6-Way Valve
Voltage values in the FCC/S

GPG BUILDING AUTOMATION					
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Introduction

This document provides a brief introduction to the 6-way valve, including its functions and how to connect it to the FSS/S using parametrization.

It also explains how to send the valve's technical data to the FCC/S parameters in ETS.
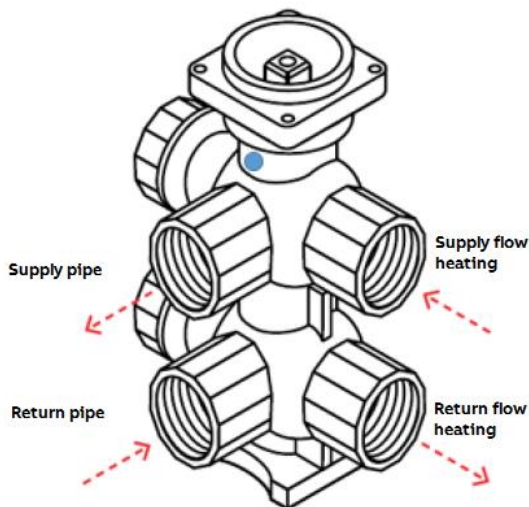
Objectives of the document

– Provide an introduction to the 6-way valve

– Provide an example of technical data transfer

Content

1. Basic information

The 6-way valve has six separate pipe connections. When installing the valve, it's essential to note the flow direction. As a rule, this is marked with arrows on the corresponding valve.

Heating circuit connection   **Cooling circuit connection**
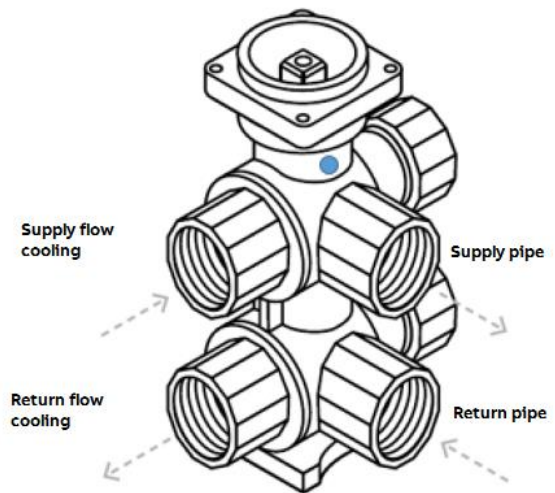

Fig. 1 Heating and cooling circuit connections

The 6-way valve is specially designed for use in heating/cooling ceilings, and also very compact. It operates up to four straightway valves using just one 0–10 V connection. Its advantages in these types of applications are easier troubleshooting and less cabling work.

2. FCC/S connection and settings

The 6-way valve connects to the 0–10 V interface on the FCC/S (Channel A). The valve also requires an auxiliary voltage.

You can enable the 6-way valve via application parameters straight from the application, where all the additional settings options will then be shown.

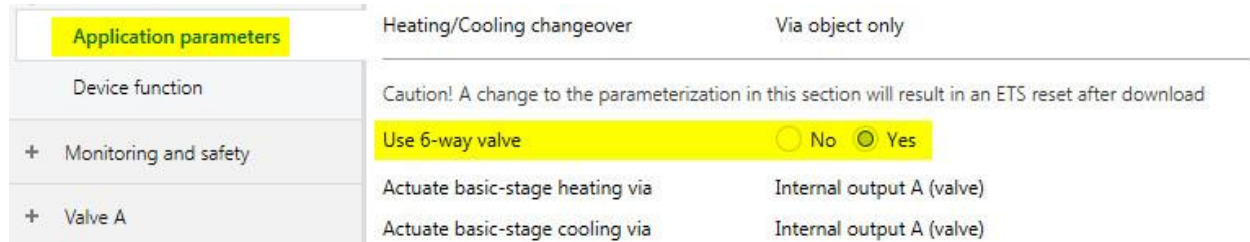| Application parameters	Heating/Cooling changeover	Via object only
Device function	Caution! A change to the parameterization in this section will result in an ETS reset after download	
+ Monitoring and safety	Use 6-way valve	○ No ◉ Yes
+ Valve A	Actuate basic-stage heating via	Internal output A (valve)
	Actuate basic-stage cooling via	Internal output A (valve)

Fig. 2 FCC/S ETS parameters

Example of voltage settings for the 6-way valve based on a 6-way ball valve. You will find this type of curve in the valve manufacturer's technical data.
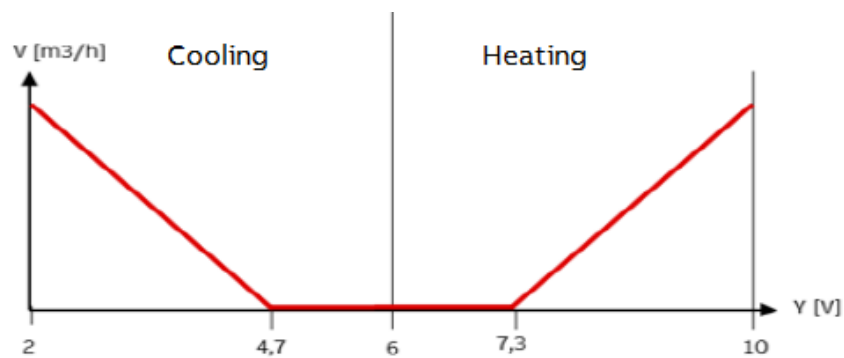

Fig. 3 Valve voltage values

max. valve position, cooling at 2 V
max. valve position, cooling at 4.7 V

max. valve position, heating at 10 V
max. valve position, heating at 7.3 V

Closed
4.7 V–7.3 V

Check and adjust the voltage values based on the valve manufacturer!

The voltage curve provides the settings values for entry in the FCC/S parameters.

You need to enter the voltage values for both minimum and maximum heating/cooling so that the valve can be actuated coherently.

The opening/closing time of the drive provides the specific information that ensures the valve purge works properly.

Fig. 4 FCC/S ETS parameters

The entered voltage values are then used to calculate and set the actual control values for the 6-way valve.

References to other documents

- FAQ Home and Building Automation
- FAQ 6-way valve and FCC/S
- Engineering Guide Database

Summary

The 6-way valve is a highly compact solution that makes it easy to control heating/cooling ceilings. Certain specifications are required (voltage curve adjustment) in order to actuate the valve. The FCC/S supports these automatically.