Learn More About Cooling Tower and Boiler Version 3

April 21, 2009

Bleed Volume on Makeup Volume Control Algorithm

This control algorithm is only available in single tower controllers: WCT400, WCT410, and WDT410. It is not available in any boiler, condensate monitor or WECT/WEDT controller.

In this control mode, two water meter inputs are used. Flowmeter 1 is the makeup water meter, and Flowmeter 2 is the bleed water meter. These may be water contactor (volume per contact, low frequency) or paddlewheel (K Factor, or contacts per volume, high frequency) types. The user programs the makeup water volume that triggers the relay to activate. The relay stays on until the bleed water meter totalizes the volume required to deactivate it.

Feed on Water Contactor or Paddlewheel using 2nd Meter

This control algorithm is only available in single tower and boiler controllers: WCT400, WCT410, WDT410, WBL400 and WBL410. It is not available in any dual tower/boiler, condensate monitor or WECT/WEDT controllers.

The user selects his feed mode as Feed on Water Contactor or Feed on Paddlewheel as usual. A new menu will be available in the Feed Menu to allow the user to Assign the Watermeter to the relay: WM1, WM2, or Both. If Both is selected, then the totals from both meters are added together to trigger the feed relay to activate.

In dual tower/boiler models, Flowmeter 1 is used for System A and Flowmeter 2 for System B and it is not possible to use both meters on one system.

Temperature Error will not stop control

This feature is available in the following controllers: WCT400, WCT410, WDT410, WDT400, WDB400, WCM, WDC and WBL410. It is not available in WECT/WEDT controllers.

The user will now be able to select if they want the controller to be in Manual Temperature Compensation mode or Automatic Temperature Compensation mode.

If Manual Mode is selected, the user sees a Man Temp menu allowing the temperature to be manually entered. It is not possible to get a Temperature Error message.

If Auto Mode is selected, the user sees a Calibrate menu allowing the reading to be calibrated. If the temperature signal goes invalid at any time, the controller uses the last manually set temperature for control (the default value is 25C/78F) and displays the Man Temp menu and a Temp Error message. Even on a power-up, the Temp Error will be displayed.

Display of Uncalibrated Conductivity

This feature is available in the following controllers: WCT400, WCT410, WDT410, WDT400, WDB400, WCM, WDC and WBL410. It is not available in WECT/WEDT controllers.

A new menu is available within the Conductivity menu, called NoCal, which shows the raw, uncalibrated conductivity reading. This may be used to get back to factory calibration, by performing a one point calibration and entering the NoCal value.

Add totalizer menus to 400 product
This feature is available in the following controllers: WCT400, WCT410, WDT410, WDT400, WDB400 and WBL410. It is not available in condensate monitors or WECT/WEDT controllers.

In previous versions of software, the water meter totalizer menu was only available in the WCT410 and WDT410 products, and then only if the feed mode was a water meter type. Now all products that can potentially use a water meter will show the totalizer menu(s). In single tower/boiler products, two water meter menus are possible and will be displayed all the time. In dual tower/boiler products, the totalizer menus will only appear if the feed mode is set to a water meter type.

Add Paddlewheel Feed Mode
This feature is available in the following controllers: WCT400, WCT410, WDT410, WDT400, WDB400, WBL410 and WECT/WEDT controllers. It is not available in condensate monitors.

In previous versions of software, the paddlewheel feed mode was not available in the dual tower/boiler products, because only the processor board had hardware to support it. Now all products that can potentially use a water meter will have a paddlewheel feed mode available.

Motorized Ball Valve Stuck Halfway problem
This feature is available in the following controllers: WCT400, WCT410, WDT410, WDT400, WDB400, WCM, WDC and WBL410. It is not available in WECT/WEDT controllers.

The Bleed and Blowdown control relays in previous versions could be activated or deactivated for short periods of time (less than 10 seconds) which could cause a motorized ball valve to stop turning before it reached its full open or closed position.

It is now impossible for the relay to change state in less than 10 seconds.

Blinking Alarm LED
This feature is available in the following controllers: WCT400, WCT410, WDT410, WDT400, WDB400, WCM, WDC and WBL410. It is not available in WECT/WEDT controllers.

To make an alarm condition more noticeable, the LED for any alarm relay will blink rather than being constantly illuminated during the alarm condition.

Important Bug Fixes
Hand operation of Relay 1 stopping early
No decimal point available in Paddlewheel K Factor setting
Bar graph of deviation from set point not drawing correctly
Calibration at 0 uS allowed