

TECHNICAL DATA

ABB i-bus[®] KNX

SAH/S 16.16.7.1

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:

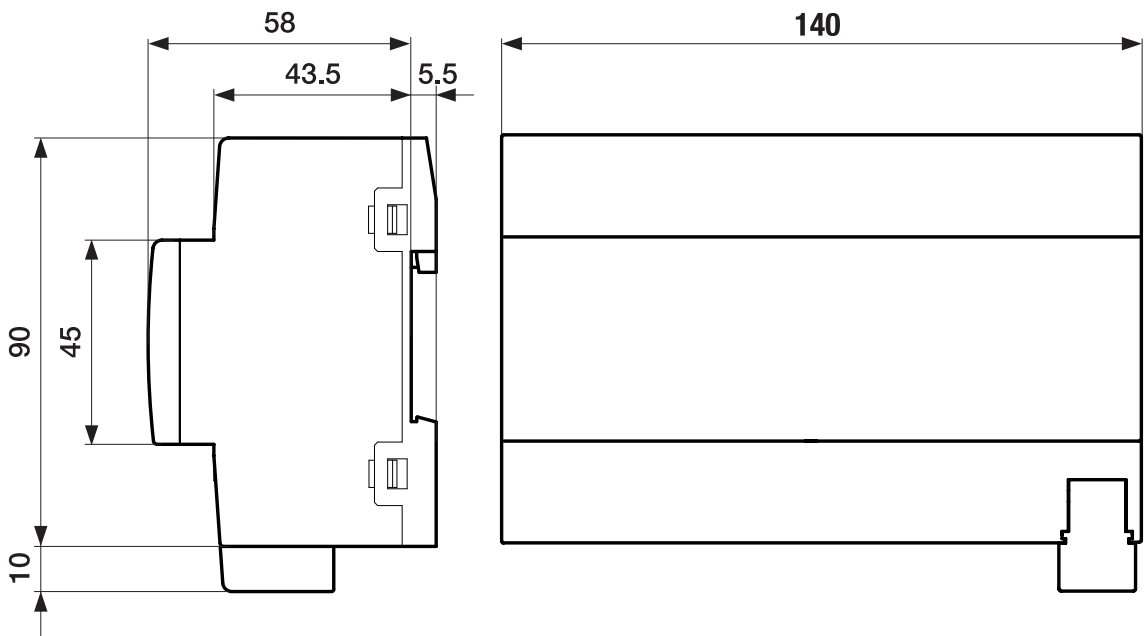
- Switching electric consumers (individually)
- Activation of 230 V AC blind and shutter drives (in pairs)

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).

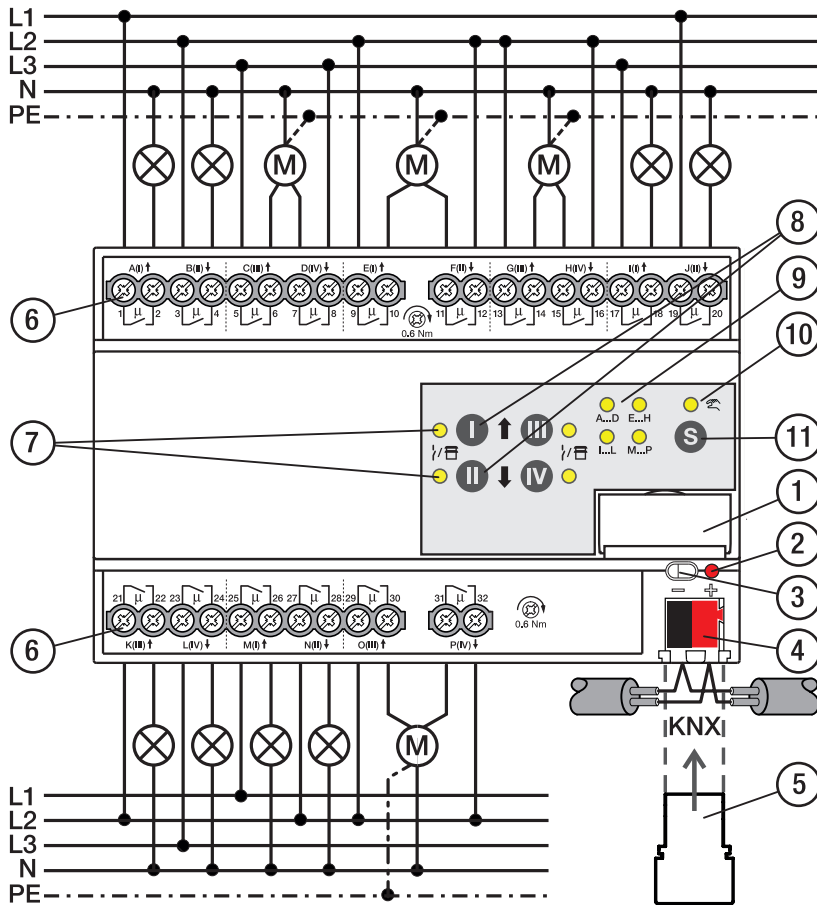
Manual operation mode permits on-site operation of the device using a membrane keypad.

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Dimension drawing



2CDC072027F0017

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Connection diagram



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Legend

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| 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	8.0 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 × 63.5 mm (H × W × D)
	Mounting width in space units	8 modules
	Mounting depth	63.5 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 16.6.7.1
	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 16 A

Rated values	Number of outputs	16 switch / 8 shutter
	U _n Rated voltage	230 V AC (50/60 Hz)
	I _n Rated current	16 A
	Maximum current per device	160 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	16 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 16 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 x 18 SF)	10
	24 W (ABB ballast T5 1 x 24 CY)	10
	36 W (ABB ballast 1 x 36 CF)	7
	58 W (ABB ballast 1 x 58 CF)	5
	80 W (Helvar EL 1 x 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 16.16.7.1	2CDG 110 251 R0011	1	0.502



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