

# KNX S4-B12 DES for 4 Drives with 3 Limit Switches

## Technical specifications and installation instructions

Item number 70534



## 1. Description

The **KNX S4-B12 DES actuator** is an electronic control device for controlling up to 4 motors with 3 limit switches. A 230 V AC power supply is needed for the actuator and motors.

### Functions:

- **4 motor outputs** each for one **motor with 3 limit switches** (shutters with working position)
- Switch panel with **4 switch pairs** and status LEDs
- **12 binary input** for use as manual or bus button
- **Position feedback** of the movement position
- **Position storage** (movement position) via 1-bit object (storage and call-up, e.g. by button)
- Controls through **internal or external automatic operation**
- Integrated **shading control** for each motor output
- **Scene control** for movement position with 16 scenes per motor
- Blocking objects and alarm messages have different **priorities** so that safety functions always have priority (e.g. wind blocking)
- **Manual or automatic control configuration** per time or communication object

Configuration is made using the KNX software ETS 5. The **product file** can be downloaded from the ETS online catalogue and the Elsner Elektronik website on [www.elsner-elektronik.de](http://www.elsner-elektronik.de) in the "Service" menu.

### 1.0.1. Scope of delivery

- Actuator

## 1.1. Technical data

Housing	Plastic
Colour	White
Assembly	Series installation on mounting rail
Protection category	IP 20
Dimensions	approx. 107 x 88 x 60 (W x H x D, mm), 6 module units
Weight	approx. 340 g
Ambient temperature	Operation -20...+45°C, storage -55...+90°C
Ambient humidity	max. 95% RH, avoid condensation
Operating voltage	230V AC, 50 Hz
Power consumption	Operation max. approx. 3.5 W Standby max. approx. 0.6 W
Power	on bus: 10 mA
Outputs	4 x motors with 2 lower end switches (UP/DOWN1/DOWN2/N/PE). total max. 10 A and max. 4 A per output
Maximum load	Each terminal contact may be loaded with a maximum of 10 A.
Inputs	12 x binary input, for 12 V DC
Max. cable length	50 m
Binary inputs	
Data output	KNX +/- bus plug terminal
BCU type	Own microcontroller
PEI type	0
Group addresses	max. 1024
Allocations	max. 1024
Communication objects	757

The product is compliant with the provisions of EU Directives.

## 2. Installation and commissioning

### 2.1. Installation notes



Installation, testing, operational start-up and troubleshooting should only be performed by an electrician.



### CAUTION! Live voltage!

- There are unprotected live components inside the device.
- National legal regulations are to be followed.
  - Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.
  - Do not use the device if it is damaged.
  - Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.

The device is only to be used for the intended purpose described in this manual. Any improper modification or failure to follow the operating instructions voids any and all warranty and guarantee claims.

After unpacking the device, check it immediately for possible mechanical damage. If it has been damaged in transport, inform the supplier immediately.

The device may only be used as a fixed-site installation; that means only when assembled and after conclusion of all installation and operational start-up tasks and only in the surroundings designated for it.

Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

### 2.2. Safety notice for automatic functions



### WARNING! Risk of injury from automatically moving components!

- Parts of the system can be started by the automatic controls and be a danger to persons.
- No persons may remain in the travelling range of parts driven by an electric motor.
  - Adhere to the relevant building regulations.
  - Ensure that the return path/access to the building is not blocked if spending time outside the building (danger of being locked out).
  - Correctly decommission the system for maintenance and cleaning work.

If there is a power outage, the system does not work. Therefore, shadings should be moved to a save position if there are anticipated weather conditions, for example, if this has not already been done by the automatic function (product protection).

If the power supply is removed, the connected drive switches off. When the power is restored, the consumer remains switched off until a new movement command is received by the actuator.

### 2.3. Connection

The device is suitable for operating in dry interiors. Connection according to wiring diagram. For maintenance purposes, accessibility to the device must be guaranteed.

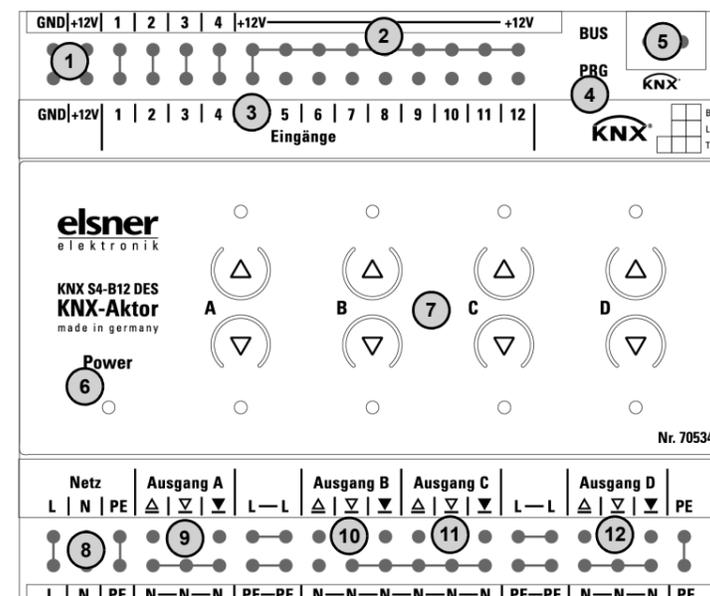


### When installing and laying cables to the KNX connection and the inputs for the SELV power circuits, observe the applicable provisions and standards!

The connections for the binary inputs, including the auxiliary voltage output, meet the requirements for SELV circuits. Mixed installation with non-SELV circuits or mixing different auxiliary voltages is not permitted.

#### 2.3.1. Device structure

The device is designed for series installation on mounting rails and occupies 6 module units.



- 1 Output 12 V / GND
- 2 Internal auxiliary voltage 12 V DC, only for binary inputs
- 3 Binary inputs 1-12 (1 to 4: 2 connections each)

- 4 Programmable LED and programmable buttons (PRG)
  - 5 Bus terminal socket (KNX+/-)
  - 6 Power LED (mains), shows the operation status, see chapter below
  - 7 Key pairs Up/Down and LEDs channel A-D, for meaning of LEDs, see chapter below
  - 8 Operating voltage input 230 V AC L/N/PE
  - 9 Output A: UP-DOWN1-DOWN2, max. 4 A
  - 10 Output B: UP-DOWN1-DOWN2, max. 4 A
  - 11 Output C: UP-DOWN1-DOWN2, max. 4 A
  - 12 Output D: UP-DOWN1-DOWN2, max. 4 A
- No. 9-12 in total max. 10 A!  
A mix of different auxiliary voltages for the binary inputs is not permitted

### 2.3.2. Display of operating status by the power LED

behaviour	Colour	
On	Green	Normal mode Bus connection/bus voltage present.
Flashes	Green	Normal mode No bus connection/bus voltage present.
On	Orange	Device starts or is programmed via the ETS. No automatic functions are being performed.
Flashes	Green (on), Orange (flashing)	Programming mode active.

### 2.3.3. Status display with the channel LEDs

behaviour	LED	
On	top	Motor in top position.
On	bottom	Motor in bottom position.
Flashes slowly	top	Motor moving up.
Flashes slowly	bottom	Motor moving down.
Flashes quickly	top	Motor in top position, blocking active.
Flashes quickly	bottom	Motor in bottom position (DOWN2), block active.
Flashes quickly	both simultaneously	Drive in intermediate position, block active.
Off	both	Drive in intermediate position.
"Running light" across all LEDs	all channels	Wrong application version was loaded. Use the version compatible with the device!

### 2.4. Notes on mounting and commissioning

Device must not be exposed to water (rain). This could result in the electronic being damaged. A relative air humidity of 95% must not be exceeded. Avoid bedewing.

After the operating voltage has been applied, the device will enter an initialisation phase lasting a few seconds. During this phase no information can be received or sent via the bus.

For KNX devices with safety functions (e.g. wind or rain block), a cyclical monitoring of the safety objects must be established. The ideal ratio is 1:3 (example: if the weather station sends a value every 5 minutes, the actuator must be configured for a monitoring period of 15 minutes).

### 2.5. Operating instructions

- WARNING!**  
**Risk of injury through automatically moving components!**  
Parts of the system can be started by the automatic controls and put people in danger.
- Keep movement area of the motors/hangings clear.
  - Ensure that the return path/access to the building is not blocked if spending time outside the building (danger of being locked out).
  - Correctly switch off system for maintenance and cleaning work.

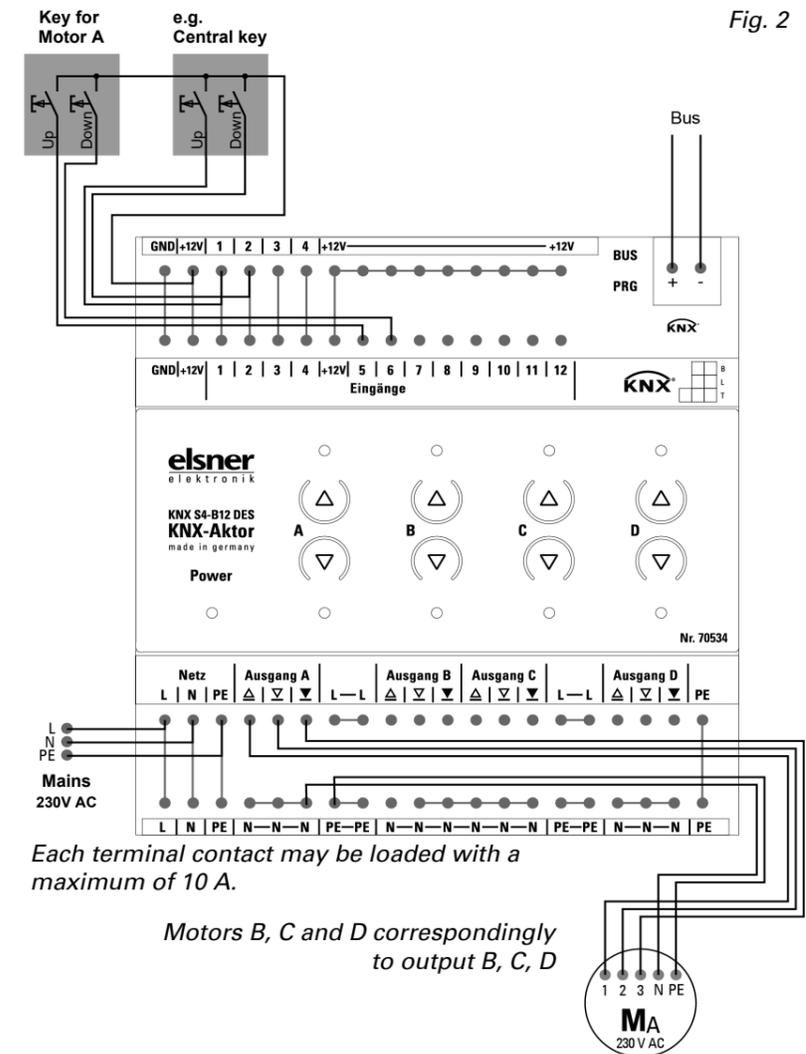
If there is a power outage, the system does not work. Shades, for example, should therefore be moved into a safe position if there are threatening weather conditions if this has not already been down by the automatic function (Product protection).

If the 230 V AC power supply is removed, the connected drive switches off. When the power is restored, the consumer remains switched off until a new movement command is received by the actuator.

### 2.6. Connection example

Motors and mains supply cable each 5x 1.5 mm<sup>2</sup>

Fig. 2



### 3. Addressing of the device at the bus

The device is supplied with the bus address 15.15.255. You can program another address into the ETS by overwriting the 15.15.255 address or by teaching via the programming button.

### 4. Disposal

After use, the device must be disposed of or recycled in accordance with the legal regulations. Do not dispose of it with the household waste!