ABB i-bus® KNX
Switch Actuator, x-fold, 6 A, MDRC
SA/S x.6.1.1, 2CDG11015xR0011

SA/S 12.6.1.1

Product description

Switch Actuators SA/S x.6.1.1 6 A are modular installation devices in Pro*M* design for installation in the distribution board. They are suitable for switching resistive, inductive and capacitive loads. The actuators can switch up to 12 independent electrical loads via floating contacts.
The outputs are connected using screw terminals in groups of two contacts for SA/S 8.6.1.1 and SA/S 12.6.1.1.
SA/S 4.6.1.1 has one terminal per output for power feed.
Each output is controlled separately via 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 Actuator is 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…32 V DC		
	Current consumption, bus	< 12 mA		
	Power consumption	Maximum 250 mW		
Rated output value	SA/S type	4.6.1.1	8.6.1.1	12.6.1.1
	Current detection	no	no	no
	Number (floating contacts 2/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 current	AC3[1] operation (cos φ = 0.45)	6 A/230 V AC		
	To EN 60 947-4-1			
	AC1[1] operation (cos φ = 0.8)	6 A/230 V AC		
	To EN 60 947-4-1			
	Fluorescent lighting load to EN 60 669-1	6 A/250 V AC (35 μF)[2]		
	Minimum switching capacity	20 mA/5 V AC		
		10 mA/12 V AC		
		7 mA/24 V AC		
Output service life	Mechanical service life	$> 10^7$		
	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)	$> 1.5 \times 10^4$		
	AC5a[1] (240 V/cos φ = 0.45)	$> 1.5 \times 10^4$		
Output switching times [3]	SA/S type	4.6.1.1	8.6.1.1	12.6.1.1
	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	20
	Maximum output relay position change per minute if only one relay is switched.	240	240	240
Connections	KNX	Via bus connection terminals, 0.8 mm Ø, solid		
	Load circuits	Universal head screw terminal (PZ 1) 0.2… 4 mm² fine stranded, 2 x 0.2…2.5 mm² 0.2… 6 mm² solid, 2 x 0.2…4 mm²		
	Tightening torque	max. 0.6 Nm		

* Each output has one terminal for power feed.

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Operating and display elements	Programming button/LED	For assignment of physical address		
Degree of protection	IP 20	To DIN EN 60 529		
Protection class	II	To DIN EN 61 140		
Isolation category	Overvoltage category	III to DIN EN 60 664-1		
	Pollution degree	2 to DIN 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 units (18 mm modules)	4	6	8
	Mounting depth in mm	64.5	64.5	64.5
Weight	in kg	0.18	0.27	0.35
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, chapter: 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 at 230 V AC

Lamps	Incandescent lamp load	1,200 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	1,000 W
	Halogen lamps 230V	1,000 W
Dulux lamp	Uncorrected	800 W
	Parallel compensated	800 W
Mercury-vapor lamp	Uncorrected	1,000 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 SF)	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 the Product Manual, chapter: Ballast calculation.

Device type	Application program	Maximum number of communication objects	Maximum number of group addresses	Maximum 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 *"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 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.
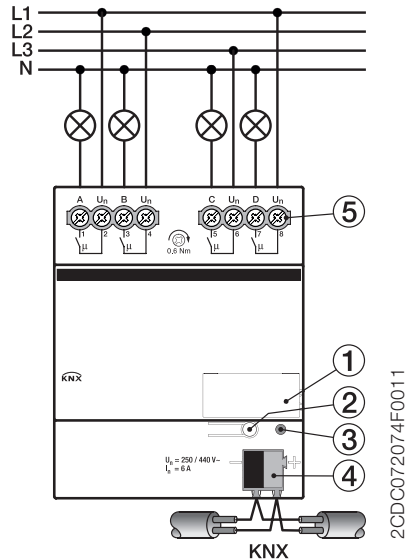
ABB i-bus® KNX
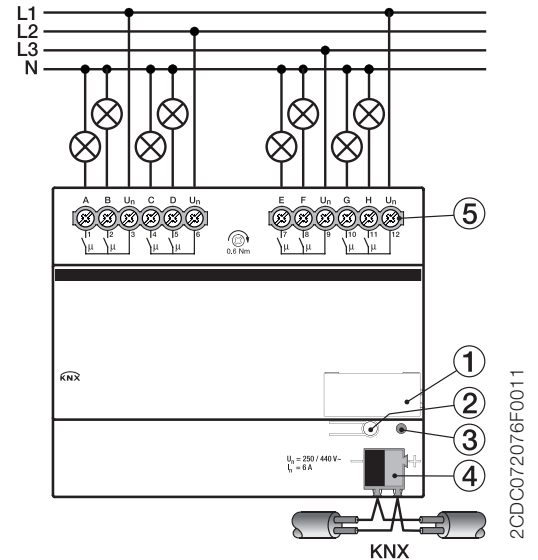## Switch Actuator, x-fold, 6 A, MDRC
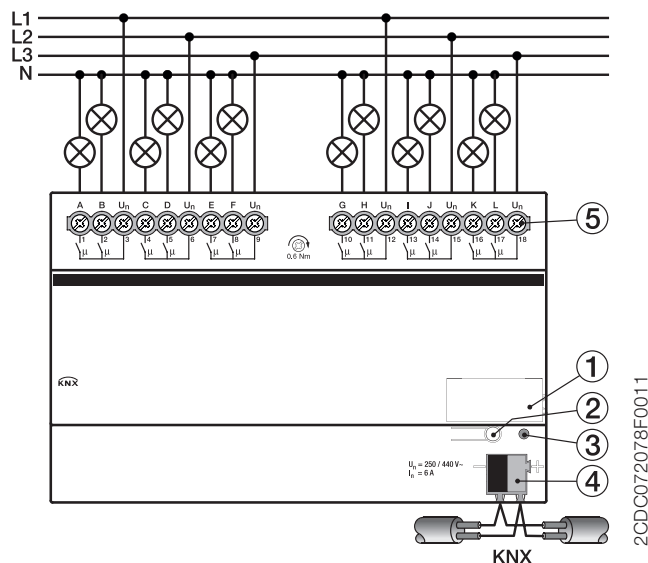## SA/S x.6.1.1, 2CDG11015xR0011

Connection schematic

SA/S 4.6.1.1

SA/S 8.6.1.1

SA/S 12.6.1.1

1   Label carrier
2   *Programming* button
3   *Programming* LED
4   Bus connection terminal
5   Load current circuits,
      one screw terminal for
      phase connection per contact

⚠️ ⚡ **Danger**

Touch voltages.

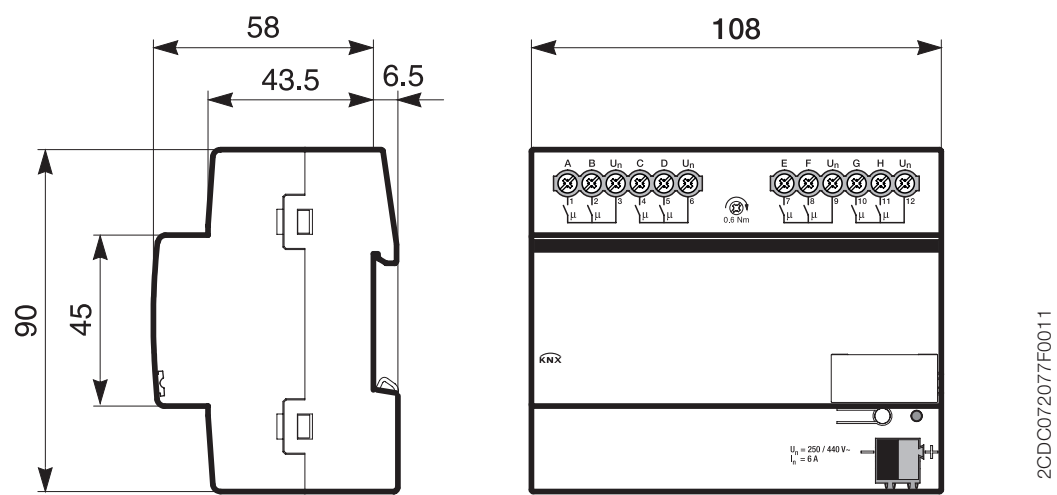Danger of injury.

Observe all-pole disconnection.

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Dimension drawing

SA/S 8.6.1.1

	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	4 units	6 units	8 units
(18 mm modules)			

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Notes

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