Actuactors

Heating Valve Drive

1

2

	Ref.-No.
KNX valve drive	**2176 SV**
ETS-product family:	Heating, A/C, ventilation
Product type:	Valve

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The KNX valve drive is connected directly to the KNX without an additional bus coupling unit. An external power supply is also not necessary, the valve is supplied by the bus. The physical address has to be set with a magnet instead of a programming push-button. Together with the steady controlled temperature sensor 2178 or RCD, the valve receives a 8 bit regulation variable, resulting in 256 positions of the valve. The valve is suitable to be mounted to all thermostat valve bottoms for temperature regulation with e.g. radiators, floor heating, convectors etc.
It offers two additional potential free inputs where e.g. window-contacts can be connected. The inputs also can be used to connect conventional push-buttons or switches which can act directly on the valve drive or can be used for any other KNX functions.

Note: Before use, check the valve bottom parts!

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Technical data

Supply

Voltage:	24 V DC (+6 V / –4 V)
Power consumption:	max. 240 mW (max. 12 mA at 20 V)
Connection:	KNX connection block via prepared connection pipe (1m (J)EYY-OB 3 x 2 x 0.6)

Input

Number:	2
Signal voltage:	20 V impulses, duration approx. 3 ms
Signal current:	approx. 1 mA per channel

Output

Number:	1
Stroke:	max. 4.5 mm
Run time:	25 s/mm
Connection:	to be put onto the valve bottom with gentle pressure and fixed with a suitable pliers.
Protection:	IP 44 (vertically mounted)
Behavior at bus voltage drop:	valve drive stops in its last position
recovery:	the valve drive runs through an adjustment routine and afterwards drives into the parameterized control variable. Inputs will be read out and sent to the bus, depending on parameters.
Operation temperature:	0°C ... +50°C
Storage temperature:	–20°C ... +70°C
Mounting:	screwed onto valve bottom parts from Heimeier (other bottom parts have to be checked)

4 Technical data

Note:
The valve drive is suited for Heimeier valve bottom parts and, in combination with the corresponding KNX room temperature sensors or RCD's, it makes optimal controlling results with high exactness possible.
In the initial operation phase the valve drive recognizes the position of the lifting valve in the closed and fully open position by its adjustment routine. Afterwards, the 8 Bit control variable received via the KNX, will be allocated to the effective valve motion in a linear relation. From this results the high suspension of the valve motion in 256 positions. After a given number of position changing (4000) and after each bus voltage drop, the valve starts the adjustment routine automatically.

5 Description of software application:

The KNX valve drive receives a valve control variable signal as a 1 byte telegram, demand orientated or cyclically, from the room temperature sensor RCD or via the KNX. According to the received control variable (0 – 100 %), the valve drives the valve bottom part into a position between 'closed' and 'max. open'.
The parameter 'flashing of programming LED, should a drive fault occur?' activates an optical signal at the valve drive.
In the normal operation mode, the position of the valve bottom part can be read out at any time by a 1 Byte telegram. Using the 1 Bit forced position object, the valve drive can be driven into a parameterised position. In this case the control variable input of the room temperature sensor or RCD is without influence.
This can be realized with window or door contacts to avoid the loss of heating or cooling energy. A '0'-telegram resets this object from the forced position and the valve returns to the last received control value.

Objects

Number of addresses:	12
Number of assignments:	12
Communication objects:	12

Object	Name	Function	Type	Flag
0	Control variable	Input	1 Bit/1Byte	C, W, T
1	Control variable	Real position	1 Byte	C, W, R
2	Status	Operating condition	1 Bit/1Byte	C, W, R
3	Forced position 1	Input	1 Bit	C, W, T
4	Forced position 2	Input	1 Bit	C, W, T
5	Min. limit	Iinput	1 Bit	C, W
6	Max. limit	Input	1 Bit	C, W
7	Binary input 1	*	1 Bit/1Byte	C, W, (R), (T)
8	Binary input 1	*	1 Bit/4 Bit	C, W, (R), (T)
9	Binary input 2	*	1 Bit/1Byte	C, W, (R)
10	Binary input 2	*	1 Bit/4 Bit	C, W, (R)
11	Limiting value	*	1 Bit/1Byte	C, W, (R)