatively the highest value, is transformed into an output signal. In addition, for OUT1 and OUT2, the outputs can be limited within defined MIN and MAX values. These MIN and MAX values can be set/updated from the pushbutton menu in service. The values of the outputs are updated every four seconds. This interval and other functions and settings can be changed with the UIP4 software.

USE

A-SENSE-VAV is intended to control the ventilation in rooms where people are present. The sensor is a basic component which is suitable for many different ventilation strategies.

INSTALLATION

See the installation instructions supplied with the sensor.

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MAINTENANCE

In room installations, A-SENSE is normally maintenance-free if the auto-calibration function (ABC) is activated. A five-yearly check is recommended. Equipment for zero-calibration can be rented from Calectro AB. Note that this requires the programming cable: A232 CABLE, the UIP4 software and a PC.

ORDERING EXAMPLE

Article code	Description
A-SENSE-V	Without display window
A-SENSE-V-D	With display window
A-SENSE-V-IP54	IP54, without display window
A-SENSE-V-IP54-D	IP54, with display window
A-SENSE-V-LON	LonWorks without display window
A-SENSE-V-LON-D	LonWorks with display window
UG-A-SENSE-V-D	Duct sensor with display window

ACCESSORIES

Article code	Description
A232 CABLE	Programming cable
2001M	Zero-calibration bag

WIRING DIAGRAM

