

AUTOMATION ACCESSORIES FOR VENTILATION SYSTEMS



Air quality, humidity and temperature sensors

The range of KOMFOVENT air quality sensors integrates seamlessly with AHUs and VAV/CAV systems, enabling demand-controlled ventilation for optimal indoor comfort and efficiency. Sensors are suitable for various applications, like ventilation intensity adjustment, VAV/CAV damper positioning, or real-time BMS monitoring and integration.

Sensors can operate in various operating modes:

- **PID Controller:** Delivers proportional analog output (V or mA) based on CO₂, humidity, or temperature. Ideal for VAV dampers, variable-speed fans, and heating/cooling modulation.
- **Relay Output:** ON/OFF control at set thresholds. Perfect for activating boosters, humidifiers, alarms, or auxiliary devices.
- **Analog Transmitter:** Transmits measured values as standard signals. Suited for BMS monitoring, airflow regulation, and data logging.

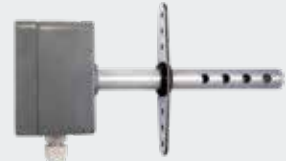
SCR and SQR

- Wall-mounted air quality sensors
- Multi-parameter measurement: CO₂ (SCR only), VOC (SQR only), relative humidity and temperature
- Selectable analog output signals
- 2 separate analog outputs
- Relay output for On/Off control
- PID controller mode
- Modbus interface
- Relay output for on/off control
- Adjustable setpoint for VAV control



SCD and SQD

- Duct-mounted air quality sensors
- Multi-parameter measurement: CO₂ (SCD only), VOC (SQD only), relative humidity and temperature
- Selectable analog output signals
- 2 separate analog outputs
- Relay output for On/Off control
- PID controller mode
- Modbus interface
- Relay output for on/off control
- Adjustable setpoint for VAV control



Pressure measurement and control

When pressure balance, differential pressure or constant duct pressure maintenance is needed, different types of pressure sensors and transmitters become handy. It ensure perfect pressure balance, stable duct conditions and energy-efficient operation across residential, commercial and industrial applications. Pressure transmitters can be used as standalone pressure measurement devices or become additional regulation devices for AHUs, when working in tandem with VAV/CAV damper systems. Differential pressure relays (or pressostats) are often used to activate additional devices or safety functions based on the pressure difference threshold.

SPM-50 and SPM-55

- Differential pressure measuring sensors
- Ideal for air handling unit control in VAV mode
- 2 integrated sensors with separate analog outputs (SPM-55 only)
- Relay output for On/Off control
- Modbus interface
- PID controller mode



DTV-200 and DTV-500

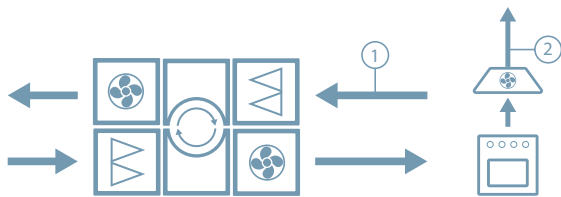
- Differential pressure relays (pressostats)
- Can activate additional devices (heaters, coolers, fans) or additional functions (safety, airflow boost) according to set pressure
- Can be used for dirty filter indication
- Adjustable pressure threshold



Application examples

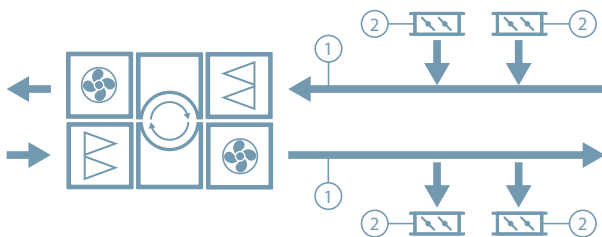
Air quality control and synchronization with kitchen hood

SCD or SQD sensor (No. 1) measures the air quality level inside the extract duct and regulates ventilation intensity according to the CO₂ or VOC level. Differential pressure relay DTV-200 or DTV-500 (No. 2) triggers when the kitchen hood is in operation and activates the Override function of the AHU. Supply flow is increased to compensate for the hood's extraction fan.



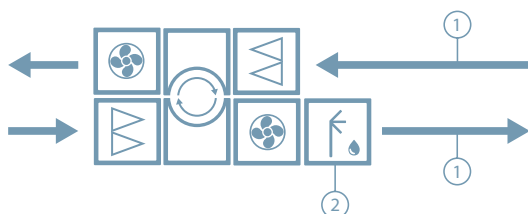
VAV system control

Two SPM-50 or a single SPM-55 pressure sensor (No. 1) monitors pressure changes inside the supply and extract duct systems. Air handling unit, operating in VAV mode, while getting information from the sensors (No. 1), controls airflow, keeping duct pressure stable. Position of VAV dampers in each room is regulated by SQR or SCR sensors (No. 2), which react to the air quality changes in every room independently. When air dampers move, duct pressure also changes, thus pressure sensors (No. 1) corrects ventilation intensity accordingly.



Humidity regulation

Two duct-mounted sensors SCD or SQD (No. 1) measure relative humidity inside the supply and extract ducts. Humidifiers and dehumidifiers (No. 2) are controlled from the air handling unit automation according to the desired humidity levels.



Technical parameters

Model	SCR	SQR	SCD	SQD	SPM-50	SPM-55	DTV-200	DTV-500
Type	Air quality sensor	Air quality sensor	Air quality sensor	Air quality sensor	Pressure sensor	Double pressure sensor	Differential pressure relay	Differential pressure relay
Installation	Wall mounted	Wall mounted	Duct mounted	Duct mounted	Surface mounted	Surface mounted	Surface mounted	Surface mounted
Measured parameters	CO ₂ , Temperature, Humidity	VOC, Temperature, Humidity	CO ₂ , Temperature, Humidity	VOC, Temperature, Humidity	Differential pressure	Differential pressure	Differential pressure	Differential pressure
Measurement range CO ₂	0..2000 (5000 extended) ppm	—	0..2000 (5000 extended) ppm	—	—	—	—	—
Measurement range VOC	—	0..100 %	—	0..100 %	—	—	—	—
Measurement range Temperature	0 °C..50 °C	0 °C..50 °C	0 °C..50 °C	0 °C..50 °C	—	—	—	—
Measurement range Relative humidity	0..100 %	0..100 %	0..100 %	0..100 %	—	—	—	—
Measurement range Pressure	—	—	—	—	0..100 Pa to 0..5000 Pa	0..100 Pa to 0..5000 Pa	20..300 Pa	50..500 Pa
Analog output	0..10 V, 2..10 V, 0..20 mA, 4..20 mA	0..10 V, 2..10 V, 0..20 mA, 4..20 mA	0..10 V, 2..10 V, 0..20 mA, 4..20 mA	0..10 V, 2..10 V, 0..20 mA, 4..20 mA	0..10 V, 2..10 V, 0..20 mA, 4..20 mA	0..10 V, 2..10 V, 0..20 mA, 4..20 mA	—	—
Double analog output	Yes	Yes	Yes	Yes	—	Yes	—	—
Relay output	NO/NC	NO/NC	NO/NC	NO/NC	NO/NC	NO/NC	NO/NC	NO/NC
PID controller mode	Yes	Yes	Yes	Yes	Yes	Yes	—	—
RS-485 Modbus interface	Yes	Yes	Yes	Yes	Yes	Yes	—	—
Supply voltage	24 Vac / 24 Vdc ±20 %	24 Vac / 24 Vdc ±20 %	24 Vac / 24 Vdc ±20 %	24 Vac / 24 Vdc ±20 %	24 Vac / 24 Vdc ±20 %	24 Vac / 24 Vdc ±20 %	—	—
Ambient operating temp	0..+50 °C	0..+50 °C	-10..+60 °C	-40..+85 °C	-25..+50 °C	-25..+50 °C	-30..+85 °C	-30..+85 °C
Protection class	IP30	IP30	IP65	IP65	IP65	IP65	IP54	IP54
Dimensions	80 × 80 × 26 mm	80 × 80 × 26 mm	82 × 80 × 54 (208) mm	82 × 80 × 54 (208) mm	90 × 88 × 42 mm	90 × 88 × 42 mm	100 × 80 × 58 mm	100 × 80 × 58 mm

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