



## Duct air quality sensors QPM11x4

- Maintenance-free CO<sub>2</sub> 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<sub>2</sub> 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 <sub>2</sub>
QPM1164	S55720-S456	Duct sensor CO <sub>2</sub> /T

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

### 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 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

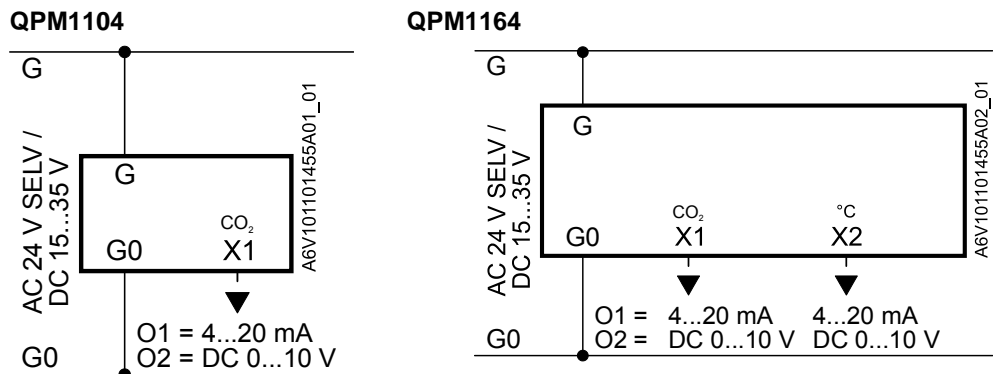
Power supply	Operating voltage	AC 24 V $\pm$ 20 % or DC15...35 V (SELV) or AC/DC 24 V class 2 (US)
	Frequency	50/60 Hz at AC 24 V
	External supply line protection (EU)	Fuse slow max. 10 A or Circuit breaker max. 13 A Characteristic B, C, D according to EN 60898 or Power source with current limitation 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 <sub>2</sub> "	Measuring range	0...2000 ppm
	Measuring accuracy at 23 °C and 1013 hPa	$\leq \pm$ (60 ppm + 4 % 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
	Recalibration free	8 years
Functional data "Temperature" at QPM1164	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
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	1x 2,5 mm <sup>2</sup> or 2x 1,5 mm <sup>2</sup>
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 <sup>*)</sup>
	RCM Conformity	CE1T1961en_C1 <sup>*)</sup>
Environmental compatibility	UL	UL 873, <a href="http://ul.com/database">http://ul.com/database</a>
		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 <a href="http://siemens.com/bt/download">http://siemens.com/bt/download</a> .	

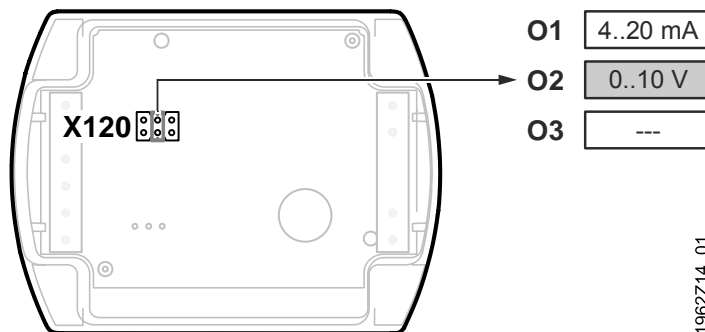
### Accessory

Name	Type
Filter cap (for replacement)	AQF3101

### Connection terminals

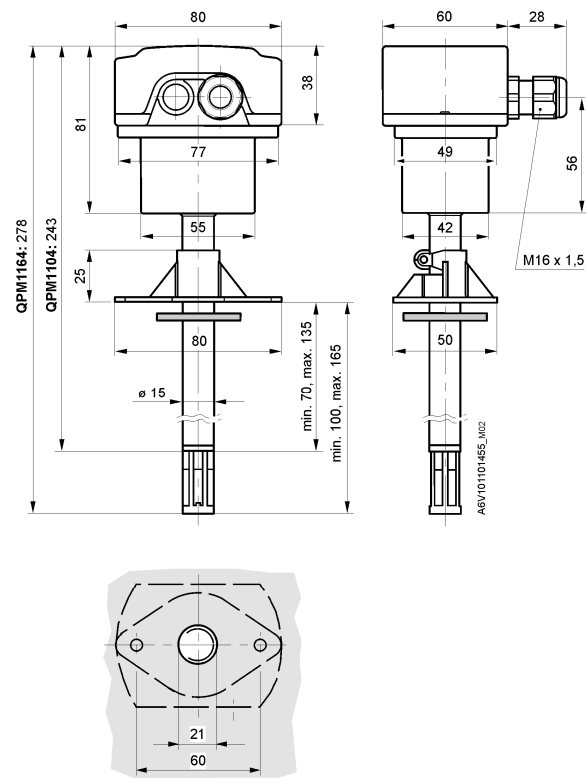


G System potential AC 24 V (SELV) or DC 15...35 V  
G0 System neutral and measuring neutral  
X1, X2 Signal output DC 0...10 V or 4...20 mA



## Dimensions

### Drilling plan



Dimensions in mm

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