

# Micro Control Systems

APPLICATION NOTE

APP-017

## Chilled Water Reset CHLR05.00 & CHLS05.00

### Revision History

Date	Author	Description
02/1599	John G. Walterick	Chilled Liquid Reset CHLR05.00 & CHLS05.00
10/14/99	R C Toney	Updated with examples from PC-CFG

## Theory

Chilled Water Reset (CWR) provides a Building Management System (BMS) with the ability to alter the leaving liquid set point dynamically. The input is a 0 to 5 volts dc signal on one of the MCS-8 or I/O sensor inputs. The system design provides for both a plus and minus CWR, which is proportional to the input signal.

The following must be completed in the PC-cfg program.

1. In the 'SI Info' screen setup the CWR sensor input as a TRGTRST type.

#	Name	Display Type	Offset
M-1	<u>TRG REST</u>	TRGTRST	0

2. In the 'Chiller Info' screen, under 'General Information' identify the sensor input.

**Chiller Information Screen**

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**General Information**

Number of Circuits 2	Run/Stop Switch RUN/STOP	Phase Loss Not Used	Ambient Temperature Not Used
Total Capacity Steps 2	Emergency Stop Not Used	Chilled Water Reset <b>TGT REST</b>	Alarm Output ALARM

3. In the 'Setpoints' screen set the value and make the Chilled Water Reset 'active'.  
Set point # 60.

60	CH WTR RESET	5	0	10	0.1	0	Active	MCST100	View Only	Setpoint
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## Logic

Chilled Water Reset (CWR) is a 0 to 5 volts dc sensor input to the MCS microprocessor. When CWR sensor input type is TRGTRST, the CWR follows the following rules in CHLR05.00 and CHLS05.00.

1. If the input is 2.5 volts dc the CWR is zero.
2. At 0 volts dc the CWR is a negative value equal to the set point value.
3. At 5.00 volts dc the CWR is a positive value equal to the value in the set point.
4. For CHLR05.00 & CHLS05.00 this is set point number 60.
5. For values in between 0 – 2.5 and 2.5 – 5.0 the CWR is a plus or minus value which is proportional to the sensor input voltage.
6. The value displayed for CWR sensor input is the adjustment value. (Note, if the sensor type is not TRGTRST, the value displayed is still used as the adjustment value.)
7. In software CHLR05.00-R and CHLS05.00-Z and higher the value of the target setpoint is changed to reflect the new target.

## Examples

Set point    LEV. LIQ. TEMP    =    45.0F

Set point    CH WTR RESET    =    5.0F

<u>Sensor Input volts dc</u>	<u>Chilled Water Reset</u>	<u>Reset Leaving Liquid Target</u>
0	-5.0	40.0F
1.25	-2.5	42.5F
2.50	0.0	45.0F
3.75	+2.5	47.5F
5.00	+5.0	50.0F