ABB i-bus® KNX
Electronic Switch Actuator, Xfold, 1 A, MDRC
ES/S X.1.2.1, 2CDG 110 05X R0011

2CDC 071 022 S0010

The Electronic Switch Actuators ES/S x.1.2.1 are modular installation devices in Pro *M*-Design. The devices feature 4 or 8 semiconductor outputs for control of electro-thermal valve drives, e.g. TSA/K, and electro-motor 3-point actuator drives, for example, for room temperature control. Furthermore, the devices are ideal for noiseless and wear-free switching of any loads, e.g. lamps. The outputs can be operated with either DC or AC voltage (24…230 V AC/DC).

The outputs can be combined as required, so that, e.g. output A controls electro-thermal valve drives, output B switches the lighting and outputs C and D control electro-motor actuator drives.

Each output is short-circuit and overload protected. The outputs can be directly controlled using the manual buttons. The LEDs on the front of the device signal the status of the outputs.

Technical data

Supply	Bus voltage	21…32 V DC
	Current consumption, bus	< 12 mA
	Leakage loss, bus	Maximum 250 mW
	Leakage loss per device at max. load	Maximum 4 W
Outputs	4 semiconductor outputs	non-isolated, short-circuit proofed
	Rated voltage U_n	24…230 V AC/DC +/-10 %, 45…65 Hz
		Separate supply of the outputs is possible. For example, A + B with 230 V AC, C + D with 24 V DC
	Rated current In per output	1 A resistive load at T_u up to 45 °C
	Inrush current per output	8 A for max. 1 second at T_u 20 °C
	Number of electro-thermal valve drives per output	The number of connectible valve drives per output is dependent on the maximum inrush current (8 A) or continuous current (1 A) of the output. It may not be exceeded when several valve drives are connected in parallel. Observe the technical data for the valve drive.
Connections	KNX	Via bus connection terminals
	Outputs A…X, supply U_n	Via universal head screw terminals
		0.2…4 mm² stranded, 2 x 0.2…2.5 mm²,
		0.2…6 mm² solid, 2 x 0.2…4 mm²
Operating and display elements	Button/LED *Programming*	For assignment of the physical address
	Button *Manual operation* und LED *Manual operation*	To switch to manual mode
	Button *ON/OFF* and LED *Status* per output	For control of the output and display of the status
	Button *Reset* and LED *Fault* per output	For reset and indication of a fault

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Enclosure	IP 20	To EN 60 529
Safety class	II	To EN 61 140
Isolation category	Overvoltage category	III to EN 60 664-1
	Pollution degree	II to EN 60 664-1
KNX safety extra low voltage	SELV 30 V DC	
Temperature range		To EN 50 491
	Operation	-5 °C…+45 °C
	Storage	-25 °C…+55 °C
	Transport	-25 °C…+70 °C
Ambient conditions	Maximum air humidity	To EN 50 491
		95 %, no condensation allowed
Design	Modular installation device (MDRC)	Modular installation device, Pro *M*
	Dimensions	ES/S 4.1.2.1: 90 x 72 x 64.5 mm (H x W x D) ES/S 8.1.2.1: 90 x 144 x 64.5 mm (H x W x D)
	Mounting width in space units	ES/S 4.1.2.1: 4 modules at 18 mm ES/S 8.1.2.1: 8 modules at 18 mm
	Mounting depth	64.5 mm
Installation	On 35 mm mounting rail	To EN 60 715
Mounting position	As required	
Weight (without batteries)	ES/S 4.1.2.1	0.25 kg
	ES/S 8.1.2.1	0.38 kg
Housing/colour	Plastic housing, grey	
Approvals	KNX to EN 50 090-1, -2, EN 60 669-1,	Certification
	EN 50 428	
CE mark	In accordance with the EMC guideline and low voltage guideline	

Application program	**Maximum number of communication objects**	**Maximum number of group addresses**	**Maximum number of associations**
Switching Valve Drive 4f 1A/…*	76	254	254
Switching Valve Drive 8f 1A/…*	148	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 *Electronic Switch Actuator ES/S X.1.2.1* 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 version of the application program is available for download on the internet as *www.abb.com/knx*. After import it is available in the ETS under *ABB/Heating, Ventilation, Air conditioning/Electronic switch actuator.*

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.

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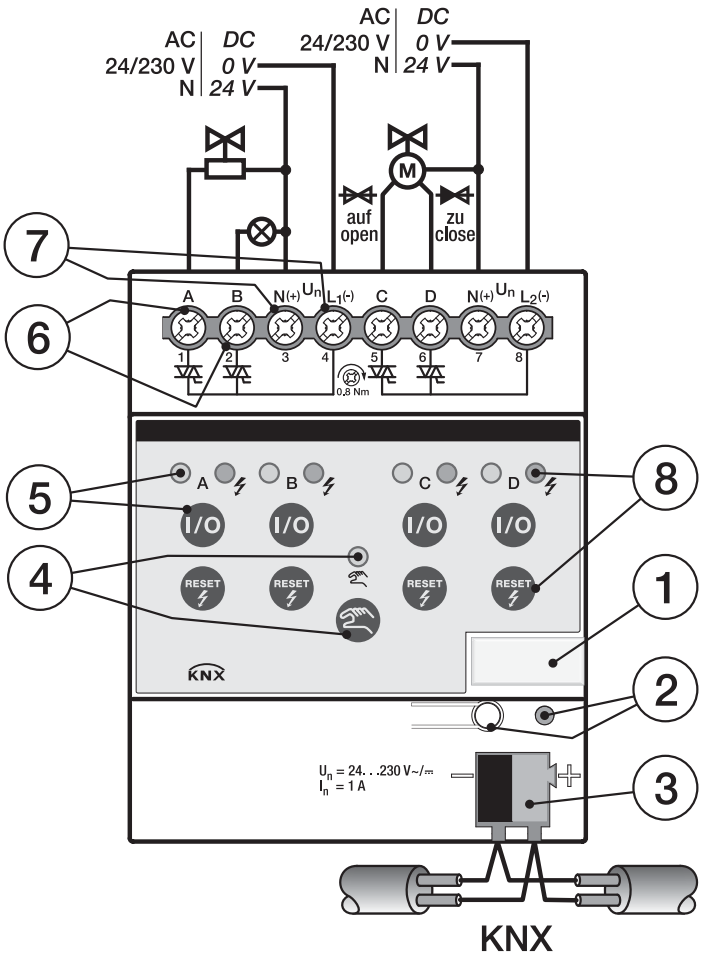
Circuit diagram



2CDC 072 028 F0012

ES/S 4.1.2.1

1 Label carrier
2 Button/LED *Programming*
3 Bus connection terminal
4 Button *Manual operation* and LED *Manual operation*
5 Button *ON/OFF* and LED *Status* (for every output)
6 4 output terminals A…D
7 2 terminals each L(-), N(+) for outputs A + B, C + D
8 Button *Reset* and LED *Fault* (for every output)

Note
The outputs (A + B and C + D) can be operated in pairs with different supply voltages U_n.

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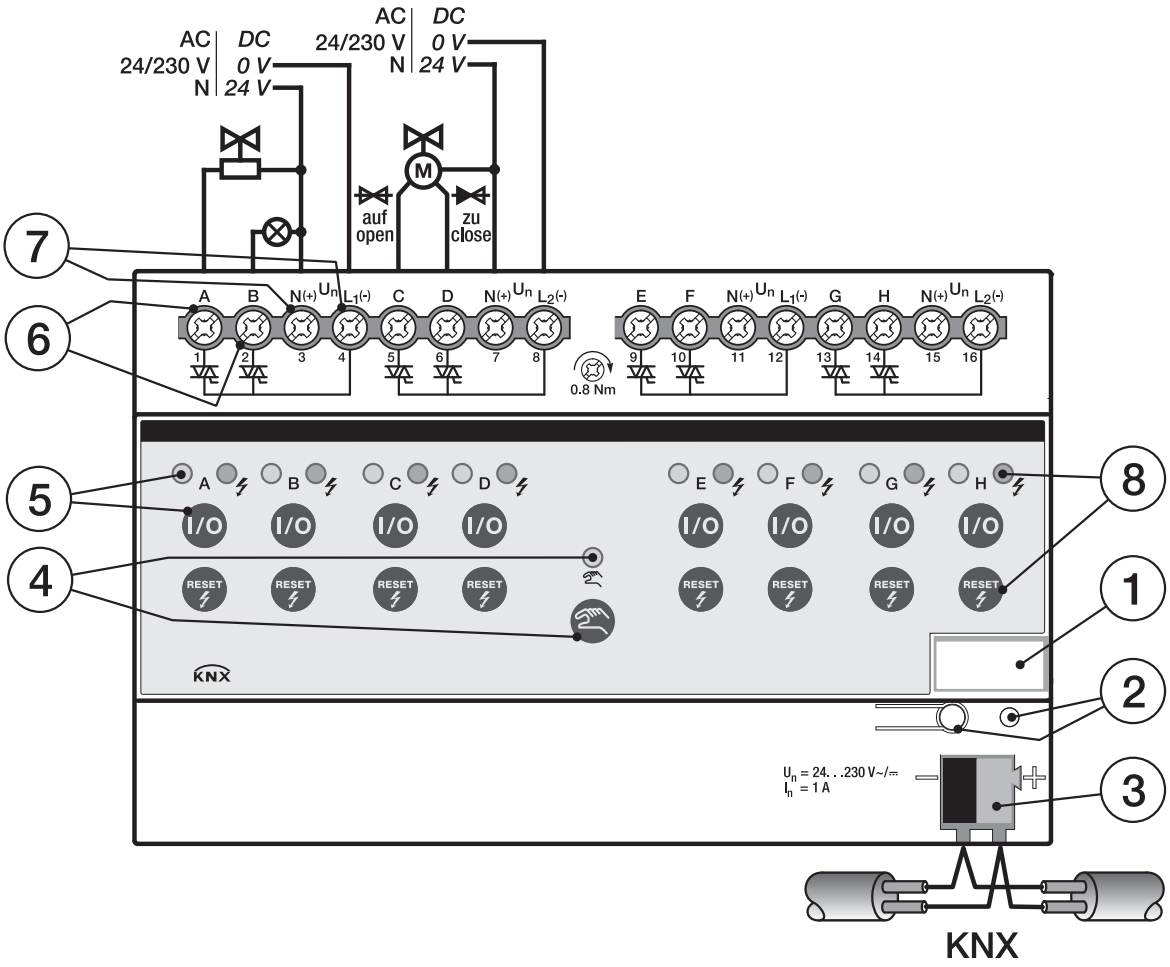

2CDC 072 008 F0011

ES/S 8.1.2.1

1 Label carrier
2 Button/LED *Programming*
3 Bus connection terminal
4 Button *Manual operation* and LED *Manual operation*
5 Button *ON/OFF* and LED *Status* (for every output)
6 4 output terminals A…D
7 2 terminals each L(-), N(+) for outputs A + B, C + D, E + F, G + H
8 Button *Reset* and LED *Fault* (for every output)

Note
The outputs (A + B, C + D, E + F and G + H) can be operated in pairs with different supply voltages U_n.

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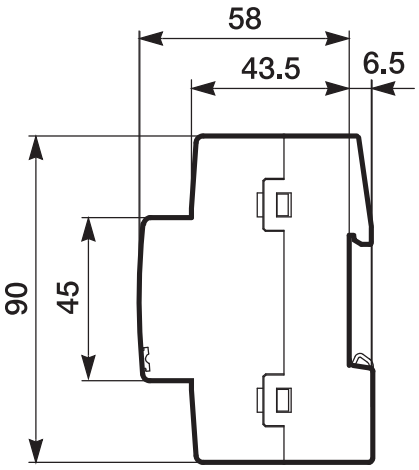
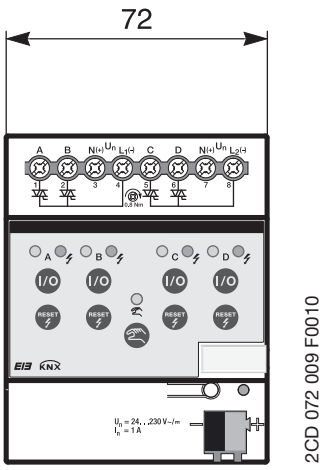
Dimension drawings



ES/S 4.1.2.1



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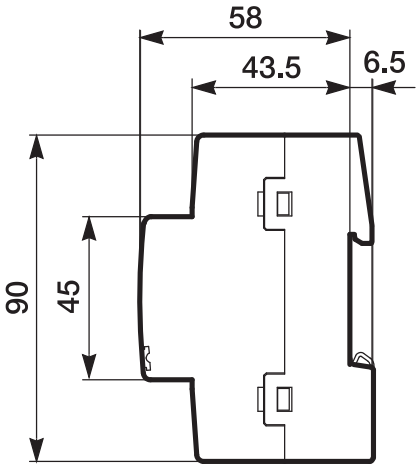
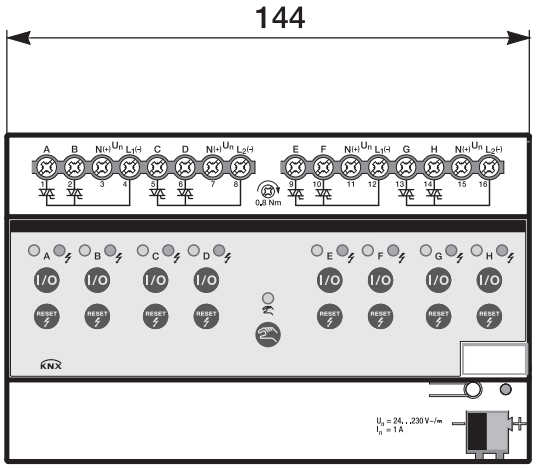


ES/S 8.1.2.1



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Notes