TROX® TECHNIK
The art of handling air

UNIVERSAL, DYNAMIC

FOR DIFFERENT ACTUATORS

Modular control components for VAV terminal units

- Module selection based on application
- Actuators with selected actuator forces

Options

- Actuators with safety function for 'damper blade OPEN' and 'damper blade CLOSED' (spring return actuators)

Application

Application

- Electronic volume flow controllers of Type Universal (dynamic) are designed for use with VAV terminal units.
- Dynamic differential pressure transducer and electronic controller are fitted together in one casing
- Actuator or spring return actuator is separate
- 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
- On-site adjusting is not required

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, Universal (dynamic) controllers cannot be used

ТЕХНИЧЕСКА ИНФОРМАЦИЯ

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.

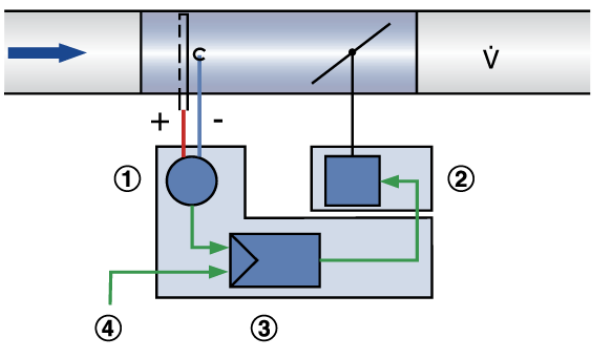
The integral differental pressure transducer transforms the effective pressure into a voltage signal. The volume flow rate actual value is hence available as a voltage signal. The factory setting is such that 10 V DC always corresponds to the nominal volume flow rate (V_{nom}).

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.

The volume flow rate parameters V_{min} and V_{max} are factory set on potentiometers. Voltage ranges are factory stored in the controller. Changes on the customer's site can easily be carried out using an adjustment device or a notebook with service tool.

Principle of operation – Universal



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

Universal controller, dynamic, for VAV terminal units

Order code detail	Controller		Actuator		Type of VAV terminal unit
	Part number	Model	Part number	Model	
B13	M546GA4	VRD3	M466DJ8	NM24A-V	①②③
B11	M546GA4	VRD3	M466DG8	SM24A-V	④
B1B	M546GA4	VRD3	M466DR1	NF24A-V (spring return actuator)	①②③④
B27	M546GA4	VRD3	M466DJ8	NM24A-V	⑤
XC3	M546ED4	GUAC-D3	M466EM0	238-024-15-V (spring return actuator)	①②③④

① TVR
② TZ-Silenzio, TA-Silenzio, TVZ, TVA
③ TVJ
④ TVT
⑤ TVM