SIEMENS

Duct air quality sensors QPM11x4

- **Maintenance-free CO_2 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 air ducts of ventilation and air conditioning plant to enhance room comfort and to optimize energy consumption by providing demand-controlled ventilation. The sensor acquires CO_2 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*
QPM1104	S55720-S455	Duct sensor CO_2
QPM1164	S55720-S456	Duct sensor CO_2/T

The sensor is supplied complete with mounting flange and cable entry gland M16.

Engineering notes

The sensor must be powered by a transformer for safety extra low-voltage (SELV) with separate windings, suited for 100 % duty.

Cable routing and cable selection

On applications with EMC problems, use shielded cables. For secondary power lines and signal lines, use twisted-pair cables.

Mounting notes

Mounting location and orientation

To ensure degree of protection IP54, the sensor must be fitted with the cable entry pointing downward.

⚠ Caution

- If used in connection with steam humidifiers, the distance to the humidifier must be a minimum of 3 m. If permitted by the installation, the distance should be as great as possible, but no more than 10 m
- The sensing elements in the immersion rod are susceptible to impact and shock. Any impact or shock should therefore be avoided.

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 ±20 % or DC15…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 At "I" output signal max. <3.2 VA
Functional data "CO_2"	Measuring range	0...2000 ppm
	Measuring accuracy at 23 °C and 1013 hPa	≤± (60 ppm + 4 % measured value)
	Long time drift	≤±7 % of measuring range / 5 years (typically)
	Output signal, linear (terminal X1)	4...20 mA ≙ 0...2000 ppm, max. 500 Ohm DC 0...10 V ≙ 0...2000 ppm, max. ±1 mA
	Recalibration free	8 years
Functional data "Temperature" at QPM1164	Measuring range	0...50 °C
	Measuring accuracy at DC 24 V and 23 °C	±0,5 K
	Output signal, linear (terminal X2)	4...20 mA ≙ 0...50 °C, max. 500 Ohm DC 0...10 V ≙ 0...50 °C, max. ±1 mA
Air velocity	Max. air velocity (V_{max})	10 m/sek.
Degree of protection and protection class	Protection degree of housing	IP54 according to EN 60529
	Protection class of device	III according to EN 60730-1
Electrical connections	Screw terminals for	1× 2,5 mm^2 or 2× 1,5 mm^2
Environmental conditions	Operation to	IEC 60721-3-3
	Climatic conditions	Class 3K3
	Temperature (housing incl. electronics)	0...50 °C
	Humidity	0…95 % r. F (noncondensing)
	Mechanical conditions	class 3M2
	Transport to	IEC 60721-3-2
	Climatic conditions	Class 2K3
	Temperature	−25...+70 °C
	Humidity	<95 % r. F.
	Mechanical conditions	Class 2M2
Materials and colors	Base	Polycarbonate, RAL 7001 (silver-grey)
	Cover	Polycarbonate, RAL 7035 (light-grey)

	Immersion rod	Polycarbonate, RAL 7001 (silver-grey)
	Filter cap	Polycarbonate, RAL 7001 (silver-grey)
	Mounting flange	PA66 – GF35 (black)
	Cable entry gland	PA, RAL 7035 (light grey)
	Sensor (complete assembly)	Silicone-free
	Packaging	Corrugated cardboard
Directives and Standards	Product standard	EN 60730-1 Automatic electrical controls for household and similar use
	Electromagnetic compatibility (Applications)	For use in residential, commerce, light-industrial and industrial environments
	EU Conformity (CE)	CE1T1962xx *)
	RCM Conformity	CE1T1961en_C1 *)
	UL	UL 873, http://ul.com/database
Environmental compatibility	The product environmental declaration CE1E1962*) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).	
Weight	Incl. packaging	Approx. 0,25 kg

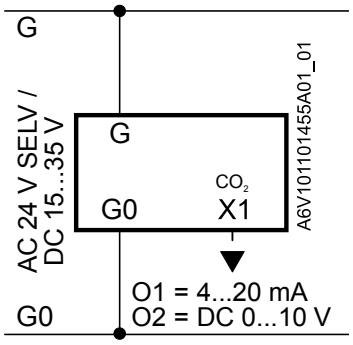
*) The documents can be downloaded from http://siemens.com/bt/download.

Accessory

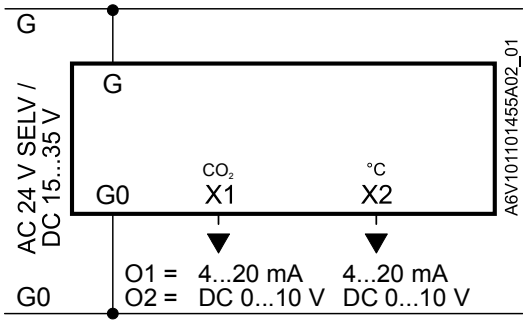
Name	*Type*
Filter cap (for replacement)	AQF3101

Connection terminals

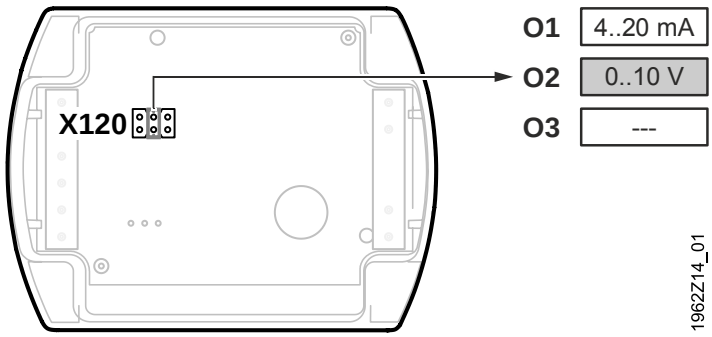
QPM1104



QPM1164

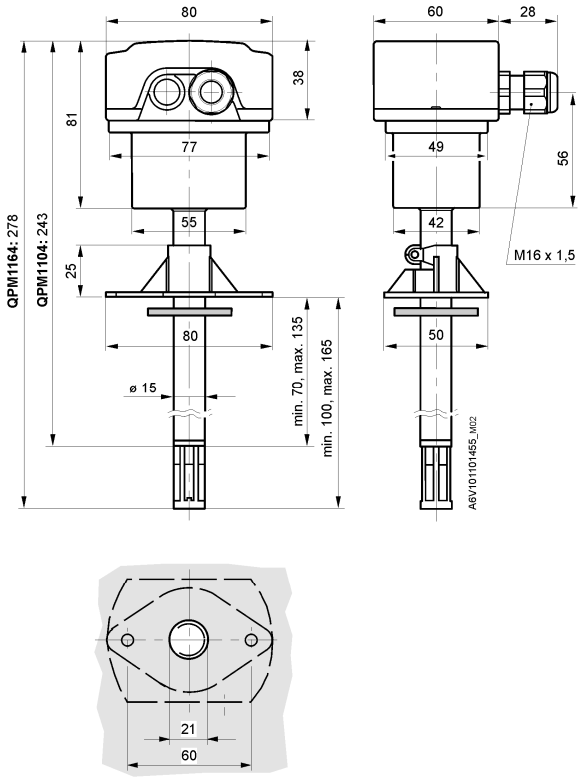


G	System potential AC 24 V (SELV) or DC 15...35 V
G0	System neutral and measuring neutral
X1, X2	Signal output DC 0...10 V or 4...20 mA



Dimensions

Drilling plan



Dimensions in mm

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