



CO2VOC-K/A

CO2 and mixed gas VOC air quality sensor for ducts with measurement range switch

Measuring size: CO2, VOC Output: 2 x 0-10 V, Relais

Highlights: easy to install with included mounting flange













The duct air quality filter CO2VOC-K/A registers the CO2 concentration and mixed gas VOC in the air in the environment and converts the measured values into a linear output signal 0-10 V.

The changeover contact can be defined for one of the two measured values.

As an option the air quality sensor has a backlit display. 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 CO2 concentration is measured via a nondispersive infrared sensor (NDIR). 3 different CO2 scales can be selected - 0-2000 ppm, 0-5000 ppm, 0-10000 ppm.

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

The CO2/VOC zero point balance depending on the actual ambient conditions can be performed at any time on the device by manual calibration. The multifunctional air quality sensor performs an automatic self-calibration at regular interval, thus ensuring a long-term stable air quality measurement.





Technical Specifications

Measurement range CO2	0-10000 ppm, scales: 0-2000/5000/10000 ppm		
Measurement range VOC	0-100% (good / bad air quality, referring to the calibration gas)		
Scales	0-2000/5000/10000 ppm		
Accuracy	CO2: 0-2000 ppm: ±50 ppm + 2% f. mv, 0-5000 ppm: ±50 ppm + 3% f. mv, else:		
	±100 ppm + 5% f. mv; VOC: ±15% FS (20°C, 1013 mbar, auto-calibration ON)		
Temperature dependency	CO2: ±5 ppm / K		
Pressure dependency	CO2: 0,16% f. mv/hPa		
Running-in time	10 min		
Response time (t90)	< 5 min		
Long term stability	±1% FS/year		
Sensor	CO2: nondispersive infrared sensor (NDIR); VOC: metal oxide sensor		
Sensor protection	sinter filter		
Supply voltage	24 V AC/DC (±5%)		
Current consumption	Ø 100 mA		
Analogue output 0-10 V	3-wire connection		
Alarm output	1 x potential-free change-over contact, 48 V, 1 A		
Switching Hysteresis Relay	2% FS (without Display), 0,55% FS adjustable (with Display)		
Electrical connection	screw terminals max. 1,5 mm²		
Housing	Polycarbonate PC UL 94 V0 with hinge locks, color signal white similar to RAL 9003		
Cable gland	PG11 high-strength cable gland with strain relief		
Display	optional LCD display with backlight on/off/auto		
Material	Protection tube: stainless steel V2A		
Dimensions	Housing: L 89 x W 80 x H 47 mm, Protection tube: Ø 25 x 190 mm		
Protection type	Housing/electronic: IP65, Sensor: IP30		
Protection class	III		
Working range r.H.	098% 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.		
	10 minutes depending on the environmental conditions. At this time the analogue		
	output drifts from the actual measurement value.		
Automatic calibration	The automatic CO2/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 once with fresh air (CO2 300400 ppm) for approx. 10 minutes within		
	this period.		
	For the CO2 calibration, the device saves the minimum CO2 value measured during		
	this period internally. After 7 days, this minimum value is normalized to 400 ppm		
	CO2 and the output signal corrected accordingly. The maximum correction is limited		
	to half of the determined drift. If the measured value falls below approx. 300 ppm,		
	the calibration is initialized to 400 ppm.		
	The automatic calibration can be deactivated and performed manually if necessary.		
	The designation can be deducted and performed managing in necessary.		



Manual calibration	The manual CO2 calibration of the output signal to 400 ppm (zero point) is started	
	by pressing the button on the circuit board (hold it down for approx. 5 seconds until	
	the LED flashes). Before that, continuous operation of min. 10 minutes in fresh air.	
	The LED is deactivated after successful 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	mounting flange (in scope of delivery)	
Approvals	CE, EAC, RoHS	

Variants

Article Number					
CO2	VOC	Output	Version		
CO2VOC-K/A-UR					
0-2000/5000/10000 ppm	0-100%	2 x 0-10 V, changer	without display		
CO2VOC-K/A-URD					
0-2000/5000/10000 ppm	0-100%	2 x 0-10 V, changer	with display		

Accessories

motrona AX350



AX350: touchMATRIX® Process Indicator with two 16 bit Analog Inputs

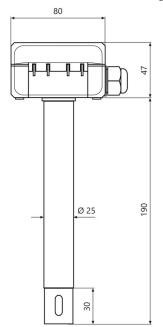
motrona AX020

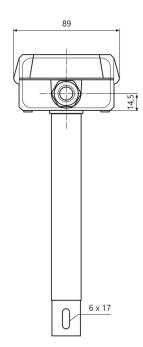


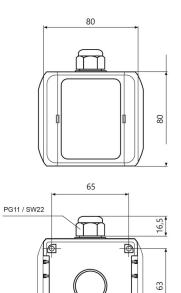
AX020: Process Indicator for Analog Signals



Dimensional Drawing







Ø 4,25

