



# BOILER CONTROLS & ALARMS

## GENERAL INFORMATION:

WaterLine Controls can be used on either the demineralized/deionized water system tank with Stainless Steel Floats custom made for your application or with ionized water using "spark plug" type sensors. The difference is that WaterLine Liquid level Control Circuit looks like the competition but it does not function like it. This system will operate so the sensors will never need to be replaced. WaterLine Controls is considered a complete kit for water level management, it includes the sensor the mounting assembly and the Control Panel. The Control Panel can also be used with existing sensors (consult factory). The only other item needed is a fill valve.

Waterline Controls ensures trouble-free maintenance for many years and provides a Lifetime Limited Warranty\* for all of the controls we produce. Whether you're looking to build a brand new state-of-the-art boiler system, or replace the boiler controls on your old system, Waterline Controls can provide you with the most reliable and long-lasting solution to your boiler control needs.

The probe sensors used by Waterline Controls systems are more than capable of withstanding the harsh conditions present in your boiler's water tanks and to provide the most accurate and dependable control for your boiler controls.

## STAND ALONE SYSTEM WITH CONNECTIONS TO BUILDING MANAGEMENT SYSTEM.

## APPLICATIONS

### BOILERS

- Initial install and replacement
- Softwater tanks feeding Boilers
- Custom controls available for special situations.



## COMMUNICATION WITH BUILDING MANAGEMENT

Building Automation dry contacts to tell building operator when:

- There is Power Loss to controls
- There are Remote manual activation controls (Burner reset, Test, 30 second Fill)
- Lock Out (timed Lock out on some models)
- The Burner is inactive
- Fill cycle is ON and OFF
- There is Improper wiring: open or short

## FEATURES

- Easy to install.
- Microprocessor controlled.
- Easy-to-understand LED display.
- Modular Construction
- One-Step Internal Testing system for the electronics.
- Built for easy troubleshooting
- Lifetime Limited Warranty\*

\* See Warranty for details

## PRODUCT SPECIFICATIONS

- Accurately manages levels to within a fraction of an inch of operating range.
- 110/220VAC or 24VAC - 50/60 Hz: specify voltage required when ordering.
- Power relay for each function.
- Dry contacts for are rated for .5 amps at 60 volts.
- Sensor wire should not be spliced. Standard Kit has 50 ft. length.

## SENSOR PROBES

We make custom probes to fit any application.

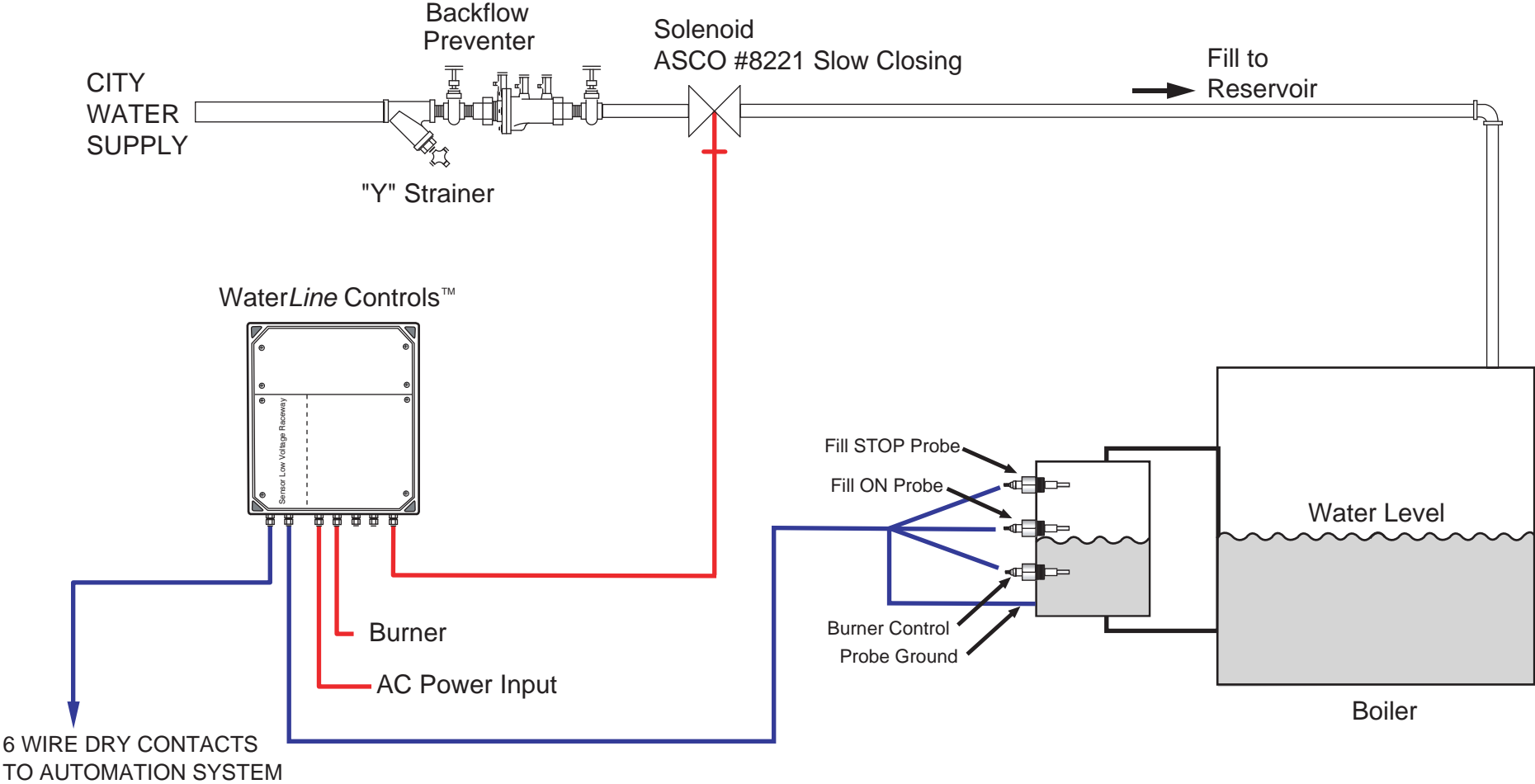
- Installations:**
- A licensed electrician can install the control box and sensors in less than one hour.
  - 110VAC Solenoid required. (We recommend any type of slow closing valve)
  - The sensor cable should be installed in a grounded metal conduit in order to prevent spurious signals from interfering with the sensor operation.

## MODELS

**PRODUCT FUNCTION TRUTH TABLE** The Blank spaces below mean "No Connection or Function"

| MODEL   | BMS DRY CONTACTS |            |  |      |           | POWER RELAY    |      | TIME DELAYS  |        |        |           |            |          | Each requires 2 wires<br>MANUAL /REMOTES SWITCH RESET |      |          | PROBES |
|---------|------------------|------------|--|------|-----------|----------------|------|--------------|--------|--------|-----------|------------|----------|---|------|----------|--------|
|         | FAULT            | POWER LOSS | BURNER CUT OFF                           | FILL | BAS WIRES | BURNER CUT OFF | FILL | LWC Lock Out | LW OFF | HWC ON | AUTO TEST | TEST CYCLE | LOCK OUT | LWCD REST   | TEST | FILL     |        |
| BLC3201 | X                | X          | X  |      | 4         | X              |      |              |        |        |           |            |          |   |      | Optional | 2      |
| BLC3302 | X                | X          | X  | X    | 6         | X              | X    |              |        |        |           |            |          |   |      | Included | 3      |
| BLC3303 | X                | X          | X  | X    | 8         | X              | X    | 90 Sec       |        |        |           |            | X        |   |      | Included | 3      |
| BLC3204 | X                | X          | X  |      | 4         | X              |      |              | 15     | 30     |           |            |          |   |      | Optional | 2      |
| BLC3205 | X                |            | X  |      |           | X              |      |              | 15     | 30     | 10 Min    | 90 Sec     |          |   |      | Optional | 2      |
| BLC3206 | X                | X          | X  |      | 4         | X              |      |              | 15     | 30     | 20 Min    | 60 Sec     |          |   |      | Optional | 2      |
| BLC3207 | X                | X          | X  |      | 4         | X              |      |              | 15     | 30     | 15 Min    | 60 Sec     |          |   |      | Optional | 2      |
| BLC3208 | X                | X          |  | X    | 4         |                | X    |              |        |        |           |            |          |   |      | Included | 2      |
| BLC3209 | X                | X          | X  |      | 6         | X              |      | 30 Sec       |        |        |           |            | X        | X   | X    | Optional | 2      |
| BLC3210 | X                | X          | X  |      | 6         | X              |      | 30 Sec       |        |        |           |            | X        | X   |      | Optional | 2      |
| BLC3211 | X                | X          | X  |      | 4         | X              |      |              |        |        |           |            |          |   | X    | Optional | 2      |
| BLC3212 | X                | X          | X  |      | 6         | X              |      | 30 Sec       |        |        |           |            | X        | X   |      | Optional | 2      |
| BLC3213 | X                | X          | X  |      | 4         | X              |      |              | 15     | 30     | 20Min     | 90 Sec     |          |   |      | Optional | 2      |
| BLC3115 | X                | X          |  | X    | 4         |                | X    |              |        |        |           |            |          |   |      | Included | 1      |
| BLC3214 | X                | X          | DRAIN DRY CONTACTS AND DRAIN POWER RELAY |      |           |                |      |              |        |        |           |            |          |   |      |          | 2      |

UNIVERSAL DIAGRAM FOR ALL MODELS



**DEFINE EACH MANUAL REMOTE SWITCHING**

| Burner Reset | Fill 30 Sec ON | Test |
|--------------|----------------|------|
|              |                |      |

WLC Controls Green Terminal Block

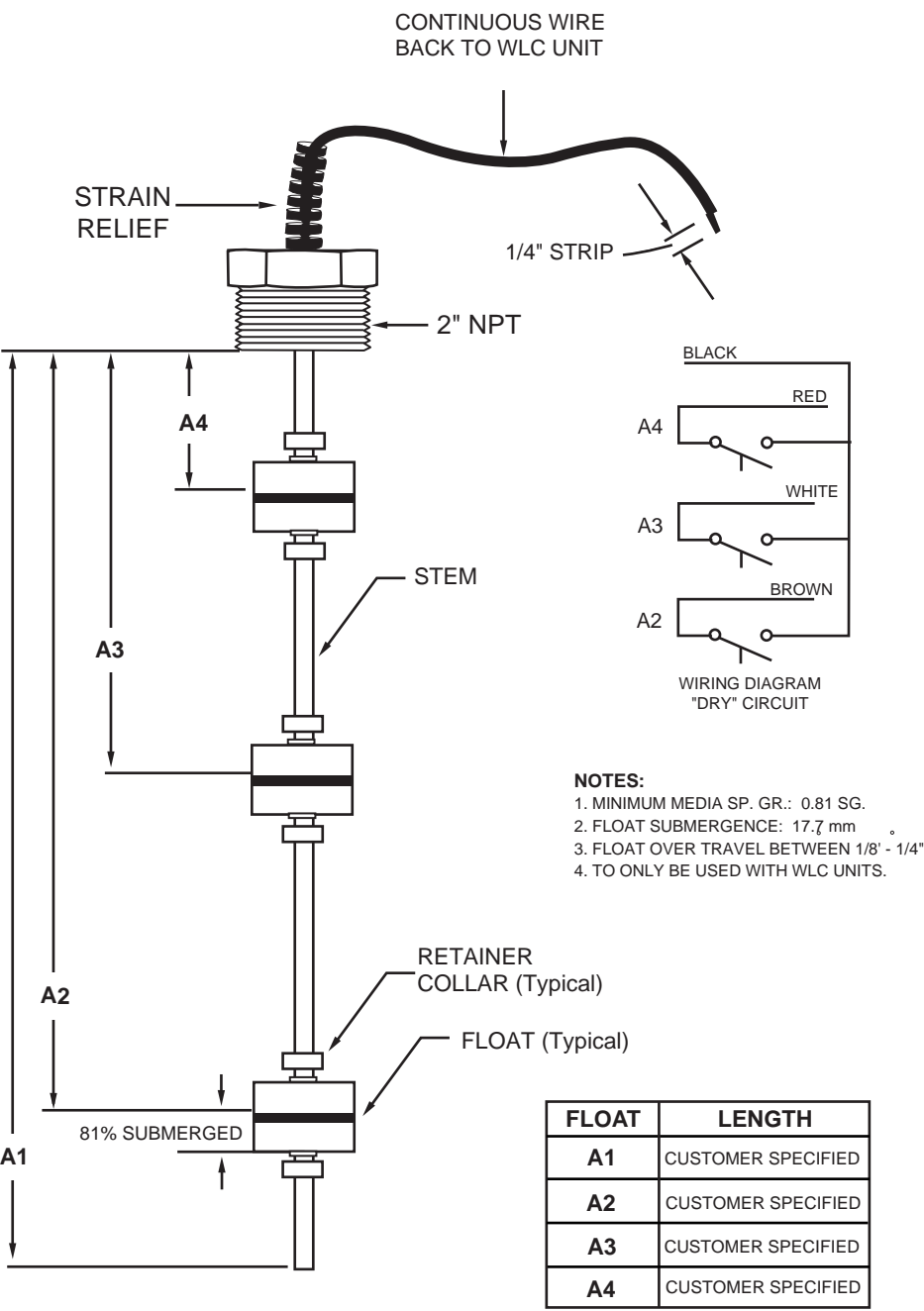
Facilities Controls  
(No power applied from Facilities Switch Closure)

Close to activate.  
Hold Test Switch until lockout activates.

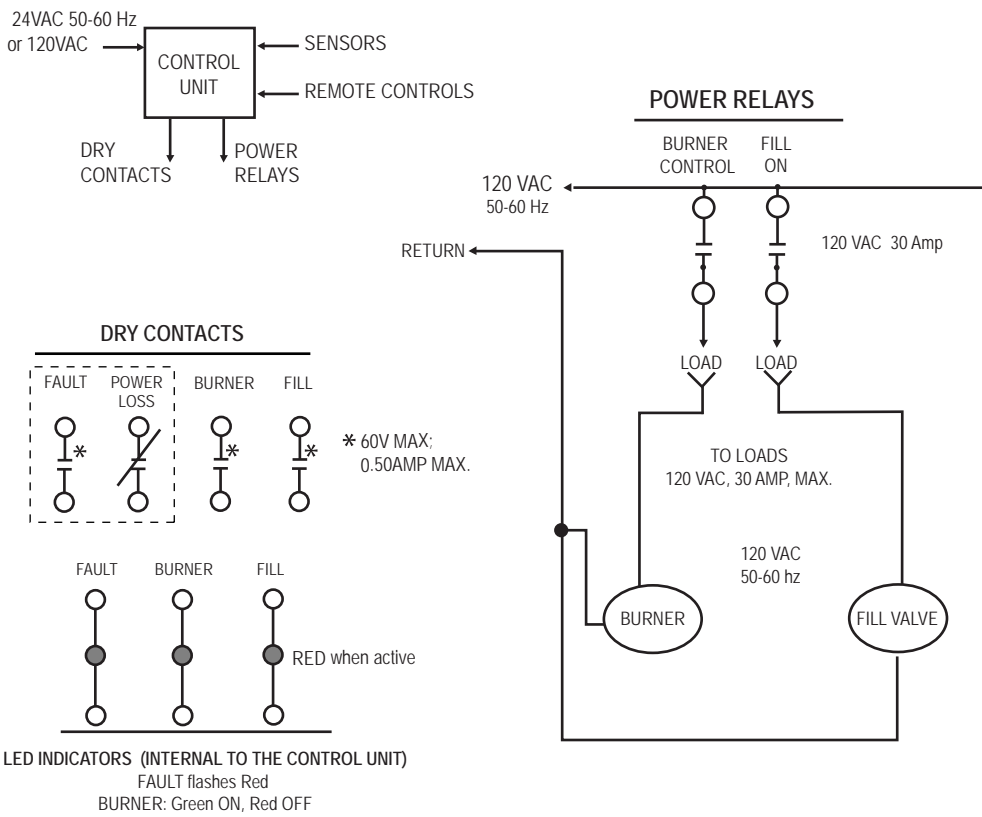
- \* Contact the factory for Custom Sensor requirements.
- \* See written specification for more details.

|   |  |
|---|--|
| Waterline Controls                        |  |
| P.O. Box 12544 Scottsdale, Arizona 85260  |  |
| Toll Free: 888-905-1892 Fax: 480-629-8223 |  |
| TITLE: Boiler Controls                    |  |
| WATERLINE CONTROLS                        | DWN BY <i>Pamela Crandall</i><br>APPVD BY <i>Bill Seneff</i> |
| SCALE: NTS                                | DWG NO.  |
| DATE: 06-10-2013                          |  |

# OPTIONS



# FUNCTIONAL WIRING DIAGRAM Boiler Control (Dry Contacts are 2 wires each)



# STANDARD PROBE

