Sensors

X-SENS

Plug-and-play connection of components

Zone modules

Quadruple distributor X-SENS-SPLITTER

Sensors for X-AIRCONTROL zone modules

Components for measuring and recording various measured variables and conditions in systems for single room control and centralised control – such as X-AIRCONTROL

- Combined temperature and humidity sensor
- Dew point monitor
- Air quality sensor
- Presence detector (PIR sensor)
- Splitter

General information

Application

- Sensors for the X-AIRCONTROL control system
- For connection to the zone modules X-AIR-ZMO-... (ANA, MP, MOD) and master modules X-AIR-ZMAS
- Duct temperature sensor for supply air and extract air - combination sensor temperature and humidity as duct sensor for extract air
- Air quality sensor as a duct sensor for measuring of volatile organic compounds (VOC) in the extract air
- Air quality sensor as duct sensor for measuring metallic oxides (CO_2) in the extract air
- Air quality sensor for measuring the CO_2-content in the room air, and for measuring humidity as a room sensor
- Dew point monitor for monitoring condensation on chilled ceilings, etc.
- Presence detector for detecting the presence of people in the room
- Quadruple distributor for sensors and operating units with Modbus (splitter)

Variants

- TEMP-RH-EXH: Combined temperature and humidity sensor for extract air
- TEMP-PT1000: Duct temperature sensor (PT1000)
- VOC-EXH: Air quality sensor (VOC)
- CO2-EXH: Air quality sensor (CO_2)
- CO2-RH: Combination sensor CO_2 and humidity sensor
- DEWPT: Dew point monitor
- PIR-SM: Presence detector (PIR sensor), detection range 180°
- PIR-FM: Presence detector (PIR sensor), 360° field of detection
- SPLITTER: Quadruple distributor for sensors and operating units with Modbus
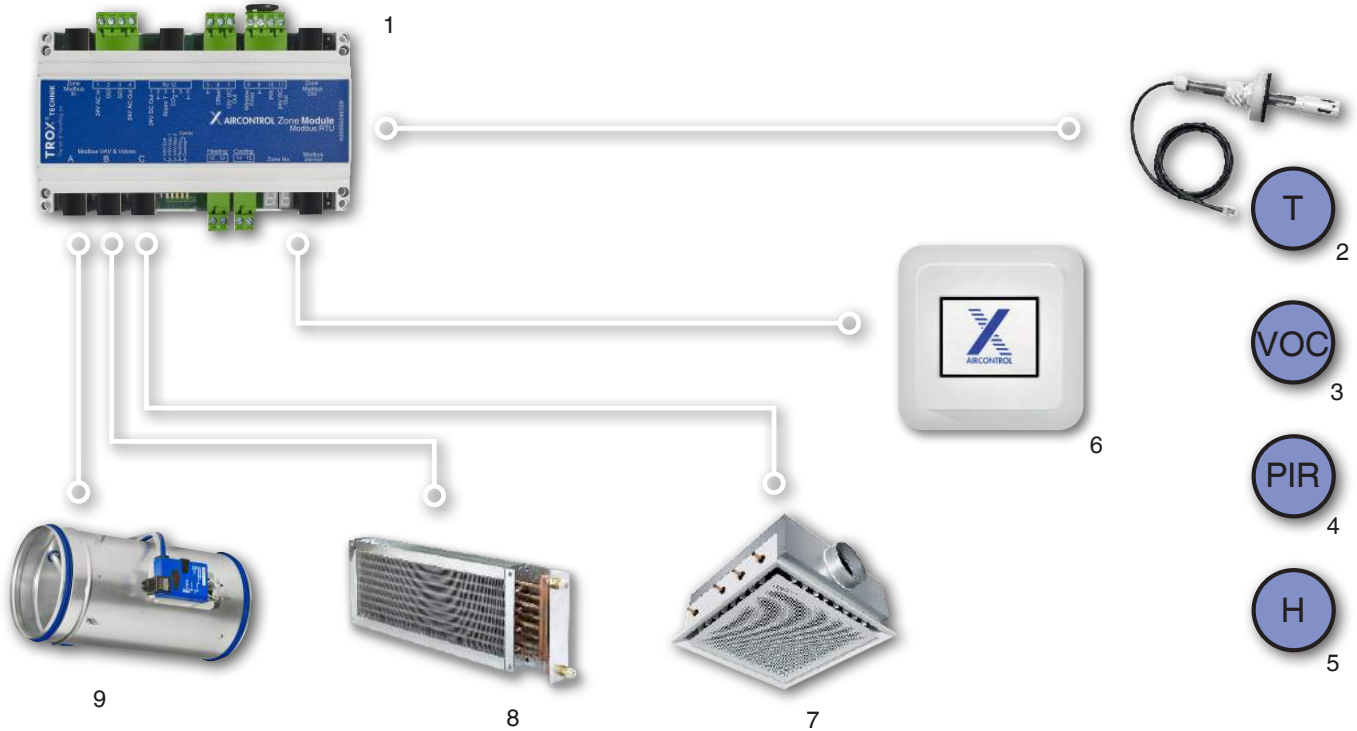
Maintenance

- Maintenance-free, as construction and materials are not subject to wear and tear
- Checking and cleaning, in particular if the device is used in a room or in an extract air duct
- Regular cleaning (dust removal) is recommended

Function

X-SENS sensors include various components for comfort-oriented room control, e.g. temperature detection, humidity measurement, air quality analysis (VOC/CO_2) and presence detection.

Depending on the application, different sensors can be connected to an X-AIRCONTROL zone module. The X-SENS sensors are mostly recognised automatically by the zone module. The measured values are included in the regulation of the room.

X-AIRCONTROL zone

1 Zone module
2 Temperature sensor
3 Air quality sensor
4 Presence detector (PIR sensor)
5 Humidity sensor
6 Control panel
7 Cooling, e.g. active chilled beam
8 Heating, e.g heating coil
9 Volume flow control

Order code

X-SENS – VOC-EXH
 | |
 | |
 1 **2**

1 Type
X-SENS Sensor

2 Variant
TEMP-RH-EXH Combined temperature and humidity sensor for extract air ducts
TEMP-PT1000 Duct sensor temperature PT1000
VOC-EXH Air quality sensor VOC for extract air duct

CO2-EXH Air quality sensor CO_2 for extract air duct
CO2-RH Combined CO_2 and humidity sensor
DEWPT Dew point monitor
PIR-SM Presence detector (PIR), detection range 180°
PIR-FM Presence detector (PIR), detection range 360°
SPLITTER Quadruple distributor for sensors and operating units with Modbus

Individual components

X-SENS-TEMP-RH-EXH

X-SENS-TEMP-RH-EXH

Combination sensor for temperature and relative humidity with Modbus RTU interface
▪ Plug & play integration in all X-AIRCONTROL zone modules with auto detection
▪ Including 7 m connection cable and RJ12 plug
▪ Including mounting flange for quick and safe installation in round or angular extract air ducts

General information

Application

- X-SENS-TEMP-RH-EXH combination sensor to be used for X-AIRCONTROL or other systems; can be connected to zone modules X-AIR-ZMO-... (ANA, MP, MOD)
- Temperature and relative humidity measurement
- Duct sensors for rectangular and round supply air and extract air ducts
- Measuring ranges -40 – 120 °C and 0 – 100 % r.h.
- Plug-in connection for supply voltage and for communication with the zone module
- The combination sensor is automatically recognised by the zone module (plug & play).

Parts and characteristics

- Casing with flange to be screw-fixed to the installation surface
- Protective tube with sensor heads, for installation into the air duct
- Plug-in connecting cable
- Modbus RTU data interface

Materials and surfaces

- Plastic casing

Installation and commissioning

X-SENS-TEMP-RH-EXH

- Install the sensor in suitable place in the air duct
- Use the cable to connect the sensor to the zone module
- The zone module automatically recognises the sensor (plug & play)

Function

Combined temperature and humidity sensor

Combination sensors X-SENS-TEMP-RH-EXH are control components for integration into control systems such as X-AIRCONTROL. The combination sensor contains 2 sensors for measuring temperature and relative humidity. Designed as a duct sensor the measurement is carried out in rectangular and circular supply air and exhaust air ducts. The measuring ranges are -40 – 120 °C and 0 – 100 % relative humidity. A Modbus RTU data interface transmits the measured values to the control system. A plug-in connection cable with RJ12 plug simplifies installation. The combination sensor is automatically recognized by the zone module automatically recognized by the zone module (plug-and-play).

Technical data

Supply voltage	24 V DC ± 25%, from the zone module
Power rating	0.22 W
Temperature measurement	
Measuring range	-40 to 120 °C
Measurement error	0.25 K (15 – 40 °C)
Humidity measurement	
Measuring range	0 – 100% r.h.
Measurement error	< 5 % r.h., < 2 % r.h. (10 – 90 % r.h.)
Long term drift	0.5 % r.h./year
Installed length	50 – 250 mm
Operating temperature	-20 to 50 °C
permissible humidity	5 – 95 % r.h., no condensation
IEC protection class	III (Protective extra-low voltage)
Protection level	IP 54 (sensor head IP 32)
Connecting cable	Length 7 m, with RJ12 plug
Installation location	circular and rectangular air ducts
Weight	250 g

Specification text

Combined sensor temperature and humidity

Components for measuring and recording various measured variables and states for systems for individual room control and for central control, for example X-AIRCONTROL. Combination sensors for the measurement of temperature and humidity in rectangular and circular supply air and exhaust air ducts. Functional sensor consisting of a housing with mounting flange, a protection tube with 2 sensors and the connection cable with RJ12 plug. Data interface Modbus RTU for transmission of the measured measured values to the control system. The combination sensor is automatically recognized by the zone module (plug-and-play).

Materials and surfaces
- Plastic casing

Technical data
- Supply voltage: 24 V DC ± 25%, from the zone module
- Power rating: 0.22 W

Temperature measurement

- Measuring range: -40 – 120 °C
- Measurement error: 0.25 K (15 to 40 °C)

Humidity measurement

- Measuring range: 0 to 100% r.h.
- Measurement error absolute: < 5 % r.h., < 2 % r.h. (10 – 90 % r.h.)
- Long term drift: 0.5% r.h./year
- Installed length: 50 to 250 mm
- Operating temperature: -20 to 50 °C
- Permissible humidity: 5 – 95% r.h., no condensation
- Protection class: III (protective extra-low voltage)
- Protection level: IP 54 (sensor head IP 32)
- Connection cable: length 7 m, with RJ12 plug
- Installation location: circular and rectangular air ducts

X-SENS-TEMP-PT1000

X-SENS-TEMP-PT1000

Duct sensor temperature X-SENS-TEMP-PT1000

- ▪ Integration in all X-AIRCONTROL zone modules with auto detection
- ▪ 4 m cable connection with open ends
- ▪ Including mounting flange for quick and safe installation in round or square ducts

General information

Application

- Temperature sensor X-SENS-TEMP-PT1000, among others for the control system X-AIRCONTROL for connection to the zone modules X-AIR-ZMO-... (ANA, MP, MOD)
- Temperature measurement
- Duct sensors for rectangular and round supply air and extract air ducts
- Measuring range -40 to 85 °C
- The temperature sensor is automatically recognised by the zone module (plug & play).

Parts and characteristics

- Protective tube with sensor head and flange to be screw-fixed to the installation surface
- Connecting cable

Materials and surfaces

- Protective tube made of plastic

Installation and commissioning

X-SENS-TEMP-PT1000

- Install the sensor in suitable place in the air duct
- Use the cable to connect the sensor to the zone module
- The zone module automatically recognises the sensor (plug & play)

Function

Duct sensor temperature

Temperature sensors X-SENS-TEMP-PT1000 are control components for integration into control systems such as X-AIRCONTROL. The temperature sensor contains a PT1000 sensor for measuring the temperature. Designed as a duct sensor, the measurement takes place in rectangular or circular supply air ducts or preferably exhaust air ducts, as an alternative to a room temperature sensor. The measuring range is -40 – 85 °C. The temperature sensor is automatically recognized by the zone module (plug-and-play).

Technical data

Sensor	PT1000
Resistance	1000 Ω at 0 °C
Measurement error	0.5 K (-40 – 15 °C) 0.725 K (40 – 85 °C)
Installed length	116 mm
Operating temperature	-40 to 100 °C
permissible humidity	5 – 95% r.h., no condensation
IEC protection class	III (Protective extra-low voltage)
Protection level	IP 32
Connecting cable	Length 4 m, open cable ends
Installation location	circular and rectangular air ducts
Weight	250 g

Specification text

Duct sensor temperature

Components for measuring and recording various measured variables and states for systems for individual room control and for central control, for example X-AIRCONTROL. Sensors for measuring the temperature in rectangular and circular supply air and exhaust air ducts. Functional sensor, consisting of a protective tube with mounting flange and a sensor and the connection cable. The temperature sensor is automatically recognized by the zone module (plug-and-play).

Materials and surfaces

▪ Protective tube made of plastic

Technical data

▪ Supply voltage: from the zone module
▪ Sensor: PT1000 - Resistance: 1000 Ω at 0 °C
▪ Measurement error absolute: 0.5 K (-40 to 15 °C), 0.725 K (40 to 85 °C)
▪ Installed length: 116 mm
▪ Operating temperature: -40 to 100 °C
▪ Permissible humidity: 5 – 95% r.h., no condensation
▪ Protection class: III (protective extra-low voltage)
▪ Protection level: IP 32
▪ Connection cable: length 4 m, open cable ends
▪ Installation location: circular and rectangular air ducts

X-SENS-VOC-EXH

X-SENS-VOC-EXH

Air quality sensor (VOC) with Modbus RTU interface and self-calibration
▪ For the detection of volatile organic substances/compounds in the measuring range 450 – 2000ppm
▪ Plug & play integration in all X-AIRCONTROL zone modules with auto detection
▪ Including 7 m connection cable and RJ12 plug
▪ Including mounting flange for quick and safe installation in round or angular exhaust air ducts

General information

Application

- X-SENS-VOC-EXH air quality sensor, to be used for X-AIRCONTROL or other systems; can be connected to zone modules X-AIR-ZMO-... (ANA, MP, MOD)
- Measurement of the concentration of volatile organic compounds
- Duct sensors for rectangular and round extract air ducts
- Measuring range 450 – 2000 ppm
- Plug-in connection for supply voltage and for communication with the zone module
- The zone module automatically recognises the air quality sensor (plug & play)

Parts and characteristics

- Casing with flange to be screw-fixed to the installation surface
- Protective tube with sensor, for installation into an air duct
- Plug-in connecting cable
- Modbus RTU data interface

Materials and surfaces

- Plastic casing

Installation and commissioning

- Install the air quality sensor in suitable place in the air duct
- Use the cable to connect the sensor to the zone module
- The zone module automatically recognises the air quality sensor (plug & play)

Function

Air quality sensor (VOC)

Air quality sensors X-SENS-VOC-EXH are control components for integration into control systems such as X-AIRCONTROL. The air quality sensor contains a sensor for measuring the concentration of volatile organic substances. These include alcohols, aldehydes, ketones, esters, terpenes, aromatics and alkenes. Designed as a duct sensor, the measurement is carried out in rectangular or round exhaust air ducts. The measuring range is 450 – 2000 ppm. A Modbus RTU data interface transmits the measured values to the values to the control system. A plug-in connection cable with RJ12 plug simplifies installation. The combination sensor is automatically recognized by the zone module (plug-and-play).

Technical data

Supply voltage	24 V DC ± 25%, from the zone module
Power rating	0.46 W
Measuring range	450 – 2000 ppm
Measurement error	< 150 ppm
Start-up time	15 min
Response time	5 min
Installed length	65 – 105 mm
Operating temperature	0 to 50 °C
permissible humidity	5 – 95% r.h., no condensation
IEC protection class	III (Protective extra-low voltage)
Protection level	IP 54 (sensor head IP 20)
Connecting cable	Length 7 m, with RJ12 plug
Installation location	circular and rectangular air ducts
Weight	175 g

Specification text

Air quality sensor (VOC)
Components for measuring and recording various measured variables and states for systems for individual room control and for central control, for example X-AIRCONTROL. Sensors for measuring the concentration of volatile organic substances in rectangular and circular exhaust air ducts. Functional sensor consisting of a protective tube with mounting flange and a sensor and the connection cable with RJ12 plug. Modbus RTU data interface for transmission of the measured values to the the control system. The temperature sensor is automatically recognized by the zone module (plug-and-play).

Materials and surfaces
▪ Plastic casing

Technical data
▪ Supply voltage: 24 V DC ± 25%, from the zone module
▪ Power rating: 0.46 W
▪ Measuring range: 450 to 2000 ppm
▪ Measurement error absolute: < 150 ppm
▪ Start-up time: 15 minutes
▪ Response time: 5 minutes
▪ Installed length: 65 to 105 mm
▪ Operating temperature: 0 to 50 °C
▪ Permissible humidity: 5 – 95% r.h., no condensation
▪ Protection class: III (protective extra-low voltage)
▪ Protection level: IP 54 (sensor head IP 20)
▪ Connection cable: length 7 m, with RJ12 plug

X-SENS-CO2-EXH

X-SENS-CO2-EXH

Air quality sensor for CO_2 with one analogue output signal (0 – 10 V) and self-calibration

· For the detection of carbon dioxide compounds in the measuring range 0 – 2000 ppm
· Integration in all X-AIRCONTROL zone modules with auto detection
· Including mounting flange for quick and safe installation in round or angular extract air ducts

General information

Application
- Air quality sensor X-SENS-CO2-EXH, among others for the control system X-AIRCONTROL for connection to the zone modules X-AIR-ZMO-... (ANA, MP, MOD)
- Measurement of the CO_2-concentration.
- Duct sensors for rectangular and round extract air ducts
- Extract air ducts
- Measuring range 0 - 2000 ppm (0 - 5000 ppm)
- Supply voltage and communication from and with the zone module
- The zone module automatically recognises the air quality sensor (plug & play)

Parts and characteristics
- Casing with flange to be screw-fixed to the installation surface
- Protective tube with sensor, for installation into an air duct
- Transfer of measured value with signal (0 - 10 V)

Materials and surfaces
- Plastic casing

Installation and commissioning
Install the air quality sensor in suitable place in the air duct
- Create wiring to the zone module and connect on both sides
- The zone module automatically recognises the air quality sensor (plug & play)

Function

Air quality sensor (CO_2)
Air quality sensors X-SENS-CO2-EXH are control components for integration into control systems such as X-AIRCONTROL.

The air quality sensor contains an NDIR sensor for measuring the CO_2-concentration. As a duct sensor, the measurement is carried out in rectangular or round extract air ducts.

The measuring range is 0 – 2000 ppm (or 0 – 5000 ppm)

The transmitter converts the measured variables into a standard signal of 0 – 10 V (or 4 – 20 mA/switchable).

The duct sensor is automatically recognised by the zone module (plug & play).

Technical data

Supply voltage	24 V AC/DC ± 10%, from the zone module
Power rating	< 1.5 W (24 V DC typical), < 2.9 VA (24 V AC typical)
Measuring range	0 – 2000/0 – 5000ppm, (DIP switch selectable)
Measurement accuracy	typical ± 30 ppm ± 3 % of measured value
Start-up time	approx. 1 h
Response time	approx. 1 min, minimum flow velocity 0.3 m/s (air)
Protective tube	NL = 202.5 mm, Ø 20 mm, q_{vmax} = 30 m/s (air)
Operating temperature	-10 to 60 °C
acceptable humidity	0 – 95% r.h., no condensation
IEC protection class	III (according to DIN EN 60730)
Protection level	IP 65 (according to DIN EN 60 529)/casing
CO_2-optical NDIR-CO_2-Sensor output	0 – 10 V
CO_2 Limit value output (adjustable)	Changeover contact (24 V/1 A)
Installation location	circular and rectangular air ducts
Dimensions (B × H × T)	approx. 72 × 64 × 37.8 mm
Casing	Polyamide plastic, traffic white, similar to RAL 9016
electrical connection	0.14 – 1.5 mm², screw terminals
Weight	176 g

Specification text

Air quality sensor (CO_2)

Components for measuring and recording various measured variables and conditions in systems for single room control and centralised control, such as X-AIRCONTROL. Sensor for measuring the CO_2-concentration in rectangular and circular extract ducts. Ready-to-operate sensor which consists of a protective tube with mounting flange and a sensor. Measured value is transmitted to the zone module via a signal (0 – 10 V). The temperature sensor is automatically recognised by the zone module (plug & play).

Materials and surfaces

▪ Plastic casing

Technical data

▪ Supply voltage: 24 V AC/DC ±10 %, from the zone module
▪ Power rating: < 1.5 W (24 V DC typical), < 2.9 VA (24 V AC typical)
▪ Measuring range: 0 – 2000 ppm/0 – 5000 ppm (selectable via DIP switch)
▪ Measurement error: typically ± 30 ppm +3 %
▪ Start-up time: approx. 1 h
▪ Response time: approx. 1 min, minimum flow velocity 0.3 m/s (air)
▪ Protection tube: NL = 202.5 mm, Ø 20 mm, q_{vmax} = 30 m/s (air)
▪ Operating temperature: -10 to +60 °C
▪ Permissible humidity: 0 – 95% r.h., no condensation
▪ Protection class: III (according to DIN EN 60 730)

X-SENS-CO2-RH

X-SENS-CO2-RH

Room combination sensor for CO_2 and relative humidity with analogue output signals (0 – 10 V) and self-calibration
- For the detection of carbon dioxide compounds in the measuring range 0 – 2000 ppm
- For recording relative humidity in the measuring range 10 – 90 % r.h.
- Integration in all X-AIRCONTROL zone modules with auto detection
- Quick and easy wall mounting in standard flush-mounted/cavity wall boxes Ø60 mm

General information

Application

- Combination sensor X-SENS-CO2-RH, among others for the control system X-AIRCONTROL for connection to the zone modules X-AIR-ZMO-... (ANA, MP, MOD)
- Measurement of the CO_2-concentration and relative humidity.
- Room sensor for use inside a room
- Measuring ranges 0 - 2000 ppm and 0 - 100 % r.h.
- The combination sensor is automatically recognised by the zone module (plug & play).

Parts and characteristics

- Casing with sensors for surface mounting on walls
- 0 – 10 V DC analogue signals

Materials and surfaces

- Plastic casing

Installation and commissioning

- Mount the lower part of the casing to a junction box or to the wall
- Wiring
- Snap in the upper part of the casing
- The zone module automatically recognises the air quality sensor (plug & play)

Function

Combined CO_2 and humidity sensor

Combination sensors X-SENS-CO2-RH are control components for integration into control systems such as X-AIRCONTROL. The combination sensor contains 2 sensors for measuring the CO_2-concentration and relative humidity. As a room sensor, the measurement takes place directly in the room. The quality of the measurement of CO_2-concentration is maintained by cyclic self-calibration. Measuring ranges are 0 to 2000 ppm and 0 to 100% relative humidity. The measured values are transmitted to the control system as analogue signals 0 – 10 V DC. The combination sensor is automatically recognised by the zone module (plug & play).

Technical data

Supply voltage	24 V AC/DC, from the zone module
Power rating	1.2 W
CO_2 measurement	
Measuring range	0 – 2000 ppm
Measurement error	± 30 ppm
Start-up time	10 min
Humidity measurement	
Measuring range	0 – 100% r.h.
Measurement error	3% r.h. (20 – 80% rh)
Long term drift	< 10% r.h. per year
Operating temperature	5 – 95% r.h., no condensation
IEC protection class	III (Protective extra-low voltage)
Protection level	IP 30
Colour	RAL 9010, pure white
Installation location	Wall installation
Dimensions	80 × 105 × 23.5 mm
Weight	69 g

Specification text

Combination sensor CO_2 and humidity

Components for measuring and recording various measured variables and conditions in systems for single room control and centralised control, such as X-AIRCONTROL. Combination sensor for measuring CO_2-Concentration and humidity in rooms. Ready-to-operate sensor which consists of a casing with two sensors and connection terminals. The combination sensor is automatically recognised by the zone module (plug & play).

Materials and surfaces

▪ Plastic casing

Technical data

▪ Supply voltage: 24 V AC/DC, from the zone module
▪ Connected load: 1.2 W, CO_2 measurement
▪ Measuring range: 0 to 2000 ppm
▪ Measurement error: 30 ppm
▪ Start-up time: 10 minutes

Humidity measurement

▪ Measuring range: 0 to 100% r.h.
▪ Measurement error absolute: 3% r.h. (20 to 80% r.h.)
▪ Long term drift: <10% r.h./year
▪ Operating temperature: 0 to 50 °C
▪ Permissible humidity: 5 – 95% r.h., no condensation
▪ Protection class: III (protective extra-low voltage)
▪ Protection level: IP 30
▪ Colour: RAL 9010, pure white
▪ Installation location: Wall
▪ Dimensions: 80 × 105 × 23.5 mm

X-SENS-DEWPT

X-SENS-DEWPT

Dew point monitor for monitoring condensation on cooling elements
- To prevent condensation on chilled ceilings and critical points in HVAC systems
- Processing unit and sensor head are separate, but with a fixed cable connection of 1 m
- Integration in all X-AIRCONTROL zone modules
- Suitable for flat or duct mounting

General information

Application
- X-SENS-DEWPT dew point monitor to be used for X-AIRCONTROL or other systems; can be connected to zone modules X-AIR-ZMO-... (ANA, MP, MOD)
- Dew point temperature monitoring
- Sensor for chilled surfaces
- Switching point: 92% r.h.

Parts and characteristics
- Casing to be surface mounted on walls
- Separate sensor casing for chilled surfaces
- Volt-free digital output

Materials and surfaces
- Plastic casing

Installation and commissioning
- Select the measuring location in the coldest area of the cooling surface and fix the sensor casing there
- The installation area may be flat or curved (chilled ceiling or ducting)
- Fix the casing to the wall
- Wiring
- Configure the dew point monitor function on the zone module

Function

Dew point monitor
X-SENS-DEWPT dew point monitors are control components for integration into control systems such as X-AIRCONTROL. The dew point monitor contains a humidity-sensitive sensor for measuring the relative humidity near the dew point (100 % r.h.). The resistance value of the measuring element increases sharply between 90 and 100 % r.h. Before the dew point is reached, the electronics switch the relay. The status of the dew point is transmitted to the control system via the connected potential-free digital output.

Technical data

Supply voltage	24 V AC/DC ± 20%, from the zone module
Power rating	1.0 VA
Switching point	95 ± 4 % r.h.
Switching differential	5% r.h.
Response time	max. 3 min
Switch output	volt-free contact maximum 30 V AC/DC, maximum 1 A
Operating temperature	-5 – 50 °C (according to IEC 60 721-3-3/Class3K5)
IEC protection class	III (Protective extra-low voltage)
Protection level	IP 40
Installation location	Casing suitable for installation on a wall or ceiling, sensor casing suitable for cooling surface
Weight	192 g (including packaging)

Specification text

Dew point monitor
Components for measuring and recording various measured variables and conditions in systems for single room control and centralised control, such as X-AIRCONTROL. Sensor for monitoring the dew point on chilled surfaces. Ready-to-operate sensor which consists of a casing and a sensor in a separate casing. Switch output (volt-free contact) for the transmission of the detected condition to the control system.

Materials and surfaces
- Plastic casing

Technical data
- Supply voltage: 24 V AC/DC ± 20%, from the zone module
- Power rating: 1.0 VA
- Switching point: 95 ± 4 % r.h.
- Hysteresis: 5% r.h.
- Response time: maximum 3 min
- Switching output: potential-free contact, maximum 30 V AC/DC, maximum 1 A
- Installation location: Casing suitable for installation on a wall or ceiling, sensor casing for chilled surfaces

X-SENS-PIR-SM

X-SENS-PIR-SM

Presence detector with passive infrared sensor, detection range 180°
- For detecting movement and presence of people in rooms to increase the air change rate
- Parameter setting via potentiometer directly on the presence detector
- Wall mounting in standard flush-mounted/cavity wall boxes Ø60 mm
- Integration in all X-AIRCONTROL zone modules

General information

Application

▪ Presence detector X-SENS-PIR-SM, among others for the control system X-AIRCONTROL for connection to the zone modules X-AIR-ZMO-... (ANA, MP, MOD)
▪ For detecting the presence of people in a room
▪ 180° operational range
▪ Casing to be flush mounted into walls

Parts and characteristics

▪ Casing with PIR sensor, to be flush mounted into walls
▪ Volt-free digital output

Materials and surfaces

▪ White plastic casing

Installation and commissioning

▪ Observe detection range (180°) and operating range
▪ Wall installation: Preferably 1.1 to 2.2 m above the floor (4 m max.)
▪ Wiring
▪ Mount the lower part of the casing to a junction box or to the wall
▪ Attach the cover
▪ Configure the presence detector function in the zone module

Function

Presence detector (PIR sensor), detection range 180°

Presence detectors X-SENS-PIR-SM are control components for integration into control systems such as X-AIRCONTROL. The presence detector contains a PIR sensor (passive infrared) for detecting the presence of people. The flush mounted variant for mounting on a wall has an operational range of 180°. The room's occupancy status is transmitted to the control system with a potential-free digital output.

Technical data

Supply voltage	24 V AC/DC ± 10%, from the zone module
Sensor	PIR (passive infrared)
Operational range	180°
Detection range	8 m; 4 m with people sitting
Installation height	1.1 – 2.2 m (maximum 4 m)
Operating temperature	-25 to 55 °C
permissible humidity	5 – 95% r.h., no condensation
IEC protection class	III (Protective extra-low voltage)
Protection level	IP 30
Connection	Screw terminals
Colour	RAL 9010, pure white
Installation location	Wall installation on a junction box or cavity wall box Ø60 mm
Dimensions	88 × 88 × 64 mm
Weight	98 g

Specification text

Presence detector, detection range 180°
Components for measuring and recording various measured variables and conditions in systems for single room control and centralised control, such as X-AIRCONTROL. Presence detector for detecting the presence of people in rooms. Ready-to-operate detector which consists of a casing and a PIR sensor (passive infrared). Switch output (volt-free contact) for the transmission of the detected condition to the control system.

Materials and surfaces
▪ White plastic casing

Technical data
▪ Supply voltage: 24 V AC/DC ± 10%, from the zone module
▪ Sensor: PIR (passive infrared)
▪ Operational range: 180°
▪ Detection range: 8 m; 4 m with people sitting
▪ Installation height: 1.1 – 2.2 m (maximum 4 m)
▪ Operating temperature: -25 to 55 °C
▪ Permissible humidity: 5 – 95% r.h., no condensation
▪ Protection class: III (protective extra-low voltage)
▪ Degree of protection: IP 30 – Connection: Screw terminals – Colour: RAL 9010, pure white
▪ Installation location: Wall installation on a junction box or cavity wall box Ø60 mm
▪ Dimensions: 88 × 88 × 64 mm

X-SENS-PIR-FM

X-SENS-PIR-FM

Presence detector with passive infrared sensor, detection range 360°
- For detecting movement and presence of people in rooms to increase the air change rate
- Parameter setting via potentiometer directly on the presence detector
- Surface mounting for ceilings
- Integration in all X-AIRCONTROL zone modules

General information

Application
- Presence detector X-SENS-PIR-SM, among others for the control system X-AIRCONTROL for connection to the zone modules X-AIR-ZMO-... (ANA, MP, MOD)
- For detecting the presence of people in a room
- 360° operational range
- Casing to be surface mounted on ceilings

Parts and characteristics
- Casing with PIR sensor to be surface mounted on ceilings
- Volt-free digital output

Materials and surfaces
- White plastic casing

Installation and commissioning
- Observe detection range (360°) and operating range
- Ceiling installation: Preferably 2.5 to 3.0 m above the floor (10 m max.)
- Wiring
- Fix the lower part of the casing to the ceiling
- Attach the upper part of the casing and the cover plate
- Configure the presence detector function in the zone module

Function

Presence detector (PIR), detection range 360°
X-SENS-PIR-FM presence detectors are control components for integration into control systems such as X-AIRCONTROL. The presence detector contains a PIR sensor (passive infrared) for detecting the presence of people. As a surface-mounted variant for ceilings, a detection range of 360° is possible. The room's occupancy status is transmitted to the control system with a potential-free digital output.

Technical data

Supply voltage	24 V AC/DC ± 10%, from the zone module
Sensor	PIR (passive infrared)
Operational range	360°
Detection range	8 m 4 m with people sitting
Installation height	2.5 – 3.0 m (maximum 10 m)
Operating temperature	-25 to 55 °C
permissible humidity	5 – 95% r.h., no condensation
IEC protection class	III (Protective extra-low voltage)
Protection level	IP 30
Connection	Screw terminals
Colour	RAL 9010, pure white
Installation location	Wall installation
Dimensions	98 mm, installation height 48 mm
Weight	104 g

Specification text

Presence detector, detection range 360°

Components for measuring and recording various measured variables and conditions in systems for single room control and centralised control, such as X-AIRCONTROL. Presence detector for detecting the presence of people in rooms. Ready-to-operate detector which consists of a casing and a PIR sensor (passive infrared). Switching output (potential-free contact) for transmitting the room's status to the control system

Materials and surfaces

▪ White plastic casing

Technical data

▪ Supply voltage: 24 V AC/DC ± 10%, from the zone module
▪ Sensor: PIR (passive infrared)
▪ Operational range: 360°
▪ Detection range: 8 m; 4 m with people sitting
▪ Installation height: 2.5 – 3.0 m (maximum 10 m)
▪ Operating temperature: -25 to 55 °C
▪ Permissible humidity: 5 – 95% r.h., no condensation
▪ Protection class: III (protective extra-low voltage)
▪ Protection level: IP 30
▪ Connection: Screw terminals
▪ Colour: RAL 9010, pure white
▪ Installation location: Wall
▪ Dimensions: 98 mm, installation height 48 mm

X-SENS-SPLITTER

X-SENS-SPLITTER

Quadruple distributor X-SENS-SPLITTER

Quadruple distributor for X-AIRCONTROL sensors and operating units with Modbus interface
- For the expansion of up to 4 components on the sensor bus
- Quadruple distributor and conversion to single wires
- Installation in the X-AIRCONTROL X-AIR-PCASE230V possible

General information

Application
- Quadruple distributor X-SENS-SPLITTER, among others for the control system X-AIRCONTROL for sensors and operating units with Modbus
- Adapter for a maximum of 4 components with open cable ends of the connection cable for attachment to terminals, for further connection with RJ12 plugs

Materials and surfaces
- Plastic casing

Installation and commissioning
- Mount the splitter onto a top hat/DIN rail
- Plug in the data cable to the zone module (RJ12 plug)
- Plug in the data cables to the sensors and actuators and to the control panel (RJ12 plugs)
- The maximum cable length is 30 m.

Function

Quadruple distributors

Quadruple distributors X-SENS-SPLITTER enable the connection of several sensors and actuators (maximum 3) to one interface, for example the zone modules of the control system X-AIRCONTROL. Furthermore, the quadruple distributor can serve as an adapter to connect air quality and temperature sensors with open wire ends of the connection line to terminals. Further connection to zone modules is made with RJ12 plugs.

Technical data

Operating temperature	0 to 50 °C
IEC protection class	III (Protective extra-low voltage)
Protection level	IP 20
Connection	4 × RJ12 socket and spring terminals 8 × 1.5 mm²
Installation location	Switch cabinet, wall or ceiling
Fixing	top hat/DIN rail mounting
Dimensions	46 × 78 × 45
Weight	60 g

Specification text

Quadruple distributor

Components for measuring and recording various measured variables and conditions in systems for single room control and centralised control, such as X-AIRCONTROL. Quadruple distributor for sensors and operating units with Modbus Furthermore, the quadruple distributor can serve as an adapter to connect air quality and temperature sensors with open wire ends of the connection line to terminals. Further connection to zone modules is made using RJ12 plugs.

Materials and surfaces
- Plastic casing

Technical data
- Operating temperature: 0 to 50 °C
- Protection class: III (protective extra-low voltage)
- Protection level: IP 20
- Connection: 4 × RJ12 socket and spring-loaded terminals 8 × 1.5 mm²
- Installation location: switch cabinet, wall or ceiling - Mounting: top-hat/DIN rail mounting
- Dimensions: 46 × 78 × 45 mm