

TECHNICAL DATA

# ABB i-bus® KNX

## SA/S 2.16.6.2

### Switch Actuator



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### Device description

The device is a modular installation device (MDRC) in *proM* design. It is designed for installation in electrical distribution boards and small housings with a 35 mm mounting rail (to EN 60715).

The device complies with the EN 50491 standard and can be used as a product of the KNX system.

The device is powered via the bus (ABB i-bus® KNX) and requires no additional auxiliary voltage supply. The connection to the bus is made via a bus connection terminal on the front of the housing. The loads are connected at the outputs using screw terminals (terminal designation on the housing).

The application Engineering Tool Software (ETS) is used for physical address assignment and parameterization.

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### Device functions

The devices possess mutually independent switching relays with which the following functions can be implemented:

- Switching electrical loads (alternating or three-phase current)

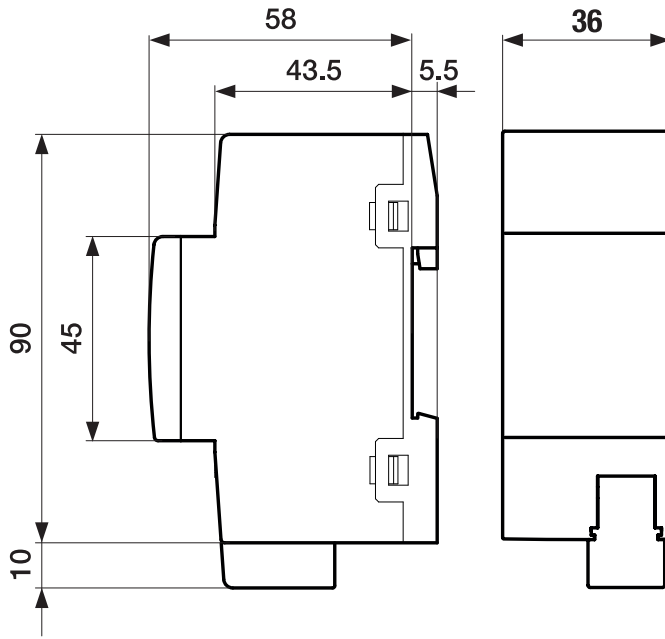
On-site operation of the outputs is possible using toggle switches.

The devices have the following integrated function:

- Current measurement

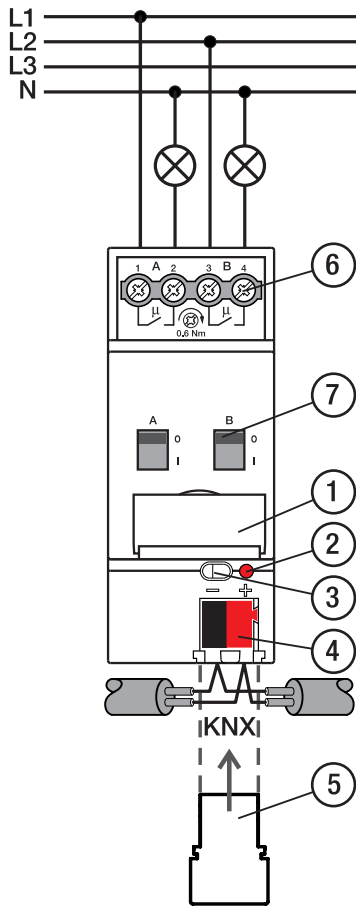
The devices are suitable for switching loads with a high peak inrush current, such as lamps with compensating capacitors.

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Dimension drawing



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**Connection diagram**





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**Legend**

- 1 Label carriers
- 2 Programming LED
- 3 Programming button
- 4 Bus connection terminal

- 5 Cover cap
- 6 Load circuit, two screw terminals each
- 7 Toggle switches

## Operating and display elements

Button/LED	Description/function	LED indicator
	Assignment of the physical address	LED on: The device is in programming mode.
Programming 	Indication of the switching position: <ul style="list-style-type: none"> <li>• I = Closed</li> <li>• 0 = Open</li> </ul> Switching of the output: <ul style="list-style-type: none"> <li>• I = Switch on</li> <li>• 0 = Switch off</li> </ul>	not available
Toggle switches		

## General technical data

<b>Supply</b>	Bus voltage	21 ... 31 V DC
	Current consumption, bus	< 12 mA
	Power loss, bus	Max. 250 mW
	Power loss (16 A), device	2.0 W
	Power loss (20 A), device	3.0 W
<b>Connections</b>	KNX	Ø 0.8 mm single core (via bus connection terminal)
<b>Connection terminals</b>	Screw terminal	Screw terminal with universal head (PZ 1)
		0.2 ... 4 mm <sup>2</sup> stranded, 2 × (0.2 ... 2.5 mm <sup>2</sup> )
		0.2 ... 6 mm <sup>2</sup> single core, 2 × (0.2 ... 4 mm <sup>2</sup> )
		Ferrule without plastic sleeve
		0.25 ... 2.5 mm <sup>2</sup>
		Ferrule with plastic sleeve
		0.25 ... 4 mm <sup>2</sup>
		TWIN ferrules
	0.5 ... 2.5 mm <sup>2</sup>	
	Ferrule contact pin length	Min. 10 mm
	Tightening torque	Max. 0.6 Nm
<b>Degree of protection and protection class</b>	Degree of protection	IP 20 to EN 60529
	Protection class	II to EN 61140
<b>Isolation category</b>	Overvoltage category	III to EN 60664-1
	Pollution degree	2 according to EN 60664-1
	Fire classification	Flammability V-0 as per UL94
	SELV	KNX safety extra low voltage
<b>Temperature range</b>	Operation	-5 ... +45 °C
	Transport	-25 ... +70 °C
	Storage	-25 ... +55 °C
<b>Ambient conditions</b>	Maximum air humidity	95 %, no condensation allowed
<b>Design</b>	Modular installation device (MDRC)	Modular installation device
	Design	proM
	Housing/color	Plastic, gray
<b>Dimensions</b>	Dimensions	90 x 36 x 63.5 mm (H x W x D)
	Mounting width in space units	2 modules
	Mounting depth	63.5 mm
<b>Mounting</b>	35 mm mounting rail	To EN 60715
	Mounting position	Any
	Weight (net)	0.17 kg
<b>Approvals</b>	KNX certification	To EN 50090-1, -2
	CE marking	In accordance with the EMC and Low Voltage Directives

## Device type

<b>Device type</b>	Switch Actuator	SA/S 2.16.6.2
	Application	Switch Energy Function 2f 16 A / ...
		... = current version number of the application
	Maximum number of group objects	273
	Maximum number of group addresses	1,000
	Maximum number of assignments	1,000

### Note

Observe software information on the website → [www.abb.com/knx](http://www.abb.com/knx).

### Note

The device supports the locking function of a KNX device in ETS. If a BAU code was assigned, the device can be read and programmed only with this BAU code.

## Output, rated current 16 A - 20 A C load

<b>Rated values</b>	Number of outputs	2
	U <sub>n</sub> Rated voltage	230 V AC (50/60 Hz)
	I <sub>n</sub> Rated current (per output pair)	16 A / 20 A
	Maximum current per device	2 x 20 A
<b>Switching currents</b>	AC3 operation (cos φ= 0.45) to EN 60947-4-1	16 A / 230 V AC
	AC1 operation (cos φ= 0.8) to EN 60947-4-1	20 A / 230 V AC
	Fluorescent lighting load according to EN 60669-1	20 A (200 µF) C-Load
	Minimum switching current at 12 V AC	100 mA
	Minimum switching current at 24 V AC	100 mA
	DC switching capacity, resistive load, at 24 V DC	20 A
<b>Service life</b>	Mechanical service life	> 3 x 10 <sup>6</sup> cycles
	Electrical service life of switching contacts to IEC 60947-4-1:	
	AC1 (240 V/cos φ=0.8)	> 10 <sup>5</sup> cycles
	AC3 (240 V/cos φ=0.45)	> 3 x 10 <sup>4</sup> cycles
	AC5a (240 V/cos φ=0.45)	> 3 x 10 <sup>4</sup> cycles
<b>Switching times</b>	Maximum switching position changes per minute if all relays are switched.	30
	Maximum switching position changes per minute if only one relay is switched.	60

## Output, lamp load 16 A - 20 A C load

<b>Lamps</b>	Incandescent lamp load	3,680 W
<b>Fluorescent lamps</b>	Uncompensated	3,680 W
	Parallel compensated	2500 W
	DUO circuit	3,680 W
<b>Low-voltage halogen lamps</b>	Inductive transformer	2000 W
	Electronic transformer	2500 W
	Halogen 230 V	3,680 W
<b>Dulux lamp</b>	Uncompensated	3,680 W
	Parallel compensated	3,000 W
<b>Mercury-vapor lamp</b>	Uncompensated	3,680 W
	Parallel compensated	3,000 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 ballasts (T5/T8, single element)</b>	18 W (ABB ballast 1 x 18 SF)	26
	24 W (ABB ballast T5 1 x 24 CY)	26
	36 W (ABB ballast 1 x 36 CF)	22
	58 W (ABB ballast 1 x 58 CF)	12
	80 W (Helvar EL 1 x 80 SC)	12
<b>Energy-saving lamps</b>	LED lamps	650 W
<b>Rated motor power</b>		3,680 W

### **i** Note

The peak inrush current  $I_p$  is the typical ballast load current that results during switching. Using the peak inrush current  $I_p$ , it is possible to calculate the maximum number of switchable ballasts at the Switch Actuator output. The number of ballasts specified in the table can be only a sample guide value.

## Energy function

<b>Energy function</b>	Detection range	0.02 ... 20 A
	Accuracy	$\pm 2\%$ of the momentary current plus $\pm 0.02$ A
	Measurement delay	approx. 2 s
	Load current $I_{load}$ AC	0 ... 20 A, sinusoidal
	Load current $I_{load}$ DC	Is not acquired
	Frequency range	50 ... 60 Hz
	Ambient temperature	-5 °C ... +40 °C

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**Ordering details**

Description	MW	Type	Order no.	Packaging [pcs.]	Weight (incl. packaging) [kg]
Switch	2	SA/S 2.16.6.2	2CDG110269R0011	1	0.24





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