

TECHNICAL DATA

ABB i-bus[®] KNX

SAH/S 16.10.7.1

Switch/Shutter Actuator



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Product description

The Switch/Shutter Actuator is a modular installation device in proM design. The device is designed for installation in electrical distribution boards and small housings for rapid mounting on a 35-mm mounting rail (to EN 60715).

The device possesses mutually independent switching relays with which the following functions can be implemented:

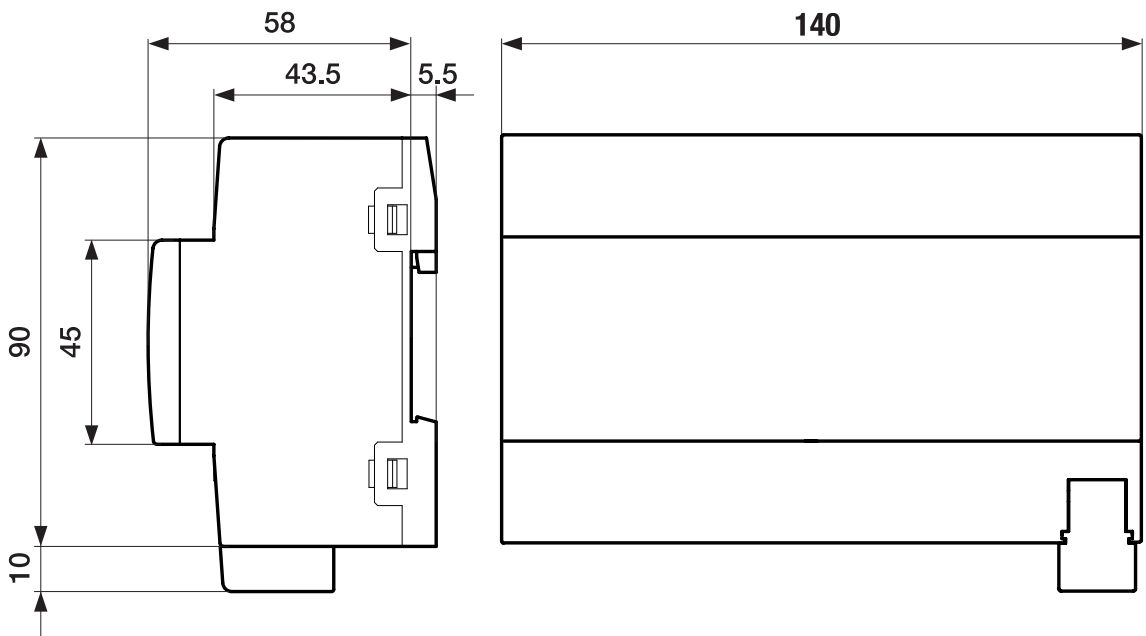
- Switching electric consumers (individually)
- Activation of 230 V AC blind and shutter drives (in pairs)

The device does not possess any mutually electromechanically interlocked output contacts.

The device is provided with bus voltage via the ABB i-bus® KNX. The connection to the ABB i-bus® KNX is implemented using the bus connection terminal. The consumers are connected at the outputs using screw terminals (terminal designation on the housing).

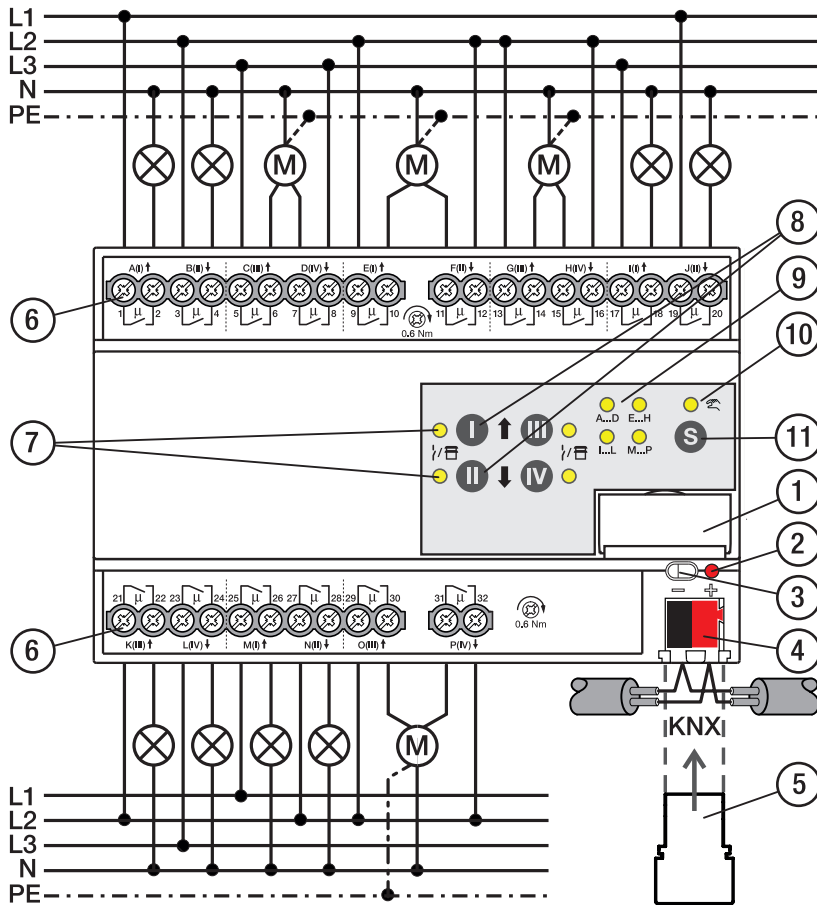
Manual operation mode permits on-site operation of the device using a membrane keypad.

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Dimension drawing



2CDC072027F0017

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Connection diagram



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Legend

- | | |
|--|--|
| 1 Label carriers | 7 Output status LED (yellow) |
| 2 Programming LED | 8 Output button |
| 3 Programming button | 9 Groups LED (yellow) |
| 4 Bus connection terminal | 10 Manual operation LED (yellow) |
| 5 Cover cap | 11 S button (manual operation / select output) |
| 6 Load circuit, two screw terminals each | |

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General technical data

| | | |
|--|------------------------------------|---|
| Supply | Bus voltage | 21 ... 32 V DC |
| | Current consumption, bus | < 12 mA |
| | Power loss, bus | Max. 250 mW |
| | Power loss, device | 6.0 W |
| Connections | KNX | Ø 0.8 mm single core (via bus connection terminal) |
| Connection terminals | Screw terminal | Screw terminal with universal head (PZ 1) |
| | | 0.2 ... 4 mm ² stranded, 2 × (0.2 ... 2.5 mm ²) |
| | | 0.2 ... 6 mm ² single core, 2 × (0.2 ... 4 mm ²) |
| | Ferrule without plastic sleeve | 0.25 ... 2.5 mm ² |
| | Ferrule with plastic sleeve | 0.25 ... 4 mm ² |
| | TWIN ferrules | 0.5 ... 2.5 mm ² |
| | Ferrule contact pin length | Min. 10 mm |
| | Tightening torque | Max. 0.6 Nm |
| Degree of protection and protection class | Degree of protection | IP 20 to EN 60529 |
| | Protection class | II to EN 61140 |
| Isolation category | Overvoltage category | III to EN 60664-1 |
| | Pollution degree | II to EN 60664-1 |
| | Fire classification | Flammability V-0 as per UL94 |
| | SELV | KNX safety extra low voltage |
| Temperature range | Operation | -5 ... +45 °C |
| | Transport | -25 ... +70 °C |
| | Storage | -25 ... +55 °C |
| Ambient conditions | Maximum air humidity | 95 %, no condensation allowed |
| Design | Modular installation device (MDRC) | Modular installation device |
| | Design | proM |
| | Housing/color | Plastic, gray |
| Dimensions | Dimensions | 90 × 140 × 64.5 mm (H × W × D) |
| | Mounting width in space units | 8 modules |
| | Mounting depth | 64.5 mm |
| Mounting | 35 mm mounting rail | To EN 60715 |
| | Mounting position | Any |
| | Weight (net) | 0.502 kg |
| Approvals | KNX certification | To EN 50090-1, -2 |
| | CE marking | In accordance with the EMC and Low Voltage Directives |

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Device type

| | | |
|--------------------|-----------------------------------|---|
| Device type | Switch/Shutter Actuator | SAH/S 16.10.7.1 |
| | Application | Switch/Shutter 16f 16 A / ... |
| | | ... = current version number of the application |
| | Maximum number of group objects | 446 |
| | Maximum number of group addresses | 1,000 |
| | Maximum number of assignments | 1,000 |

i Note
Observe software information on the website → www.abb.com/knx.

i Note
The device supports the locking function of a KNX device in ETS. If a BCU code was assigned, the device can be read and programmed only with this BCU code.

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Output, rated current 10 A

| | | |
|---------------------------|---|------------------------------|
| Rated values | Number of outputs | 16 switch / 8 shutter |
| | U _n Rated voltage | 230 V AC (50/60 Hz) |
| | I _n Rated current | 10 A |
| | Maximum current per device | 16 × 10 A |
| Switching currents | AC3 operation (cos φ= 0.45) to EN 60947-4-1 | 6 A / 230 V AC |
| | AC1 operation (cos φ= 0.8) to EN 60947-4-1 | 10 A / 230 V AC |
| | Fluorescent lighting load according to EN 60669-1 | |
| | minimum switching current at 12 V AC | 100 mA |
| | minimum switching current at 24 V AC | 100 mA |
| Service life | DC switching capacity, resistive load, at 24 V DC | 6 A |
| | Mechanical service life | > 10 ⁶ cycles |
| | Electrical endurance of switching contacts according to IEC 60 947-4-1: | |
| | AC1 (240 V/cos φ=0.8) | > 10 ⁵ cycles |
| | AC3 (240 V/cos φ=0.45) | > 6 × 10 ³ cycles |
| Switching times | AC5a (240 V/cos φ=0.45) | |
| | Maximum output relay position changes per minute if all relays are switched. | 7 |
| | Maximum output relay position changes per minute if only one relay is switched. | 120 |

Note

The switching times apply only after the bus voltage has been applied to the device for at least 30 seconds. The typical relay delay is approx. 20 ms.

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Output, lamp load 10 A

| | | |
|---|---|---------|
| Lamps | Incandescent lamp load | 1,200 W |
| Fluorescent lamps | Uncompensated | 800 W |
| | Parallel compensated | |
| | DUO circuit | |
| Low-voltage halogen lamps | Inductive transformer | 800 W |
| | Electronic transformer | 1,000 W |
| | Halogen 230 V | 1,000 W |
| Dulux lamp | Uncompensated | |
| | Parallel compensated | |
| Mercury-vapor lamp | Uncompensated | 1,000 W |
| | Parallel compensated | 800 W |
| Switching capacity (switching contact) | Maximum peak inrush current I _p (150 ms) | 200 A |
| | Maximum peak inrush current I _p (250 ms) | 160 A |
| | Maximum peak inrush current I _p (600 ms) | 100 A |
| Number of ballasts (T5/T8, single element) | 18 W (ABB ballast 1 × 18 SF) | 10 |
| | 24 W (ABB ballast T5 1 × 24 CY) | 10 |
| | 36 W (ABB ballast 1 × 36 CF) | 7 |
| | 58 W (ABB ballast 1 × 58 CF) | 5 |
| | 80 W (Helvar EL 1 × 80 SC) | 3 |
| Energy-saving lamps | LED lamps | 250 W |
| Rated motor power | | 1,380 W |

Note

The device features independent switching relays that are linked by software to control the shutters. The contacts are not mutually electromechanically interlocked.

i Note

The peak inrush current I_p is the typical ballast load current that results during switching. Using the peak inrush current I_p , it is possible to calculate the maximum number of switchable ballasts at the Switch Actuator output for the various ballast types. The number of ballasts specified in the table can be only a sample guide value.

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Ordering details

| Description | MB | Type | Order no. | Packaging unit [pcs.] | Weight 1 pc. (gross) [kg] |
|----------------|----|-----------------|--------------------|-----------------------|---------------------------|
| Switch/Shutter | 8 | SAH/S 16.10.7.1 | 2CDG 110 248 R0011 | 1 | 0.502 |



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