Module for zone expansion

X-AIR-ZMO-EXT

Module for zone expansion

- Module for zone expansion of the control system X-AIRCONTROL to connect additional cooling and/or heating valves or electric air heaters to a zone module
- Control input signal of maximum 4 cooling or 4 heating valve actuators per analogue output
- Control input signal of maximum 2 electric air heaters
- Control input signal of cooling and heating valve actuators and electric air heaters via 2 analogue outputs (0 – 10 V DC)
- 2 temperature sensor inputs (PT1000) are available for temperature monitoring in the duct for electric air heaters

Useful additions

- X-SENS-TEMP-PT1000 duct temperature sensor PT1000

General information

Application

- Zone expansion module X-AIR-ZMO-EXT for the connection of additional cooling and heating valves or electric air heaters in the X-AIRCONTROL system
- Signalling to up to 4 cooling or 4 heating valve actuators per analogue output
- Signalling to 1 or 2 electric air heaters
- Signalling to cooling or heating valve actuators or electric air heaters via 2 analogue outputs (0-10 V DC)
- Two temperature sensor inputs (PT1000) allow for temperature monitoring in the duct when an electric air heater is used

Outputs (interfaces)

Two analogue outputs 0-10V DC
- Signalling to cooling valve, heating valve or electric air heater

Two digital outputs
- Activation of electric air heater
- Activation of heating / cooling

Inputs (interfaces)

Two digital inputs
- Alarm monitoring in connection with electric air heaters

Two temperature sensor inputs (PT1000)
- Duct temperature monitoring when an electric air heater is used

Two analogue inputs 0-10 V DC
- Not used

Communication interfaces and supply voltage

Two RJ12 ports
- Communication and voltage supply via the sensor bus

Useful additions

- X-SENS-TEMP-PT1000 duct temperature sensor PT1000

Function

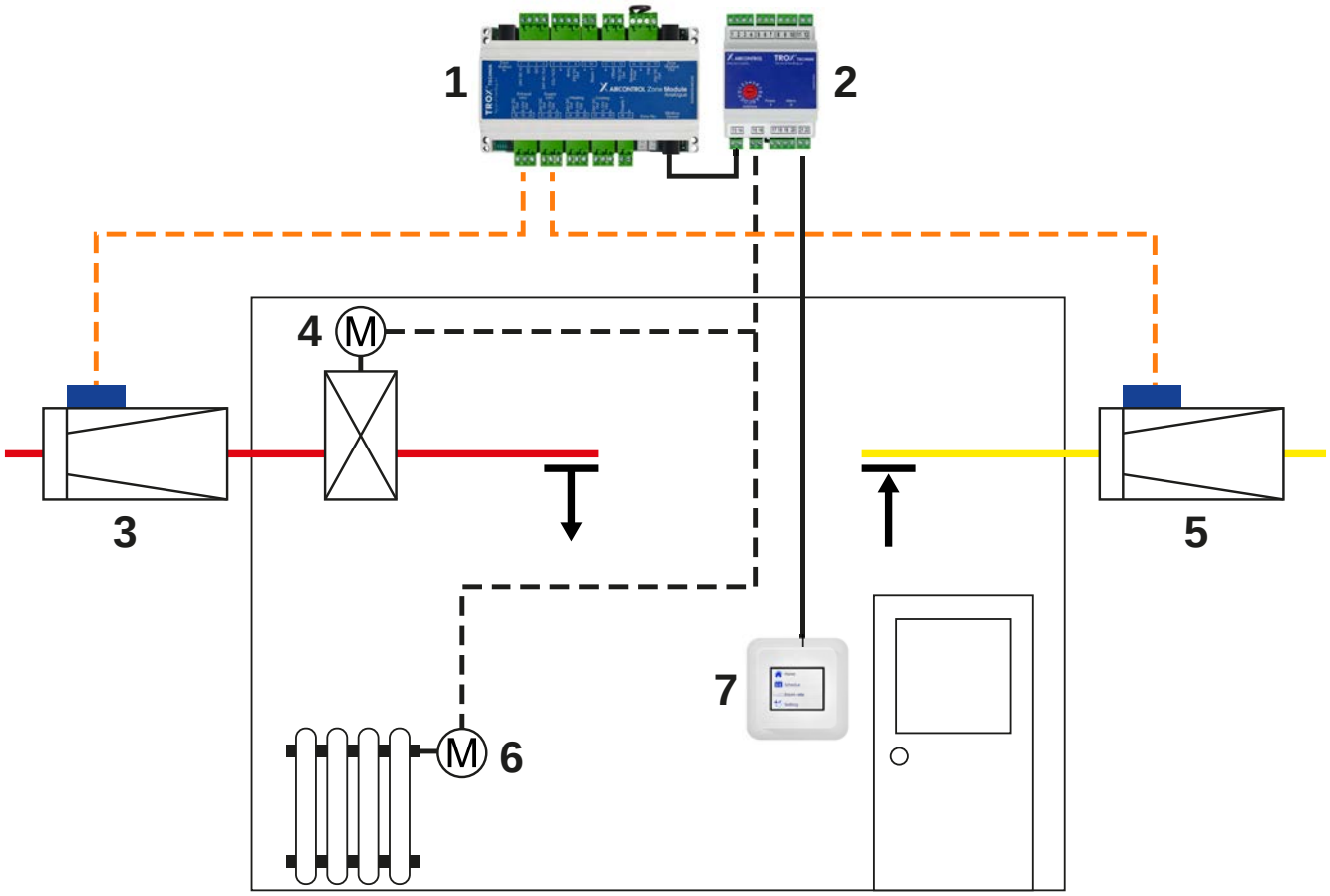
Functional description

The module for zone expansion is an electronic component with digital and analogue inputs and outputs and can only be used in combination with an X-AIRCONTROL zone module. Each zone module can be connected to one module for zone expansion. The module for zone expansion is used for signalling to additional heating or cooling valve actuators or electric air heaters that have a 0-10 V signal input. The supply voltage for the heating and cooling valves and for electric air heaters must be provided separately. The following cooling valve, heating valve or electric air heater functions can be selected with the selector switch on the zone expansion module:
Switch set to address 0:
Aou1 and Aou2 = heating (simultaneously)
Switch set to address 1:
Aou1 and Aou2 = cooling (simultaneously)
Switch set to address 2:
Aou1 = heating; Aou2 = cooling
Switch set to address 3:
Aou1 and Aou2 = changeover (simultaneously)
Switch set to address 4:
Aou1 = electric air heater; Aou2 = no function
Switch set to address 5:
Aou1 and Aou2 = electric air heater (simultaneously)

Temperature control

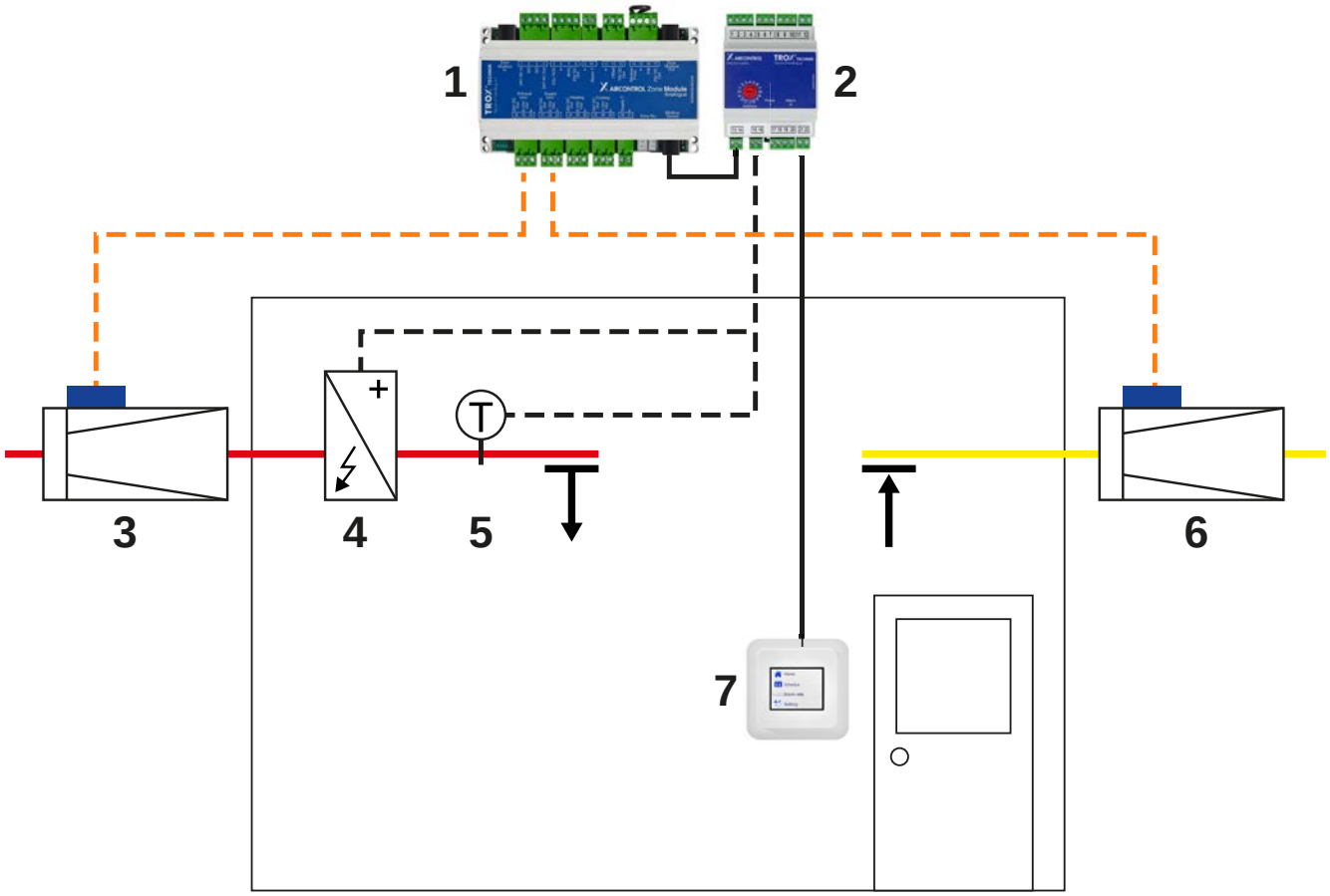
The room or extract air temperature is measured on the zone module and continuously compared to the setpoint value. In case of any deviation, the system controls airflows and/or water flows in such a way that the required room temperature is achieved (again). The zone expansion module allows for signalling to additional cooling and heating valve actuators (i.e. cooling and heating actuators in addition to those connected to the zone module) or an electric air heater to control the room temperature. Signalling to the additional actuators is provided via two analogue 0-10V outputs on the zone expansion module.
If an electric air heater is used, a supply air temperature sensor has to be installed in the duct to ensure that the maximum supply air temperature is not exceeded. The electric air heater must have a modulating phase angle control function (0-10V=0-100%), safety devices (temperature monitor, thermal cut-out) and a volume flow rate monitoring function. Alarms emitted by a safety device can be captured and forwarded with a digital input on the zone module.

Example of room temperature control with heating and cooling valves and X-AIRCONTROL module for zone expansion



1 X-AIRCONTROL zone module
2 X-AIRCONTROL module for zone expansion
3 TROX supply air volume flow controller with Compact controller
4 Cooler (local) with actuator 0 – 10 V DC
5 TROX extract air volume flow controller with Compact controller
6 Heating equipment with actuator 0 – 10 V DC
7 X-AIRCONTROL 2" touch display with room temperature sensor

Example of room temperature control with electric air heater and X-AIRCONTROL module for zone expansion



1 X-AIRCONTROL zone module
2 X-AIRCONTROL module for zone expansion
3 TROX supply air volume flow controller with Compact controller
4 Electric air heater with 0 – 10 V DC signal input
5 Duct temperature sensor PT1000
6 TROX extract air volume flow controller with Compact controller
7 X-AIRCONTROL 2" touch display with room temperature sensor

Technical data

2 analogue outputs	0 – 10 V DC, for signal routing (10mA max. per output)
2 digital inputs	For volt-free contacts
2 inputs for temperature sensors	PT1000 temperature sensors
2 analogue inputs	0 – 10 V DC
2 digital outputs	Volt-free relays, 230 V AC / 5 A max.
2 RJ12 ports	Communication and supply voltage (*1)
2 voltage outputs	24 V DC (10 mA max. per output)
Function selector switch	Setting range 0-9, A-F
Power LED	Power is being supplied (green) / communication (green flashing)
Alarm LED	No bus connection (red)

* The supply voltage for the heating and cooling valves and for electric air heaters must be provided separately.

Specification text

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design program.

Specification text

X-AIRCONTROL expansion module for the signalling to and monitoring of electric air heaters with a 0-10 V DC interface, or for the signalling to valve actuators with a 0-10 V DC interface. The expansion module has analogue and digital inputs and outputs and can only be used together with an X-AIRCONTROL zone module.The zone expansion module is connected to the X-AIRCONTROL zone module by means of a bus (RS485 Modbus RTU) with automatic recognition function (plug and play).

General features

- Simple function setting with a selector switch
- Plug-in terminal connection
- For surface mounting on DIN mounting rail
- Plastic casing

Special features

- Easy to install on a DIN mounting rail with the TROX X-AIR-PCASE230V enclosure
- Communication and power supply by means of RJ12 connection to the zone module (plug and play)
- Automatic recognition by the X-AIRCONTROL zone module

Technical data

- Supply voltage: 24 V DC ±15% (in the X-AIRCONTROL system the supply voltage comes from the zone module)
- Ambient temperature - operation / storage: 0 °C…+50 °C
- Communication interface: 2 x RJ12 ports, RS 485, Modbus RTU
- Length of the connecting cable to the zone module (communication): 30 m max.
- 2 analogue inputs 0-10 V DC for sensors: screw terminals 1.5 mm²
- 2 analogue inputs PT1000: screw terminals 1.5 mm²
- 2 analogue outputs 0-10 V: screw terminals 1.5 mm²
- 2 digital inputs: (volt-free) screw terminals 1.5 mm²
- 2 digital outputs: (max. load 230 V/5 A) screw terminals 1.5 mm²
- Protection level: IP 20
- Dimensions (H x B x T): 106 x 69 x 56 mm
- Casing: ABS, grey
- Weight: 160 g

Make

TROX

Type

Module for zone expansion X-AIR-ZMO-EXT

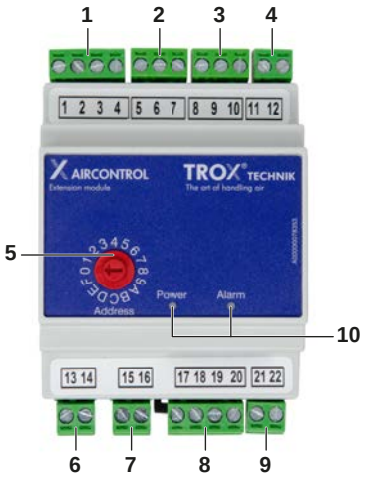
Order code

X-AIR-ZMO – EXT
1 2

1 Type
X-AIR-ZMO X-AIRCONTROL zone module

2 Variant
EXT Zone expansion module

Product details



1 Analogue outputs 0 – 10 V DC (Aou1 and Aou2)
2 24 V DC output voltage (maximum 10 mA) and analogue input 0 – 10 V DC (Ain2)
3 24 V DC output voltage (maximum 10 mA) and analogue input 0 – 10 V DC (Ain1)
4 Connection temperature sensor PT1000 (Tin1)
5 Function selector switch (address 0-F)
6 Digital output 1 (Dou1)
7 Digital output 2 (Dou2)
8 Digital inputs (Din1 and Din2)
9 Connection temperature sensor PT1000 (Tin2)
10 Power LED (green) and alarm LED (red)