TROX® TECHNIK
The art of handling air

COMPACT CONTROLLER
LMV-D3-MP-F

COMPACT

WITH SERVICE INTERFACE AND BUS COMMUNICATION FACILITY

Compact device for use with VAV terminal units

- Controller, differential pressure transducer, and actuator are fitted together in one casing
- Volume flow rates V_{min} and V_{max} are factory set as parameters
- Ideal for carrying out service from the switch cabinet or control panel
- Change of parameters using adjustment devices
- Suitable for constant and variable volume flows as well as for V_{min} / V_{max} switching
- Bus communication is possible due to MP bus or LonWorks interfaces

Application

Application

- Electronic volume flow controllers of Type Compact are compact, all-in-one control devices for VAV terminal units
- Dynamic differential pressure transducer, electronic controller, and actuator are fitted together in one casing
- Suitable for different control tasks depending on how the input for the setpoint value signal is used

- The output signals of the room temperature controller, central BMS, air quality controller or similar units control the volume flow rate setpoint
- Override control by means of switches or relays
- Volume flow rate actual value is available as linear voltage signal
- Controller parameters are factory set

Standard filtration in comfort air conditioning systems allows for use of the controller in the supply air without additional dust protection. Since a partia volume flow is passed through the transducer in order to measure the volume flow rate, please note:

- With heavy dust levels in the room, suitable extract air filters must be provided.
- If the air is polluted with fluff or sticky particles or contains aggressive media, Compact controllers cannot be used

TECHNICAL INFORMATION

Functional description

The volume flow rate is determined by measuring the differential pressure (effective pressure). For this purpose the VAV terminal unit is fitted with a differential pressure sensor.

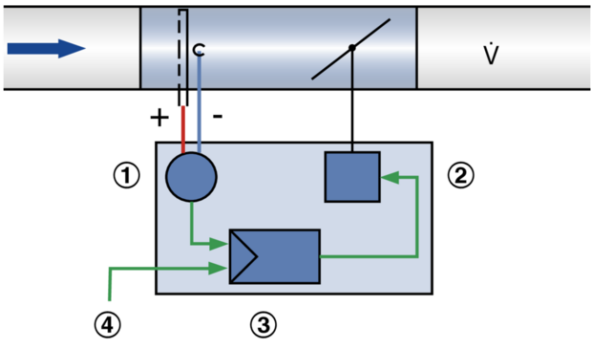
The integral differental pressure transducer transforms the effective pressure into a voltage signal. The volume flow rate actual value is hence available as a voltage signal. The factory setting is such that 10 V DC always corresponds to the nominal volume flow rate (V_{nom}).

The volume flow rate setpoint value comes from a higher-level controller (e.g. room temperature controller, air quality controller, central BMS) or from switch contacts. Variable volume flow control results in a value between V_{min} and V_{max}. It is possible to override the room temperature control, e.g. by a complete shut-off of the duct.

The controller compares the volume flow rate setpoint value to the actual value and controls the integral actuator accordingly.

Volume flow rate parameters and voltage ranges are factory stored in the controller. Changes on the customer's site can easily be carried out using an adjustment device, a notebook with service tool, or a bus interface.

Principle of operation – Easy and Compact controllers



① Differential pressure transducer
② Actuator
③ Volume flow controller
④ Setpoint value signal