

BS SensBox XL

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Art.-no.: 01078710



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Professional sensor device for buildings.

Installation and Operating Instructions

Short description

- Central connection device for wind, wind direction, rain, Lux and temperature sensors
- For use with the Vesta Building Controller or Vesta Building Controller Compact
- BUS communication between the Vesta Building Controller / Vesta Building Controller Compact and Sensor box

Technical data

Power supply:	230VAC, 50 Hz
Impulse voltage withstand level:	2.5 kV
Rated power:	8 W (without sensors)
Fuse:	100 mA T, 5 x 20 mm
Software class:	A
Operating temperature:	-20°C (-4°F) to +40°C (104°F)
IP class:	IP 54
Degree of contamination:	2
Dimensions (L x W x H):	323 x 237 x 85 mm (without connections)
Mark of conformity:	CE

Safety precautions



- Contact a professional electrician to install the control system, because the control system requires a power supply of 230VAC, 50 Hz.
- Check the control system for signs of mechanical damage after unpacking. If you notice any shipping damage, do not start up the control system and notify your supplier immediately.
- The control system should only be used for the purpose specified by the manufacturer (refer to the operating instructions). Any changes or modifications thereof are not permissible and will result in loss of all warranty claims.
- If the control unit cannot be operated without presenting a hazard, it must be switched off and prevented from being switched on unintentionally.
- Turn off the power supply and prevent it from being switched on unintentionally before performing work on any windows, control or sunshades driven by the control system.

Assembly and installation



WARNING!

Risk of injury due to improper installation and commissioning. Improper installation and commissioning may lead to personal injury or property damage.

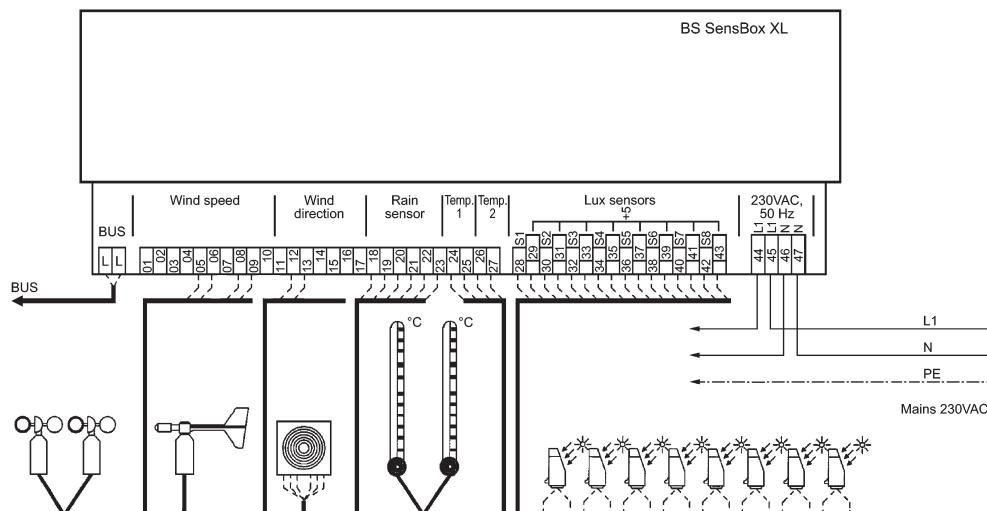
Therefore:

- When connecting the device, observe the currently valid VDE standards (in particular DIN VDE 0100/0700), your local power company's regulations and the current accident prevention regulations.
- Connect the control in accordance with the wiring diagram.

Notes for professional electricians

1. Switch off the power supply.
2. By means of the four mounting holes prepunched in the housing sides and the four corresponding screws, you can mount the device in the desired position.
3. Lead the cables through the cable entry gland and avoid direct contact to electronic components. Additional terminals are available to route the 230VAC mains and the BUS connection to other devices.

Wiring diagram



Start-up

Before start-up, the Sensorbox must be configured by means of jumpers JP1 – JP3 and DIP switches SW1 and SW2. Please find the description of all settings in section “Configuration”.

After switching on the operating voltage, push the service pin for 5 seconds in order to store the settings. A red LED will briefly flash to confirm the changed settings.

Functional description

As an integral component of the Vestamatic system, Sensorbox is a decentralized point of connection for wind, Lux (sun) and temperature sensors and one rain sensor. The Sensorbox may only be used when connected to at least one Vestamatic BUS compatible central controller (e.g. Vesta Building Controller).

During installation or start-up, all settings required for the Sensorbox can be carried out by means of three jumpers and two 8-pole DIP switches. Please find further details in the section “Configuration”.

Connecting each sensor

The following Vestamatic sensors can be connected to the Sensorbox:

- 8 Lux sensors, type LS 30
- 2 Temperature sensors, type TS Pro XL
- 1 Rain sensor, type RD +1°C or RD -20°C
- 1 Wind direction sensor, type WD Pro XL
- 2 Wind sensors, type WS Classic M, WS Pro XL, WS XS Tube or WS XS

i IMPORTANT!
Heated sensors need an external power supply.

Lux sensors

Up to 8 Lux sensors can be connected to the Sensorbox terminals 28 to 43. The first sensor is to be connected to terminals 28 and 29. The second sensor is to be connected to terminals 30 and 31 etc.

In order to connect the sensors with one 9-core cable, the supply voltage for the sensors can be jointly connected (terminals 29, 31, 33, 35, 37, 39, 41 or 43).

After changing the settings, the service pin must be pushed for 5 seconds in order to store the changes. A red LED will briefly flash to confirm the changed settings.

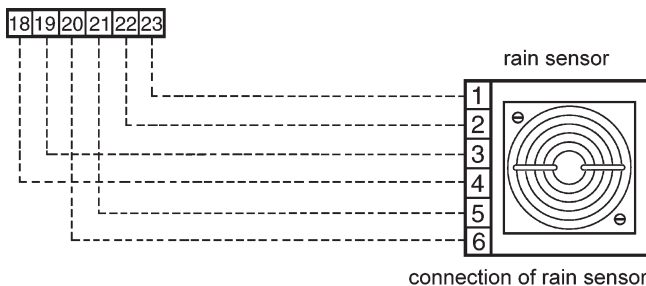
Temperature sensors

Up to 2 temperature sensors can be connected to the Sensorbox terminals 24 to 27. The first sensor is to be connected to terminals 24 and 25. The second sensor is to be connected to terminals 26 and 27.

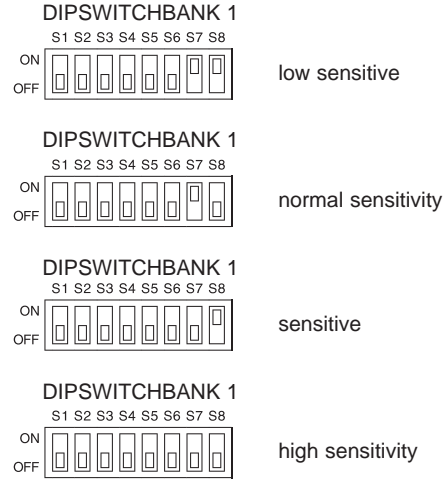
In order to connect two sensors with one 3-core cable, the supply voltage for both sensors can be jointly connected (terminal 25 or 27).

Rain sensor

One rain sensor can be connected to terminals 18 to 23 according to the following wiring diagram.



With SW7 and SW8 of DIP switch 01, the rain sensor sensitivity can be set as follows:



After changing the settings, the service pin must be pushed for 5 seconds in order to store the changes. A red LED will briefly flash to confirm the changed settings.

Wind direction sensor

! ATTENTION!
Before connecting the sensor, make sure jumper JP1 is positioned correctly. When using a sensor with digital output, jumper JP1 must be positioned on the left (■). When using a sensor with current-carrying output, jumper JP1 must be positioned on the right (□).

The wind direction sensor WD Pro XL (current-carrying output) must be connected to terminal 12 and 13.



Wind sensors

! ATTENTION!
Before connecting the sensors, make sure jumper JP3 and JP2 are positioned according to the following table.

	right □	left ■
JP3	wind sensor 1 current-carrying output	wind sensor 1 frequency output or not assigned
JP2	wind sensor 2 current-carrying output	wind sensor 2 frequency output or not assigned

Up to two wind sensors with either digital or current-carrying output can be connected to the Sensorbox and must be connected to terminals 05 and 06 (sensor 1) and terminals 08 and 09 (sensor 2).

Example: Since sensor 1 is a wind sensor with frequency output and sensor 2 is a sensor with current-carrying output, jumper JP3 must be positioned on the left and jumper JP2 must be positioned on the right, as represented in the following example:



Configuration

DIP switches

By means of DIP switch 1, domain address, base address and the rain sensor sensitivity can be set. Please find further details on how to set the rain sensor sensitivity in the section "Rain sensor".

Setting the domain address

In order to ensure that all nodes in the Network can communicate, they must have the same domain address.

Please note, that the network always uses two adjacent domain addresses.

If other BUS systems are operated in the same network, the domain selected for the network, must be unique and not used by any other system. Otherwise, correct function of the network and/or other components cannot be guaranteed.

The default setting for the Sensorbox is domain 00/01.

SW1	SW2	SW3	Domain [0]	Domain [1]
OFF	OFF	OFF	00	01
OFF	OFF	ON	32	33
OFF	ON	OFF	64	65
OFF	ON	ON	96	97
ON	OFF	OFF	128	129
ON	OFF	ON	160	161
ON	ON	OFF	192	193
ON	ON	ON	224	225

Setting the base address

The Sensorbox number is assigned by the base address. That way, several Sensorboxes can be operated with the same domain address.

SW4	SW5	SW6	Base address
OFF	OFF	OFF	1 (basic setting)
OFF	OFF	ON	2
OFF	ON	OFF	3
OFF	ON	ON	4
ON	OFF	OFF	5
ON	OFF	ON	6
ON	ON	OFF	7
ON	ON	ON	8

Setting the transmission frequency

The data transmission frequency can be set with SW1 – SW3 of DIP switch 2.

SW1	SW2	SW3	A protocol is transmitted every
OFF	OFF	ON	0.5 s
OFF	ON	OFF	1.0 s
OFF	ON	ON	1.5 s
ON	OFF	OFF	2.0 s
ON	OFF	ON	2.5 s
ON	ON	OFF	3.0 s
ON	ON	ON	3.5 s
OFF	OFF	OFF	never



The disposal of electrical equipment and batteries in household waste is strictly forbidden.

The symbol (dustbin crossed out, in line with WEEE Appendix IV) indicates separate collection of electrical and electronic products in EU countries. Do not dispose of the device or battery in your household waste. Ask your town or local council about the return and collection systems available in your area to dispose of this product.