

# ABB i-bus® KNX

## Switch Actuator, x-fold, 6 A, manual, MDRC

### SA/S x.6.2.1, 2CDG 110 18x R0011



2CDC 071 001 S0013

Switch Actuators SA/S x.6.2.1, 6 A 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 actuators can switch up to 12 independent electrical loads via floating contacts. The connection of the outputs is implemented using combo-head 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.

#### SA/S 8.6.2.1

#### Technical data

<b>Supply</b>	KNX bus voltage	21...31 V DC			
	Current consumption via bus	< 12 mA			
	Power consumption via bus	Maximum 250 mW			
<b>Rated output value</b>	SA/S type	2.6.2.1	4.6.2.1	8.6.2.1	12.6.2.1
	Current detection	no	no	no	no
	Number (floating contacts)	2	4	8	12
	U <sub>n</sub> rated voltage	250/440 V AC (50/60 Hz)			
	I <sub>n</sub> rated current	6 AX	6 AX	6 AX	6 AX
	Leakage loss per device at max. load	0.9 W	1.2 W	1.5 W	3.9 W
<b>Output switching current</b>	AC3 <sup>1)</sup> operation (cos φ = 0.45) To EN 60 947-4-1	6 A/230 V AC			
	AC1 <sup>1)</sup> operation (cos φ = 0.8) To EN 60 947-4-1	6 A/230 V AC			
	Fluorescent lighting load to EN 60 669-1	6 AX/250 V AC (140 μF <sup>2)</sup> )			
	Minimum switching capacity	100 mA/12 V AC 100 mA/24 V AC			
	DC current switching capacity (resistive load)	6 A/24 V AC			
<b>Output service life</b>	Mechanical service life	> 3 x 10 <sup>6</sup>			
	Electrical endurance to 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>			
	AC5a <sup>1)</sup> (240 V/cos φ = 0.45)	> 3 x 10 <sup>4</sup>			
<b>Output switching times<sup>3)</sup></b>	SA/S type	2.6.2.1	4.6.2.1	8.6.2.1	12.6.2.1
	Maximum output relay position change per minute if all relays are switched simultaneously.	60	30	15	10
	The position changes should be distributed equally within the minute.				
	Maximum output relay position change per minute if only one relay is switched.	120	120	120	120

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<b>Connections</b>	KNX	Via bus connection terminals, 0.8mm 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				
<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 DIN EN 60 529				
<b>Protection class</b>	II	To DIN EN 61 140				
<b>Isolation category</b>	Overvoltage category	III to DIN EN 60 664-1				
	Pollution degree	2 to DIN EN 60 664-1				
<b>KNX safety extra low voltage</b>	SELV 24 V DC					
<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, Pro <i>M</i>				
	SA/S type	2.6.2.1	4.6.2.1	8.6.2.1	12.6.2.1	
	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 (18mm modules)	2	4	8	12	
<b>Weight</b>	in kg	Mounting depth in mm	64.5	64.5	64.5	64.5
			0.15	0.25	0.46	0.65
<b>Mounting</b>	On 35 mm mounting rail	To DIN EN 60 715				
<b>Mounting position</b>	any					
<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: 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, 6 A

<b>Lamps</b>	Incandescent lamp load	1380 W
<b>Fluorescent lamps T5/T8</b>	Uncorrected	1380 W
	Parallel compensated	1380 W
	DUO circuit	1380 W
<b>Low-voltage halogen lamps</b>	Inductive transformer	1200 W
	Electronic transformer	1380 W
	Halogen lamps 230 V	1380 W
<b>Dulux lamp</b>	Uncorrected	1100 W
	Parallel compensated	1100 W
<b>Mercury-vapor lamp</b>	Uncorrected	1380 W
	Parallel compensated	1380 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 product manual: Ballast calculation.

Device type	Application program	Max. number of Communication objects	Max. number of group addresses	Max. number of associations
<b>SA/S 2.6.2.1</b>	Switch 2f 6AM/...*	34	254	254
<b>SA/S 4.6.2.1</b>	Switch 4f 6AM/...*	64	254	254
<b>SA/S 8.6.2.1</b>	Switch 8f 6AM/...*	124	254	254
<b>SA/S 12.6.2.1</b>	Switch 12f 6AM/...*	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 the “Switch Actuator SA/S” 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 is available for download on the internet at [www.abb.com/knx](http://www.abb.com/knx). After import in the ETS, it is available in the ETS under *ABB/Output/Binary output xf 6AM/...\** (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.

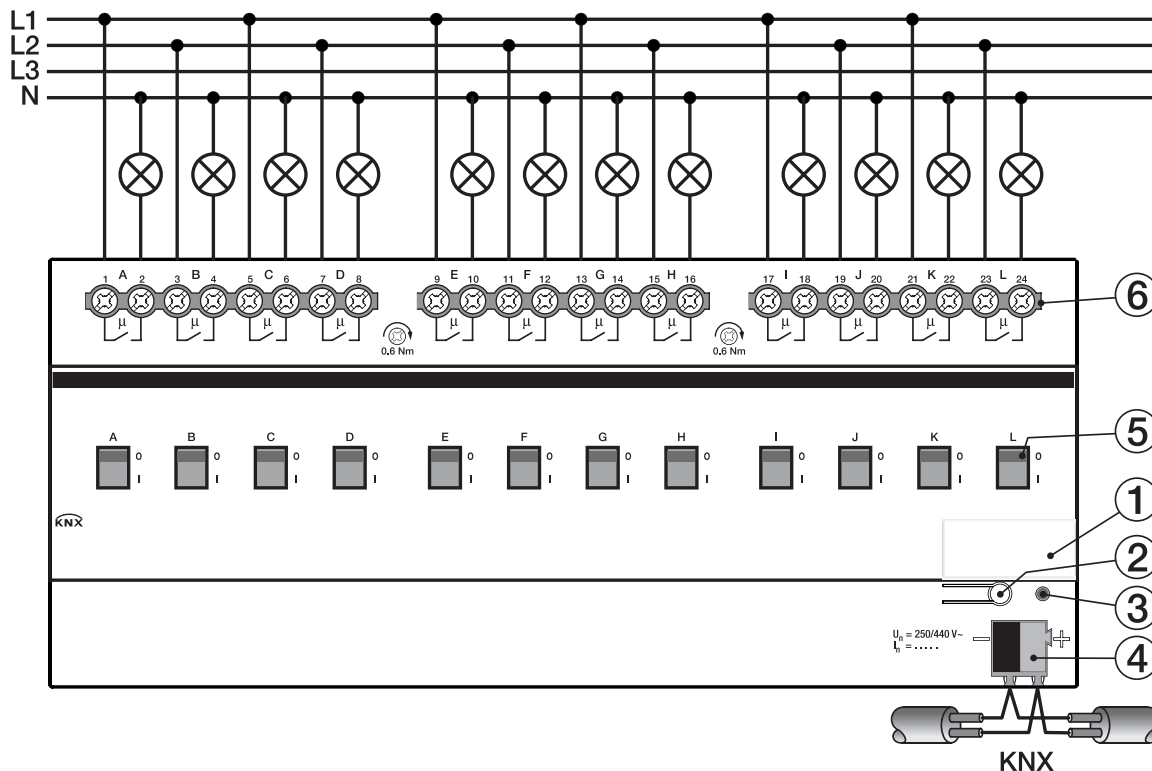
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#### Connection schematic

SA/S x.6.2.1



- 1 Label carrier
- 2 *Programming button* 
- 3 *Programming LED* ● (rot)
- 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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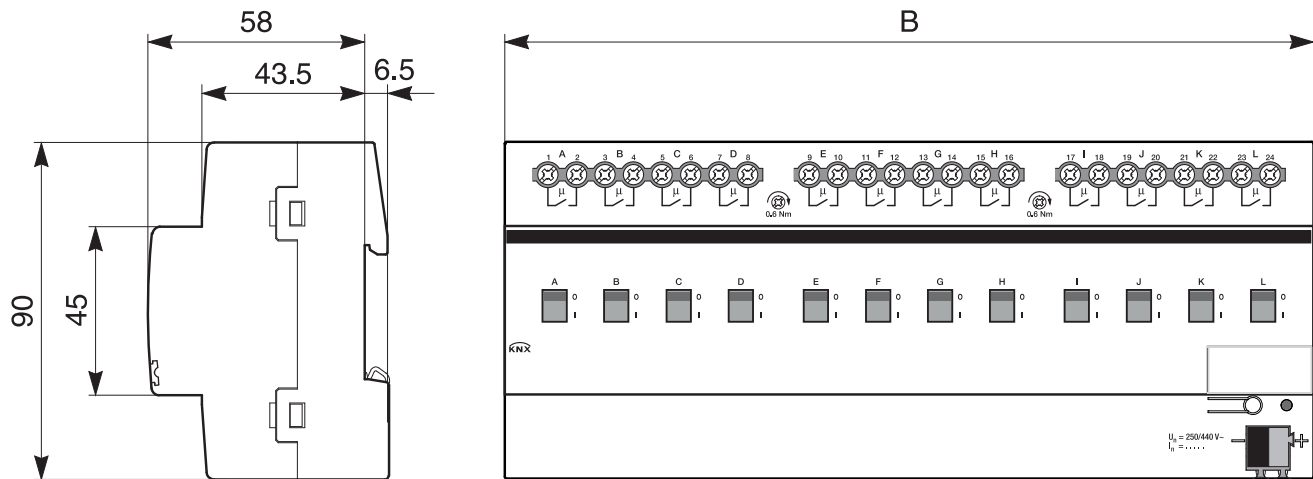
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#### Dimension drawing

SA/S x.6.2.1



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	SA/S 2.6.2.1	SA/S 4.6.2.1	SA/S 8.6.2.1	SA/S 12.6.2.1
Width W	36 mm	72 mm	144 mm	216 mm
Mounting width (18mm modules)	2 units	4 units	8 units	12 units

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**Notes**