



QXA2601/QXA2603



QXA2602/QXA2604

Condensation Monitor

QXA2601
QXA2602
QXA2603
QXA2604

- Operating voltage AC/DC 24 V or AC 230 V
- Potential free changeover contact AC/DC 1...30 V or AC 230 V
- Simple and fast mounting
- Surface or pipe mounting
- Integrated and remote sensor version available
- Status indication by two colored LED

Use

For monitoring condensation in buildings with chilled ceilings or in ventilation, air conditioning or heating plant.

The condensation monitors are used:

- to prevent condensation on chilled ceilings
- to prevent condensation at critical spots of HVAC plant or buildings (in air ducts, near fans, etc.)
- as a condensation switch

In general, the condensation monitors are used on all kinds of surfaces where condensation must be avoided.

Type summary

Type (ASN)	Product number (SSN)	Power supply	Integrated/remote	Switching output
QXA2601	S55770-T325	AC/DC 24 V	Integrated sensor	AC 30 V, 1 A / DC 30 V, 0.5 A
QXA2602	S55770-T326	AC/DC 24 V	Remote sensor	AC 30 V, 1 A / DC 30 V, 0.5 A
QXA2603	S55770-T327	AC 230 V	Integrated sensor	AC 230 V, 1A
QXA2604	S55770-T328	AC 230 V	Remote sensor	AC 230 V, 1A

Ordering and delivery

- When ordering, please indicate product No./stock No. and description
- Example:

Product No.	Stock No.	Description
QXA2601	S55770-T325	AC/DC 24 V power supply, integrated sensor

QXA2601/QXA2603

The condensation monitors are supplied with:

- a strap-on band for pipe diameters from 10 to 100 mm

QXA2602/QXA2604

The condensation monitors are supplied with:

- a strap-on band for pipe diameters from 10 to 100 mm
- 6 self-tapping screws
- 6 expansion bolts

Equipment combinations

The condensation monitors are suited to be used with all types of devices:

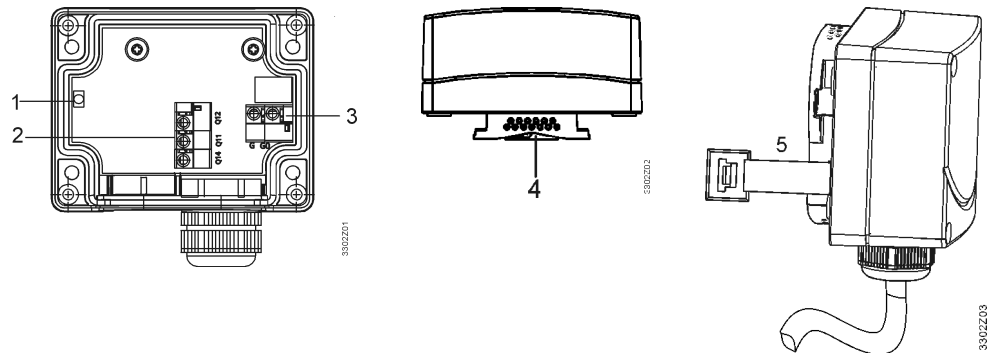
- that operate at AC/DC 24 V and can handle the condensation signal delivered by the monitor's potential free AC/DC 1...30 V relay changeover contact (QXA2601/QXA2602), or
- that operate at AC 230 V and can handle the condensation signal delivered by the monitor's potential free AC 230 V relay changeover contact (QXA2603/QXA 2604).

With the sensing elements, the monitors acquire the relative humidity close to the dew point (= 100 % r. h.). The resistance of the sensing elements raises sharply in the range of 90...100% r. h. Before reaching the dew point, the electronics energize the relay to trigger counteractions.

Mechanical design

QXA2601/QXA2603

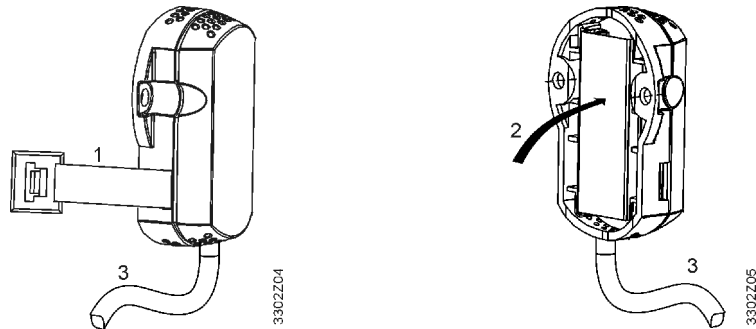
The housing is made of flame-retardant thermoplastics with spring-loaded humidity sensing element, holding relay with changeover contact, connection terminals and M16 cable gland made of plastics.



- 1 LED
- 2 Relay output terminal block
- 3 Power in terminal block
- 4 Sensing element
- 5 Tensioning strap

QXA2602/QXA2604

Versions have similar housings as QXA2601 and QXA2603, but with remote sensor heads (fixed cable connection of 1500 mm) rather than directly integrated sensors.



- 1 Tensioning strap
- 2 Sensing element
- 3 Connection cable 1500 mm to base housing

Mounting notes

The monitors perform their function only when the humidity sensing elements assume the same temperature as the surface to be protected against condensation. The following points should be paid attention to:

- Mount condensation monitors at the coldest spot of the chilled ceiling (plant).
- In the case of water-cooled chilled ceilings, mount the monitors on the water inlet pipe.
- Protect the sensing elements against aggressive chemicals and dirt (both can adversely affect the correct operation of the monitors and drastically shorten their lives).

Mounting choices

- Pipe-mounting with strap-on band (pipe diameter 10...100 mm)
- Surface-mounting on walls or ceilings: 2 screws for the sensor head; 4 screws for the sensor main housing (QXA2602/QXA2604).

Note:

The monitors must not be continuously exposed to condensation.
The monitors are assembled and supplied with mounting instructions CB1M3300 (QXA2601/QXA2603) and CB1M3301 (QXA2602/QXA2604).

Commissioning notes



Caution!

No special commissioning procedure is required. A functional test can be made by exhaling slowly onto the sensing element several times to simulate condensation.

The LED indicates the status “dew” by turning red.

Do not expose the sensing elements to tap water as this can cause electrolytic corrosion.

The unit may only be wired by authorized and appropriately trained staff and only when disconnected from power. Cables and / or terminals must be labeled.

Power supply

Local regulations stipulate sizing and fusing of power lines. Power lines must be fused.

Potential-free Relay output

The potential-free relay output permits switching loads of up to 1 A. Line sizing is oriented to connected load and local regulations. The switching circuits are externally fused without internal protection. The lines must be fused.

Status indication

Two kinds of statuses can be indicated by the LED:

LED green: operating under normal condition (operating voltage is “on”)

LED red: dew warning

Disposal



In terms of disposal, the room thermostats are classified as electronic scrap conforming to the European Directive 2011/65/EU (WEEE) and must not be disposed of as unsorted domestic waste. The relevant national legal regulations must be complied with and the units must be disposed of via the appropriate channels. Local and currently valid legislation must be observed.

Technical data

Power supply G, G0
QXA2601/QXA2602



Caution!

Operating voltage	SELV/PELV AC/DC 24 V $\pm$ 20 %
Frequency	50/60 Hz
Power consumption	Max. 1 VA
External fuse	Transformer with secondary limitation of Max. 10 A, or External secondary power fuse with Max. T 10 A non-renewable fuse, or Max. C 13 A circuit breaker is required in all cases

Power supply (L, N)
QXA2603/QXA2604



Caution!

Safety class	III to EN 60730
Operating voltage	AC 230 V $\pm$ 10 %
Frequency	50/60 Hz
Power consumption	Max. 4 VA
External fuse	External secondary power fuse with Max. T 10 A non-renewable fuse, or Max. C 13 A circuit breaker is required in all cases

Function data

Safety class	II to EN 60730
Switching point on increase of humidity	92 $\pm$ 4 % r. h. at 25 °C
Switching differential (fixed)	approx. 5 % r. h.
Response time in static air	
From 80 auf 99 % r. h.	Max. 3 min
From 99 auf 80 % r. h.	Max. 3 min
Condensation	Max. 30 min

Output Q11, Q12, Q14
QXA2601/QXA2602



Caution!

Relay output	Potential free changeover contact
Voltage range	AC/DC 1...30 V
Current range	AC 0,001...1°A DC 0,001...0.5 A
External fuse	Transformer with secondary limitation of max. 10 A, or external secondary power fuse with max. T 10 A non-renewable fuse, or max. C 13 A circuit breaker is required in all cases

Output Q11, Q12, Q14
QXA2603/QXA2604



Caution!

Relay output	Potential free changeover contact
Starting current	AC 250 V, max. 10 A for $\leq$ 20 ms
Switching capacity	AC 230 V, 1 A
External fuse	External secondary power fuse with Max. T 10 A non-renewable fuse, or Max. C 13 A circuit breaker is required in all cases

Protection data

Degree of protection of housing	IP54 to EN 60529 (not include sensor head)
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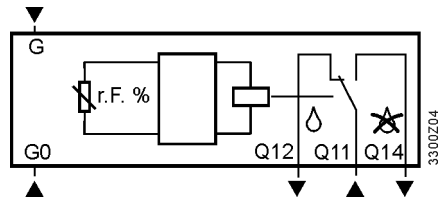
Connections

Mechanically	strap-on band for pipe dia. 10...100 mm
Electrical connection	
Spring-type terminal for cable entry	Max. 1.5 mm ² Cable gland M16 Ø: Max. 10 mm

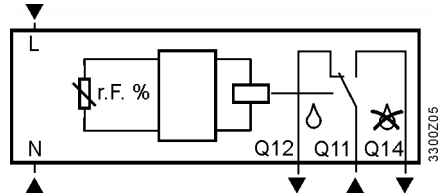
Environmental conditions	Operation	As per IEC 60721-3-3
	Climatic conditions	Class 3K5
	Temperature (housing with electronics)	0...50 °C
	Humidity	<95 % r.h.
	Transport	As per IEC 60721-3-2
	Climatic conditions	Class 2K3
	Temperature	-25...60 °C
	Humidity	<95 % r.h.
	Mechanical conditions	Class 2M2
	Storage	As per IEC 60721-3-1
	Climatic conditions	Class 1K3
	Temperature	-25...60 °C
Material and color	Humidity	<95 % r.h.
	Housing material	PC material
	Housing color	RAL 7035
Weight excl packaging	QXA2601	85 g
	QXA2602	143 g
	QXA2603	90 g
	QXA2604	148 g
Industry standards QXA2601/QXA2602	Product standards	
	Automatic electrical controls for household and similar use	General requirements EN 60730-1
	Electromagnetic compatibility	
	Emissions	EN 61000-6-3
	Immunity	EN 61000-6-2
	CE conformity to	
	EMC directive	2004/108/EC
	RoHS directive	2011/65/EU
	Technical RoHS documentation	EN 50581
	RCM conformity to	
Industry standards QXA2603/QXA2604	EMC emission standard	AS/NZS 61000-6-3
	Product standards	
	Automatic electrical controls for household and similar use	General requirements EN 60730-1
	Electromagnetic compatibility	
	Emissions	EN 61000-6-3
	Immunity	EN 61000-6-2
	CE conformity to	
	EMC directive	2004/108/EC
	Low voltage directive	2006/95/ EC
	RoHS directive	2011/65/EU
	Technical RoHS documentation	EN 50581
	RCM conformity to	
	EMC emission standard	AS/NZS 61000-6-3

Internal diagrams

QXA2601/QXA2602

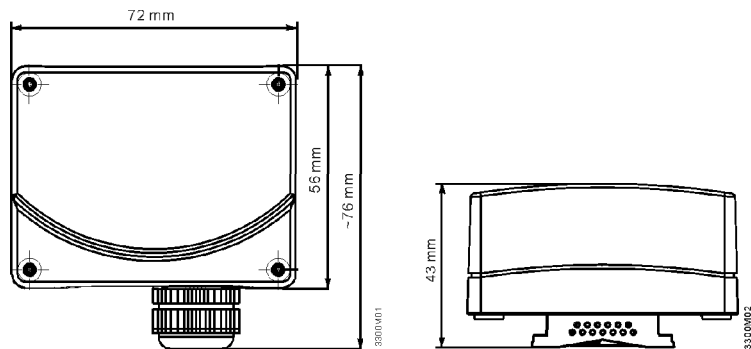


QXA2603/QXA2604

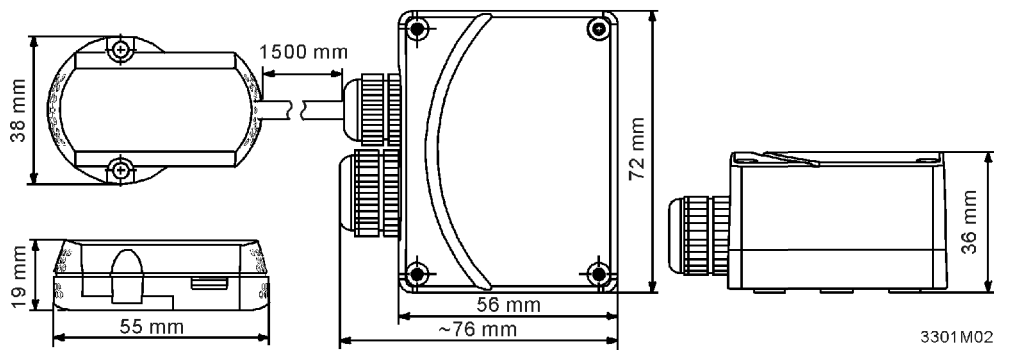


Dimensions (mm)

QXA2601/QXA2603



QXA2602/QXA2604



Wall mounting dimensions

