

Wall-mounted automatic extractor outlet (WFA) with VOC* Sensor



*Volatile Organic Compounds

Measurement of air quality in offices, sanitary rooms and apartments

Three sensors in one:
VOC/CO₂ Equivalent, relative humidity and temperature

Automatic internal self-calibration and built-in diagnostics



WFA round



WFA square

The indoor air of apartments, rooms in hospitals, senior citizen's centres and hotel rooms, particularly of internal bathrooms/restrooms, contains an ever increasing amount of avoidable but also unavoidable pollutants and humidity in this day and age.

Among these are:

1. Pollutants with toxic, carcinogenic or irritating effects such as
 - tobacco smoke, mould spores
 - organic substances, biocides (e.g. from household chemicals)
 - Formaldehyde (e.g. from carpets)
 - Radon (e.g. from building materials)
2. Humidity from breathing, bathing, washing and cooking.
3. Adverse factors caused by man itself, such as carbon dioxide CO₂- body odours - humidity - house dust - fine dust.

The **wall-mounted automatic extractor outlet with VOC** is suitable for almost all application areas and is used to open or close a ventilation flap, depending on the physical parameters of air quality, humidity and air temperature.

The following sensors are used to detect the environmental conditions:

Air quality: The air quality sensor detects volatile organic hydrocarbons. The operating principle is the measurement of thermal conductivity. Available output variable is the measurement value in CO₂ equivalents.

Relative humidity: The humidity sensor is able to measure relative humidity within an accuracy of 3%.

Temperature: The integrated temperature sensor works with an accuracy of 0.01 K and comes already adjusted from the factory like all other sensors.

Technical data

Sensor Technology: VOC* metal oxides

450 – 2000ppm CO₂ Equivalent

Consumption 220mW at VDD 5V

Automatic internal self-calibration

Sensor Technology: Humidity based on CMOS

12 Bit resolution

Measuring range 0 – 80% (100%) RH

Temperature:

Measuring range 0 – 60°C

Consumption 3.2uW at VDD 3V

Automatic internal self-calibration

Filter surface 230cm²

Set threshold values

Air quality VOC 1500ppm

Relative Humidity 70% RH

Temperature 45°C

The following variants of the WFA are available:

WFA with VOC sensor

WFA with humidity and temperature sensor

WFA without sensor

Accessories

for all WFA-2000-Q (square):

for all WFA-2000-R (round):

Filter hood type:

FH-WQ incl. filter

FH-WR incl. filter

Replacement filter type:

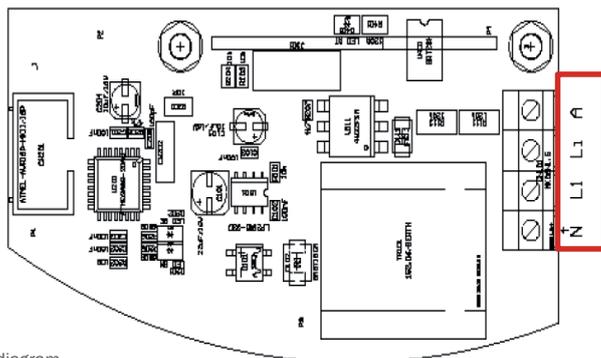
EF-W (not washable, filter class EU 4)

EF-WR (not washable, filter class EU 4)

Aluminium filter type:

EF-WQ-ALU (washable)

EF-WR-ALU (washable)



A = actuator output max. 0.5A 230V
 L1 = continuous current feed phase
 Li = connection of light phase
 (light phase must be related to N)
 N = neutral conductor of the mains

Fig 1: connection diagram



Fig 2: VOC sensor with humidity and temperature sensor (left)

Fig 3: WFA with evaluation electronics (right)