

# ABB i-bus® KNX

## Switch Actuator, x-fold, 10 A, MDRC

### SA/S x.10.2.1, 2CDG11015xR0011



SA/S 8.10.2.1

#### Product description

Switch Actuators SA/S x.6.2.1, 10A are modular installation devices in ProM design for installation in the distribution board. They are suitable for switching resistive, inductive and capacitive loads as well as fluorescent lamp loads (AX) to EN 60 669.

The Switch Actuator can be actuated manually using a button. This simultaneously indicates the contact position.

The Switch Actuators can switch up to 12 independent electrical loads via floating contacts. The connection of the outputs is implemented using combohead screw terminals. Each output is controlled separately via KNX.

The device does not require an additional power supply and is ready for immediate use, after the bus voltage has been applied.

The Switch Actuators are parameterized via ETS. Connection to KNX is implemented using the bus connection terminal on the front.

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#### Technical data

<b>Supply</b>	KNX bus voltage	21...31 VDC			
	Current consumption via bus	< 12 mA			
	Power consumption via bus	Maximum 250 mW			
<b>Rated output value</b>	SA/S type	2.10.2.1	4.10.2.1	8.10.2.1	12.10.2.1
	Current detection	no	no	no	no
	Number (floating contacts 2/group)	2	4	8	12
	U <sub>n</sub> rated voltage	250/440 V AC (50/60 Hz)			
	I <sub>n</sub> rated current	10 AX	10 AX	10 AX	10 AX
	Leakage loss per device at max. load	1.5 W	2.0 W	2.5 W	6.5 W
<b>Output switching current</b>	AC3 <sup>1)</sup> operation (cos φ = 0.45)	8 A/230 V AC			
	To DIN EN 60 947-4-1				
	AC1 <sup>1)</sup> operation (cos φ = 0.8)	10 A/230 V AC			
	To DIN EN 60 947-4-1				
	Fluorescent lighting load to DIN EN 60 669-1	10 AX/250 V AC (140 μF) <sup>2)</sup>			
	Minimum switching capacity	100 mA/12 V AC 100 mA/24 V AC			
<b>Output service life</b>	DC current switching capacity (resistive load)	10 A/24 V DC			
	Mechanical service life	> 3 x 10 <sup>6</sup>			
	Electrical endurance				
	To DIN IEC 60 947-4-1				
	AC1 <sup>1)</sup> (240 V/cos φ = 0.8)	> 10 <sup>5</sup>			
	AC3 <sup>1)</sup> (240 V/cos φ = 0.45)	> 3 x 10 <sup>4</sup>			
<b>Output switching times<sup>3)</sup></b>	AC5a <sup>1)</sup> (240 V/cos φ = 0.45)	> 3 x 10 <sup>4</sup>			
	SA/S type	2.10.2.1	4.10.2.1	8.10.2.1	12.10.2.1
	Maximum output relay position change per minute if all relays are switched simultaneously. The position changes should be distributed equally within the minute.	60	30	15	10
	Maximum output relay position change per minute if only one relay is switched.	120	120	120	120
<b>Connections</b>	KNX	Via bus connection terminals, 0.8 mm Ø, solid			
	Load circuits	Universal head screw terminal (PZ 1) 0.2... 4 mm <sup>2</sup> fine stranded, 2 x 0.2...2.5 mm <sup>2</sup> 0.2... 6 mm <sup>2</sup> solid, 2 x 0.2...4 mm <sup>2</sup>			
	Ferrules without/with plastic sleeves	0.25...2.5/4 mm <sup>2</sup>			
	TWIN ferrules	0.5...2.5 mm <sup>2</sup>			
		Contact pin length min. 10 mm			
	Tightening torque	max. 0.6 Nm			

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<b>Operating and display elements</b>	Programming button/LED	For assignment of the physical address			
	Contact position display	Relay operator			
<b>Degree of protection</b>	IP 20	To EN 60 529			
<b>Protection class</b>	II	To EN 61 140			
<b>Isolation category</b>	Overvoltage category	III to EN 60 664-1			
	Pollution degree	2 to EN 60 664-1			
<b>KNX safety extra low voltage</b>	SELV 24VDC				
<b>Temperature range</b>	Operation	- 5 °C...+45 °C			
	Storage	-25 °C...+55 °C			
	Transport	-25 °C...+70 °C			
<b>Ambient conditions</b>	Maximum air humidity	95%, no condensation allowed			
<b>Design</b>	Modular installation device (MDRC)	Modular installation device, ProM			
	SA/S type	2.10.2.1	4.10.2.1	8.10.2.1	12.10.2.1
	Dimensions	90 x W x 64.5 mm (H x W x D)			
	Width W in mm	36	72	144	216
	Mounting width in units (18 mm modules)	2	4	8	12
	Mounting depth in mm	64.5	64.5	64.5	64.5
<b>Weight</b>	in kg	0.18	0.29	0.51	0.74
<b>Mounting</b>	On 35 mm mounting rail	To EN 60 715			
<b>Mounting position</b>	as required				
<b>Housing/color</b>	Plastic housing, gray				
<b>Approvals</b>	KNX to EN 50 090-1, -2	Certification			
<b>CE mark</b>	in accordance with the EMC guideline and low voltage guideline				

<sup>1)</sup> Further information concerning electrical endurance to IEC 60 947-4-1 can be found in the Product Manual at: AC1, AC3, AX, C-load specifications.

<sup>2)</sup> The maximum inrush current peak may not be exceeded.

<sup>3)</sup> The specifications apply only after the bus voltage has been applied to the device for at least 30 seconds. Typical relay delay is approx. 20 ms.

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#### Lamp output load 10 A

<b>Lamps</b>	Incandescent lamp load	2,500 W
<b>Fluorescent lamps T5/T8</b>	Uncorrected	2,500 W
	Parallel compensated	1,500 W
	DUO circuit	1,500 W
<b>Low-voltage halogen lamps</b>	Inductive transformer	1,200 W
	Electronic transformer	1,500 W
	Halogen lamps 230 V	2,500 W
<b>Dulux lamp</b>	Uncorrected	1,100 W
	Parallel compensated	1,100 W
<b>Mercury-vapor lamp</b>	Uncorrected	2,000 W
	Parallel compensated	2,000 W
<b>Switching capacity (switching contact)</b>	Maximum peak inrush current $I_p$ (150 $\mu$ s)	400 A
	Maximum peak inrush current $I_p$ (250 $\mu$ s)	320 A
	Maximum peak inrush current $I_p$ (600 $\mu$ s)	200 A
<b>Number of electronic ballasts (T5/T8, single element)<sup>1)</sup></b>	18 W (ABB EVG 1 x 18 SF)	23
	24 W (ABB EVG-T5 1 x 24 CY)	23
	36 W (ABB EVG 1 x 36 CF)	14
	58 W (ABB EVG 1 x 58 CF)	11
	80 W (Helvar EL 1 x 80 SC)	10

<sup>1)</sup> For multiple element lamps or other types, the number of electronic ballasts must be determined using the peak inrush current of the electronic ballasts, see the Product Manual: Ballast calculation.

Device type	Application program	Maximum number of communication objects	Maximum number of group addresses	Maximum number of associations
SA/S 2.10.2.1	Switch 2f 10A/...*	34	254	254
SA/S 4.10.2.1	Switch 4f 10A/...*	64	254	254
SA/S 8.10.2.1	Switch 8f 10A/...*	124	254	254
SA/S 12.10.2.1	Switch 12f 10A/...*	184	254	254

\* ... = current version number of the application program. **Please observe the software information on our homepage for this purpose..**

#### Note

For a detailed description of the application program see "SA/S Switch Actuators" product manual. It is available free-of-charge at [www.abb.com/knx](http://www.abb.com/knx).  
 The ETS and the current version of the device application program are required for programming.  
 The current application program can be found with the respective software information for download on the Internet at [www.abb.com/knx](http://www.abb.com/knx). After import into ETS it appears in the *Catalogs* window under *Manufacturers/ABB/Output/Binary output xf 10A/...\** (x = 2, 4, 8 or 12).  
 The device does not support the locking function of a KNX device in the ETS. If you inhibit access to all devices of the project with a *BCU code*, it has no effect on this device. Data can still be read and programmed.

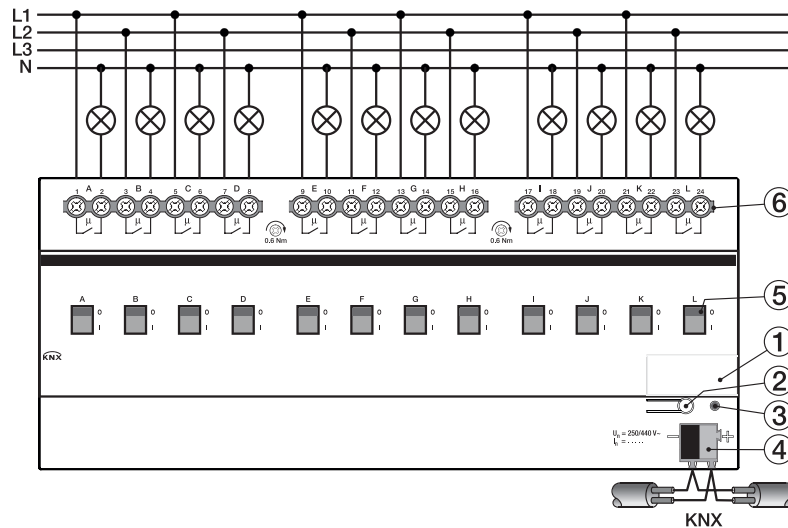
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#### Connection schematic

#### SA/S 12.10.2.1



2CDC072086F0011

- 1 Label carrier
- 2 *Programming* button
- 3 *Programming* LED
- 4 Bus connection terminal
- 5 Contact position display and manual operation
- 6 Load current circuits, for every 2 connection terminals



**Danger**

Touch voltages.

Danger of injury.

Observe all-pole disconnection.

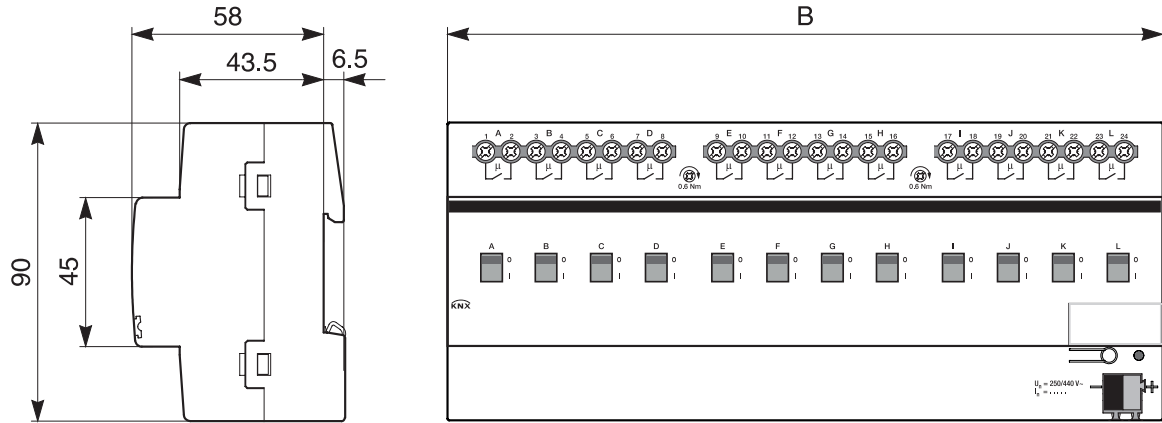
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#### Dimension drawing

#### SA/S 12.10.2.1



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	SA/S 2.10.2.1	SA/S 4.10.2.1	SA/S 8.10.2.1	SA/S 12.10.2.1
<b>Width W</b>	36 mm	72 mm	144 mm	216 mm
<b>Mounting width</b> (18 mm modules)	2 units	4 units	8 units	12 units

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Notes

# Contact

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