TECHNICAL DATA

ABB i-bus® KNX

SAH/S 24.10.7.1

Switch/Shutter Actuator

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:

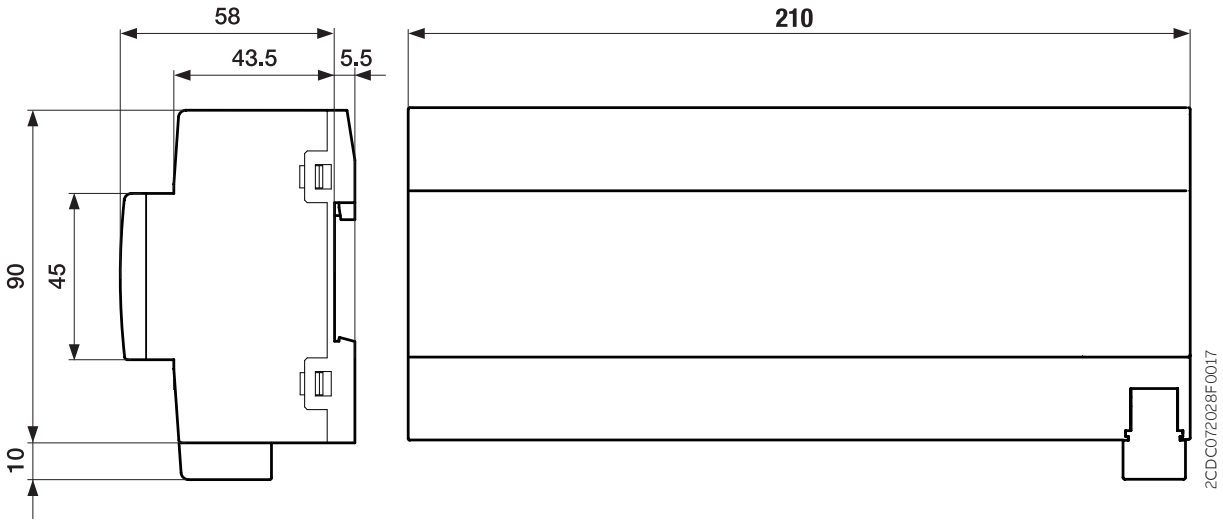
- Switching electric consumers (individually)
- Activation of 230 V AC blind and shutter drives (in pairs)

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.

Dimension drawing



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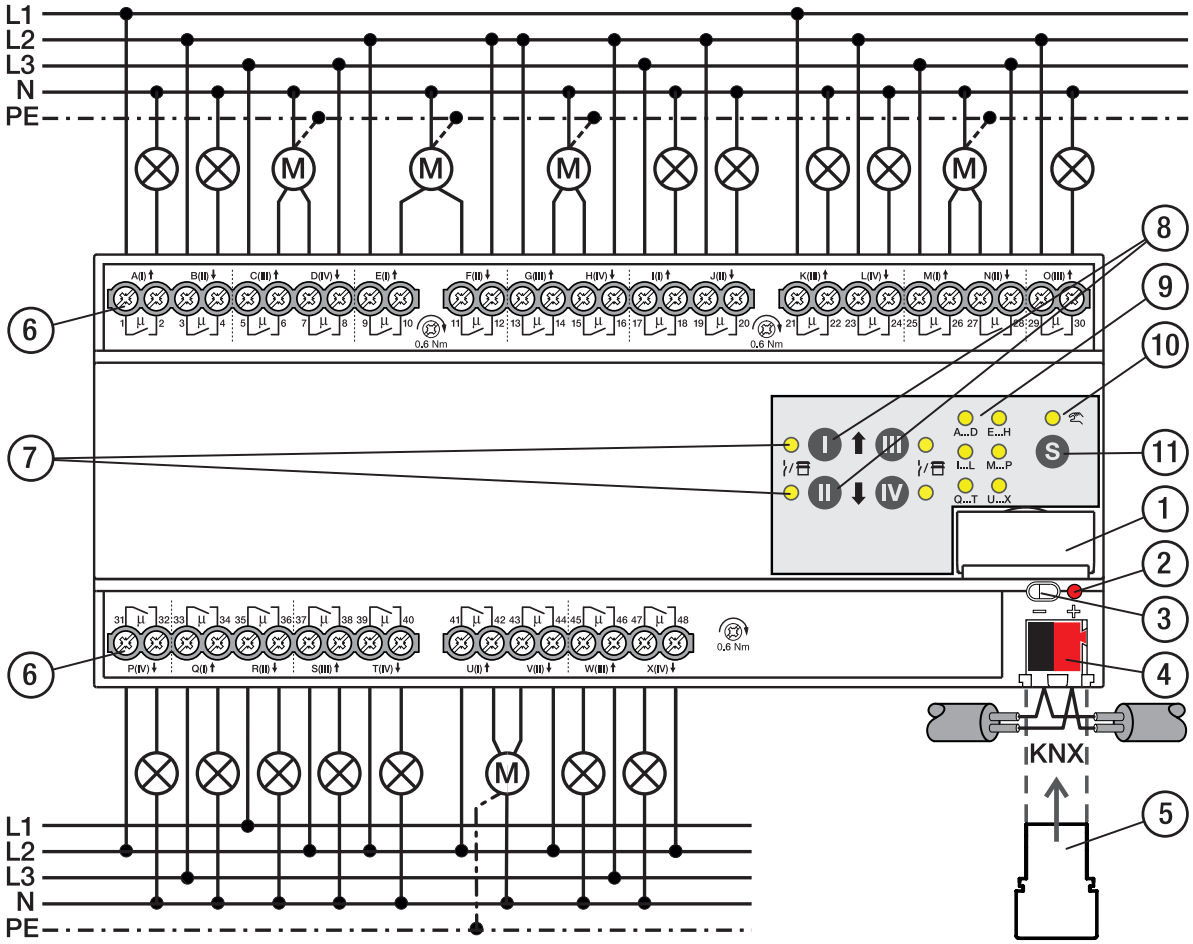
Connection diagram



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Legend

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

General technical data

Supply	Bus voltage	21 … 32 V DC
	Current consumption, bus	< 12 mA
	Power loss, bus	Max. 250 mW
	Power loss, device	9.0 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 mm² stranded, 2 × (0.2 … 2.5 mm²)
		0.2 … 6 mm² single core, 2 × (0.2 … 4 mm²)
	Ferrule without plastic sleeve	0.25 … 2.5 mm²
	Ferrule with plastic sleeve	0.25 … 4 mm²
	TWIN ferrules	0.5 … 2.5 mm²
	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	SELV 24 V DC
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	pro*M*
	Housing/color	Plastic, gray
Dimensions	Dimensions	90 × 210 × 63.5 mm (H × W × D)
	Mounting width in space units	12 modules
	Mounting depth	63.5 mm
Mounting	35 mm mounting rail	To EN 60715
	Mounting position	Any
	Weight (net)	0.72 kg
Approvals	KNX certification	To EN 50090-1, -2
	CE marking	In accordance with the EMC and Low Voltage Directives

Device type

Device type	Switch/Shutter Actuator	SAH/S 24.10.7.1
	Application	Switch/Shutter 24f 16 A / …
		… = current version number of the application
	Maximum number of group objects	610
	Maximum number of group addresses	1,000
	Maximum number of assignments	1,000

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

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	24 switch / 12 shutter
	U_n Rated voltage	230 V AC (50/60 Hz)
	I_n Rated current	10 A
	Maximum current per device	200 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
	DC switching capacity, resistive load, at 24 V DC	6 A
Service life	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
	AC5a (240 V/cos ϕ=0.45)	
Switching times	Maximum output relay position changes per minute if all relays are switched.	5
	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	300 W
	DUO circuit	350 W
Low-voltage halogen lamps	Inductive transformer	800 W
	Electronic transformer	1,000 W
	Halogen 230 V	1,000 W
Dulux lamp	Uncompensated	800 W
	Parallel compensated	800 W
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.

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.

Ordering details

Description	MB	Type	Order no.	Packaging unit [pcs.]	Weight 1 pc. (gross) [kg]
Switch/Shutter	12	SAH/S 24.10.7.1	2CDG 110 249 R0011	1	0.720

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