



p0038707

All-in-one pressure sensor and controller

Control input DC 0...10 V

Communication capacity (PP)

Application

The VAV-Universal VRD2 is used in conjunction with a suitable ...24-V actuator for pressure independent air flow control of VAV boxes. Since it can be combined with many different types of actuators, the VRD2 can be used with different sizes of dampers.

Construction

The VAV-Universal VRD2 circuit contains a dynamic differential-pressure sensor and an electronic measuring and control unit incorporating a microprocessor.

Operation and adjustment

The parameters for \dot{V}_{MIN} and \dot{V}_{MAX} are set by means of the appropriate potentiometers.

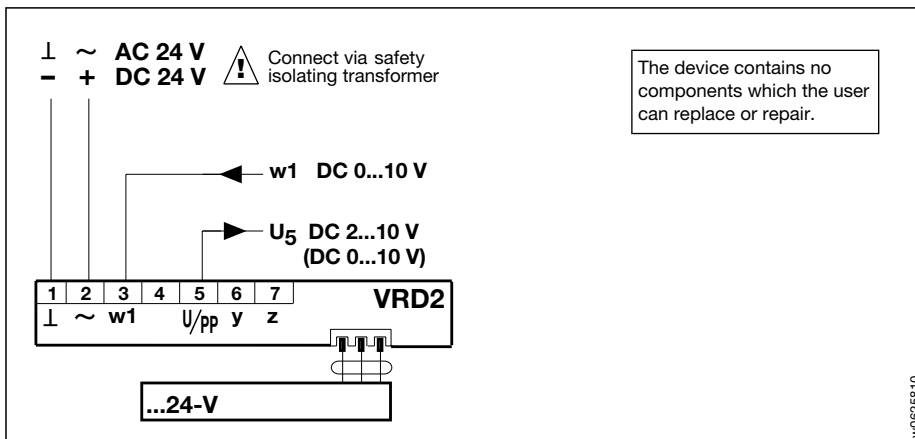
The VRD2 is controlled with a reference signal of DC 0...10 V (w1).

The operating range and the actual-value signal range of the VRD2 are set at DC 2...10 V by the manufacturer. These ranges can be changed to DC 0...10 V when necessary with the aid of the ZEV adjuster via the PP connector.

Damper actuators

NM24-V, SM24-V, AM24-V, GM24-V, LF24-V, AF24-V

Wiring diagram



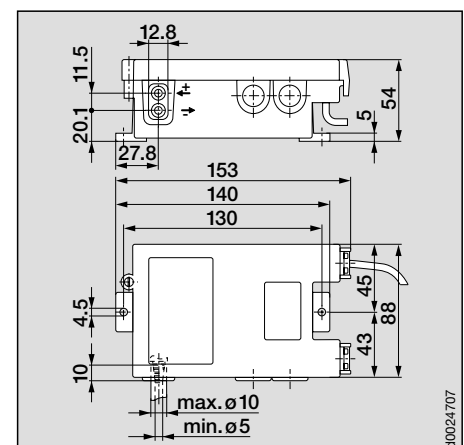
w0025810

Technical data	VRD2
Nominal voltage	AC 24 V 50/60 Hz, DC 24 V
Nominal voltage range	AC 19.2...28.8 V, DC 21.6...26.4 V
Power consumption	1.3 W
For wire sizing	3 VA (without damper actuator)
Reference value w1	DC 0...10 V @ input resistance 100 kΩ (Reference in the range between \dot{V}_{MIN} and \dot{V}_{MAX})
Operating range	DC 2...10 V (DC 0...10 V changeover with ZEV)
Actual-value signal for volumetric flow U5	DC 2...10 V @ 0.6 mA (DC 0...10 V changeover with ZEV) Signal linear, corresponds to 0...100% \dot{V}_{NOM}
Adjusting ranges	<ul style="list-style-type: none"> \dot{V}_{MAX} (max. volumetric flow) 30...100% of adjusted reference value (\dot{V}_{NOM}) \dot{V}_{MIN} (min. volumetric flow) 0...80% of adjusted \dot{V}_{MAX}
Sensor range	2... ≈ 300 Pa (OEM-dependent)
Connection	Screw terminals for 2 × 1.5 mm ²
Protection class	III safety extra-low voltage
Degree of protection	IP40
Ambient temperature range	0... + 50 °C
Storage temperature range	-20... + 80 °C
Humidity test	to EN 60730-1
EMC	CE according to 89/336/EEC
Mode of operation	Type 1 (EN 60730-1)
Weight	400 g

Important

The manufacturer of the VAV boxes (i. e. the OEM) is responsible for the proper assembly and correct adjustment of the VRD2 and the total accuracy of the VAV boxes.

Dimensions



d0024707