

Static transducer



Bus interface BACnet MS/TP

## SB0N

### CONTROL COMPONENT FOR VAV TERMINAL UNITS, WITH STATIC TRANSDUCER AND WITH AN ANALOGUE AND A DIGITAL COMMUNICATION INTERFACE

Compact controller made by SAUTER for mounting onto TROX VAV terminal units

- Controller, static effective pressure transducer and actuator in one casing
- Use in ventilation and air conditioning systems, with clean and contaminated air
- Configurable basic functions
  - Volume flow control
  - Differential pressure control
  - Fan control for heating and cooling coils
- Suitable for constant and variable volume flows
- Analogue interface 0 – 10 V DC or 2 – 10 V DC or configurable
- Digital communication interface RS-485 for BACnet MS/TP and SLC (SAUTER Local Communication) protocols
- Parameter setting and commissioning by others with SAUTER software tool

## General information



### Application

- All-in-one control device for TROX VAV terminal units
- Static differential pressure transducer, electronic controller, and actuator are fitted together in one casing
- Choice of various control options based on project-specific settings (by others)

- Existing connections can be used differently depending on project-specific settings (by others), for example:
  - Volume flow rate actual value as a network data point or voltage signal
  - Damper blade position as a network data point or voltage signal

Area of application according to manufacturer (SAUTER):

- Supply air and extract air flow control
- Differential pressure control in supply air and extract air ducts
- Suitable for internal spaces such as offices, conference rooms and hotel rooms

For more information please refer to the product details or the manufacturer's documentation

Special features

- For various applications
- Requires adaptation (by others) to the actual application
- With a second control circuit for duct pressure and zone pressure control as well as for room air conditioning
- Supports SLC (SAUTER Local Communication) protocol for configuration, SAUTER system integration and connection of control panels
- Outputs for reheating and recooling
- BACnet Application Specific Controller (B-ASC)

Constructions

SB0N with Compact controller ASV215BF132E for VAV terminal units:

- TVR, TZ-Silenzio, TA-Silenzio, TVZ, TVA, TVRK
- TVJ (all sizes)
- TVT up to size 1000 × 300 or 800 × 400 mm

Parts and characteristics

- Static differential pressure measurement independent of the installation position
- Integral actuator, slow running
- Clamping device and gear release button
- Terminals and RJ12 sockets
- 2 RS-485 communication interfaces, not galvanically isolate

Erforderliche Produkte zur Inbetriebnahme

- SAUTER CASE VAV, PC software for configuration and commissioning (can be downloaded from [www.sautercontrols.com](http://www.sautercontrols.com))
- RS-485 interface adapter

Attachments

Constructions

SB0N with Compact controller ASV215BF132E for VAV terminal units:

- TVR, TZ-Silenzio, TA-Silenzio, TVZ, TVA, TVRK
- TVJ (all sizes)
- TVT up to size 1000 × 300 or 800 × 400 mm

## TECHNICAL INFORMATION

Specification text, Order code

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### Category

Compact controller for volume flow rate or room or duct pressure

### Application

Control of a constant or variable volume flow rate or pressure setpoint. Electronic controller for applying a reference value and capturing an actual value signal. Stand-alone operation or integration with a central BMS.

### Area of application

Static transducer for contaminated air in ventilation and air conditioning systems

### Actuator

Integral; slow running (run time 60–105 s for 90°)

### Installation orientation

Any installation position, zero point can be corrected

### Connection

2 terminal blocks and 1 RJ12 socket (bus)

### Supply voltage

24 V AC/DC

### Interface/signalling

- 2 RS-485 bus interfaces, not galvanically isolated, for BACnet MS/TP or SAUTER SLC protocol
- 5 configurable I/O signals including 2 × AI/AO, 1 × DI/RI, 2 × DO/PWM

### Interface information

Connections can be configured as required, for example:

- Analogue inputs: for reference value, setpoint value change
- Analogue outputs: for volume flow rate actual value, damper blade position, effective pressure
- Switch input DI: for load shedding

- Switch output DO/PWM: for reheating and recooling
- Communication interface RS-485: BACnet MS/TP (BACnet Application Specific Controller (B-ASC) and SAUTER SLC (configuration, SAUTER system integration and connection of control panels)

#### **Special functions**

- Parameter setting for volume flow rate control, VOC-based or CO<sub>2</sub>-based room pressure control, and heating and cooling; this function may require an optional component

#### **Parameter setting**

- Complete parameter setting (by others) for adaptation to the VAV terminal unit and for the project-specific use of inputs and outputs, functions and operating parameters
- Only with SAUTER commissioning software and interface adapter

#### **Factory condition**

- Electronic controller factory mounted on the control unit

Control component SB0N (shown together with TVR as an example)

TVR - D - P1 - / 200 / D2 / SB0N  
| | | | | | | |  
1 2 3 4 5 6 7

1 Type

TVR VAV terminal unit

2 Acoustic cladding

No entry: none

D With acoustic cladding

3 Material

No entry: galvanised sheet steel

P1 Powder-coated RAL 7001 (silver grey)

A2 Stainless steel construction

4 Duct connection

No entry: push-fit, suitable for ducts according to EN 1506; with groove for optional lip seal

FL Flanges on both ends

5 Nominal size [mm]

100, 125, 160, 200, 250, 315, 400

6 Accessories

No entry: without accessories

D2 Double lip seal both ends (push-fit only)

G2 Matching flanges for both ends (only with FL)

7 Attachments (control components)

SB0N Compact controller with static transducer, configurable application type; interface: analogue, BACnet MS/TP or SLC

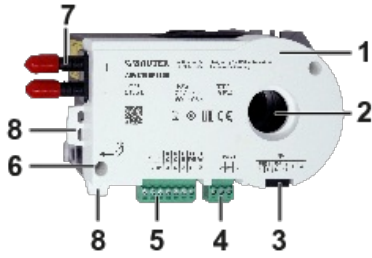
Order example: TVR-D-P1/200/D2/SB0N

Type	TVR
Acoustic cladding	With acoustic cladding
Material	Powder-coated RAL 7001 (silver grey)
Duct connection	Push-fit, suitable for ducts according to EN 1506; with groove for optional lip seal
Nominal size [mm]	200
Accessories	Double lip seal both ends
Attachments (control components)	SB0N - Compact controller with static transducer, configurable application type; interface: analogue, BACnet MS/TP or SLC

Complete parameter setting (by others) for adaptation to the VAV terminal unit and for the project-specific use of inputs and outputs, functions and operating parameters Only with SAUTER commissioning software and interface adapter.

Parameters specific to the terminal unit and the size are given in the installation and commissioning manual as well as on a silver sticker on the product.

Compact controller SB0N, ASV215BF132E



- 1: VAV Compact controller
- 2: Clamping device
- 3: RS-485 interfact with RJ12 socket
- 4: RS-485 interface with screw terminals
- 5: Screw terminals for supply voltage, input signals and output signals
- 6: Gear release button
- 7: Effective pressure tube connections
- 8: Strain relief for cables

Technical data, Product details



Compact controllers for VAV terminal units

VAV terminal units	Type of installation component	Part number
<b>TVR, TVJ, TVT, TZ-Silenzio, TA-Silenzio, TVZ, TVA, TVRK</b>	ASV215BF132E	A00000069857

Compact controller BM0, LMV-D3-M/B TR

Type of measurement/installation orientation	Static, measurement range up to 300 Pa, independent of the installation orientation
Supply voltage (AC)	24 V AC, $\pm 20\%$ , 50/60 Hz
Supply voltage (DC)	24 V DC, $-10\%$ - $+20\%$
Power rating (AC)	Up to 8.5 VA
Power rating (DC)	Up to 4.7 W
Torque	10 Nm
Connections	<ul style="list-style-type: none"> <li>• 2 x RS-485 bus interface at RJ12</li> <li>• Terminals</li> <li>• RJ12 socket</li> </ul>
Analogue interface (optional)	0 - 10 V DC or 2 - 10 V DC or user-specific (adjustable)
Digital communication interface	<ul style="list-style-type: none"> <li>• Bus interface RS-485 (not galvanically isolated)</li> <li>• BACnet MS/TP and SLC (SAUTER Local Communication) protocols</li> <li>• Addressing by others, 31 devices max.</li> </ul>
IEC protection class	III (protective extra-low voltage)
Protection level	IP00, IP30 only with additional protection kit
EC conformity	EMC to 2014/30/EU
Weight	0.8 kg

\*\*Factory setting

## Product details

### Commissioning

TROX VAV terminal units with the SB0N attachment must be parameterised and commissioned by the customer for the intended application.

The following settings must be made:

- Parameters for adapting the control component to the TROX VAV terminal unit
- E.g. nominal flow rate, orifice factor (K value) or effective pressure at nominal flow rate
- For specific parameters regarding the terminal unit and the dimensions, see the installation and commissioning instructions or the product label
- Setting for the desired function of the control component and the interfaces
- Operating values for the application area such as  $q_{vmin}$  and  $q_{vmax}$
- If necessary, communication setting for operation in a communication network

### Important:

The PC software available free of charge from SAUTER and the appropriate interface adapter are required for commissioning the control component by the customer.

