









The Electronic Switch Actuator ES/S 4.1.2.1 is a modular installation device in Pro M design. The device features four semiconductor outputs for control of electrothermal valve drive in heating and cooling systems. The outputs can be operated with either DC or AC voltage (24...230 V AC/DC).

Each output is short-circuit and overload protected. The outputs can be directly controlled using the manual push-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
Outputs	Leakage loss per device at max. load	Maximum 4 W
	4 semiconductor outputs	Non-isolated, short-circuit proofed
	Rated voltage U_n	24...230 V AC/DC +/-10%, 50/60 Hz Separate supply of the outputs is possible Example: A+B 230 V AC, C+D 24 V DC
	Rated current I_n per output	1 A resistive load at T_{amb} up to 45 °C
	Inrush current per output	8 A for max. 1 second at T_{amb} 20 °C
	Number of electrothermal 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. They may not be exceeded when several valve drives are connected in parallel. Observe the technical data for the valve drive.
Connections	KNX 4 x outputs A...D, 2 x supply U_n for 2 outputs each	Via bus connection terminals Using universal head screw terminals 0.2...4 mm ² finely stranded, 2 x 0.2...2.5 mm ² , 0.2...6 mm ² single core, 2 x 0.2...4 mm ²
Operating and display elements	Button/LED <i>Programming</i>	For assignment of the physical address
	Button <i>Manual operation</i>  and LED <i>Manual operation</i> 	To switch to manual mode
	Button <i>ON/OFF</i>  and LED <i>Status</i> 	For control of the output and display of the status
	Button <i>Reset</i>  and LED <i>Fault</i> 	For reset and indication of a fault
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	2 to EN 60 664-1
KNX safety extra low voltage	SELV 30 V DC	
Temperature range	Operation	-5 °C...+45 °C
	Storage	-25 °C...+55 °C
	Transport	-25 °C...+70 °C
Ambient conditions	Maximum air humidity	93 %, no condensation allowed
Design	Modular installation device (MDRC)	Modular installation device, Pro M
	Dimensions	90 x 72 x 64.5 mm (H x W x D)
	Mounting width in space units	4 modules at 18 mm
	Mounting depth	64.5 mm
Installation	On 35 mm mounting rail	To EN 60 715
Mounting position	As required	
Weight	Approx. 0.2 kg	
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	

Application program	Maximum number of communication objects	Max. number of group addresses	Max. number of associations
Switching Valve Drive 4f 1A/1.1	48	254	254

Note

For a detailed description of the application program see "Electronic Switch Actuator ES/S 4.1.2.1" product manual. It is available free-of-charge at www.ABB.de/KNX.

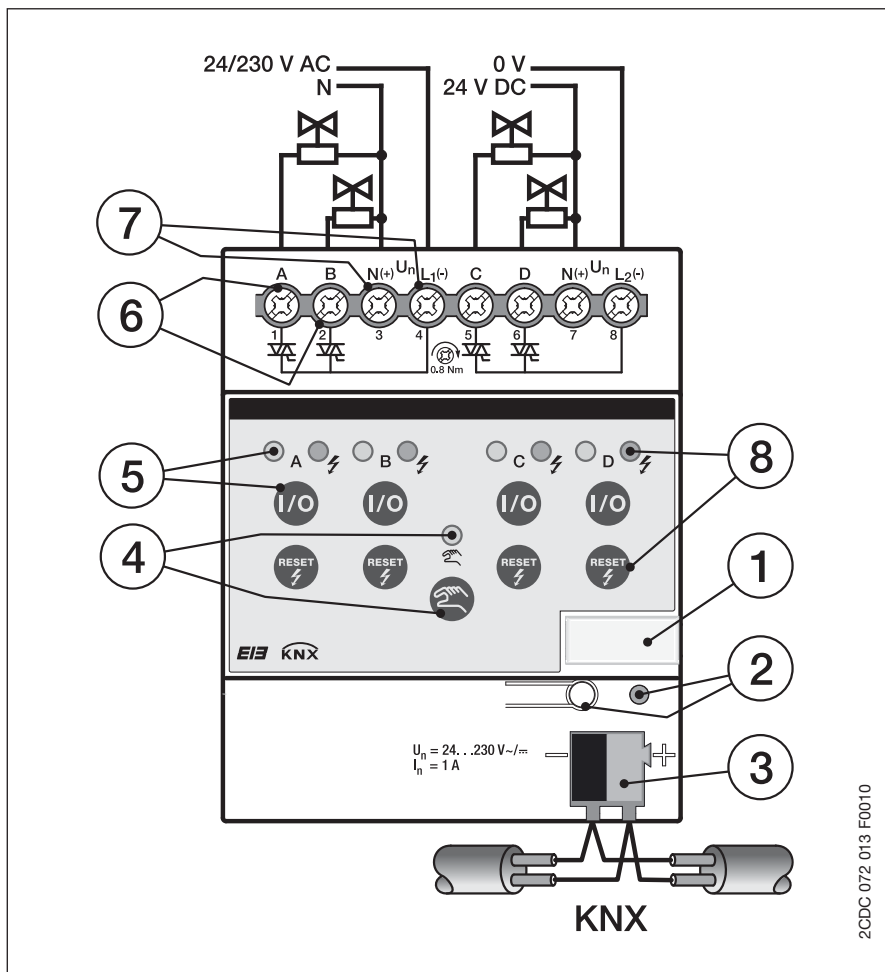
ETS from version ETS3.0f or higher is required for programming. A *.VD3 or higher type file must be imported.

The application program is available in the ETS3 at *ABB/Heating/Ventilation/Air conditioning/Valve Drive Actuator*.

The device does not support the closing 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.

Reading out data and programming is still possible.

Circuit diagram
(Example)



- 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 each output)

Note

The outputs (A/B or C/D) can be operated with different mains voltage U_n .

Dimension drawing

