
Figure 1: Shading control unit KNX BZ-24

## 1. Description

The shading controller KNX BZ-24 is a module for controlling shading, heat and privacy within the KNX bus system. The unit offers extensive adaptation options for the building situation and type of shading (e.g. without slats, horizontal or vertical slats including façade inclination, façade orientation, slat width).
Up to twenty-four façades can be controlled by time, time or twilight, heat protection, heat radiation, automatic rain function (cleaning of blinds by rain), interior temperature lock for solar heat gain, brightness + sun position and outside temperature.
Both the slats and the shadow edge can be adjusted to the position of the sun. Rain, wind and frost can also be taken into account.

Time switching's are output via the integrated calendar and weekly timer.
The corresponding data of date, time, sun direction, sun height, wind sensors, precipitation, measured twilight brightness, outside temperature and heat radiation must be available on the bus system (e.g. via the KNX-GPS-24VDC weather station from Schenker Storen AG).
An activatable simulation mode allows a test mode to be run for each façade, or alternatively for all façades.
Façade functions and façade automation settings can be set for each building. Façade status can be output transparently for each façade or alternatively for all façades. This allows the façade status and/or settings to be shown in plain text for each customer area, for example via a display.

## 2. Functions

- 24-channel shading control per façade for up to 3 areas (two shade fields) on the basis of brightness and sun position, without sun position tracking, with 4-step sun position tracking and slat tracking with shadow edge and slat tracking
- 9 binary inputs for potential-free contacts.
  Functions: switching, toggling, blind, shutter, awning, window, dimmer, 8-bit encoder, temperature encoder, brightness encoder, scene retrieval, scene save.
- 12 wind values (wind zones)
- 4 pyranometer values

Configuration is via the KNX software from ETS 5 and above. The KNX application can be ordered from Schenker Storen AG or via the ETS catalogue.

## 3. Notes

### 3.1 Safety instructions

This appliance must only be used for its intended purpose. Only a qualified electrician may carry out work with 230V mains voltage. Ensure that the nearby surroundings are isolated from the power supply and secured against being connected again when working on the units or the electrical installation. The control units must be out of reach of children.
Do not operate the unit – or take it out of operation – if there is a likelihood that it cannot be operated safely. This likelihood is justified if:

- The housing or the supply lines are damaged.
- The unit no longer operates as intended.

The user is responsible for compliance with the installation regulations.

### 3.2 Liability/warranty provisions

In cases of failure to observe the product information given in this manual, use of the unit for other than the intended purpose or use not in accordance with the intended purpose, the manufacturer will not honour the warranty for damage to the product. Liability for consequential damages is also excluded.
The warranty of a 2-year guarantee from the date of invoice covers replacement or repair of free of charge of parts of the unit that have become defective as a result of material or manufacturing faults. The repair work will be carried out by us at our premises or externally with charges applied for time and expenses. Additional claims and compensation for consequential damages are excluded.
Furthermore, attention is drawn to the General Terms and Conditions of Business (www.storen.ch).

### 3.3 Installation and connection

This unit is suitable for operation in dry indoor spaces. It should be connected as shown in the connection diagram. Incorrect connection can lead to damage to the unit or to connected devices.
Accessibility must be guaranteed at all times for maintenance purposes.

### 3.4 Putting the system into operation

Once assembly is complete, the unit can be put into operation. Ensure beforehand that the actuated drives are functioning correctly.
When the bus voltage is first applied, the unit enters an initialisation phase for a few seconds. During this time, no information can be received via the bus.

### 3.5 Functioning and maintenance

The unit must be checked regularly for proper functioning.
There are no serviceable parts inside the unit.

## 4. Troubleshooting

If a fault occurs, check the following points.

- Systematically check for correct wiring.
- Check whether the connecting wires are cleanly bound to the terminals (with no insulation trapped).
- Response in the KNX bus

## 5. Disposal

When the unit is to be disposed of, this must involve disposal or recycling in accordance with statutory regulations. Do not dispose of the unit with household waste.

## 6. Technical data

| | |
|---|---|
| Housing | Plastic |
| Colour | White |
| Construction | In distributors or small enclosures compliant with DIN VDE 0603 on 35 mm top-hat rail as per DIN EN 60715 |
| Protection type | IP 20 |
| Protection class | II |
| Overvoltage category | III |
| Pollution level | 2 |
| Housing dimensions | LxWxD 53 x 88 x 60 mm<br>3 DU |
| Weight | approx. 100g |
| Ambient temperature Storage, transport | -25 to +70ºC |
| Ambient temperature Operation | -5 to +45ºC |
| Ambient humidity | max. 95% rel. humidity<br>Avoid condensation |
| Binary inputs | 9 inputs, at KNX potential (SELV)<br>Cable length max. 10 metres |
| Binary input connection via spring-loaded terminals | • rigid 0.5-2.5 mm²<br>• flexible 0.2-1.5 mm²<br>• flexible with wire end ferrule or and without plastic sleeve 0.25-1.5 mm² |
| Binary input wire stripping length, one wire per terminal | 7.5 mm |
| KNX bus: | |
| Contact voltage | 3.3 V |
| Contact current | 330 µA |
| Medium | KNX-TP256 |
| Configuration mode | S mode |
| Operating voltage | KNX bus voltage 30 V SELV |
| Bus current | 12.5 mA |
| Data output | KNX +/- bus terminal |
| BCU type | Own microcontroller |
| PEI type | 0 |
| Group addresses | 2000 |
| Allocations | 2000 |
| Communication objects | 1920 |

## 7. Construction

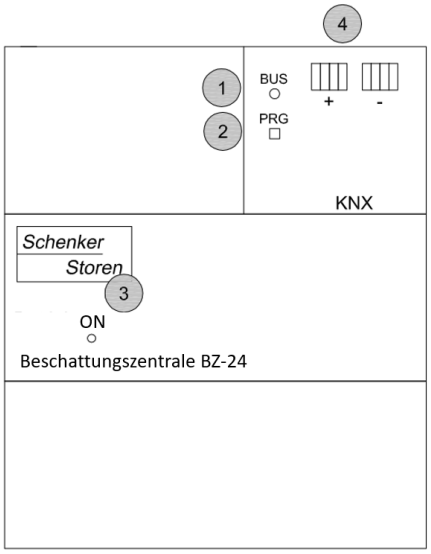


Figure 2: Construction of KNX BZ-24

1. Programming LED
2. Programming button
3. LED ON 'Bus voltage/operation'
4. Bus connection (KNX terminal +/-)

## 8. Scope of delivery

1. REG unit
2. KNX plug-in terminal

## 9. KNX bus voltage connection diagram

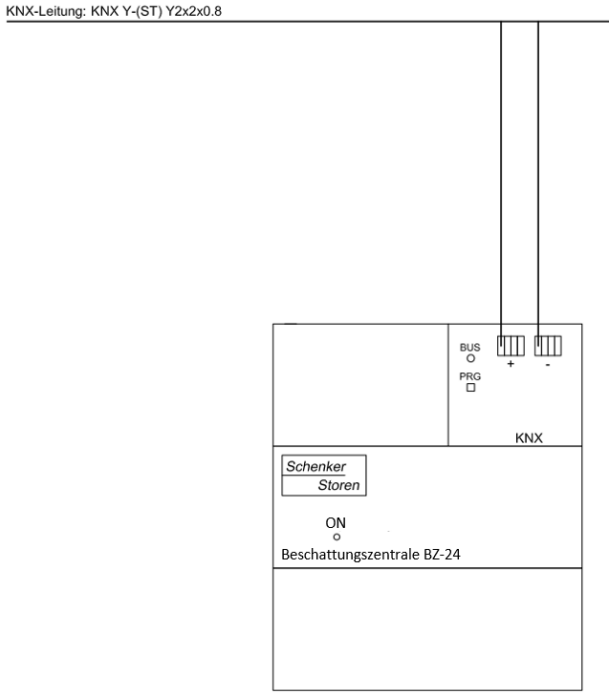


Figure 3: Shading control panel KNX BZ-24

## 10. Binary input connection diagram

Maximum cable length 10 metres.
The upper terminal strip ‘com’ is internally bridged.
Used e.g. for key switch, window cleaning,
fire alarm, automatic sun function

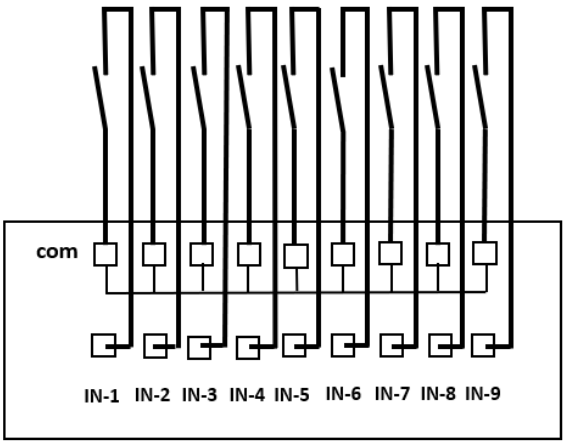


Figure 4: Binary inputs to KNX BZ-24

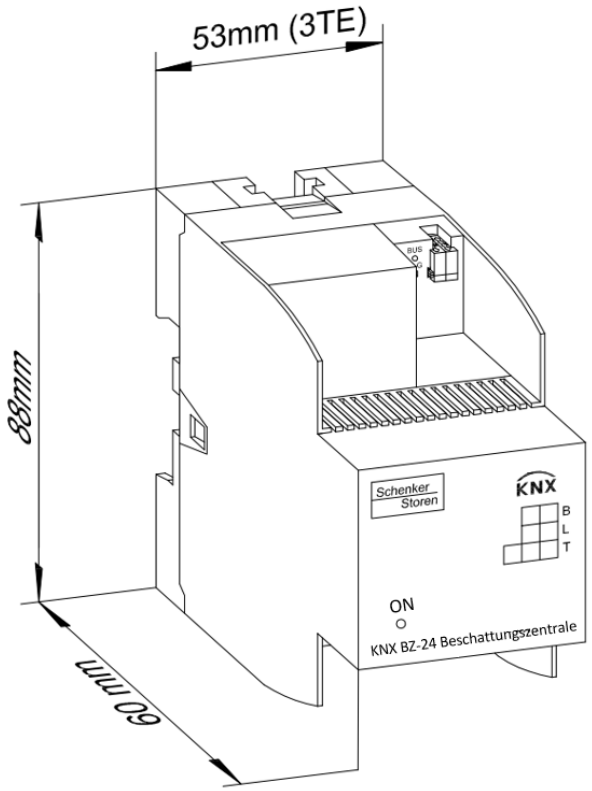


Figure 5: Installation dimensions for shading control panel KNX BZ-24

Schenker Storen AG
Stauwehrstrasse 34
CH-5012 Schönenwerd
Telephone: +41 62 858 56 11
www.storen.ch
steuerungen@storen.ch