

Micro Control Systems

APPLICATION NOTE

APP-018

FHP's MCS-8 Target Reset

Revision History

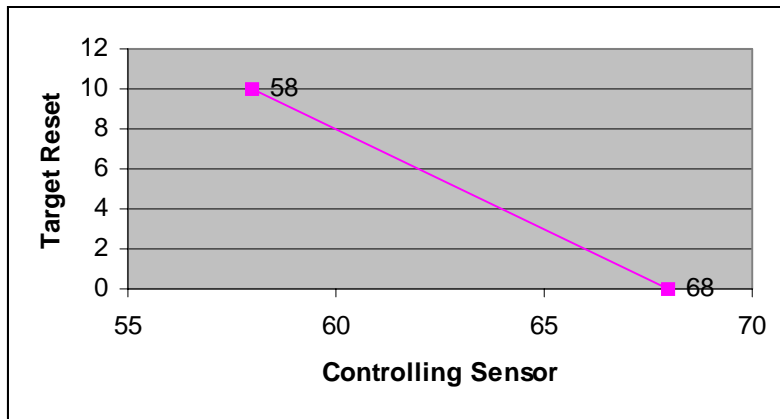
Date	Author	Description
02-17-99	BWW	Created initial document.

Theory

The target reset logic is used in variable air volume units where the cooling stages are controlled on supply air temperature. Based upon the return air temperature being too cool we want to increase the target for supply air temperature.

Logic

The target reset logic increases the COOL TARGET setpoint #4 based upon the controlling sensor for the “Fan/Pump Only” mode and the values in setpoints #42-#45. When the controlling sensor for the “Fan/Pump Only” mode drops below setpoint #42 “RETURN RESET” the software will calculate a reset to the COOL TARGET setpoint #4. The reset is proportional to how fall below the setpoint the controlling temperature is (see chart below). Once a reset is made another reset is not calculated until 600 seconds (setpoint #45) has elapsed. Setpoint #43 define the offset for the bottom end of the range for the controlling sensor and setpoint #44 defines the top end of the range for the target reset.



How to Setup using PC-CFG

1. Select the controlling sensor for each mode. The controlling sensor for the “Fan/Pump Only” mode is also used to calculated the adjustment to the “Cool Target” setpoint #4.

Control Mode on:	Return	Supply	Zone	Ambient
Fan/Pump Only Mode	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooling Mode	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heating Mode	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dehumid Mode	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Setup setpoints #42 - #45 with correct values and activate them (To disable the target reset logic simply made these setpoints NON-ACTIVE). Note the example is showing "RETURN" temperature as the controlling sensor for "Fan/Pump Only" mode, therefore the setpoint names are using RETURN. If you are using a different sensor to control the "Fan/Pump Only" mode then change the setpoint names accordingly.

#	Name	Value	Min	Max	Adjust Value	Time [Sec]	Active or Non-Active	Display Type	Level Of Auth. To Display	Type of Setpoint
42	RETURN RESET	68	60	80	0.5	0	Active	MCST100	View Only	Setpoint
43	RETURN DIFF	10	2	30	0.5	0	Active	MCST100	View Only	Setpoint
44	MAX RESET	10	1	30	0.5	0	Active	MCST100	View Only	Setpoint
45	RESET DELAY	600	5	1800	1	0	Active	SECONDS	View Only	Setpoint