

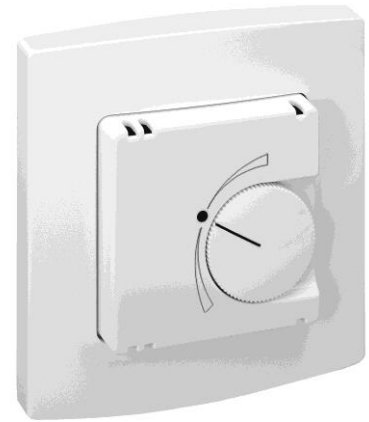
PolyGard® Analog Indoor Air Quality VOC, Temperature and Humidity Transmitter

DESCRIPTION

The PolyGard indoor air quality transmitter is a low-cost, high-quality and low-maintenance VOC transmitter based on modern bio-semi-conductor technology. The transmitter detects the VOC content in air and emits a proportional, linear 0 - 10 V analog signal. In case of restart/voltage breakdown a signal of 80% is released for a 20-minute ventilation. During this time the VOC transmitter adopts the current VOC value as zero-point. In case of improvement of the air quality an automatic correction of the zero-point is performed.

The normal CO₂ values are not causing any health problems in closed areas but different substances like VOC can be responsible for symptoms like eye irritations, headaches, febleness, dizziness, as well as diseases and accordingly overexertion like sick-building-syndrome. Beyond measurement of CO₂ concentration the VOC transmitter detects the air quality similar to human sensation. That's why VOC measurement is the perfect method to define air quality.

Additionally the VOC transmitter with optional temperature and humidity sensors is suitable for almost all application areas.



Enclosure with different options

APPLICATION

The VOC transmitter is designed for measuring the indoor air quality (VOC), temperature and humidity in offices, living spaces etc.

FEATURES

- Measuring range: 450 - 2000 ppm VOC
- Internal automatic self-diagnostics with auto adjustment
- Maintenance interval > 5 years
- Analog output VOC: 0 - 10 V (0 - 2000 ppm)
- Option: Analog output temperature 0 - 10 V (0 - 30°C)
- Option: Analog output humidity 0 - 10 V (0 - 100 %r.H.)
- Option: Temperature Output adjustment ± 3 °C
- Option: Relay output (30V, 1,0A) with adjustable Set point
- Option: Led for Relay status

TECHNICAL DATA

Electrical	
Power supply	24 VAC/DC \pm 20%, 50 Hz (half-wave rectified input)
Current consumption	Approx. 30mA
Sensor	
Sensor technique	Bio-semi-conductor
Measuring range	450 – 2000 ppm VOC
Response time (T1/e)	< 30 sec. < 3 min. diffusion time
Repeatability	\pm 95% (testing gas 20 ppm CO)
Accuracy	\pm 150 ppm
Output signal	0 – 10 VDC (0-2000ppm)
Sensor life expectancy	> 10 years
Maintenance interval	> 5 years
Temperature sensor	
Sensor technology	NTC
Measuring range	0 - 30°C
Accuracy	\pm 1%
Output signal	0 – 10 VDC (0 - 30°C)
Potentiometer	
Temperature Output adjustment	\pm 3 °C
Humidity sensor	
Sensor technology	Polymer capacitive
Measuring range	0 – 100 %r.H.
Accuracy	\pm 3,5%
Output signal	0 – 10 VDC (0 – 100 %r.H.)
Output signal	
Electrical Parameter	R _{LOAD} > 5 kOhm
Option Relay output	
Max. Load	30 VAC/DC 1,0A
Reference potential	0 V
Threshold level	Adjustable 15 -90 / from signal
Environmental Conditions	
Humidity	0 to 95% RH non-condensing
Working temperature	0 °C to + 50 °C (32 °F to 122 °F)
Storage temperature	-10 °C to + 50 °C (14 °F to 122 °F)
General Information	
Operating environment	Residential, commercial and industrial ranges
Enclosure	
Enclosure material	ABS for in-wall mounting box Cover: polycarbonate PC, 50 * 50mm
Colour	RAL 9010 (white) or RAL 1013
Dimension	(W x H x D) 50 x 50 x 42 mm
Weight	0.100 kg (0.22 lbs.)
Protection class	IP 30
Installation	In-Wall mounting, with frame, suitable for most german flat switch programs
Cable inlet	Back side
Connection	Screw-type terminals min. 0.25, max. 1.5 mm ²
Guideline	EMC Directive 2004/108/EEC EN 60730 CE
Warranty	1 year / material

*sensor data only valid for circulating air

ORDERING INFORMATION

IAQUA-XX-XXXXX

Option

1XXXX	VOC Sensor
X1XXX	Temperature Sensor
X2XXX	Temperature Sensor + Potentiometer
XX1XX	Humidity Sensor
XXX1X	Relay Output for VOC
XXX2X	Relay Output for Temperature
XXX3X	Relay Output for Humidity
XXXX1	LED for Relay status

Ausführung

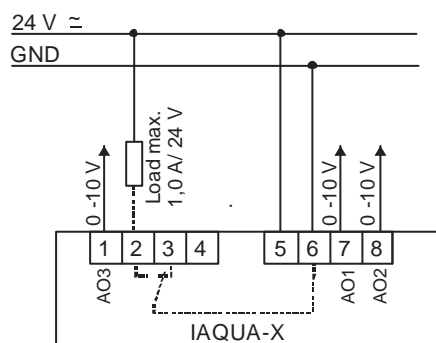
1X	Cover similar ¹ RAL 9010
2X	Cover similar ¹ RAL 1013
X1	single frame

¹ Adapter frames are available for following designs: Berker, Busch-Jäger, Gira, Jung, Merten, Peha, Siemens-delta

Example: PolyGard – transmitter with VOC and humidity Sensor, Relay Output, cover RAL 9010, Status LED

Order Number: IAQUA-1X-10131

ELECTRICAL CONNECTION (EXAMPLE)



Please review the connection diagramm for more information