Valve drive
75500001

Technical Documentation

The valve drive is used to control the temperature in individual rooms. The valve drive is pushed onto the lower part of a thermostat valve. Heaters, radiators, convectors, heating circuit distributors for underfloor heating systems and similar heater types are all suitable for use with the valve drive. In dependence on a manipulated variable that is sent by the room temperature regulator (754611xx) in the application 'continuous action controller', the valve drive closes or opens the heater valve still further. The distances covered by the plunger correspond to the manipulated variable that is given by the PI behaviour of the room thermostat. Adjustment to the heater type is set in the controller. The valve drive is maintenance-free.

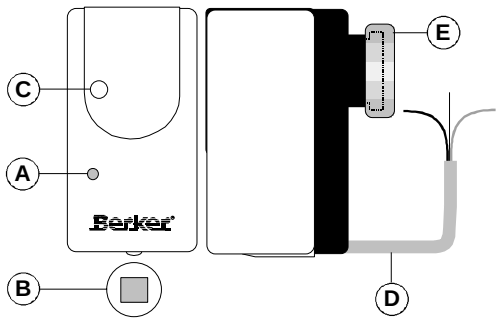
Valve drive

Order no.: 75500001

Technical data

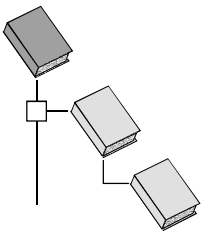
Supply instabus :
24 V DC (+6V / -4V)

Connection:
The leads of the standard conductors are inserted into a connector.
Lead: 1 m, J-Y(St) Y 1 x 2 x 0.6



Control elements and accessories

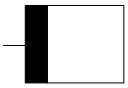
A: **Programming LED** and **display LED** for drive faults
B: **Programming magnet**
C: Activation point for non-contact activation of the programming button through the programming magnet
D: Standard conductor
E: Compression nut for heater valve



Gebr. Berker

Heating / air conditioning

Valves



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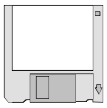


-Valve drive A00B03

Product management

The valve drive can only be operated in conjunction with a suitable room thermostat (e.g. 754610df). The room thermostat must be loaded with an application for continuous action controls (e.g. continuous action controller 702701)! ***The programming magnet (B) is not supplied with the device and must be ordered separately (order number 75900019).***

General information

Application description

Application
Valve drive
A00B03

The valve drive receives 1 byte telegrams from a room thermostat which show the current set value for the room temperature. The telegrams are sent cyclically or though a change to the manipulated variable by the controller. The manipulated variable shows the difference between the set and the actual value of the room temperature. Depending on the telegram contents (0..255 = 0..100%) the valve drive **opens** or **closes** the lower part of the thermostat valve **still further**.

No. of allocations: **max. 8**
No. of group addresses: **max. 10**

Controlling an electromotor valve drive, A00B03

Device window

	Obj	*Function*	*Name*	*Type*	*Prio*	*Flag*
	0	**Manipulated variable (setpoint)**	**Input**	**1 byte**	**Auto**	**C W T**
	1	**Manipulated variable (actual)**	**Output**	**1 byte**	**Auto**	**C R T**
	2	**Status (drive)**	**Output**	**1 byte**	**Auto**	**C R T**
	3	**Forced position**	**Input**	**1 bit**	**Auto**	**C R W T**

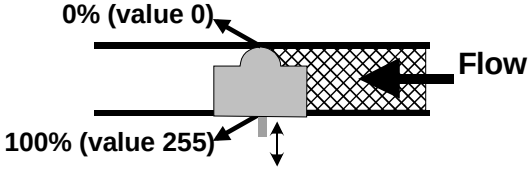
Parameters

General	
Direction of action	**Normal (control variable 0 % -> valve closed** Reverse (control variable 0 % -> valve opened
Start of self calibration in dependence of the number of	effective movements **of the received object values**
Control variable if no room thermostat works or no telegram is received	0..**50**..100%
Control variable for high priority object (forced position)	0..**30**..100%
Cyclic monitoring	ON, **OFF**
Monitoring time	33s,1 min..**16 min**..45 min
Flashing of phys. Adr. Progr. LED in case of actuator or valve drive error	ON, **OFF**
Send status in case of valve drive error	ON, **OFF**

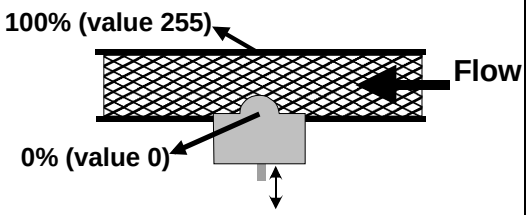
Parameter file: General

Direction of action
The valve's direction of movement is set through the parameter **Direction of action** in dependence on the control variable of the room thermostats:

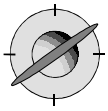
The setting **normal (control variable 0% -> valve closed)** with the status "Heating" has the effect of closing the valve when the temperature increases.



The setting **reverse (control variable 0% -> valve opened)** with the status "Cooling" has the effect of opening the valve when the temperature increases.



Start of self calibration
The purpose of adjustment is to record the valve travel of the lower part of the thermostat valve. The complete valve travel is measured by moving to the two maximum positions "Open" and "Closed" and set in relation to the 1 byte value (0..255). This enables an optimum triggering of the valve drive.



Depending on the parameter settings, self calibration can start if

- a number of **effective movements** have run through:
  Select this setting if there are many manipulated variable changes. The manipulated variable changes are dependent on the heater type and from the rooms to be heated. If the valve drive is moved to a preset position through a forced positioning (e.g. time-dependent), this is also a change to a manipulated variable.

- a defined number of **manipulated variable telegrams has been received**:
  This setting is practical if the setpoint manipulated variable telegrams are sent cyclically by the room thermostat.

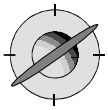
During self calibration the actual value of manipulated variable (Obj. 1) cannot be read out.

Note!

Practical examples of self-adjustment:

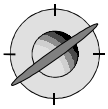
A room is not heated because of the warm summer temperatures, because the actual value is permanently above the preset set value of the room thermostats. The valve is closed during this period. If the room thermostat sends the manipulated variable "0" cyclically and the drive starts the adjusting routine after a defined number of incoming manipulated variables, this guarantees that the valve will not jam.

Control variable if no room thermostat works or no telegram is received
The valve drive forms a unit for room heating together with the room thermostat, whereby the room thermostat indicates the manipulated variable values cyclically.
If monitoring is activated, the drive expects at least one manipulated variable value telegram per monitoring period. If this is not received, a value is set automatically that is determined by this parameter.

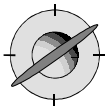


The failure of a manipulated variable value telegram may occur, e.g. in the planning and commissioning phase, if the drive is commissioned before the controller.

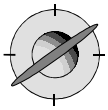
Manipulated variable for high priority object (forced position)
A target address can be sent via a sensor, e.g. a timer, to object 3. If the contents of this target address is "1", the drive moves to the status "Forced position". In this way the drive receives the manipulated variable set in the parameter window.
The forced position is cancelled if a target address with the contents "0" is sent to object 3. After cancellation, the drive moves automatically to the current value, which is set by the controllers as the setpoint manipulated variable.



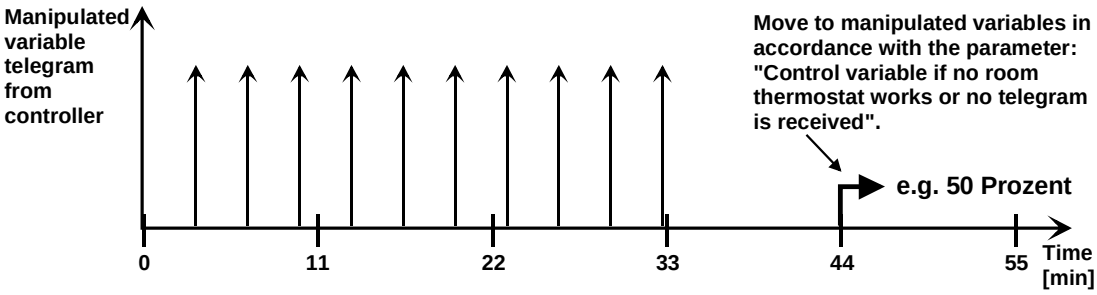
Cyclic monitoring ?
This parameter can be used to activate or deactivate the monitoring time.



Monitoring time
The drives expects at least one manipulated variable telegram from the room thermostat during the set time. If there is no telegram, the system moves to the manipulated variable under the parameter **"Control variable if no room thermostat works or no telegram is received".**



Example using a diagram with the following parameter settings for the monitoring functions:
Monitoring: ON
Monitoring time: 11 min.



Flashing of phys. Adr. Progr. LED in case of actuator or valve error
The drive can detect a fault in/at the drive system. If this parameter is set to "ON", the programming LED starts to flash if there is a fault in the drive system.

Send status in case of valve drive error
If the setting "ON" is selected, that status is sent to the bus in the event of a drive fault.

The telegram, which is sent by object 2, is a 1 byte type and can be decoded as follows:

0000 0000 = 0 = No drive fault.
0000 0001 = 1 = Manipulated variable telegram not received
1111 1111 = 255 = Irremediable control difference or
lower part of thermostat valve not screwed on.

This parameter is an important display possibility which can be used in connection with a visualisation to evaluate the status of the drive.

This valve is not suitable for two-point operations.

Note

Additional information

The valve drive can be used exclusively on Heimeier thermostat valve lower parts. If thermostat valve lower parts from other manufacturers are used, adapters must be fitted. Please contact us for information on the adapters to be used for individual manufacturers.