



CO2-K/A

CO2 air quality sensor for ducts with measurement range switch

Measuring size: CO2

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

Highlights: Protection tube: stainless steel











Description

The duct air quality sensor CO2-K/A registers the CO2 concentration in the air in the environment in a range from 0-10000 ppm via a nondispersive infrared sensor (NDIR) into a linear output signal 0-10 V respectively 4-20 mA. As an option the air quality sensor has a potential-free changeover contact and 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. 3 different measuring ranges can be selected (0-2000 ppm, 0-5000 ppm, 0-10000 ppm) which can be switched, according to requirements, by the innovative DIP switching technology.

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



Technical Specifications

Measurement range CO2	0-10000 ppm, scales: 0-2000/5000/10000 ppm		
Scales	0-2000/5000/10000 ppm		
Accuracy	0-2000 ppm: ±50 ppm + 2% f. mv, 0-5000 ppm: ±50 ppm + 3% f. mv, else: ±100		
	ppm + 5% f. mv (at 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	Nondispersive infrared sensor (NDIR)		
Sensor protection	sinter filter		
Supply voltage	24 V AC/DC (±5%)		
Current consumption	Ø 100 mA		
Analogue output 0-10 V	3-wire connection		
Analogue output 4-20 mA	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 mm ²		
Housing	Polycarbonate PC UL 94 V0 with hinge locks, color signal white similar to RAL 900		
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			
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 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 if necessary and performed manually.		



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.	
Installation	mounting flange (in scope of delivery)	
Approvals	CE, EAC, RoHS	

Variants

Article Number				
MR Selection CO2	Output CO2	Version		
CO2-K/A-UI				
0-2000/5000/10000 ppm	0-10 V, 4-20 mA	without display		
CO2-K/A-UID				
0-2000/5000/10000 ppm	0-10 V, 4-20 mA	with display		
CO2-K/A-UIR				
0-2000/5000/10000 ppm	0-10 V, 4-20 mA, Changer	without display		
CO2-K/A-UIRD				
0-2000/5000/10000 ppm	0-10 V, 4-20 mA, Changer	with display		

Accessories

motrona AX350



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

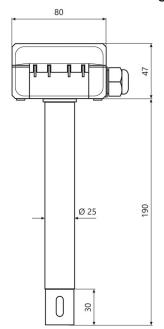
motrona AX020

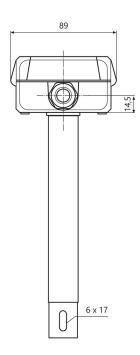


AX020: Process Indicator for Analog Signals



Dimensional Drawing







Ø 4,25



63

25,5

52

Ø 6,5