SpaceLogic KNX

Flush Mounted Switch Actuator 1g with 3 binary inputs

Product information

This document is based on the installation instructions of the device and provides you with further information, e.g. about functions and operation, etc.

MTN6003-0011
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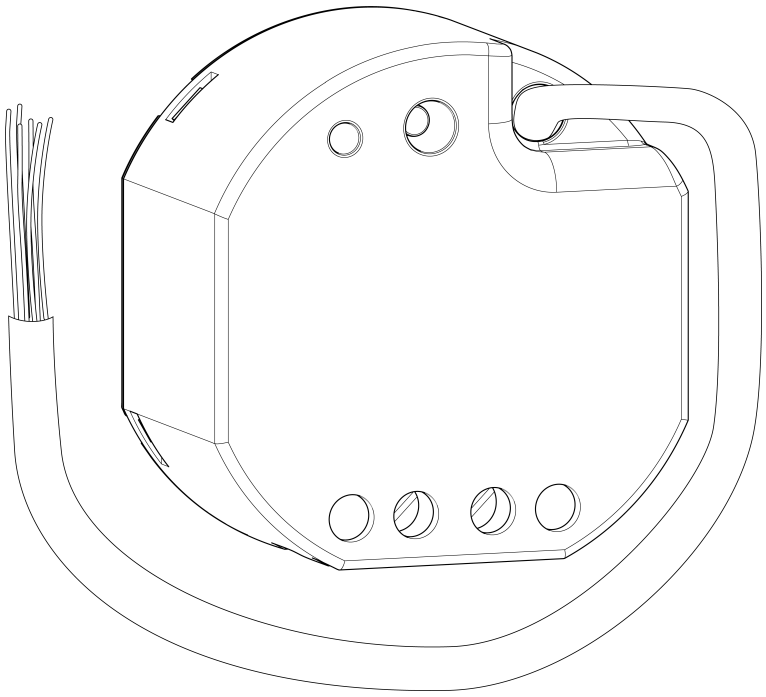

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Legal information

Safety information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that accompany this symbol to avoid possible injury or death.

DANGER!

DANGER

indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING!

WARNING

indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION!

CAUTION

indicates a hazardous situation which, if not avoided, could result in minor or moderate injury

Additonal notes

You will find additional information here to make your work easier.

Table of Contents

1 For your safety

DANGER!

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Safe electrical installation must be carried out only by skilled professionals. Skilled professionals must prove profound knowledge in the following areas:

- Connecting to installation networks
- Connecting several electrical devices
- Laying electric cables
- Connecting and establishing KNX networks
- Safety standards, local wiring rules and regulations

Failure to follow these instructions will result in death or serious injury.

1.1 Safety instructions

Electrical devices may only be mounted and connected by electrically skilled persons.

The device may not be opened or operated outside the technical specifications.

Danger of electric shock. Device is not suitable for disconnection from supply voltage.

Danger of electric shock. Make sure during the installation that there is always sufficient insulation between the mains voltage and the bus. A minimum distance of at least 4 mm must be maintained between bus conductors and mains voltage cores.

Danger of electric shock on the KNX installation. Do not connect any external voltage to the inputs. The device might be damaged, and the SELV potential on the KNX bus line will no longer be available.

These instructions are an integral part of the product, and must remain with the end customer.

2 Device components

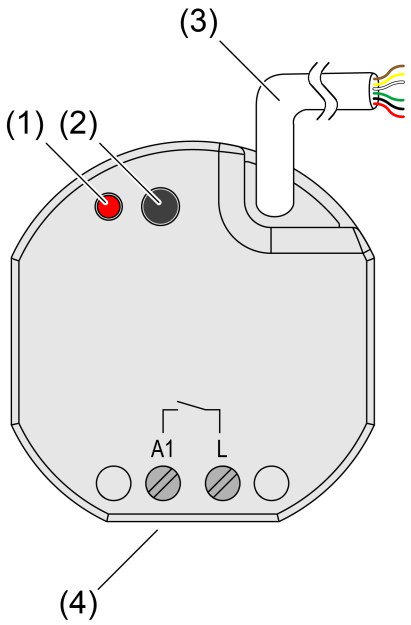

Image 1: Device components

(1) Programming LED
(2) Programming button
(3) Control cable (KNX connection and extension inputs)
(4) Load connection (relay output)

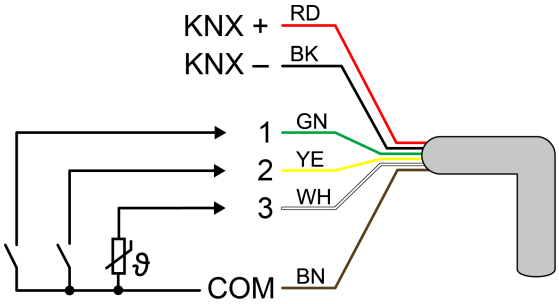

Image 2: Connection assignment of control cable (example)

red (**RD**)	KNX +
black (**BK**)	KNX -
green (**GN**)	Input 1 (push-button, switch, contact)
yellow (**YE**)	Input 2 (push-button, switch, contact)
white (**WH**)	Input 3 (push-button, switch, contact, NTC temperature sensor)
brown (**BN**)	COM inputs 1...3

3 Function

System information

This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite to proper understanding.

The function of this device depends upon the software. Detailed information on loadable software and attainable functionality as well as the software itself can be obtained from the manufacturer´s product database.

The device can be updated. Firmware can be easily updated with the Schneider Electric ETS Service App (additional software).

The device is **KNX Data Secure** capable. **KNX Data Secure** offers protection against manipulation in building automation and can be configured in the ETS project. Detailed specialist knowledge is required. A device certificate, which is attached to the device, is required for safe commissioning. During mounting, the certificate must be removed from the device and stored securely.

Planning, installation and commissioning of the device are carried out with the aid of the ETS, version 5.7.3 and above.

Intended use

- Operating in KNX systems
- Switching of electrical consumers via relay contact
- Reading in switching states of installation switches or push-buttons and other potential-free contacts at inputs 1...3
- Acquisition of temperature values via NTC temperature sensor at input 3 (see accessories)
- Mounting in appliance boxes according to DIN 49073

Product characteristics

- Output can be operated via KNX telegrams or extension inputs
- Three extension inputs for connecting potential-free contacts or dew/leakage sensors. NTC temperature sensor can be connected to input 3.
- Supply via KNX, no additional power supply necessary
- KNX Data Secure compatible
- Updateable with Schneider Electric ETS Service App

Characteristics switch operation

- Operation as NO or NC contacts
- Feedback function
- Logic and restraint function
- Central switching functions
- Time functions: switch-on delay, switch-off delay, staircase lighting timer with run-on time
- Scene function
- Operating hours counter

Characteristics extension inputs

- Switching operating function
- Dimming operating function (incl. colour temperature dimming)
- Shutter/Venetian blinds operating function
- Value transmitter operating function (1-byte, 2-byte, 3-byte and 6-byte incl. RGBW and colour temperature presets)
- Scene extension operating function
- 2-channel operation operating function
- Controller extension operating function
- Disabling functions
- Debounce time adjustable

Logic function characteristics

- Logic gates
- Transformer (conversion)
- Disabling element
- Comparator
- Limit value switch

4 Information for electrically skilled persons

DANGER!

Mortal danger of electric shock.

- Disconnect the device. Cover up live parts.

4.1 Fitting and electrical connection

DANGER!

When connecting the bus/extensions and mains voltage wires in a shared appliance box, the KNX bus line may come into contact with the mains voltage.

This endangers the safety of the entire KNX installation. People at remote devices may also receive an electric shock.

- Do not place bus/extensions and mains voltage terminals in a shared connection compartment. Use an appliance box with a fixed partition wall or separate appliance boxes.

Connecting and fitting the device

Mounting in suitable appliance box (recommendation: electronic device box with partition). Observe cable routing and spacing (see figure 3)!

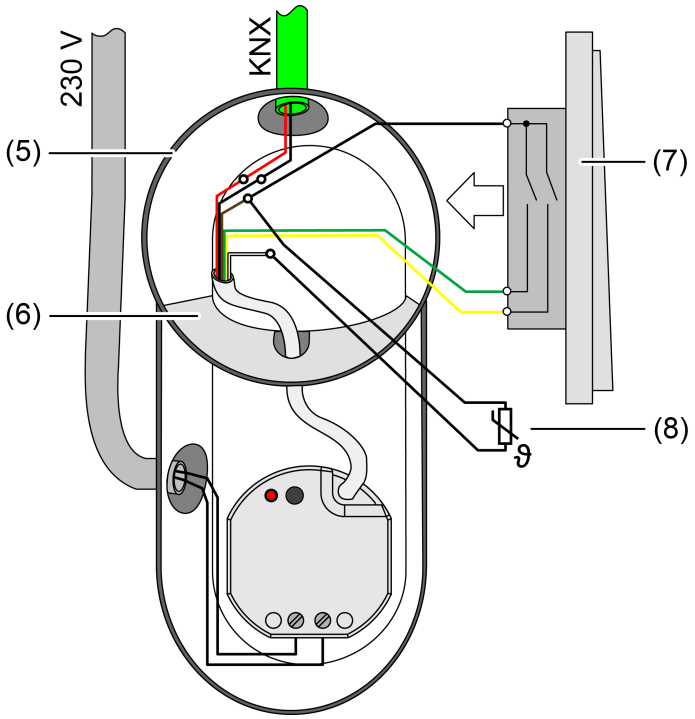

Image 3: Mounting example in electronic device box with partition wall, series push-button and NTC temperature sensor

(5) Appliance box

(6) Partition
(7) potential-free contacts (e.g. series push-button)
(8) NTC temperature sensor (optional)

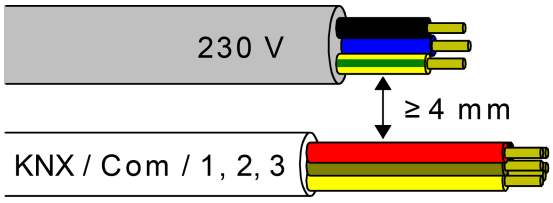

Image 4: Cable spacing

Minimum spacing between the mains voltage and bus/extension wires: 4 mm (see figure 4)

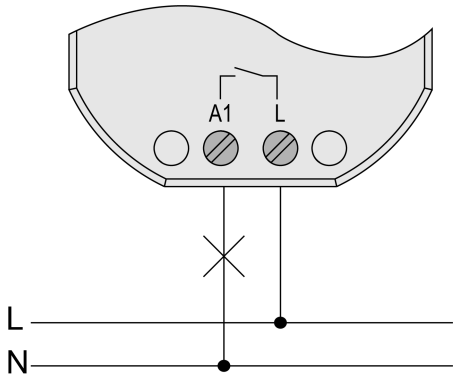

Image 5: Connection of load

The COM reference potential must not be connected together with COM connections of other devices!

4.2 Commissioning

Commissioning the device

NOTICE!

Undefined relay state at delivery.

Unexpected control of connected loads.

- During commissioning, before switching on the load, ensure that all relay contacts are open by applying the KNX bus voltage. Observe commissioning sequence!

- Switch on the KNX bus voltage.
- Wait about 10 s.
- Connect the load circuit.

Delivery state: Operation of the output via switch at input 1 (ON / OFF) possible. Inputs 2 and 3 have no function.

Input	Switch	Function
1	closed	ON
1	open	OFF

Input	Switch	Function
2	---	---
3	---	---

Table 1: Function of Inputs in the as-delivered state

Load physical address and application program

- Press the programming button.

  The programming LED lights up.
- Load physical address and application program using the ETS.

Safe-state mode

The safe state mode stops the execution of the loaded application program.

Only the system software of the device is still functional. ETS diagnosis functions and programming of the device are possible.

Activating the safe-state mode

- Switch off the bus voltage or disconnect the device from the KNX.
- Wait about 10 s.
- Press and hold down the programming button.
- Switch on the bus voltage or connect the device to KNX. Release the programming button only after the programming LED starts flashing slowly.

  The safe-state mode is activated.

  With a new brief press of the programming button, the programming mode can be switched on and off as usual also in the safe-state mode. If Programming mode is active, the programming LED stops flashing.

Deactivating safe-state mode

- Switch off bus voltage (wait approx. 10 s) or carry out ETS programming.

Master reset

The master reset restores the basic device setting (physical address 15.15.255, firmware remains in place). The device must then be recommissioned with the ETS.

During secure operation: A master reset deactivates device security. The device can then be recommissioned with the device certificate.

Performing a master reset

Precondition: The safe-state mode is activated.

- Press and hold down the programming button for > 5 s.

  The programming LED flashes quickly.

  The device performs a master reset, restarts and is ready for operation again after approx. 5 s.

Restoring the device to factory settings

Devices can be reset to factory settings with the Schneider Electric ETS Service App. This function uses the firmware contained in the device that was active at the time of delivery (delivery state). Restoring the factory settings causes the devices to lose their physical address and configuration.

5 Technical data

Ambient conditions	
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Dimensions (W × H × D)	48 x 50 x 28 mm
KNX	
KNX medium	TP256
Commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV
Current consumption KNX	5 ... 18 mA
Connection mode KNX	Connection terminal on control cable
Outputs	
Connection mode	Screw terminals
Switching voltage	AC 250 V ~
Switching current	16 AX, IEC 60669-1 §19.2 10 A, IEC 60669-2-5
Switch-on current 200 µs	max. 800 A
Switch-on current 20 ms	max. 165 A
Connected load	
Ohmic load	2500 W
Capacitive load	max. 16 A (140 µF)
Motors	1380 VA
Incandescent lamps	2300 W
HV halogen lamps	2300 W
HV-LED lamps	max. 400 W
LV halogen lamps with electronic transformers	1500 W
LV halogen lamps with inductive transformer	1200 VA
Compact fluorescent lamps uncompensated	1000 W
Compact fluorescent lamps parallel compensated	1160 W (140 µF)
Reduction of connected load	
per 5 °C in excess of 35 °C	-10%
when installed in wooden or dry construction walls	-15%
when installed in multiple combinations	-20%
Clampable conductor cross-section	
single stranded	0.5 ... 4 mm²
Finely stranded without conductor sleeve	0.5 ... 4 mm²
Finely stranded with conductor sleeve	0.5 ... 2.5 mm²
Connection torque screw terminals	Max. 0.8 Nm
Inputs	

Control cable (preterminated)	YY6x0.6
Input type	Potential-free
Number	3
Total length of extension device cable	max. 10 m
Cable type (preferably)	J-Y(St)Y
Poll voltage, extension inputs	approx. 5 V

6 Accessories

Remote sensor for room temperature measurement	MTN616790

Schneider Electric Industries SAS

If you have technical questions, please contact the Customer Care Centre in your country.

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