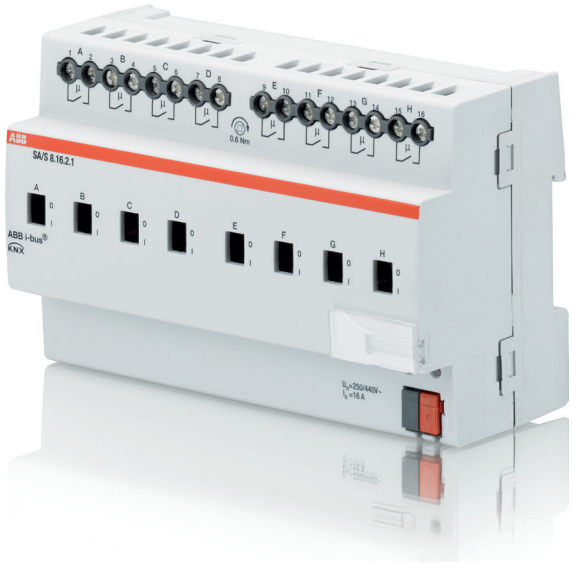
Technical Data 2CDC505051D0205

ABB i-bus® KNX
Switch Actuator, x-fold, 16 A, MDRC
SA/S x.16.2.1, 2CDG1101xxR0011



SA/S 8.16.2.1

Product description

Switch Actuators SA/S x.16.2.1, 16 A are modular installation devices in Pro*M* design for installation in the distribution board. They are especially suitable for switching resistive loads.

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 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.

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Technical data

Supply	KNX bus voltage	21…31 V			
	Current consumption via bus	< 12 mA			
	Power consumption via bus	Maximum 250 mW			
Rated output value	SA/S type	2.16.2.1	4.16.2.1	8.16.2.1	12.16.2.1
	Current detection	no	no	no	no
	Number (floating contacts 2/group)	2	4	8	12
	U_n rated voltage	250/440 V AC (50/60 Hz)			
	I_n rated current	16 A	16 A	16 A	16 A
	Leakage loss per device at max. load	2.0 W	4.0 W	8.0 W	12.0 W
Output switching current	AC3[1] operation (cos φ = 0.45)	8 A/230 V AC			
	To DIN EN 60 947-4-1				
	AC1[1] operation (cos φ = 0.8)	16 A/230 V AC			
	To DIN EN 60 947-4-1				
	Fluorescent lighting load to DIN EN 60 669-1	16 AX/250 V AC (70 µF)[2]			
	Minimum switching capacity	100 mA/12 V AC			
		100 mA/24 V AC			
	DC current switching capacity (resistive load)	16 A/24 V DC			
Output service life	Mechanical service life	> 3 x 10^6			
	Electrical endurance				
	To DIN IEC 60 947-4-1				
	AC1[1] (240 V/cos φ = 0,8)	> 10^5			
	AC3[1] (240 V/cos φ = 0,45)	> 3 x 10^4			
	AC5a[1] (240 V/cos φ = 0,45)	> 3 x 10^4			
Output switching times[3]	SA/S type	2.16.2.1	4.16.2.1	8.16.2.1	12.16.2.1
	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
Connections	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^2 fine stranded, 2 x 0.2…2.5 mm^2 0.2… 6 mm^2 solid, 2 x 0.2…4 mm^2			
	Ferrules without/with plastic sleeves	0.25…2.5/4 mm^2			
	TWIN ferrules	0.5…2.5 mm^2 Contact pin length min. 10 mm			
	Tightening torque	max. 0.6 Nm			

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Operating and display elements	Programming button/LED	For assignment of the physical address			
	Contact position display	Relay operator			
Degree of protection	IP 20	To EN 60 529			
Protection class	II	To EN 61 140			
Isolation category	Overvoltage category	III to EN 60 664-1			
	Pollution degree	2 to EN 60 664-1			
KNX safety extra low voltage	SELV 24 V DC				
Temperature range	Operation	- 5 °C…+45 °C			
	Storage	-25 °C…+55 °C			
	Transport	-25 °C…+70 °C			
Ambient conditions	Maximum air humidity	95 %, no condensation allowed			
Design	Modular installation device (MDRC)	Modular installation device, Pro*M*			
	SA/S type	2.16.2.1	4.16.2.1	8.16.2.1	12.16.2.1
	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
Weight	in kg	0.18	0.29	0.51	0.74
Mounting	On 35 mm mounting rail	To EN 60 715			
Mounting position	as required				
Housing/color	Plastic housing, gray				
Approvals	KNX to EN 50 090-1, -2	Certification			
CE mark	in accordance with the EMC guideline and low voltage guideline				

[1] 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.

[2] The maximum inrush current peak may not be exceeded.

[3] 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 16 A

Lamps	Incandescent lamp load	2,500 W
Fluorescent lamps T5/T8	Uncorrected	2,500 W
	Parallel compensated	1,500 W
	DUO circuit	1,500 W
Low-voltage halogen lamps	Inductive transformer	1,200 W
	Electronic transformer	1,500 W
	Halogen lamps 230 V	2,500 W
Dulux lamp	Uncorrected	1,100 W
	Parallel compensated	1,100 W
Mercury-vapor lamp	Uncorrected	2,000 W
	Parallel compensated	2,000 W
Switching capacity (switching contact)	Maximum peak inrush current I_p (150 µs)	400 A
	Maximum peak inrush current I_p (250 µs)	320 A
	Maximum peak inrush current I_p (600 µs)	200 A
Number of electronic ballasts (T5/T8, single element)[1)]	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

[1)] 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 2.16.2.1	Switch 2f 16A/…*	34	254	254
SA/S 4.16.2.1	Switch 4f 16A/…*	64	254	254
SA/S 8.16.2.1	Switch 8f 16A/…*	124	254	254
SA/S 12.16.2.1	Switch 12f 16A/…*	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*.

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.* After import into ETS it appears in the *Catalogs* window under *Manufacturers/ ABB/Output/Binary output xf 16A/…** (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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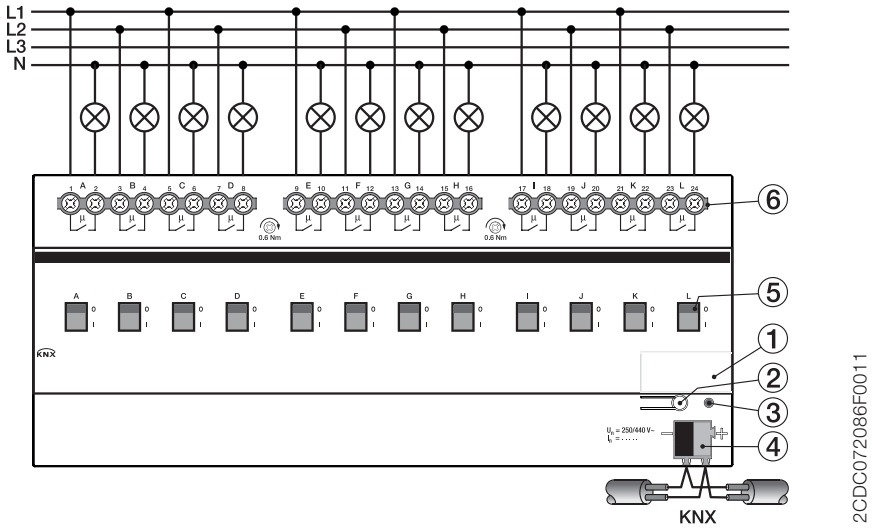
Connection schematic

SA/S 12.16.2.1



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.

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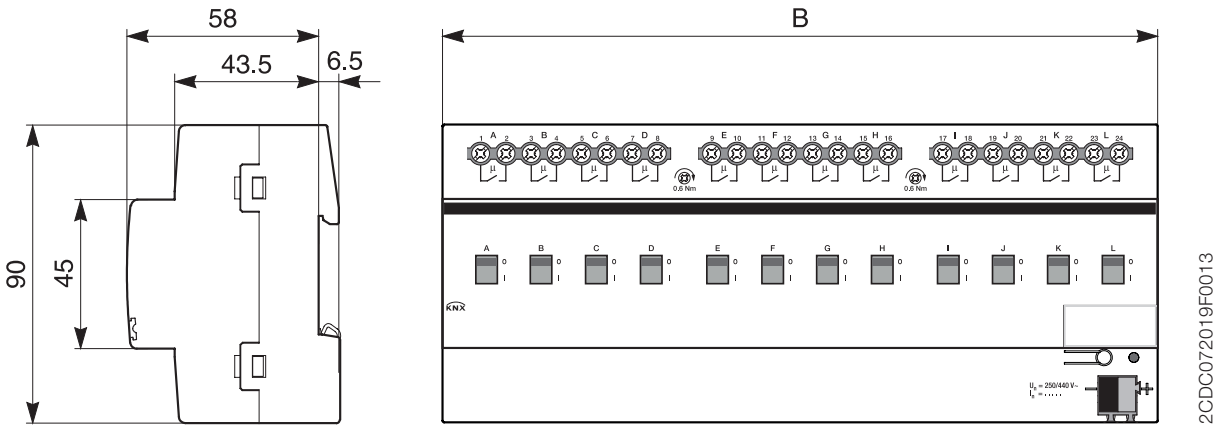
Dimension drawing

SA/S 12.16.2.1



	SA/S 2.16.2.1	SA/S 4.16.2.1	SA/S 8.16.2.1	SA/S 12.16.2.1
Width W	36 mm	72 mm	144 mm	216 mm
Mounting width (18 mm modules)	2 units	4 units	8 units	12 units

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Notes

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