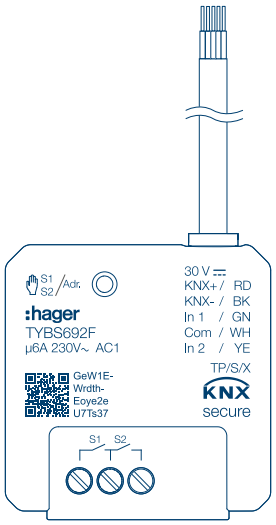
Operating and assembly instructions

KNX building management system

KNX switching/blind actuator with binary inputs



KNX Secure switching/blind actuator 2-/1-gang + 2 binary inputs, 6 A, flush-mounted

TYBS692F

systemlink easylink KNX secure

CE UK CA

:hager

EN

1 Contents

2 Introduction

This manual describes the safe and proper installation and commissioning of the KNX Secure switch/ blind actuator with flush-mounted binary inputs. These instructions are provided as operating and installation information in addition to the product.

Symbols used

☑ Prerequisite: This prerequisite must be met in order to be able to start with the next steps.

● Single-step instruction or any sequence

1. Multi-step instruction Sequence must be maintained.

– List

▸ Reference to additional documents/information

	Scope of delivery		Installation by a qualified electrician		For further information on configuring the device, refer to the application manual
	KNX-certified		Supports KNX Data Secure		
	Compatibilität with KNX S-mode (ETS≥ 5.6.x)		Compatibility with Hager easyTool		
	Suitable for use in China		Suitable for use in Morocco		Suitable for use in Australia and New Zealand
	Suitable for use throughout Europe and Switzerland		Manufacturer's information is in accordance with § 18 Para. 4 of the German Electrical and Electronic Equipment Act.		Suitable for use in England, Wales and Scotland

Table 1: Symbols used

Symbol	Warning word	Consequence of non-observance
	Danger	Leads to serious injuries or death.
	Warning	Can lead to serious injuries or death.
	Caution	Can lead to minor injuries.
	Caution	Can lead to device damage.
	Note	Can lead to physical damage.

Symbol	Description
	Warning against electric shock.
	Warning against damage from mechanical stress.
	Warning against damage from electricity.
	Warning against damage from fire.

Electronic devices may only be assembled, installed and configured by a specialist with electrical training and certification in accordance with the relevant installation standards of the country. The accident prevention regulations valid in the appropriate countries must be complied with.

In addition, these instructions are intended for system administrators and electrically trained specialists.

3 Safety instructions

Electrical devices must only be installed and assembled by a qualified electrician in accordance with the relevant installation standards, guidelines, regulations, directives, safety and accident prevention directives of the country.

Hazard due to electric shock. Disconnect before working on the device or load. Take into account all circuit breakers that supply dangerous voltages to the device or load.

Failure to comply with these installation instructions may result in damage to the device, fire or other hazards.

Danger due to electric shock. The device is not suitable for safe disconnection or isolation of the mains supply.

Danger due to electric shock on the SELV/PELV installation. Not suitable for switching SELV/PELV voltages.

When installing and routing cables, always comply with the applicable regulations and standards for SELV electrical circuits.

Use drives with mechanical or electrical final position switches only. Check final position switches for correct adjustment. Comply withh motor manufacturer's data. The device may get damaged.

Connect one motor per output only. If several motors are connected, motors or device might be destroyed.

Observe the motor manufacturer's data regarding change-over time and max. duty cycle.

4 Scope of delivery

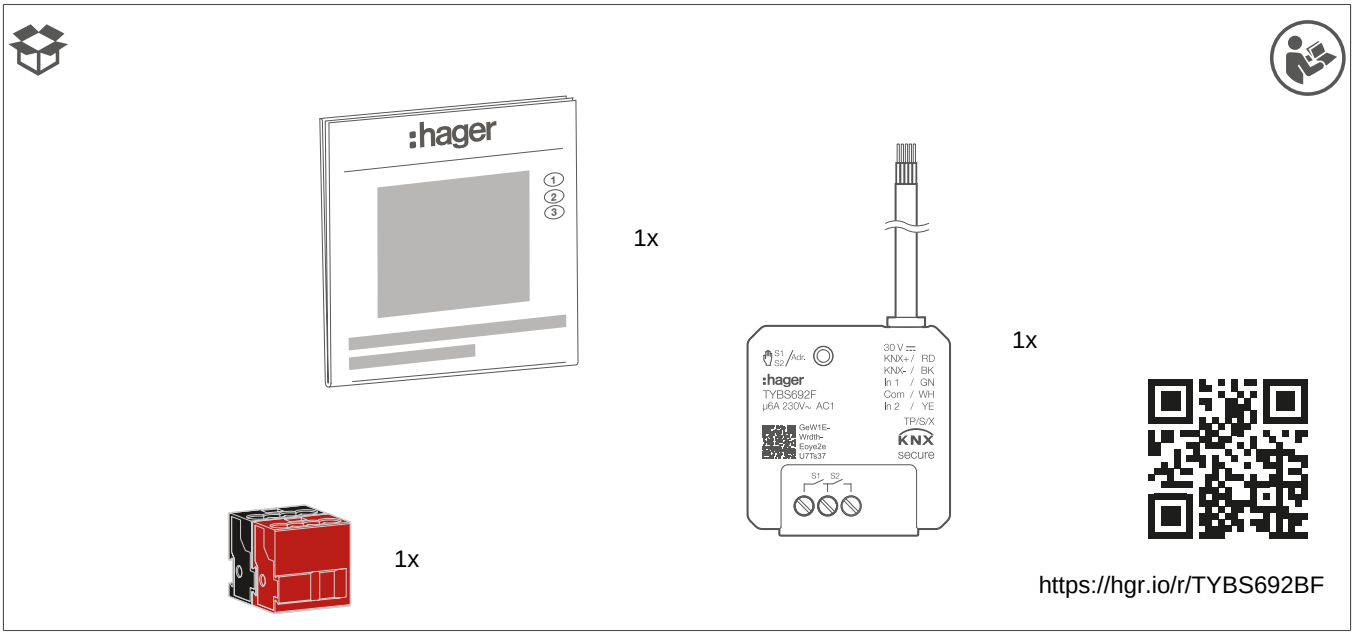


Fig. 1: Scope of delivery TYBS692F

5 Design and layout of the device

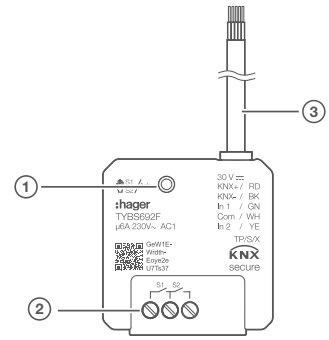


Fig. 2: Design and layout of the device TYBS692F

1. Illuminated button for manual operation/programming button
2. Connection of load(s)
3. KNX bus connection cable/connection inputs

6 Function

6.1 KNX system information

System information

This device is a product of the KNX system and corresponds to the KNX guidelines. Detailed specialised knowledge obtained from KNX training courses is required for understanding.

The device is KNX Data Secure-compatible. KNX Data Secure can be configured in the ETS project and offers protection against manipulation in building automation. Detailed knowledge on this subject is required. For KNX Secure commissioning, a device certificate (FDSK) is required, which is attached to the device (QR code label). During installation, the device certificate must be removed from the device and kept in a safe place.

The planning, installation and commissioning of the device are carried out with KNX-certified software.

6.2 KNX systemlink system information

Systemlink commissioning

The function of the device is software-dependent. The software is to be obtained from the product database. You can find the latest version of the product database, technical descriptions as well as conversion and additional support programmes from our website.

6.3 KNX easylink system information

easylink commissioning

The function of the device is configuration-dependent. The configuration can also be performed using devices developed specially for simple setting and commissioning.

This type of configuration is only possible with devices compatible with the easylink system. easylink stands for easy, visually supported commissioning. Preconfigured standard functions are assigned to the inputs/outputs by means of a service module.

6.4 Functional description

Functional description

The device receives telegrams from sensors or other controllers via the KNX installation bus and switches electrical loads with its relay contacts.

Correct use

- Switching of electric loads 230/240 V~ via relay contacts
- Switching of electrically operated motors 230 V~ for blinds, shutters, awnings and similar hangings
- Signal evaluation at inputs 1 and 2 of installation switches and buttons and other dry contacts
- Installation into wall box according to DIN 49073 (deep box) recommended or surface-mounted/flush-mounted junction box

Product characteristics

Properties of switching operation

- NO or NC operation
- Feedback function

- Linking and forced control function
- Central switching functions with group feedback
- Time functions: on delay, off delay, stair light switch with pre-warning function
- Scene function
- Operating hour meter

Properties of roller shutter/blind operation

- Position can be started directly
- Slat position directly controllable
- Feedback of operating state, hanging position and slat adjustment
- 3 alarms

Properties of the extension unit inputs

- Switching
- Dimming (incl. colour temperature dimming)
- Blind operation function
- Value transmitter (1-byte, 2-byte, 3-byte and 6-byte incl. RGBW and colour temperature specifications)
- Scene extension unit
- 2-channel operation
- Controller extension unit
- Lock-up functions
- Adjustable debounce time

Logic properties

- Logic gate
- Converter (conversion)
- Blocking element
- Comparator

7 Information for qualified electricians

7.1 Installation and electrical connection

Danger

Electric shock when live parts are touched!

An electric shock can lead to death!

- Isolate all connection cables before working on the device and cover any live parts in the area!

Connection and installation of the device

Attention

Risk of destruction of the device when contacts are closed at the same time when delivered. The installed relays are sensitive to shoks.

Failure to comply may result in damage to the product and the connected motors.

- After switching on the bus voltage, wait 5 seconds before starting to program the device.

Caution

Impermissible heating if load of the device is too high!

The device and the connected cables may get damaged in the connection area!

- Do not exceed the maximum current carrying capacity!

Caution

When connecting the bus/extension units and mains voltage wires in a common wall box, the KNX bus cable might come into contact with the mains voltage.

The safety of the entire KNX installation is at risk. Persons could also get an electric shock even on remote devices.

Do not place bus/extension units and mains voltage terminals in a common terminal compartment. Use a wall box with a firm partition or separate boxes (insert image link).

Caution

Risk of destruction with parallel connection of several motors on one output!

Final position switches could fuse together. Motors, hangings and the device may be destroyed!

- Only connect one motor per output!

Observe installation regulations for SELV voltage. Maintain a minimum distance of 4 mm between mains voltage and bus wires.

Do not connect different phases (outer conductors) to the device.

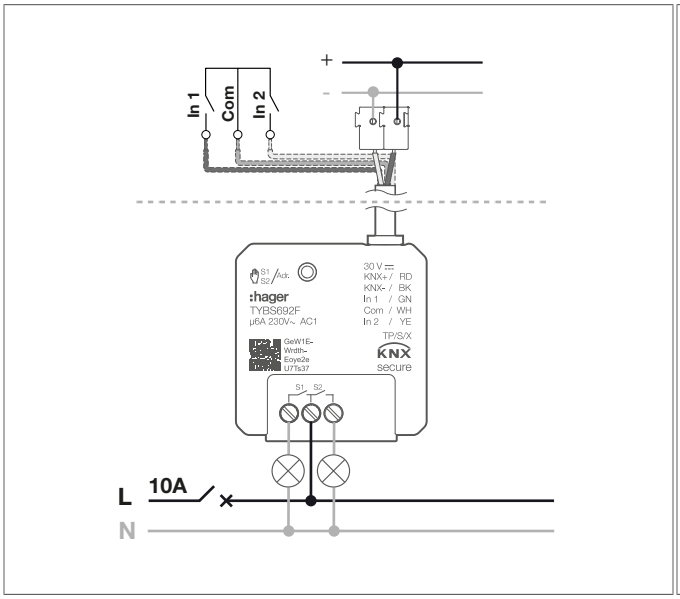


Fig. 3: TYBS692F lamp load connection diagram

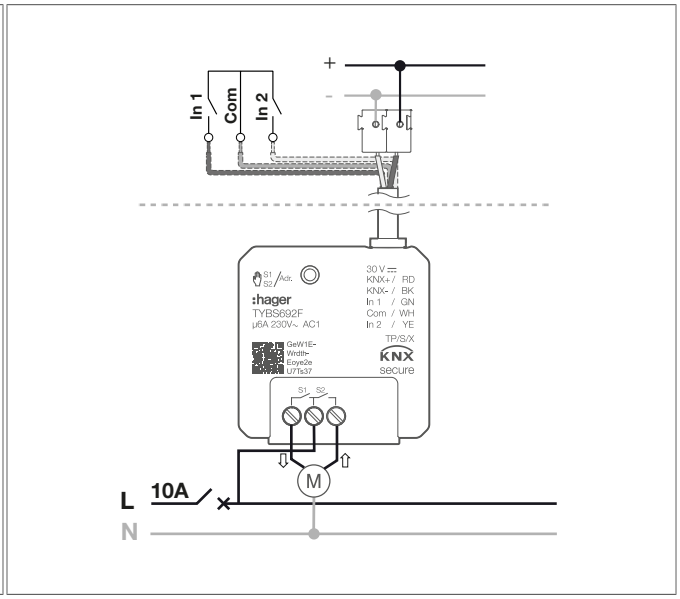


Fig. 4: TYBS692F motor load connection diagram

Install a miniature circuit breaker of max. 10 A for device protection.

- Connect the device according to the connection diagram ((Fig. 3: TYBS692F lamp load connection diagram) or (Fig. 4: TYBS692F motor load connection diagram)).
- Connect dry contacts to inputs 1 and 2 as required.
- Place device in the installation box.

The COM reference potential must not be connected to COM ports of other devices.

The terminal ends of unused inputs must be isolated.

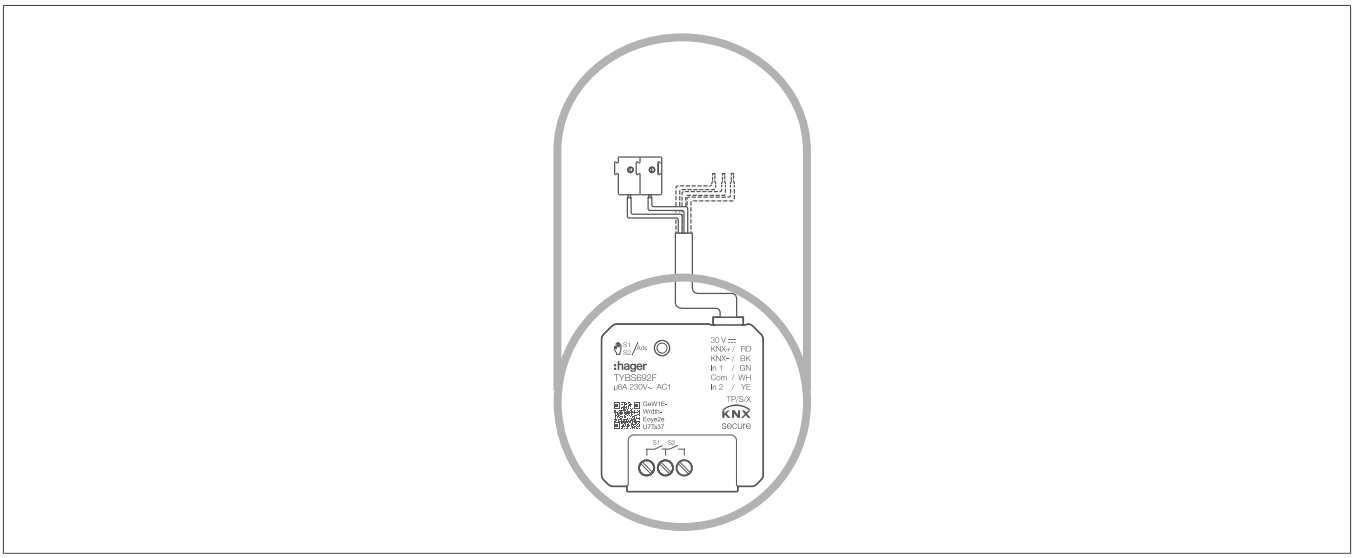


Fig. 5: Mounting in double wall box

7.2 Commissioning

The device can be programmed in three ways:

- KNX systemlink mode (standard ETS programming) see KNX systemlink commissioning , page 13
- KNX Secure mode see Commissioning in KNX Secure mode , page 14
- KNX easylink mode see easylink commissioning , page 15

KNX systemlink commissioning

systemlink – loading the physical address and application software

Attention

Risk of destruction of the device when contacts are closed at the same time when delivered. The installed relays are sensitive to shoks.

Failure to comply may result in damage to the product and the connected motors.

- After switching on the bus voltage, wait 5 seconds before starting to program the device.

1. Switch on the bus voltage and wait for 5 seconds.
2. Press the programming button (Fig. 2/1).

   The button lights up.

Note!

If the button does not light up, no bus voltage is present on the device.

3. Load the physical address into the device.

   Status LED of the button goes out.
4. Note down the physical address on the labelling field.

5. Load the application software into the device.
6. Switch on the mains voltage

Commissioning in KNX Secure mode

☑ The device has been installed and connected so that it is ready for operation.

1. Activate safe commissioning mode in ETS.
2. Enter the device certificate (QR code) (Fig. 8), scan it (Fig. 7) or add it to the project in ETS.

Note!

Use a high-resolution camera to scan the QR code.

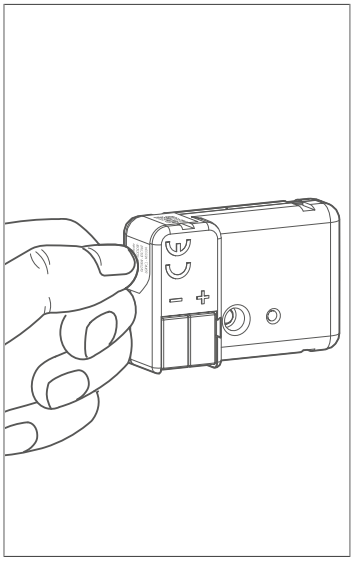


Fig. 6: Removing the device certificate from the device (similar to illustration)

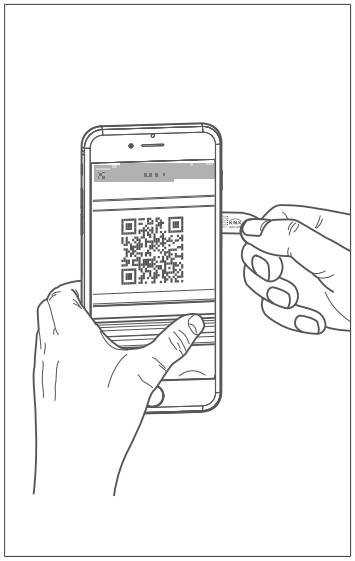


Fig. 7: Scanning the QR code

Fig. 8: Entering the QR code manually

3. Document all passwords and keep them in a safe place.
4. Remove the device certificate (QR code) from the device and store it with the passwords.
5. Note down the device certificate along with the physical address and product reference in a list.

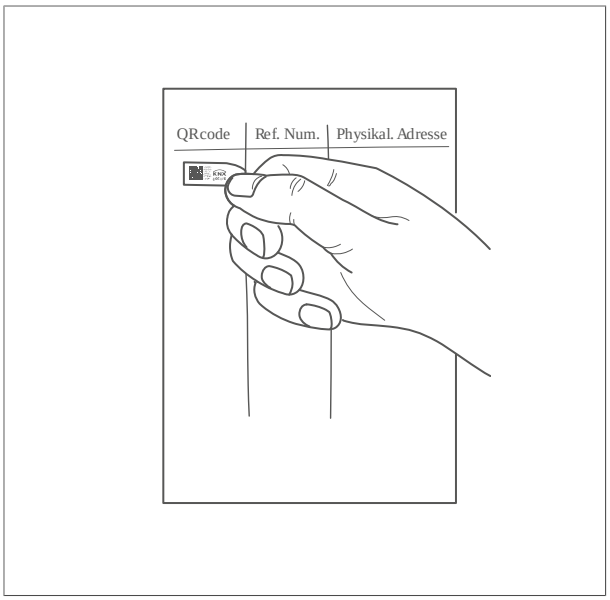


Fig. 9: Storing the device certificate in the project documentation

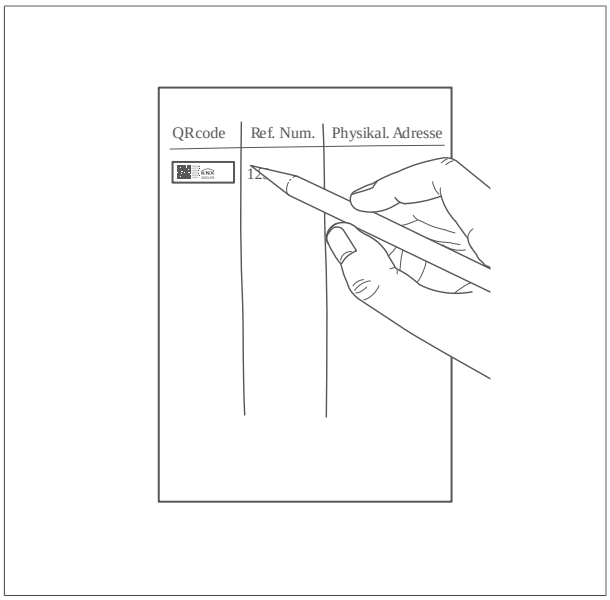


Fig. 10: Noting down the article number and physical address for the device certificate

easylink commissioning

The function of the device is configuration-dependent. The configuration can also be performed using devices developed specially for simple setting and commissioning.

This type of configuration is only possible with easylink system devices. easylink stands for easy, visually supported commissioning. Preconfigured standard functions are assigned to the inputs/outputs by means of a service module.

easylink configuration

Attention

Risk of destruction of the device when contacts are closed at the same time when delivered. The installed relays are sensitive to shoks.

Failure to comply may result in damage to the product and the connected motors.

- After switching on the bus voltage, wait 5 seconds before starting to program the device.

- Switch on the bus voltage and wait for 5 seconds.
- Perform easylink configuration (product search, parameter settings, etc.)

7.2.1 Commissioning the device

☑ The device has been installed, connected and programmed correctly.

Attention

Risk of destruction of the device when contacts are closed at the same time when delivered. The installed relays are sensitive to shoks.

Failure to comply may result in damage to the product and the connected motors.

- After switching on the bus voltage, wait 5 seconds before the mains voltage can be switched on at the outputs of the device.

1. Switch on the bus voltage and wait for 5 seconds.
2. Switch on the mains voltage at the outputs.

   Depending on the parameterisation, the status LED of the manual control key/programming key lights up.

7.2.1.1 Functional test

Functional test

The functionality of the outputs is tested and displayed via the status LED of the manual operation button/ programming button (see Fig. 2/1).

LED status	Meaning of the signal
LED lights up permanently	Load is activated
LED flashes	No load connected

Table 2: Functionality of the outputs

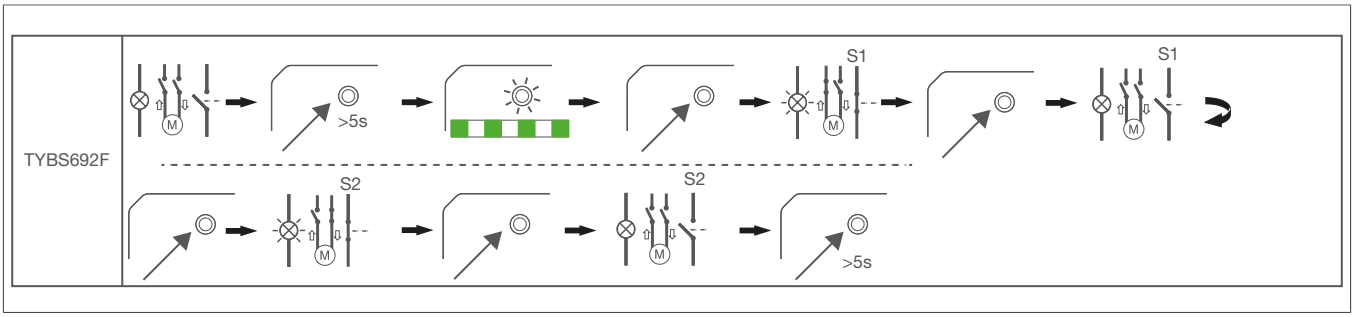


Fig. 11: Functional test

7.3 Dismantling the device

☑ All the cables delivering voltage to the device are switched off.

1. Pull device out of wall box.
2. Disconnect the bus connection cable.
3. Disconnect the load lines.

Dispose of the device in line with the corresponding guidelines of the respective country (see Disposal note) or, if you have a warranty claim, contact the point of sale (see Warranty).

8 Appendix

8.1 Technical data

KNX Medium	TP1 - 256
Configuration mode	S-Mode, E-Controller
KNX supply voltage	21 ... 32 V ⎓ SELV
KNX current consumption	Type 5 mA
Minimum switching current 230 V AC	10 mA
Breaking capacity	µ6 A AC1 230 V~
KNX connection mode	KNX connecting terminal
Operating height	< 2000 m
Electric strength	4 KV
Degree of protection	IP21
Impact protection	IK04
Degree of contamination	2
Operating temperature	-5 °C ... +45 °C
Storage/transport temperature	-20 °C ... +70 °C
Maximum switching cycle rate at full load	20 switching cycles/minute
Interlock time if direction of travel changes	Software-dependent
Number of dry contacts	2
Total length of extension unit cable	9.9 m
KNX connection	KNX bus connection terminal
Connection terminals Loads	Screw terminals
Cross-section Rigid Flexible	 0.5 … 2.5 mm^2 0.5 … 2.5 mm^2
Dimensions	44 x 43 x 22.5 mm

8.2 Troubleshooting

Manual operation not possible.

Manual operation button/programming button(1)pressed too briefly.

- Briefly press the manual operation button/programming button(1), red LED goes out. Press button again for approx. 5 s or more.

Bus operation not possible.

Bus voltage is not present.

- Check bus connection terminal for correct polarity.
- Check the bus voltage by briefly pressing the manual control key/programming key (1). The red LED lights up when bus voltage is available.

Device is reset to factory settings.

- Repeat programming and commissioning.

8.3 Accessories

KNX bus terminal, 2-pole, red/black	TG008
KNX bus terminal, 2-pole, yellow/white	TG025

8.4 Regulatory Compliance Australia

8.5 Disposal note

Disposal note

Correct disposal of this product (electrical waste).

(Applicable in the European Union and other European countries with separate collection systems).

This marking shown on the product or its documentation indicates that it should not be disposed of with other household waste at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this device from other types of waste. Recycle the device responsibly to promote the sustainable reuse of material resources.

Household users should contact either the dealer where they purchased this product, or their local government office, for details of where and how they can take this device for environmentally safe disposal.

Commercial users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial waste for disposal.

8.6 Warranty

We reserve the right to implement technical and formal changes to the product in the interest of technical progress.

Our products are under guarantee within the scope of the statutory provisions.

If you have a warranty claim, please contact the point of sale.

Hager Controls
BP10140

67703 Saverne Cedex
France
+33 (0) 3 88 02 87 00

info@hager.com
hager.com

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