

RLQ

Room air quality sensor



RLQ-A-W



RLQ

Summary

The RLQ sensor is used to determine air quality, based on a mixed gas sensor (VOC).

Applications

- Quantitative assesment of air pollution in rooms with contaminating gases (cigarette smoke, body odour, exhaled breathing air, emission from detergents and building materials).
- For demand-based ventilation controls in those rooms.

Functions

Room air quality is to be understood as subjective air quality felt by human beings with their olfactory organs. As perception varies from person to person, no general definition of air quality is available. The air quality sensor does not trace concentration of any individual gas; it assesses the mixed gas and thus it is not possible to specify gas concentrations in the ppm units. A broadband VOC (volatile organic compounds) sensor is used to provide as universal value as possible.

Detectable gases: Mixed gas, vapours of alkanoles, automobile exhaust gases, exhaled breathing air, combustion smoke (from wood, paper, plastics). The sensor can be reset by means of zero point and final value potentiometers.

Technical data

Power supply	24 V AC/DC
Sensor	VOC sensor (metal oxide)
Measuring range	0...100% air quality, referred to calibrating gas optional via DIP switches, see table below
Output signal	0...10V DC (0V = clean air, 10V = polluted air) 0(4)...20mA (selectable by switch) potential-free changeover contact (24 V)
Ambient temperature	-10...40°C
Long-term stability	≤ 10% per year
Warm-up period	1 hour
Response time	≤ 60s
Terminals	screw terminals for wires 0,14 – 1,5 mm ²

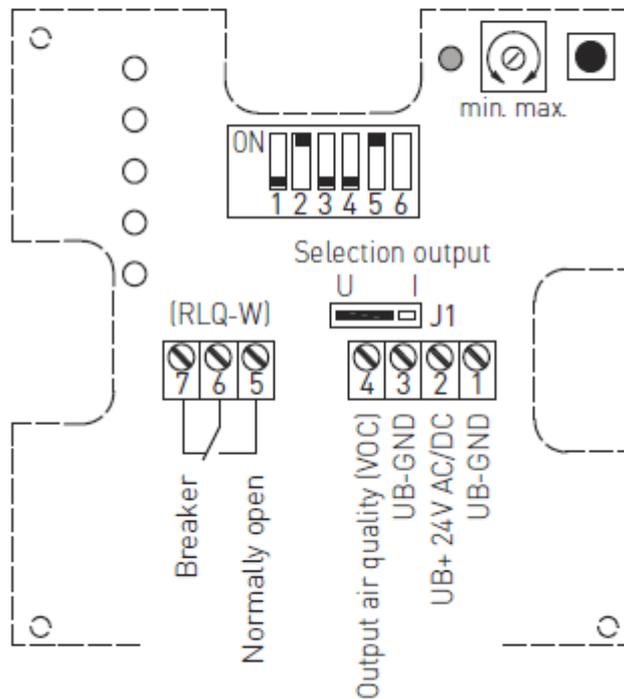
Terminals

- 1 GND – power, signal
- 2 24 V AC / DC - power
- 3 GND – power, signal
- 4 output 0...10 V / 0(4)...20 mA

- Pushbutton manual calibration air quality
- LED calibration

Selection output:

- Voltage (V), default
- Current (mA)



GND terminals (1) and (3)
are connected on the circuit board.
DIP switch (6) is not assigned!

Jumpers

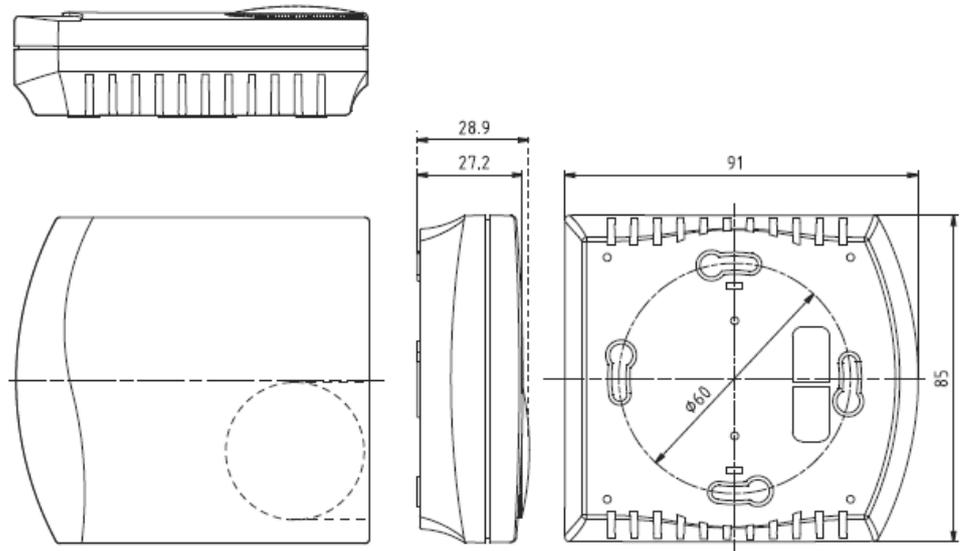
VOC (sensitivity adjustable)	DIP 1	DIP 2	DIP 3
VOC LOW	ON	OFF	OFF
VOC MEDIUM (default)	OFF	ON	OFF
VOC HIGH	OFF	OFF	ON
VOC Calibration mode			DIP 4
Automatic self-calibration			OFF
Manual calibration			ON
Selection output (I)			DIP 5
Output 0...20 mA			OFF
Output 4...20 mA			ON

Types

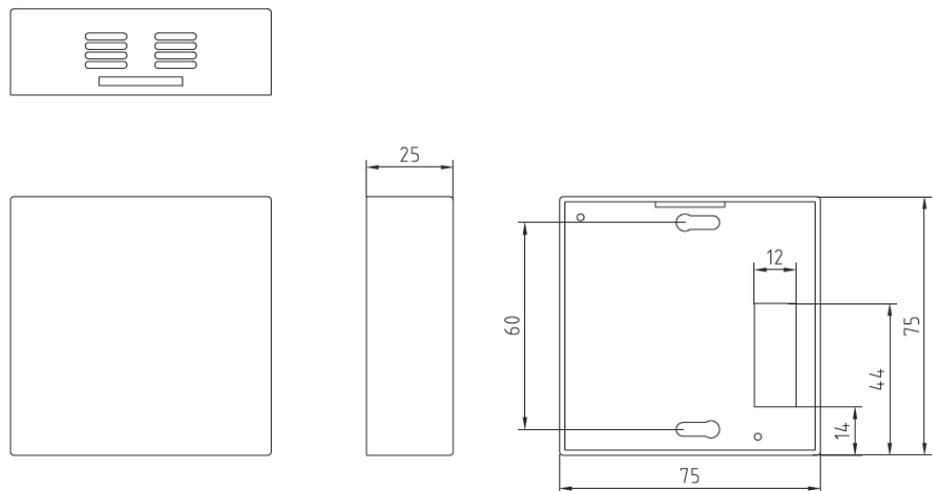
Type	Measuring range (VOC)	Output (VOC)	Features
RLQ	0...100%	0-10 V / 4-20 mA	
RLQ-W	0...100%	0-10 V / 4-20 mA	changeover contact
RLQ-xx-stainless steel			stainless steel enclosure
RLQ-A-W	0...100%	0-10 V / 4-20 mA	LED indicator (traffic light), changeover contact
RLQ-AP-W	0...100%	0-10 V / 4-20 mA	LED indicator (traffic light), potentiometer, changeover contact

A = with "traffic light" (five coloured LEDs) indicating air quality (VOC)

Dimensions



ABS, plastic, standard enclosure



Stainless steel, optional enclosure

09/2013 Subject to technical changes.