ABB i-bus® KNX
Switch Actuator, x-fold, 6 A, MDRC
SA/S x.6.1.1, 2CDG 110 15x R0011

2CDC 071 033 S0012

SA/S 12.6.1.1

The 6 A Switch actuators SA/S x.6.1.1 are modular installation devices in Pro *M* Design for installation in the distribution board. The devices are suitable for switching resistive, inductive and capacitive loads.

The Switch actuators can switch up to 12 independent electrical loads via floating contacts. The outputs are connected using universal head screw terminals in groups of 2 contacts for SA/S 8.6.1.1 and SA/S 12.6.1.1. The SA/S 4.6.1.1 has one terminal per output for power feed. Each output is controlled separately via the KNX, regardless of the variant.

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 the ETS. The connection to the KNX is implemented using the bus connection terminal on the front.

Technical data

Supply	KNX bus voltage	21...31 V DC		
	Current consumption, bus	< 12 mA		
	Power consumption	Maximum 250 mW		
Output nominal values	SA/S type	4.6.1.1	8.6.1.1	12.6.1.1
	Current detection	no	no	no
	Number (floating contacts 2 per group)	4*)	8	12
	U_n rated voltage	250/440 V AC (50/60 Hz)		
	I_n rated current (per output)	6 A	6 A	6 A
	Leakage loss per device at max. load	1.5 W	2.0 W	2.5 W
Output switching currents	AC3[1] operation (cos φ = 0.45) EN 60 947-4-1	6 A/230 V		
		6 A/230 V		
	AC1[1] operation (cosφ = 0.8) EN 60 947-4-1	6 A/250 V (35 μF)[2]		
	Fluorescent lighting load AX to EN 60 669-1	20 mA/ 5 V AC 10 mA/12 V AC		
	Minimum switching power	7 mA/24 V AC		
Output service life	Mechanical service life	$> 10^7$		
	Electronic endurance to IEC 60 947-4-1			
	AC1[1] (240 V/cos φ = 0.8)	$> 10^5$		
	AC3[1] (240 V/cos φ = 0.45)	$> 1.5 \times 10^4$		
	AC5a[1] (240 V/cos φ = 0.45)	$> 1.5 \times 10^4$		
Output switching times [3]		4.6.1.1	8.6.1.1	12.6.1.1
	Maximum relay position change of output and minute if all relays are switched simultaneously. The position changes should be distributed equally within the minute.	60	30	20
	Maximum relay position change per output and minute if only one relay is switched.	240	240	240
Connections	KNX	Via bus connection terminals 0.8 mm Ø, solid		
	Load current circuits (1 terminal per contact) Phase (1 terminal for 2 contacts)	Universal head screw terminal 0.2…2.5 mm² stranded 0.2...4 mm² solid		
	Tightening torque	Maximum 0.6 Nm		
Operating and display elements	Programming button/LED	For assignment of the physical address		

*) Each output has one terminal for power feed.

ABB i-bus® KNX
Switch Actuator, x-fold, 6 A, MDRC
SA/S x.6.1.1, 2CDG 110 15x R0011

Enclosure	IP 20	To EN 60 529		
Safety class	II	To EN 61 140		
Insulation 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	4.6.1.1	8.6.1.1	12.6.1.1
	Dimensions	90 x W x 64.5 mm (H x W x D)		
	Width W in mm	72	108	144
	Mounting width in space units (modules at 18 mm)	4	6	8
	Mounting depth in mm	64.5	64.5	64.5
Weight	in kg	0.13	0.24	0.3
Installation	On 35 mm mounting rail	To EN 60 715		
Mounting position	as required			
Housing/colour	Plastic housing, grey			
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 electronic endurance to IEC 60 947-4-1 can be found at in the product manual: AC1, AC3, AX, C-Load specifications.

[2] The maximum peak inrush current may not be exceeded, see product manual: Lamp load output.

[3] The specifications apply only after the bus voltage has been applied to the device for at least 30 seconds. Typical delay of the relay is approx. 20 ms.

ABB i-bus® KNX
Switch Actuator, x-fold, 6 A, MDRC
SA/S x.6.1.1, 2CDG 110 15x R0011

Output lamp load at 230 V AC

Lamps	Incandescent lamp load	1200 W
Fluorescent lamps T5/T8	Uncorrected	800 W
	Parallel compensated	300 W
	DUO circuit	350 W
Low-voltage halogen lamps	Inductive transformer	800 W
	Electronic transformer	1000 W
	Halogen lamps 230 V	1000 W
Dulux lamps	Uncorrected	800 W
	Parallel compensated	800 W
Marcury-vapour lamps	Uncorrected	1000 W
	Parallel compensated	800 W
Switching capacity (switching contact)	Maximum peak inrush current I_p (150 µs)	200 A
	Maximum peak inrush current I_p (250 µs)	160 A
	Maximum peak inrush current I_p (600 µs)	100 A
Number of electronic ballasts (T5/T8, single element)[1]	18 W (ABB EVG 1 x 18 CF)	10
	24 W (ABB EVG-T5 1 x 24 CY)	10
	36 W (ABB EVG 1 x 36 CF)	7
	58 W (ABB EVG 1 x 58 CF)	5
	80 W (Helvar EL 1 x 80 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, see product manual: Ballast calculation.

Device type	Application program	Max. number of communication objects	Max. number of group addresses	Max. number of associations
SA/S 4.6.1.1	Switch 4f 6A/…*	64	254	254
SA/S 8.6.1.1	Switch 8f 6A/…*	124	254	254
SA/S 12.6.1.1	Switch 12f 6A/…*	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*.

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*. After import in the ETS, it is available in the ETS under *ABB/Output/Binary output xf 6A/…** (x = 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.
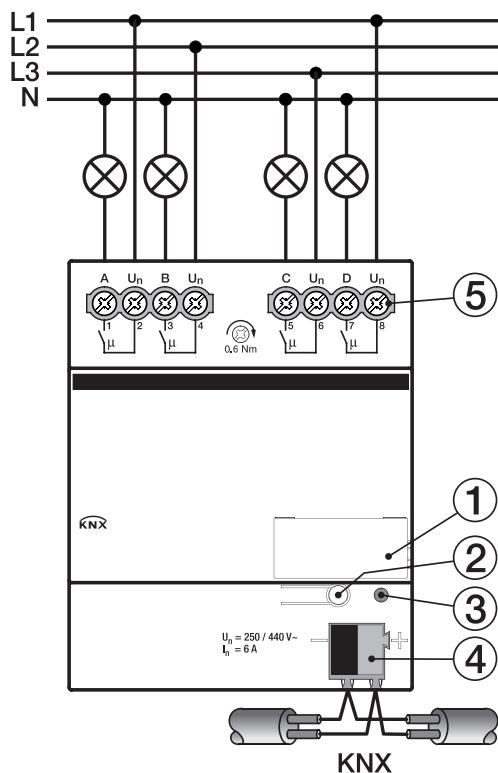

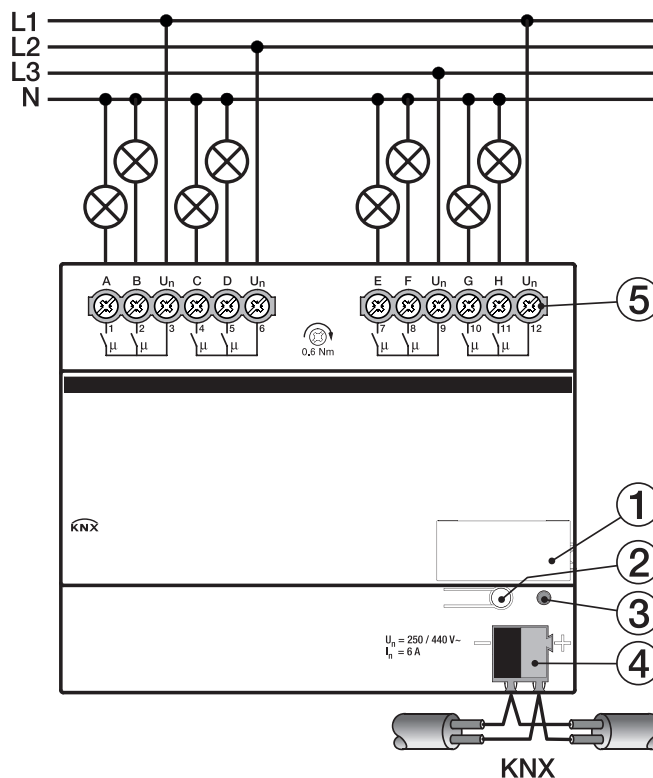# ABB i-bus® KNX
Switch Actuator, x-fold, 6 A, MDRC
SA/S x.6.1.1, 2CDG 110 15x R0011

Circuit diagram

SA/S x.6.1.1

2CDC 072 074 F0011

2CDC 072 076 F0011

1 Label carrier

2 Button *Programming* ⊏◯

3 LED *Programming* ● (red)

4 Bus connection terminal

5 Load current circuits, 1 universal head screw terminal for phase connection per contact
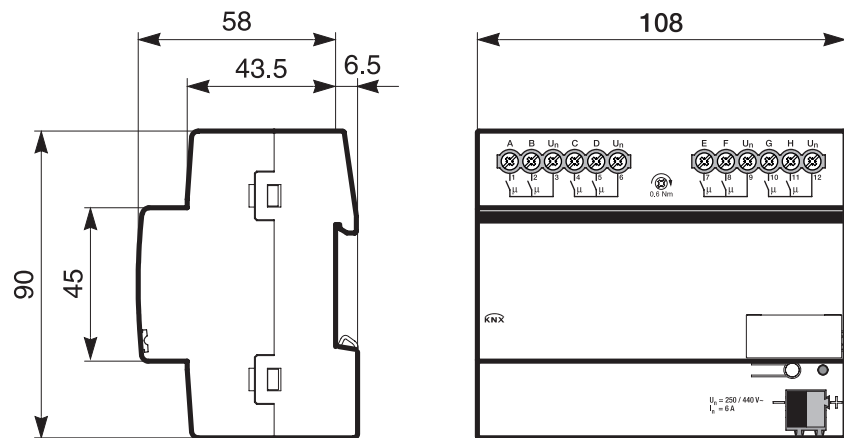
⚠ ⚡ **Danger**
Touch voltages.
Danger of injury.
Observe all-pole disconnection.

ABB i-bus® KNX
Switch Actuator, x-fold, 6 A, MDRC
SA/S x.6.1.1, 2CDG 110 15x R0011

Dimension drawing

SA/S x.6.1.1

2CDC 072 077 F0011

	SA/S 4.6.1.1	SA/S 8.6.1.1	SA/S 12.6.1.1
Width W	72 mm	108 mm	144 mm
Mounting width (modules at 18 mm)	4 space units	6 space units	8 space units

ABB i-bus® KNX
Switch Actuator, x-fold, 6 A, MDRC
SA/S x.6.1.1, 2CDG 110 15x R0011

Notes