RLT/A

Room air quality sensor for mixed gas (VOC) and temperature

Measuring size: temperature, VOC

Output: 2 x 0-10 V, 2 x 4-20 mA, Relay

Highlights: modern housing design, on-wall or on flush-mounted box

MADE IN GERMANY EHL CE RoHS COMPLIANT

Description

The RLT/A mixed gas sensor registers the air quality in the range of 0...100% with respect to the calibration gas and the ambient temperature and converts the measured values into a linear output signal 0-10 V.

As an option the air quality sensor has a potential-free changeover contact and a backlit display. The changeover contact can be defined for one of the two measured values. The display content can be rotated in 90° steps using a menu and the measured value, the switching threshold set, the state of the relay, the MIN/MAX measured values for the selected intervals (1 h / 6 h / 12 h / 24 h) etc. can be read out.

The sensitivity can be set on the device at ?low?, ?medium? and ?high?.

The air quality that is defined as normal for the environment can be specified on initial start-up by manual calibration on the device (zero point balance). The air quality sensor performs an automatic calibration at regular intervals, long-term drifts and the operational wear of the sensor element are thus totally eliminated.

Technical Specifications

Measurement range temp.	0...+50°C
Measurement range VOC	0-100% (good / bad air quality, referring to the calibration gas)
Accuracy	±15% FS
Running-in time	1 h
Response time (t90)	max. 60 s
Long term stability	< 15% FS/year at norm load
Sensor	VOC: metal oxide sensor, Temperature: resistance sensor
Sensor protection	mounted inside housing
Supply voltage	24 V AC/DC (±5%)
Current consumption	max. 60 mA
Analogue output 0-10 V	3-wire connection, min. load resistance 100 kOhm
Alarm output	1 x potential-free change-over contact, 48 V, 1 A
Switching Hysteresis Relay	2% FS (without Display), 0,5...5% FS adjustable (with Display)
Electrical connection	screw terminals max. 1,5 mm²
Housing	ABS polyman, colour signal white like RAL 9003
Cable gland	on the back or housing side (predetermined breaking point)
Display	optional LCD display with backlight on/off/auto
Dimensions	Housing: L 82 x W 82 x H 25 mm
Weight	ca. 70 g
Protection type	IP30, IP20 (with display)
Protection class	III
Working range r.H.	0...98% r.H. in contaminant-free, non-condensing air
Working temperature	0...+50°C
Storage temperature	-20...+50°C
Initial operation	After switch-on of the device follows a self-test and the tempering, which takes ca. 1 h depending on the environmental conditions. At this time the analogue output drifts from the actual measurement value.
Automatic calibration	The automatic VOC calibration takes place every 7 days, this compensates for any drifts and achieves excellent long-term stability. To ensure this function, the device must be supplied with power for at least 7 days without interruption and ventilated with fresh air once for approx. 10 minutes within this period. The automatic calibration can be deactivated if necessary and performed manually.
Manual calibration	The manual VOC calibration of the output signal to 1V (zero point) is started by pressing the button on the circuit board (hold down for approx. 5 seconds until the LED flashes). Before that, continuous operation of min. 2 hours with air defined as normal air quality. The LED is deactivated after successful calibration.
Installation	on-wall or on flush-mounted box
Approvals	CE, EAC, RoHS

Variants

Article Number		
Supply voltage	Output	Version
RLT/A-U		
24 V AC/DC	2 x 0-10 V	without display
RLT/A-UD		
24 V AC/DC	2 x 0-10 V	with display
RLT/A-UR		
24 V AC/DC	2 x 0-10 V, changer	without display
RLT/A-URD		
24 V AC/DC	2 x 0-10 V, changer	with display

Accessories

FS9510

Table stand for room housing

Dimensional Drawing

82

82

33

60

33

25

25