

Variable volume flow control VAV terminal units

Adjustment devices



For service and commissioning

Adjustment devices for the service and commissioning of VAV terminal units.

To display current values and parameters and for functional testing.

- Display of actual and setpoint values
- Display and changing of parameters and operating modes
- Simple connection to the service socket of the controller or to a terminal in the switch cabinet
- Easy operation
- Portable devices for use on site

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General information

Application

- Adjustment devices for VAV terminal units, used to facilitate service and commissioning
- Read actual values and setpoint values
- Read and change parameters
- Read and set operating modes
- Functional test
- Setting of communication parameters for bus-compatible control components

Parts and characteristics

- Adjustment device
- Connecting cable

Commissioning

- To operate the adjustment device, the voltage is typically supplied from the control components
- Certain models also enable battery operation

Order code

AT-VAV - B
| |
1 2

1 Type

AT-VAV Adjustment devices for VAV terminal units

2 Variants**Order example: AT-VAV-S**

Adjustment devices AST20 for air terminal units with Siemens control component

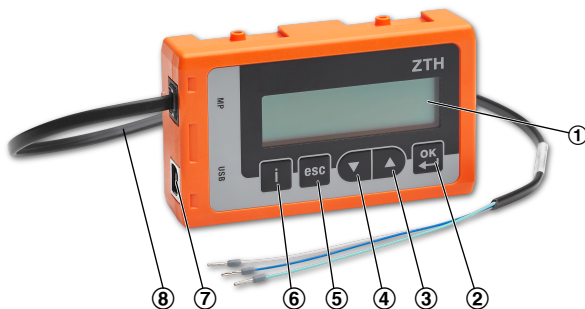
B ZTH-EU for TROX/Belimo volume flow controllers
G GUIV2-A for TROX/Gruner volume flow controllers
G3 GUIV3-M for volume flow controller TROX TVE
S AST20 for Siemens volume flow controllers

Variants

General functional description

The adjustment devices either communicate with the control component of the VAV terminal unit via an additional connection (service socket) or, for certain control components, via the normal signal line, e.g. actual value signal. The adjustment devices detect the connected controller type and enable access to the operating values and parameters respectively available. The values are displayed. Operation is with push buttons.

Adjustment device ZTH for product variant AT-VAV-B



- ① Display
- ② OK – confirm selected value
- ③ Push button – increase value
- ④ Push button – decrease value
- ⑤ ESC – cancel / back
- ⑥ i – display additional information
- ⑦ MP connecting socket for controller communication with ZK1-GEN, ZK2-GEN
- ⑧ USB socket for PC communication

Application

- Adjustment device ZTH-EU for VAV terminal units with TROX/Belimo volume flow controllers, used to facilitate service and commissioning
- Read actual values and setpoint values
- Read and change q_{vmin} and q_{vmax}
- Read and change signal voltage ranges
- Read and change the operating mode
- Reset parameters to the factory settings
- MP bus test
- Measure and display the supply voltage
- Integral ZIP-USB interface to connect the device to a notebook on which the Belimo PC tool is installed.

Compatible volume flow controllers

The volume flow controllers are attachments for VAV terminal units.

- BC0; BF0: LMV-D*-MP, NMV-D*-MP
- BL0: LMV-D3LON, NMV-D3LON
- BM0: LMV-D3-MOD*, NMV-D3-MOD*
- BP1, BP3, BPB, BPG; BR1, BR3, BRB, BRG;
BS1, BS3, BSB, BSG: VRP-M
- B11, B13, B1B; B27: VRD3

Parts and characteristics

- Adjustment device ZTH-EU
- Cable 1 (ZK1-GEN) with Belimo plug, for the controller
- Cable 2 (ZK2-GEN) with bare wire ends that can be connected to terminals
- Cable with USB 2.0 plug that can be connected to PCs with the Belimo PC tool
- Supply from VAV controller with 24 V AC/DC required

Adjustment device GUIV2-A for product variant AT-VAV-G



- ① Display
- ② +/- push buttons
- ③ Set (acknowledge)
- ④ Escape (cancel)
- ⑤ Menu selection
- ⑥ Indicator lights
- ⑦ Connection for personal computer (mini USB)
- ⑧ Connection for controller

Application

- Adjustment device type GUIV2-A for VAV terminal units with TROX/Gruner volume flow controllers for simplifying service and commissioning
- Read actual values and setpoint values
- Read and change q_{vmin} and q_{vmax}
- Read and change signal voltage ranges
- Read and change the operating mode
- Reset parameters to the factory settings
- Integral interface (replaces GUIV-S) for the connection to a notebook with Gruner VAV Tool Software installed

Compatible volume flow controllers

The volume flow controllers are attachments for VAV terminal units.

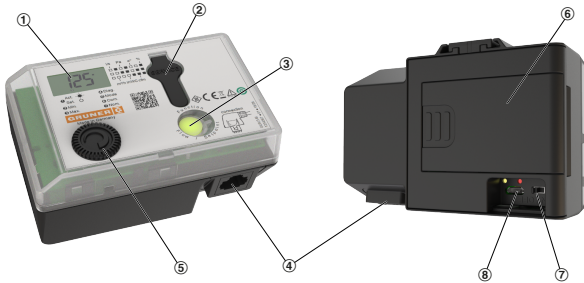
- XB0, XG0: 227V-024-**
- XB4: GUAC-DM3
- XC3: GUAC-D3
- XD0: 227V-024-10-DS3
- XD1, XD3: GUAC-S3
- XD4: GUAC-SM3
- XE1, XE3: GUAC-P1
- XF0: 227P-024-15-DS6
- XF1, XF3: GUAC-P6
- XF4: GUAC-PM6

Parts and characteristics

- Adjustment device
- Connecting cable 1 with plug for connecting to the compact controller/type GUAC
- Connecting cable 2 with two bare wire ends that can be connected to terminals

- GUIV USB cable (USB on Micro-USB)
- Supply from VAV controller with 24 V AC/DC required

Adjustment device GUIV3-M (only TVE) for product variant AT-VAV-G3



- ① Display
- ② Connection socket service
- ③ Status LED button
- ④ RJ45 plug for connection to the controller
- ⑤ Control element Rotary selector switch
- ⑥ Battery
- ⑦ ON/OFF switch
- ⑧ Micro-USB port

Application

- Adjustment device type GUIV3-M for commissioning and service VAV terminal units type TVE
- Read actual values and setpoint values
- Read and change q_{vmin} and q_{vmax}
- Read and change the signal voltage ranges 0...10 V / 2...10 V
- Read and set operating modes
- Read and set modbus communication parameters (for controllers with modbus RTU interface)
- Activate override control and test runs
- Measure and display voltage setpoint and actual value
- Variable concept for the voltage supply: adjustment work without voltage supply from the VAV controller possible with battery operation

Compatible volume flow controllers

TVE Attachments

- Easy: TR0VE-024T-05I-DD15 (only for diagnostic purposes, not for adjustment)
- XB0: TR0V-024T-05I-DD15
- XM0, XM0-J6: TR0VM-024T-05I-DD15-MB
- XS0, XS0-J6: TR0VM-024T-05I-DS10-MB

Parts and characteristics

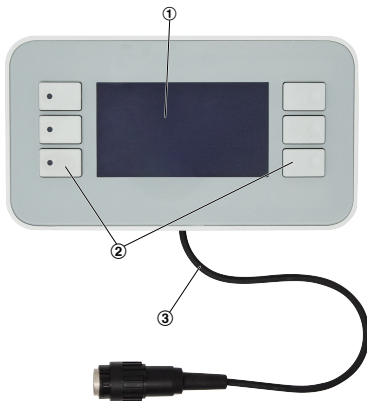
- Adjustment device with 3 character display
- Operation via hand wheel and setting button
- Connection socket for adapter line volume flow controller (RJ45)
- Micro USB connection (only changing function with battery operation)
- On/off switch for integrated supply voltage of the adjustment device
- Connecting cables included in supply package: connection adapter VAV controller TVE - RJ45 adjustment device
- Supply from VAV controller with 24 V AC/DC

Alternative supply options:

- 2 x 1.5 V batteries type AA (not included in supply package)
- 2 x 1.2 V battery type AA (not included in supply package)

- Supply and battery charging via micro USB socket

Adjustment device AST20 for product variant AT-VAV-S



- ① Display
- ② Left and right operating buttons beside the display. Individual assignment depending on dialogue, illustrated via the assignment display
- ③ Connecting cable with 3-pin plug connector for the adjustment of supplied/optional connecting cables

Application

- Adjustment device Type AST20 for VAV terminal units with Siemens volume flow controllers, used to facilitate service and commissioning
- Read actual values and setpoint values
- Read and change q_{vmin} and q_{vmax}
- Read and change the operating mode
- Setting communication parameters for compact controllers with bus interface
- Reset parameters to the factory settings

Compatible volume flow controllers

The volume flow controllers are attachments for VAV terminal units.

- LN0, LY0: GLB181.1E/3
- LK0: GLB181.1E/KN
- Also suitable for Siemens compact controllers GLB181.1E/BA (BACnet MS/TP) and GLB181.1E/MO (Modbus RTU) and respective 5 Nm derivate GLD181.1E/xx

Parts and characteristics

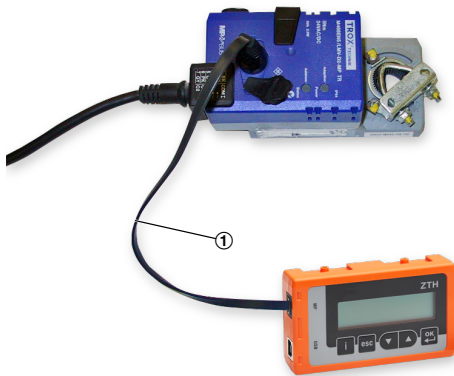
- Adjustment device
- Cable 1 with 3-pole socket and 6-pole plug connector for controllers up to Type D
- Connecting cable 2 with 3-pin socket and 7-pin plug connector for controllers from type E
- Switch cabinet cable with bare wire ends for compact controllers with 0/2 – 10 V DC control signal are available from manufactures as item 4 424 0125 0
- Supply from VAV controller with 24 V AC/DC required

Wiring

Installation and commissioning

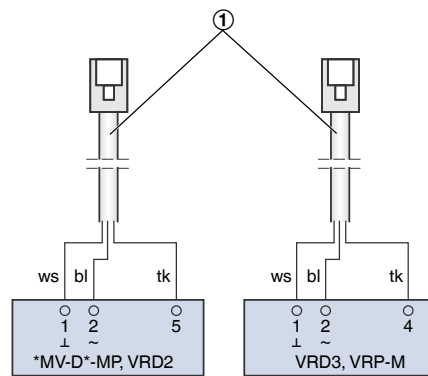
- Recommendation: The signal line for the individual adjustment devices should be connected in an easily accessible place; this avoids having to open any false ceilings for inspection or service at a later stage.
- Suitable locations include: switch cabinet, floor distributor or spare terminal in room temperature controller (depending on variant)
- Important: The ground (and perhaps 24 V) must also be available (depending on variant)

Plug connection to the controller for product variant AT-VAV-B



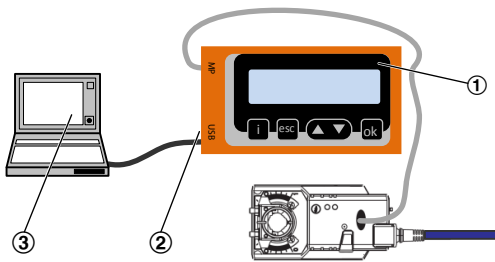
① Connecting cable ZK1-GEN

Connection to the terminals of the controller or to terminals in the switch cabinet



① Connecting cable

Connection PC-Tool for product variant AT-VAV-B



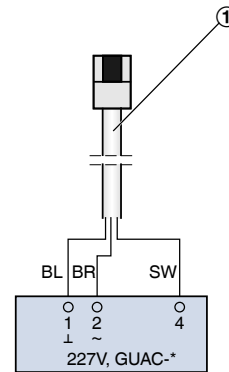
- ① ZK1-GEN
- ② USB 2.0
- ③ PC tool

Plug connection to the controller für Produktvariante AT-VAV-G



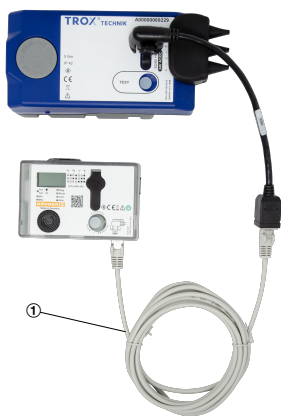
- ① Connecting cable for connection between controller and adjustment device
- ② Supply voltage for the controller
- ③ Possible alternative supply voltage for controller parameterisation

Connection to the terminals of the controller or to terminals in the switch cabinet



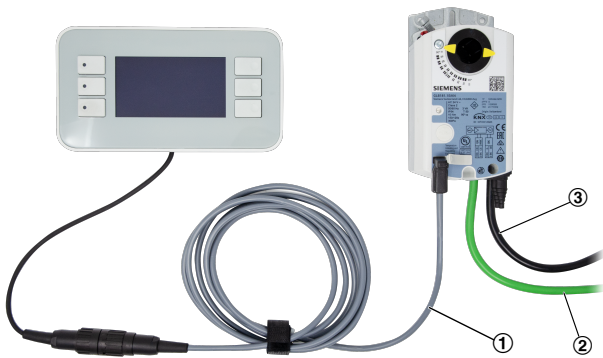
- ① Connecting cable

Plug connection to the controller for product variant AT-VAV-G3



- ① Connecting cable for connection between controller and adjustment device

Plug connection to the controller for product variant AT-VAV-S



- ① Connecting cable for connection between controller and adjustment device
- ② Bus connection
 - Green cable: KNX
 - Blue cable: BACnet MS/TP
- ③ Supply voltage for the controller