DCM510 Series Controller
Quick Start Guide

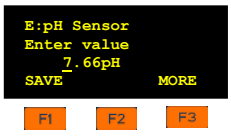
CAUTION

Before attempting calibration or commissioning of the DCM510 control system, water chemistry must be stable and within normal operating ranges of 7.2-7.8 pH, Free Chlorine at 1-3 ppm, and Total Alkalinity level at 80-120 ppm.

Calibrations

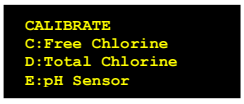
pH Single Point Calibration Example

Press the CAL button, then use the arrow buttons to scroll to pH sensor E, then press OK.
Login with your password, if requested.
Next, take a water test and using the buttons, enter the results, one decimal place at a time followed by the SAVE F1 key. The LED screen should indicate **Sensor Calibrated**. Press NEXT F1 to continue to the next sensor to be calibrated, or press ESC ESC twice to return to the Home screen.

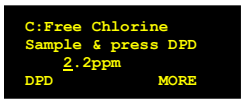


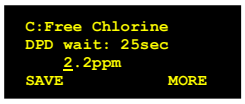
Chlorine/Bromine Sensor Single Point Calibration Example

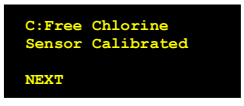
NOTE: *The ppm sensor CAL sequence was designed to optimize the DPD calibration by remembering the sensor value when the DPD F1 button is pressed.*



Press the CAL button, then use the buttons to scroll to desired sensor C:Free Chlorine, then press OK.
Login with your password, if requested.
Next, remember to press the DPD F1 button when taking a DPD sample. This starts the calibration sequence the moment the DPD F1 button is pushed. A timer is also started for your reference. Then, once the water test is complete, using the buttons, enter the results followed by the SAVE F1 key.







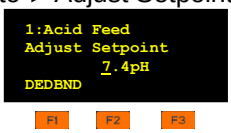
The LED screen should then indicate **Sensor Calibrated**. Press NEXT F1 to continue to the next sensor to be calibrated, or press ESC ESC twice to return to the Home screen.

Adjusting Setpoints

NOTE: *Water chemistry is controlled by the chemical feeders. In our controllers, the setpoint adjustments are therefore in the outputs to the feeders.*

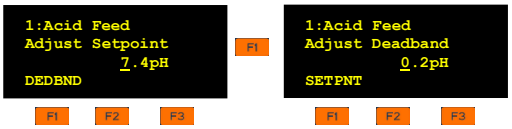
pH Setpoint Example:

For our default example, the pH feeder is assigned to Relay 1: Acid Feed. To change the pH set point, press the MENU button then use the buttons to point to ►Adjust Setpoints. Press OK then use the buttons to point to the ►1: Acid Feed relay, then press OK.
Login with your password if requested, then press OK. Use the arrow buttons to change the control setpoint, then press OK to save the new setpoint.



pH Deadband Example:

Deadband is the control overlap necessary to keep a feeder from turning on and off too rapidly or "chattering".
By default, the pH feeder is assigned a deadband of 0.20 pH. This means the pH must deviate 0.20 pH above the setpoint before the acid feeder will turn on.
To change the pH deadband, press the MENU button then use the buttons to point to ►Adjust Setpoints. Press OK then use the buttons to point to the ►1:Acid Feed relay, then press OK.



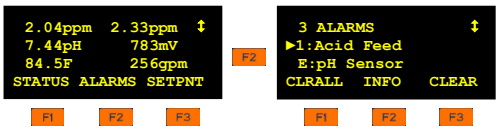
Login with your password if requested, then press OK.
Press DEDBND F1 and
Use the buttons to change the deadband, then press OK to save the new value. Press ESC to return to the Home screen.

Refer to the Operation and Installation manual for more information on the Deadband and its function.

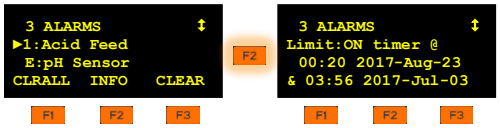
Alarms

Alarm Info and Alarm Clear Example:

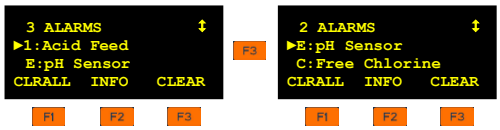
NOTE: *All alarms in the DCM 510 series controllers are latching alarms by default which means once an alarm is triggered, it must be acknowledged or cleared. Alarm latching can be turned off in the DCM 510 I/O Setup menus.*



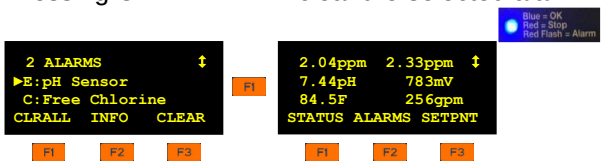
If an alarm is active with the red LED flashing, pressing ALARMS [F2] will show how many alarms there are on the top line, and specific alarms on the 2nd and 3rd lines.



Press and hold INFO [F2] and it will show detailed information on each alarm selected.



Pressing CLEAR [F3] will clear the selected alarm



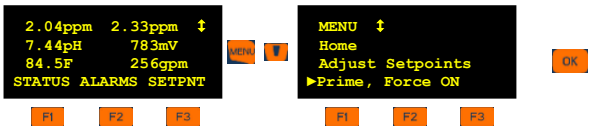
CLRALL [F1] [F1] will clear all alarms, extinguish the flashing ALARM light and return to the Home screen.

START / STOP key

A quick way to force all chemical feed relays to the OFF position is to press the STOP START button. The status LED in the upper right corner will change to a steady RED as will all the active control output LEDs. To resume normal control on all outputs press STOP START again. A steady BLUE status LED indicates normal operation with no alarms, and a flashing RED LED indicates normal opreration with an uncleared alarm.

Feeder Prime/Force OFF

Forcing a relay or feeder ON, we call “Priming” because that is the most common use of this function. The relays can also be forced to STOP or Prime Cancel to be returned to normal operation from this menu.

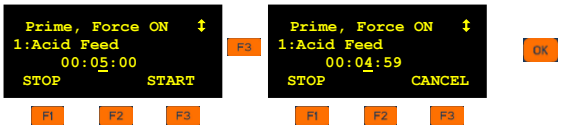


To Prime or Force ON a relay using the Prime function, from the Home screen, press MENU then ▼ to select Prime, Force ON then press OK.

Enter an operator level password or higher if required, then press OK.

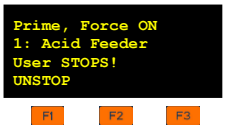
NOTE: *For safety, if the feeder selected is in an alarm timeout, or the flow switch or START/STOP button has stopped chemical feed, you will not be able to force the feeder ON until these conditions are changed.*

Select the relay/feeder to force ON or OFF, then press OK.



CAUTION: *Forcing a feeder on for an extended time can be hazardous.*

The default time on the Prime function is 5 minutes. Change the Prime timer duration if desired using the ◀ ▶ keys, then press START [F3]. Pressing CANCEL [F3] again cancels the Prime, and returns the relay to normal control. Pressing STOP [F1] forces the relay OFF until you “UNSTOP” the relay.



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Part Number 7750427 Rev.1 9/29/22