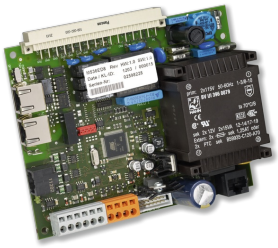
TROX® TECHNIK
The art of handling air



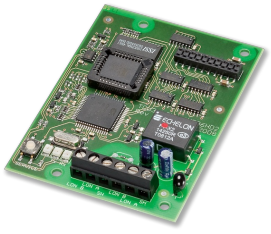
FSL-CONTROL II - MAIN PCB

VALVE ACTUATOR FSL-CONTROL II

STRAIGHT-WAY VALVE

PRESSURE INDEPENDENT CONTROL VALVE

DCP-FSL II-STAND-ALONE



CENTRAL BMS INTERFACE

FSL-CONTROL II

MODULAR, STAND-ALONE ROOM CONTROL SYSTEM, SPECIALLY FOR DECENTRALISED VENTILATION SYSTEMS (WITH BUS COMMUNICATION AS AN OPTION)

Easy-to-operate single room control system which can be combined with façade ventilation units to provide demand-based ventilation and extract ventilation and enable the control of the water-side components of the heating and cooling circuits

- Plug and play solution
- Main PCB for connecting the integral components
- Master PCB for connecting components which are required for each room, e.g. control panels or sensors
- Control valves with G½" external thread and flat seal
- 24 V AC or 230 V AC supply voltage
- Thermoelectric valve actuator, 0 – 10 V, 24 V DC

Optional equipment and accessories

- Various sensors, e.g. temperature sensor or room air quality sensor
- Plug-in real time clock module (RTC) for time-dependent operating modes (5 switching points per day and 4 operating modes can be set)
- Bus communication via BACnet MS/TP, Modbus RTU or LON-FTT-10 interface
- Control panels (can be integrated with various frames)
- Electric valve actuators
- Balancing and control valves (independent of pressure)

Application

Application

- Single room control system to be combined with TROX decentralised ventilation units
- Control of the functions of a decentralised ventilation unit
- Individual control strategies
- Modular control equipment with expansion PCBs that allow for the individual adjustment of functions to the project-specific conditions
- Optional expansion to allow for communication with the BMS using the LON-FTT-10, BACnet MS/TP or Modbus RTU protocol
- Plug-in communication cable for easy wiring (plug and play)

Special characteristics

- Modular control system with several components that can be individually combined
- LON-FTT-10, BACnet MS/TP or Modbus RTU interface as an option
- Master-slave combinations are available (up to 14 slaves per master)
- Valves with G½" external thread and flat seal
- Valves can be used for up to PN 16
- Push-fit valve actuator
- Automatic, energy-efficient switching between fresh air mode and secondary air mode (based on air quality, depending on unit)
- Variable bypass damper for the heat recovery control
- Heat recovery all year round

Nominal sizes

- Depending on the unit variant the control components are either fitted inside the unit or in a separate box

Description

Components

- Main PCB (control module)
- Master PCB (room module)

- RTC module (real time clock)
- LonWorks interface
- BACnet MS/TP interface card
- Modbus RTU interface
- VVP47.10-x.xx - straight-way valve (K_{VS} 0.25; 0.4; 0.63 or 1.0)
- Lockshield
- Thermoelectric valve actuator 24 V DC, control signal 0 – 10 V, modulating
- Temperature sensors for fresh air, supply air etc. (e.g. NTC 10 kΩ)
- VOC sensor
- Control panel with selector switch
- Alternative control panel for automatic control (e.g. in schools)

Accessories

- 5 m configuration cable and USB-RS485 adapter (M536ED7/M516SM3)
- Wireless communication with BlueCon adapter (M546GA1)

Materials and surfaces

- Casing made of galvanised steel, powder-coated RAL 9005 (unless fitted inside the decentralised ventilation unit)

Maintenance

- Maintenance-free as construction and materials are not subject to wear

TECHNICAL INFORMATION

Function, Technical data, Specification text, Order code, Related products

Functional description

The main PCB, which is required for each decentralised ventilation unit, controls all functions that are necessary for operation, e.g. providing the control signal for fans and actuators.

If a master PCB is added, the existing controller becomes a master controller; at least one master controller is required in each room.

Additional inputs and interfaces allow for the connection of components that are required for room control.

The RTC interface on the master PCB allows for adding a timer; the LON FTT 10, BacNet MS/TP or Modbus RTU interface allows for establishing a connection to the central BMS (by others).

Operating temperature	0 – 50 °C
Relative humidity	<90% no condensation
Air pressure	> 700 hPa
Storage temperature	–20 to 70 °C
Power consumption (depending on equipment)	4 – 10 W

Special characteristics

- Modular control system with several components that can be individually combined
- LON-FTT-10, BACnet MS/TP or Modbus RTU interface as an option
- Master-slave combinations are available (up to 14 slaves per master)
- Valves with G½" external thread and flat seal
- Valves can be used for up to PN 16
- Push-fit valve actuator
- Automatic, energy-efficient switching between fresh air mode and secondary air mode (based on air quality, depending on unit)
- Variable bypass damper for the heat recovery control
- Heat recovery all year round

Materials and surfaces

- Casing made of galvanised steel, powder-coated RAL 9005 (unless fitted inside the decentralised ventilation unit)

Technical data

- Operating temperature: 0 to 50 °C
- Relative humidity: < 90 %, no condensation
- Air pressure: > 700 hPa
- Storage temperature: –20 to 70 °C
- Power consumption: 4 to 10 W, depending on equipment

Decentralised ventilation units are technically advanced products of high quality; they offer a wide range of configuration options. For specification details regarding your project please contact your nearest TROX branch or subsidiary.

R – MA – T – L / V / Z / A / HV – R – 0,4 – / KV – R – 0,63
1 2 3 4 5 6 7 8 9 10 11 12 13

1 Accessories

R Control

2 Variant

MA Master
SL Slave

3 Real time clock

No entry: none
T With RTC module

4 Expansion module

No entry: none
L With LON module
B With BACnet MS/TP / Modbus RTU module

5 VOC sensor

No entry: none
V With

6 Supply air temperature sensor

No entry: none
Z With

7 Fresh air temperature sensor

No entry: none
A With

8 Valve – heating circuit

No entry: none
HV With

9 Lockshield – heating circuit

No entry: none
R With

10 K_{VS} value – heating circuit

0.25
0.40
0.63
1.00
F0.50

11 Valve – cooling circuit

No entry: none
KV With

12 Lockshield – cooling circuit

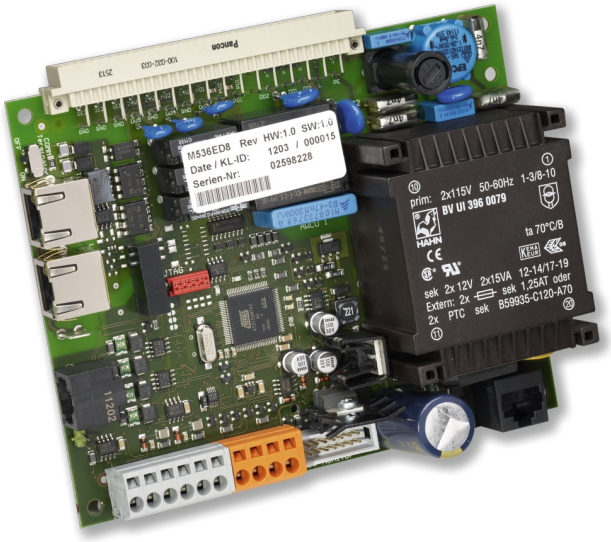
No entry: none
R With

13 K_{KS} value – cooling circuit

0.25
0.40
0.63
1.00
F0.50

Variants, Product details

FSL-CONTROL II - Main PCB



INSTALLATION DETAILS

Installation and commissioning

- Control equipment and expansion modules are factory mounted and wired either in the ventilation unit or in a separate box
- The control panel should be mounted approx. 1.5 m above the floor. Select an installation location where the control equipment is not affected by disturbances (e.g. solar gain, draughts)
- The control equipment is factory configured, but the configuration can be changed on site (using configuration software)
- We recommend adjusting the flow temperature based on the outdoor temperature in winter and based on the dew point in summer
- An on-site service check by our Technical Service is recommended