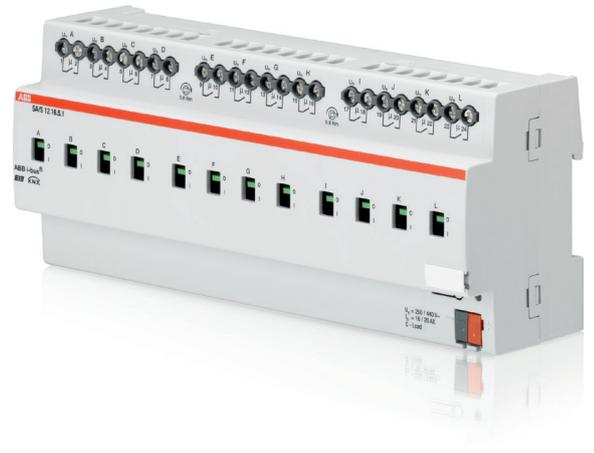


## ABB i-bus® KNX

Switch Actuator, x-fold, 16/20 A, C-Load, MDRC  
SA/S x.16.5.1, 2CDG11013xR0011



SA/S 12.16.5.1

### Product description

Switch Actuators SA/S x.16.5.1, 16/20A are modular installation devices in ProM design for installation in the distribution board. They are especially suitable for switching loads with high peak inrush currents such as lighting equipment with compensation capacitors or fluorescent lamp loads (AX) to EN 60 669.

Manual actuation of the Switch Actuator is possible using a button. This simultaneously indicates the contact position.

The Switch Actuators can switch up to 12 independent electrical loads via floating contacts. The maximum load current per output is 20A. The connection of the outputs is implemented using combo-head screw terminals. Each output is controlled separately via KNX.

The devices do not require an additional power supply and are 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 V			
	Current consumption via bus	< 12 mA			
	Power consumption via bus	Maximum 250 mW			
<b>Rated output value</b>	SA/S type	2.16.5.1	4.16.5.1	8.16.5.1	12.16.5.1
	Current detection	no	no	no	no
	Number (floating contacts)	2	4	8	12
	U <sub>n</sub> rated voltage	250/440 VAC (50/60 Hz)			
	I <sub>n</sub> rated current	16/20 AX, C-load			
	Leakage loss per device at max. load 16 A	2.0 W	4.0 W	8.0 W	12.0 W
	Leakage loss per device at max. load 20 A	3.0 W	5.5 W	11.0 W	16 W
<b>Output switching current</b>	AC3 <sup>1)</sup> operation (cos φ = 0.45)	16 A/230 V AC			
	To DIN EN 60 947-4-1				
	AC1 <sup>1)</sup> operation (cos φ = 0.8)	16/20 A/230 V AC			
	To DIN EN 60 947-4-1				
	Fluorescent lighting load to DIN EN 60 669-1	16/20 AX/250 V AC (200 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)	20 A/24 V DC			
	Mechanical service life	> 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>	SA/S type	2.16.5.1	4.16.5.1	8.16.5.1	12.16.5.1
	Maximum output relay position change per minute if all relays are switched simultaneously. The position changes should be distributed equally within the minute.	30	15	7	5
	Maximum output relay position change per minute if only one relay is switched.	60	60	60	60
<b>Connections</b>	KNX	Via bus connection terminals, 0.8 mm Ø, solid			
	Load current circuits (1 terminal per contact)	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>			
	Tightening torque	Contact pin length min. 10 mm max. 0.6 Nm			

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### SA/S x.16.5.1, 2CDG11013xR0011

<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	2.16.5.1	4.16.5.1	8.16.5.1	12.16.5.1
	Dimensions	90 x B 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	0.19	0.31	0.59	0.85
<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.

# ABB i-bus® KNX

## Switch Actuator, x-fold, 16/20 A, C-Load, MDRC

### SA/S x.16.5.1, 2CDG11013xR0011

#### Lamp output load 16/20 A

<b>Lamps</b>	Incandescent lamp load	3,680 W
<b>Fluorescent lamps T5/T8</b>	Uncorrected	3,680 W
	Parallel compensated	2,500 W
	DUO circuit	3,680 W
<b>Low-voltage halogen lamps</b>	Inductive transformer	2,000 W
	Electronic transformer	2,500 W
	Halogen lamps 230V	3,680 W
<b>Dulux lamp</b>	Uncorrected	3,680 W
	Parallel compensated	3,000 W
<b>Mercury-vapor lamp</b>	Uncorrected	3,680 W
	Parallel compensated	3,680 W
<b>Switching capacity (switching contact)</b>	Maximum peak inrush current $I_p$ (150 $\mu$ s)	600 A
	Maximum peak inrush current $I_p$ (250 $\mu$ s)	480 A
	Maximum peak inrush current $I_p$ (600 $\mu$ s)	300 A
<b>Number of electronic ballasts (T5/T8, single element)<sup>1)</sup></b>	18 W (ABB EVG 1 x 18 SF)	26 <sup>2)</sup>
	24 W (ABB EVG-T5 1 x 24 CY)	26 <sup>2)</sup>
	36 W (ABB EVG 1 x 36 CF)	22
	58 W (ABB EVG 1 x 58 CF)	12 <sup>2)</sup>
	80 W (Helvar EL 1 x 80 SC)	10 <sup>2)</sup>

<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.

<sup>2)</sup> The number of ballasts is limited by protection with B16 circuit-breakers.

Device type	Application program	Maximum number of communication objects	Maximum number of group addresses	Maximum number of associations
SA/S 2.16.5.1	Switch 2f 16C/...*	34	254	254
SA/S 4.16.5.1	Switch 4f 16C/...*	64	254	254
SA/S 8.16.5.1	Switch 8f 16C/...*	124	254	254
SA/S 12.16.5.1	Switch 12f 16C/...*	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 16C/...\** (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.

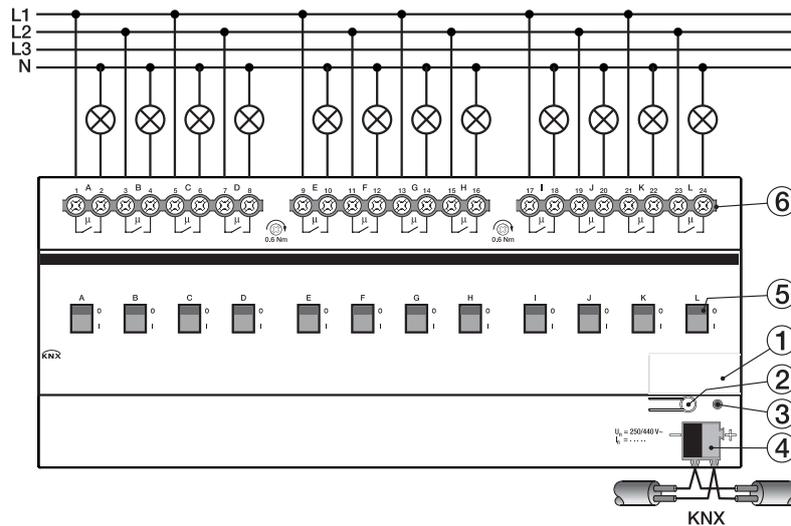
# ABB i-bus® KNX

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### SA/S x.16.5.1, 2CDG11013xR0011

#### Connection schematic

#### SA/S 12.16.5.1



- 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.

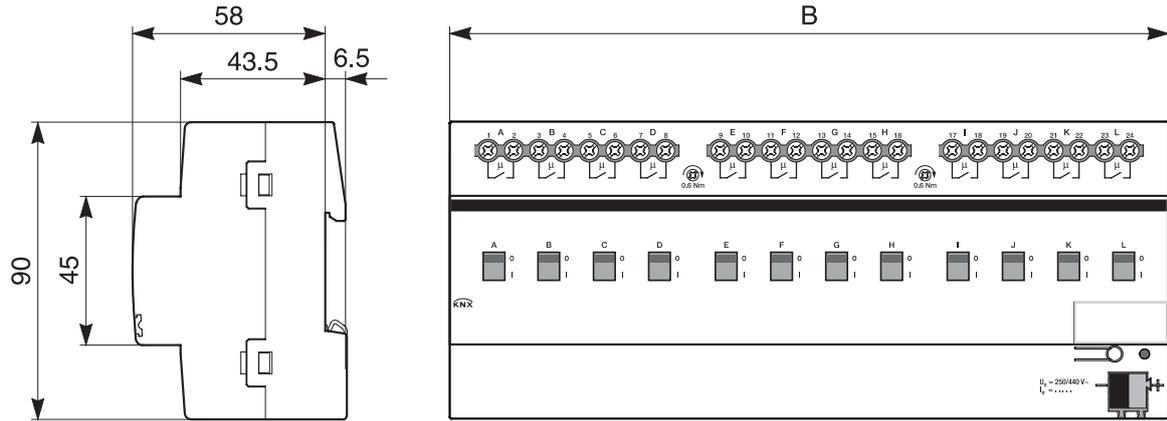
# ABB i-bus® KNX

## Switch Actuator, x-fold, 16/20 A, C-Load, MDRC

### SA/S x.16.5.1, 2CDG11013xR0011

#### Dimension drawing

#### SA/S 12.16.5.1



2CDC072019F0013

	SA/S 2.16.5.1	SA/S 4.16.5.1	SA/S 8.16.5.1	SA/S 12.16.5.1
<b>Width W</b>	36 mm	72 mm	144 mm	216 mm
<b>Mounting width (18 mm modules)</b>	2 units	4 units	8 units	12 units

ABB i-bus® KNX

Switch Actuator, x-fold, 16/20 A, C-Load, MDRC

SA/S x.16.5.1, 2CDG11013xR0011

Notes

# Contact

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