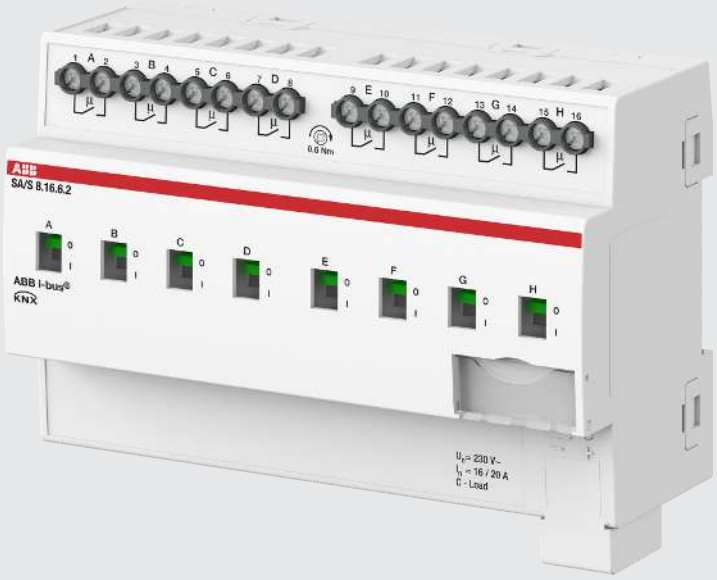
TECHNICAL DATA

ABB i-bus® KNX

SA/S 8.16.6.2
Switch Actuator



Device description

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

The device is KNX-certified and can be used as a product in a KNX system → EU declaration of conformity.

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 to the outputs using screw terminals → terminal designation on the housing.

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

Device functions

The device possesses mutually independent switching relays with which the following functions can be implemented:

- Switching electrical loads with high peak inrush currents in single- or multi-phase electrical networks

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

The device has the following integrated functions in each output:

- Current measurement
- Energy functions (calculated, based on current measurement)

Connections

The devices possess the following connections:

- Depending on the device type, 2, 4, 8 or 12 relay outputs for switching electrical loads
- 1 bus connection

Inputs

This section is not relevant for these devices.

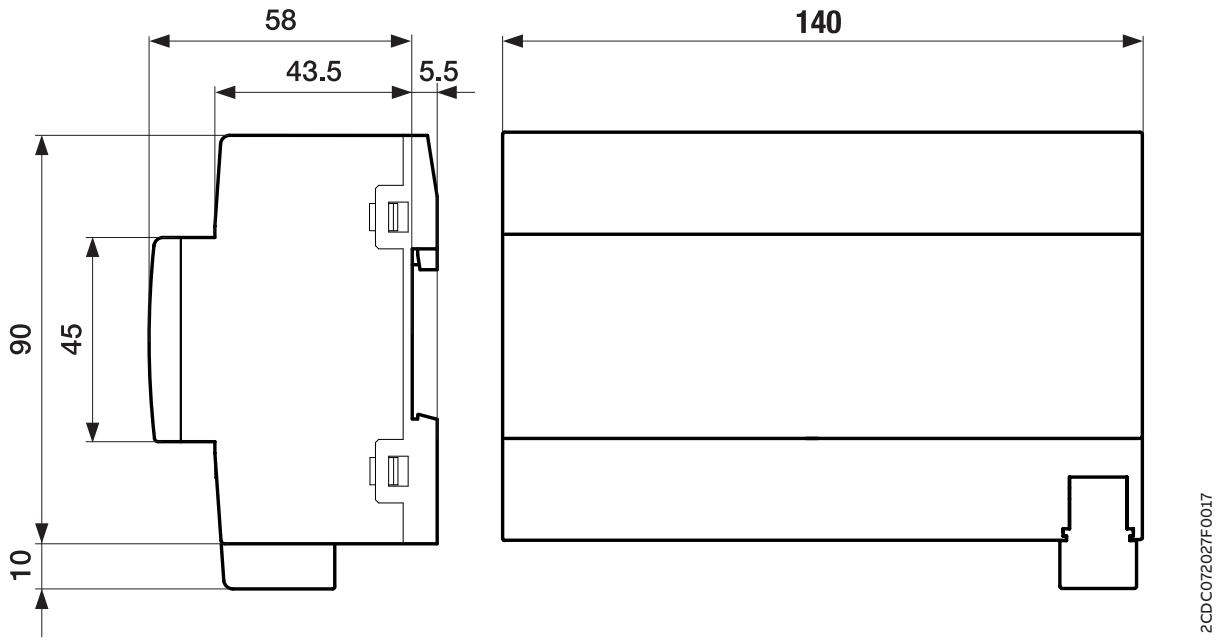
Outputs

Note
A device with 12 channels (A … L) is described below.

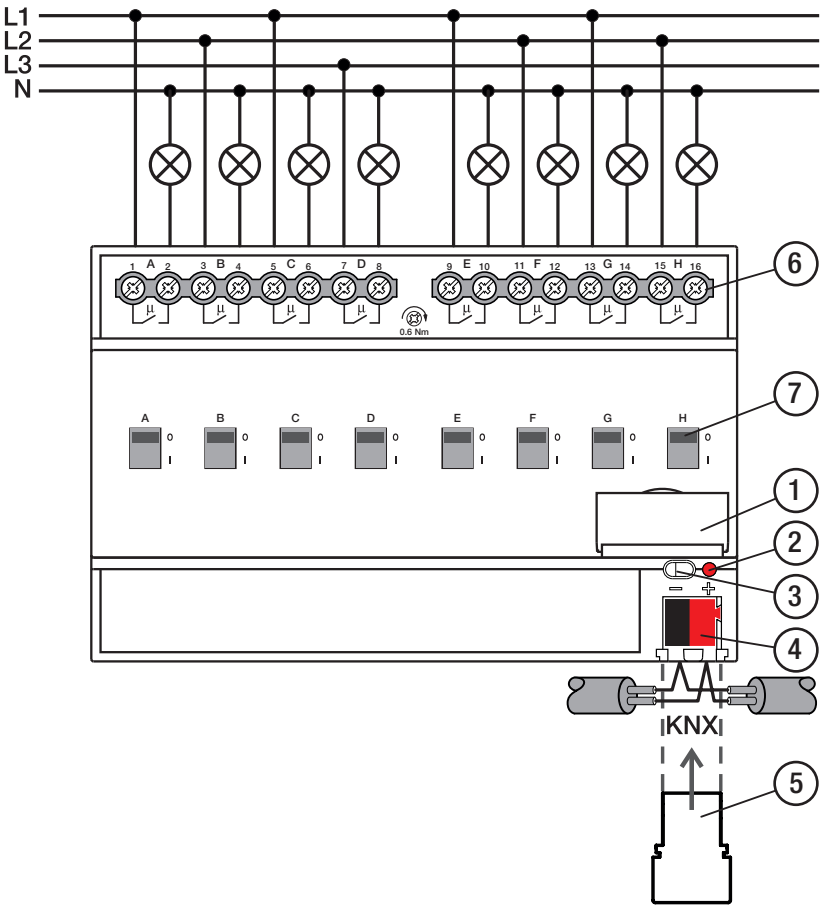
The outputs can be used individually to switch electrical loads.

Function	A	B	C	D	E	F	G	H	I	J	K	L
Switch	x	x	x	x	x	x	x	x	x	x	x	x

Dimension drawing



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

Operating control/LED	Description/function	Display
 *Programming* button/LED	Assignment of the physical address	LED On: Device in programming mode
 0 I Toggle switches	Switching of the output: • I = Switch on • 0 = Switch off	Indication of the contact position: • I = Closed • 0 = Open

General technical data

Device	Dimensions	90 × 140 × 63.5 mm (H x W x D)
	Mounting width in space units	8 modules, 17.5 mm each
	Weight	0.56 kg
	Mounting position	Any
	Mounting variant	35 mm mounting rail
	Design	ProM
	Degree of protection	IP 20
	Protection class	II
	Overvoltage category	III
	Pollution degree	2
Materials	Housing	Polycarbonate, Makrolon FR6002, halogen free
Material note	Fire classification	Flammability V-0
Electronics	Rated voltage, bus	30 V DC
	Voltage range, bus	21 … 31 V DC
	Current consumption, bus	< 12 mA
	Maximum current, device	8 × 20 A
	Power loss, device	≤ 8 W (16 A)/11 W (20 A)
	Power loss, bus	≤ 0.25 W
	KNX safety extra low voltage	SELV
Connections	Connection type, KNX bus	Plug-in terminal
	Cable diameter, KNX bus	0.6 … 0.8 mm, solid
	Connection type, load circuit	Screw terminal with universal head (PZ 1)
	Pitch	7.62 mm
	Tightening torque, screw terminals	0.5 … 0.6 Nm
	Conductor cross-section, flexible	1 × (0.2 … 4 mm²) / 2 × (0.2 … 2.5 mm²)
	Conductor cross section, rigid	1 × (0.2 … 6 mm²) / 2 × (0.2 … 4 mm²)
	Conductor cross section with wire end ferrule without plastic sleeve	1 × (0.25 … 2.5 mm²)
	Conductor cross section with wire end ferrule with plastic sleeve	1 × (0.25 … 4 mm²)
	Conductor cross section with TWIN wire end ferrule	1 × (0.5 … 2.5 mm²)
	Length, wire end ferrule contact pin	≥ 10 mm
Certificates and declarations	Declaration of conformity CE	→ 2CDK505248D2701
Ambient conditions	Operation	-5 … +45 °C
	Transport	-25 … +70 °C
	Storage	-25 … +55 °C
	Humidity	≤ 95 %
	Condensation allowed	No
	Atmospheric pressure	≥ 80 kPa (corresponds to air pressure at 2,000 m above sea level)

Outputs – relays 16 A - 20 A (C load)

Rated values	Number of outputs	8
	Rated voltage U_n	230 V AC
	Rated current I_n (per output)	16/20 A
	Rated frequency	50/60 Hz
	Relay type	Bi-stable
Switching currents	AC-1 operation (cos φ = 0.8)	≤ 20 A
	AC-3 operation (cos φ = 0.45)	≤ 16 A
	Fluorescent lighting load AX	≤ 20 AX
	Switching current at 12 V AC	≥ 0.1 A
	Switching current at 24 V AC	≥ 0.1 A
	Switching current at 24 V DC (resistive load)	≤ 20 A
Service life	Mechanical service life	≥ 10^6 switching operations
	AC-1 operation (cos φ = 0.8)	≥ 10^5 switching operations
	AC-3 operation (cos φ = 0.45)	≥ 3 x 10^4 switching operations
	AC-5a operation (cos φ = 0.45)	≥ 3 x 10^4 switching operations
Switching operations	Switching operations per minute when one relay switches	≤ 60
	Switching operations per minute when all relays switch	≤ 7
Inrush current	Inrush current I_{peak} (150 µs)	≤ 600 A
	Inrush current I_{peak} (250 µs)	≤ 480 A
	Inrush current I_{peak} (600 µs)	≤ 300 A

Note

The inrush current I_{peak} is the typical ballast load current that results during switching. Using the inrush current I_{peak}, it is possible to calculate the maximum number of switchable ballasts at the Switch Actuator output Ballast calculation.

Lamp type	Symbol	Max. lamp load
Incandescent bulbs		3,680 W
Fluorescent lamps uncompensated		3,680 W
Fluorescent lamps parallel compensated		2,500 W
Fluorescent lamps duo circuit		3,680 W
Low-voltage halogen lamps inductive transformer		2,000 W
Low-voltage halogen lamps electronic transformer		2,500 W
Low-voltage halogen lamps 230 V		3,680 W
Dulux lamps uncompensated		3,680 W
Dulux lamps parallel compensated		3,000 W
Mercury-vapor lamps uncompensated		3,680 W
Mercury-vapor lamps parallel compensated		3,000 W
LED lamps		650 W
Rated motor power		3,680 W

Energy function	Detection range	0.02 … 20 A
	Accuracy	±2% of the actual current ±0.02 A
	Measurement delay	2 s
	Load current I_{load} AC	0 … 20 A, sinusoidal
	Load current I_{load} DC	Is not acquired

Device type

Device type	Switch Actuator	SA/S 8.16.6.2
	Application	Switch energy function 8-fold 16 A / …
		… = current version number of the application
	Maximum number of group objects	507
	Maximum number of group addresses	1000
	Maximum number of assignments	1000

Note
Observe software information on the website → 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.

Ordering details

Description	MW	Type	Order no.	Packaging [pcs.]	Weight (incl. packaging) [kg]
Switch	8	SA/S 8.16.6.2	2CDG110271R0011	1	0.66

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Publication number 2CDC505202D0211 Rev. B | 08.12.2021 | EN-US