



Room air quality sensors

QPA10x4

- Maintenance-free CO₂ sensing element based on optical infrared absorption measurement (NDIR = non dispersive infrared)
- No recalibrations required
- Signal outputs DC 0...10 V or 4...20 mA adjustable

Use

In ventilation and air conditioning plants to enhance room comfort and optimize energy consumption by providing demand-controlled ventilation. The sensor acquires CO₂ concentrations and temperature.

Important!

The sensors may not be deployed as safety devices, e.g. as gas or smoke warning devices!

Type summary

Type	Order number	Designation
QPA1004	S55720-S453	Room sensor CO ₂
QPA1064	S55720-S454	Room sensor CO ₂ /T

Engineering notes

Cable routing and cable selection

The sensor must be powered by a transformer for safety extra low-voltage (SELV) with separate windings, suited for 100 % duty.
On applications with EMC problems, use shielded cables. For secondary power lines and signal lines, use twisted-pair cables.

Mounting notes

Mounting location

Inner wall of the room to be ventilated, not in niches, not behind curtains, not above or near heat sources, and not exposed to direct light from spot lights.

Do not expose the sensor to direct solar radiation.

Seal the end of the conduit at the sensor to prevent false measurements due to drafts through the conduit.

Mounting instructions

Mounting instructions are enclosed in the package.

Disposal



The device is considered electrical and electronic equipment for disposal in terms of the applicable European Directive and may not be disposed of as domestic garbage.

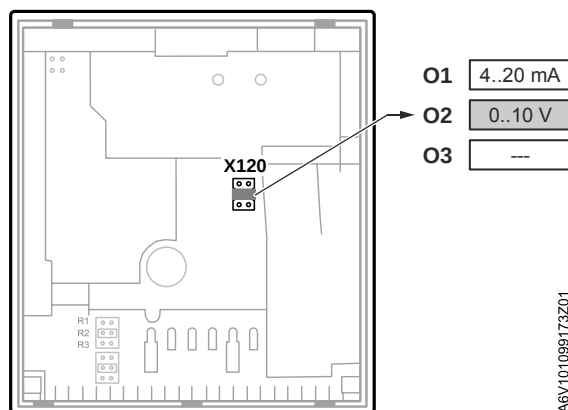
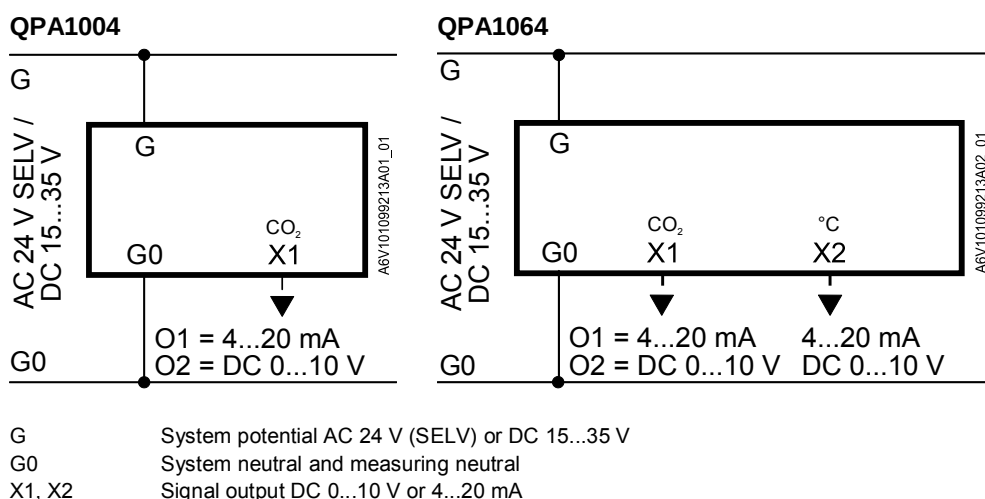
- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Technical data

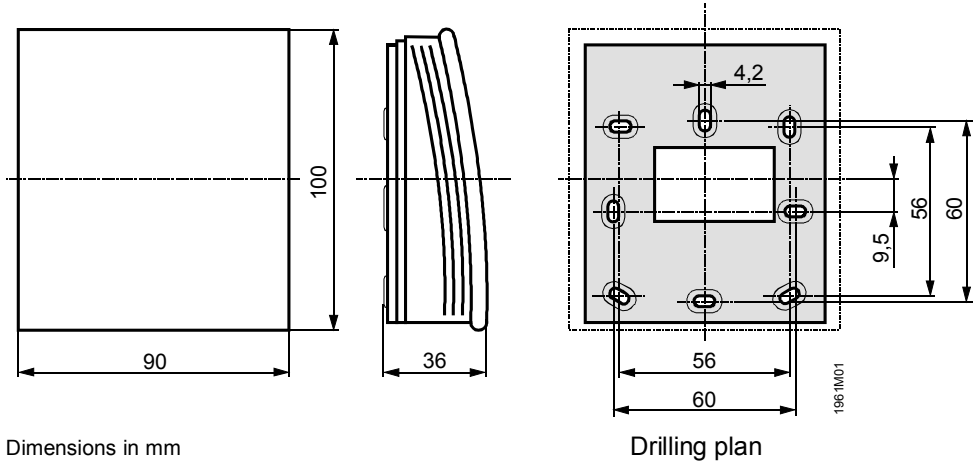
Power supply	Operating voltage	AC 24 V $\pm$ 20 % or DC 15...35 V (SELV) or AC/DC 24 V class 2 (US)	
	Frequency	50/60 Hz at AC 24 V	
	External supply line protection (EU)	Fuse slow max. 10 A or Circuit breaker max. 13 A Characteristic B, C, D according to EN 60898 or Power source with current limitation of max. 10 A	
	Power consumption	At "U" output signal Max. <0.9 VA	"I" output signal Max. <3.2 VA
Cable lengths for measuring signal	Measuring range	0...2000 ppm	
	Measuring accuracy at 23 °C and 1013 hPa	$\leq \pm$ (60 ppm + 4 % of measured value)	
	Long time drift	$\leq \pm$ 7 % of measuring range / 5 years (typically)	
	Output signal, linear (terminal X1)	4...20 mA $\hat{=}$ 0...2000 ppm, max. 500 Ohm DC 0...10 V $\hat{=}$ 0...2000 ppm, max. $\pm$ 1 mA	
Functional data "CO ₂ "	Recalibration free	8 years	
	Measuring range	0...50 °C	
	Measuring accuracy at DC 24 V and 23 °C	$\pm$ 0.5 K	
	Output signal, linear (terminal X2)	4...20 mA $\hat{=}$ 0...50 °C, max. 500 Ohm DC 0...10 V $\hat{=}$ 0...50 °C, max. $\pm$ 1 mA	
Functional data "Temperature" with QPA1064	Protection degree of housing	IP30 according to EN 60529	
	Protection class	III according to EN 60730-1	
Degree of protection	Screw terminals for	1 $\times$ 2.5 mm ² or 2 $\times$ 1.5 mm ²	
Electrical connections	Operation to	IEC 60721-3-3	
Environmental conditions	Climatic conditions	Class 3K3	
	Temperature (housing incl. electronics)	0...50 °C	
	Humidity	0...95 % r. F (non condensing)	
	Mechanical conditions	Class 3M2	

Materials and colors	Transport to	IEC 60721-3-2
	Climatic conditions	Class 2K3
	Temperature	-25...+70 °C
	Humidity	<95 % r. F.
	Mechanical conditions	Class 2M2
Directives and Standards	Cover	ASA + PC, NCS S 0502-G (white) equates to RAL9010
	Housing	ASA + PC, NCS 2801-Y43R (grey) equates to RAL7035
	Mounting plate	PC, NCS 2801-Y43R (grey) equates to RAL7035
	Sensor (complete)	Silicone free
	Packaging	Corrugated cardboard
Environmental compatibility	Product standard	EN 60730-1
	Electromagnetic compatibility (Applications)	Automatic electrical controls for household and similar use
	Electromagnetic compatibility (Applications)	For use in residential, commerce, light-industrial and industrial environments
	EU Conformity (CE)	CE1T1961xx *)
	RCM Conformity	CE1T1961en_C1 *)
Weight	UL	UL 873, http://ul.com/database
	The product environmental declaration (CE1E1961*) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).	
	Incl. packaging	Approx. 0.10 kg

Connection terminals



Dimensions



QPA10x4

