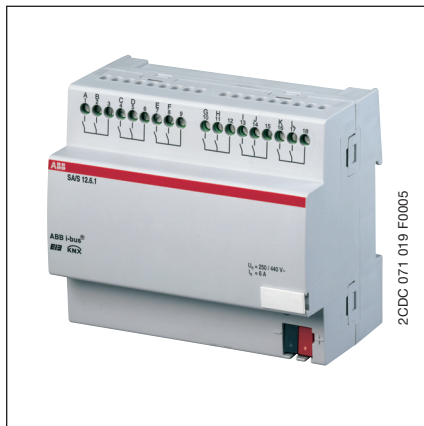




The technical properties of the ABB i-bus® Switch Actuators are explained in the following sections.

The 6 A Switch Actuators are modular installation devices in proM design for installation in the distribution board on 35 mm mounting rails. The connection to the ABB i-bus® EIB / KNX is implemented via a Bus Connection Terminal.

The device does not require an additional power supply.

The actuators switch up to 12 independent electrical loads via potential free contacts. The outputs are connected using screw terminals in groups of 2 contacts. Each output is controlled separately via the EIB / KNX.

The device is suitable for switching ohmic, inductive and capacitive loads.

Technical data

Power supply	- Operating voltage - Current consumption EIB / KNX - Power consumption EIB / KNX			21...30 V DC, made available by the bus < 12 mA Max. 250 mW
Output nominal values	- SA/S - type - Number (potential free contacts 2 per group) U_n rated voltage I_n rated current (per output) - Power loss per device at max. load			4.6.1 8.6.1 12.6.1 4 8 12 250 / 440 V AC (50/60 Hz) 6 A 6 A 6 A 1.5 W 2.0 W 2.5 W
Output switching currents	- AC3 operation ($\cos\varphi = 0.45$) EN 60 947-4-1 - AC1 operation ($\cos\varphi = 0.8$) EN 60 947-4-1 - Fluorescent lighting load to EN 60 669-1 - Minimum switching performance - DC current switching capacity (ohmic load)			6 A / 230 V 6 A / 230 V 6 A / 250 V (35 μ F) ²⁾ 20 mA / 5 V 10 mA / 12 V 7 mA / 24 V 6 A / 24 V DC
Output life expectancy	- Mechanical endurance - Electrical endurance to IEC 60 947-4-1 - AC1 (240 V/$\cos\varphi = 0.8$) - AC3 (240 V/$\cos\varphi = 0.45$) - AC5a (240 V/$\cos\varphi = 0.45$)			> 10 ⁷ > 10 ⁵ > 1.5 x 10 ⁴ > 1.5 x 10 ⁴ Operations (state change)
Output switching times¹⁾	- Max. number of relay position changes per output and minute, if all relays are switched simultaneously. The position changes should be distributed equally within the minute. - Max. number of relay position changes per output and minute only one relay is switched.			4.6.1 8.6.1 12.6.1 60 30 20 240 240 240
Connections	- EIB / KNX - Load current circuits (1 terminal per contact) - Phase (1 terminal for 2 contacts) - Tightening torque			Bus Connection Terminal, 0.8 mm Ø, single core Screw terminal 0.2... 2.5 mm ² finely stranded 0.2...4 mm ² single core Max. 0.6 Nm
EIB / KNX operating and display elements	LED red and EIB / KNX push button			for assignment of the physical address
Housing	IP 20			to EN 60 529
Safety class	II			to EN 61 140
Isolation category	- Overvoltage category - Pollution degree			III to EN 60 664-1 2 to EN 60 664-1

¹⁾ The specifications apply only after the bus voltage has been applied to the device for at least 10 seconds. The typical elementary delay of the relay is approx. 20 ms.

²⁾ The maximum inrush-current peak (see table 2) may not be exceeded.

Table 1 – Part 1: 6 A Switch Actuator SA/S x.6.1, technical data

EIB / KNX voltage	– SELV 24 V DC (safety extra low voltage)			
Temperature range	– Operation	– 5 °C ... + 45 °C		
	– Storage	– 25 °C ... + 55 °C		
	– Transport	– 25 °C ... + 70 °C		
Design	– Modular DIN-Rail Component (MDRC)	Modular installation device, ProM		
	– SA/S - type	4.6.1	8.6.1	12.6.1
	– Dimensions (H x W x D)	90 x W x 64		
	– Width W in mm	36	72	108
	– Mounting width (modules at 18 mm)	2	4	6
	– Mounting depth	64	64	64
Weight	– In kg	0.13	0.24	0.3
Installation	– On 35 mm mounting rail	EN 60 715		
Mounting position	– As required			
Housing, colour	– Plastic housing, grey			
Approvals	– EIB / KNX nach EN 50 090-2-2	Certification		
CE mark	– In accordance with the EMC guideline and low voltage guideline			

Table 1 – Part 2: 6 A Switch Actuator SA/S x.6.1, technical data

Lamp loads

Lamps	– Incandescent lamp load	1200 W
Fluorescent lamp T5 / T8	– Uncompensated luminaire	800 W
	– Parallel compensated	300 W
	– DUO circuit	350 W
Low-volt halogen lamps	– Inductive transformer	800 W
	– Electronic transformer	1000 W
	– Halogen lamp 230V	1000 W
Dulux lamp	– Uncompensated luminaire	800 W
	– Parallel compensated	800 W
Mercury-vapour lamp	– Uncompensated luminaire	1000 W
	– Parallel compensated	800 W
Switching performance (switching contact)	– Max. peak inrush-current I_p (150 μ s)	200 A
	– Max. peak inrush-current I_p (250 μ s)	160 A
	– Max. peak inrush-current I_p (600 μ s)	100 A
Number of electronic ballasts (T5/T8, single element) ¹⁾	– 18 W (ABB EVG 1x58 CF)	10
	– 24 W (ABB EVG-T5 1x24 CY)	10
	– 36 W (ABB EVG 1x36 CF)	7
	– 58 W (ABB EVG 1x58 CF)	5
	– 80 W (Helvar EL 1x80 SC)	3

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.

Table 2: Lamp load for SA/S x.6.1

Application programs

Type	Name	Max. number of communication objects	Max. number of group addresses	Max. number of associations
SA/S 4.6.1	Switch, 4f6/1	64	254	254
SA/S 8.6.1	Switch, 8f6/1	124	254	254
SA/S 12.6.1	Switch, 12f6/1	184	254	254

Table 3: Application programs SA/S x.6.1

Note: The programming requires the EIB Software Tool ETS2 V1.3 or higher. If the ETS3 is used a “.VD3” type file must be imported.

The application program is located within the ETS2 / ETS3 in the category ABB/output/Binary output, x-fold/switch, xf6/1 (x = 4, 8 or 12, number of outputs).

Detailed information about the application can be found in the product manual for the “Switch Actuators SA/S”.
This manual can be free downloaded under www.abb.de/eib.

Wiring diagram

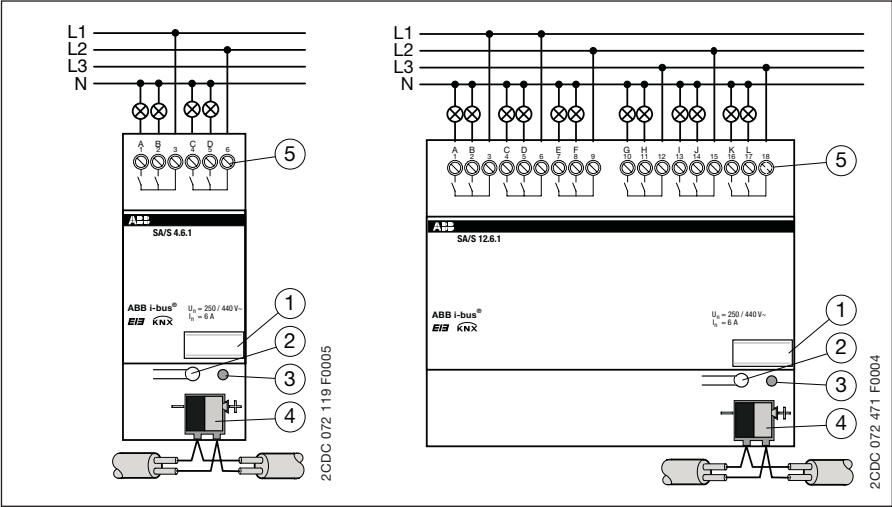
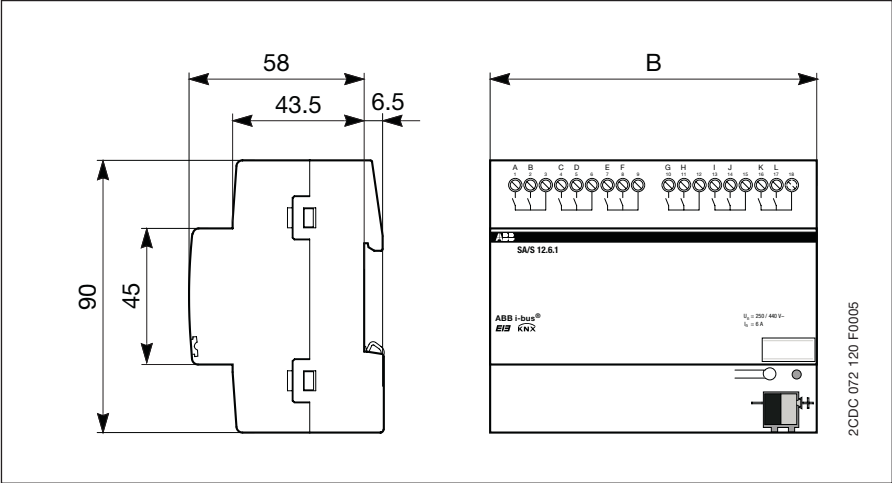


Fig. 3: Wiring diagram of the 6 A Switch Actuator SA/S x.6.1

- 1 Label carrier
- 2 Programming button
- 3 Programming LED
- 4 Bus Connection Terminal
- 5 Load current circuit
1 screw terminal per contact
1 screw terminal for every 2 contacts for the phase connection

Note: All-pole disconnection must be observed in order to avoid dangerous contact voltage which can develop via loads in other phases.

Dimension drawings



	SA/S 4.6.1	SA/S 8.6.1	SA/S 12.6.1
B	36 mm 2 module widths	72 mm 4 module widths	108 mm 6 module widths

ABB i-bus® EIB / KNX

Switch Actuator, x-fold, 6 A, MDRC
SA/S x.6.1, 2CDG 110 0xx R0011
