CSI Controls™

POWER ZONE™ Control Panel
Simplex/Duplex Float Models

Installation Instructions and Operation Manual

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LISTED

Parts included

x3, or x4*
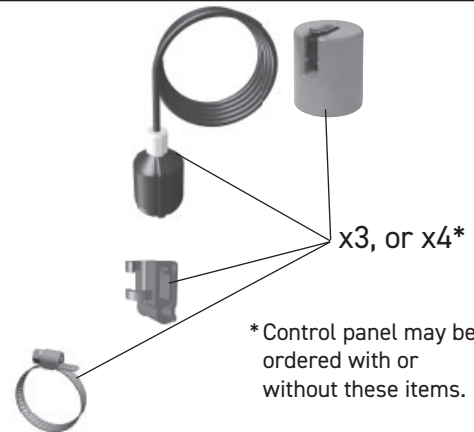
*Control panel may be ordered with or without these items.

⚠ **WARNING!**

ELECTRICAL SHOCK HAZARD
Disconnect all power sources before servicing. Failure to do so could result in serious injury or death.

This control panel must be installed and serviced by a licensed electrician in accordance with the National Electric Code NFPA-70, state and local electrical codes.
UL Type 4X enclosures are for indoor or outdoor use.

Warranty void if panel is modified.

CSI Controls® offers a three-year limited warranty.
For complete terms and conditions, please visit www.csicontrols.com.

Products returned must be cleaned, sanitized, or decontaminated as necessary prior to shipment to ensure that employees will not be exposed to health hazards in handling said material. All applicable laws and regulations shall apply.
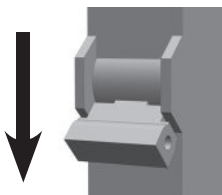

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Installing the Float Switches

The Power Zone™ Single Phase control panel operates with three or four float switches.

1 **⚠ WARNING!**

Ensure all power is turned OFF before installing floats in tank. Failure to do so could result in serious or fatal shock.
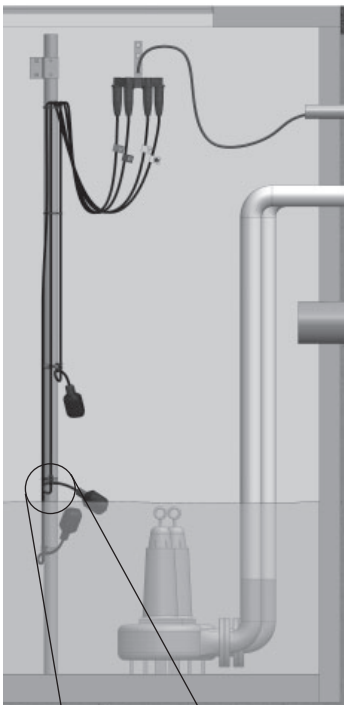
2 **⚠ CAUTION!**

If the floats are not properly mounted and connected in the correct order, the pumps will not function properly.

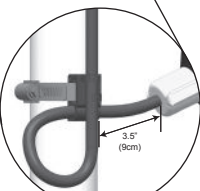Floats require free range of motion.

3-Float Installation   4-Float Installation

Note: Speed-E Connect™ Float Connection System shown in above installations.
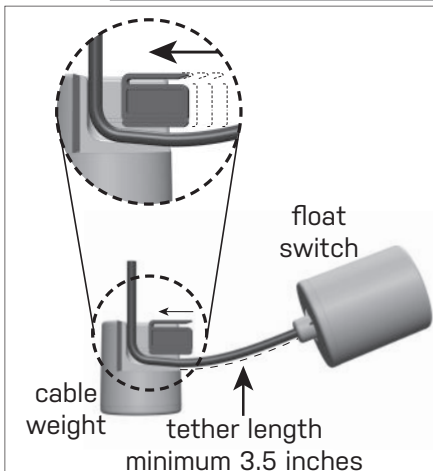
Tighten the clamp.

3.5"
(9cm)

Hose clamp is 18-8 stainless steel. Contact your CSI Controls supplier for replacements.

Make sure hose clamp band does not interfere with float operation.

Do not install cord under hose clamp.

Replace product immediately if switch, cable weight or cable is damaged or cracked.

float switch

cable weight

tether length minimum 3.5 inches

Mounting the Control Panel

Mount control panel with supplied mounting feet.

NOTE

If the distance to the control panel exceeds the length of the float switch cords or the pump power cord, splicing in a liquid-tight junction box will be required. For outdoor or wet installation, we recommend a CSI Controls, UL Type 4X junction box.

Wiring the control panel

1 Determine conduit entrance locations on control panel as shown. Check local codes and schematic on the inside cover of the panel for the number of power circuits required.

⚠ CAUTION!

Be sure the pump power voltage and phase are the same as the pump motor being installed.

Use of separate pump and control/alarm power sources is recommended.

2 Connect the following wires to the proper terminal positions:
   - incoming power for each pump circuit
   - incoming power for control/alarm circuit
   - pump 1
   - pump 2 (Duplex)
   - float switches

⚠ CAUTION!

You must use conduit sealant to prevent moisture or gases from entering the panel.

Type 4X conduit must be used to maintain a Type 4X rating of the control panel.

3 Verify correct operation of control panel after installation is complete.

Operations

The Power Zone™ control panel uses float switches to continuously monitor and control the liquid level in the tank.

Hand Operation - Press and hold the "Push to Run" switch if stop float is OPEN. If stop float is CLOSED, press "Push to Run" switch and the pump will run until stop float opens or until "Push to Run" switch is pressed again.

Off Operation - Turn control/alarm breaker off to be in Off operation.

Auto Operation - In timed dose mode the timer controls pump ON and OFF time as long as the timer enable float is raised. In demand mode, the stop and start floats control the pump.

Green Control and Alarm Power Indicators - Illuminate when control power and alarm power is present. Alarm light will flash if alarm power is lost.

Controller Navigation and Setup
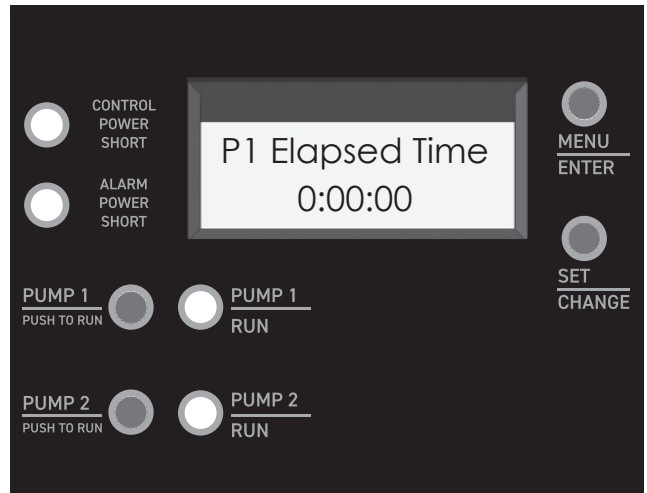
Viewing or Changing Parameters:

Press the Menu/Enter button to advance to the next menu.

Press and hold the Menu/Enter button for 3 seconds to access setting Menus.

Press Set/Change button to access Setting Menus and to edit/view parameters/function.

After 60 seconds of no activity in the Settings Menu the controller will go back to Main Display Menus.

Simplex Models: The panel operation is factory set to Demand Dose control. To activate Time Dose control, the Pump Off Time needs to be set.

Simplex Float Model	
Display Main Menu	Navigation
P1 Elapsed Time 0000:00:00 (hh:mm:ss) P1 Cycle Count 0 to 9999 Field Timer 00:00 (mm:ss or hh:mm) Override Count 0 to 9999 High Level Count 0 to 9999	Press Menu/Enter to advance Menus in Display Main Menu: To access Settings Menu press and hold Menu/Enter for 3 seconds
Settings Menus	
Level Control Options Menu Float Status Menu Time Dose Options Menu	Press Menu/Enter to advance Setting Menus: Press Set/Change to access Sub Menus & edit
Level Control Options Menu	Default Setting in **Bold**
Low Level Alarm	**Off**, Alarm Light Only, Light & Audible
Number of Floats	**3 Float System**, 4 Float System
Ovrd. Flt Order (requires 4 float)	**Overid. Below H.L.**, Above H.L.
Float Fail Alarm	**Off**, Alarm Light Only, Light & Audible
P1 E.T.M. Reset	**Set/Chg to Reset**, Reset P1 E.T.M.
P1 C.C. Reset	**Set/Chg to Reset**, Reset P1 C.C.
Ovrd Count Reset	**Set/Chg to Reset**, Reset Ovrd Count
Float Status Menu	Condition
Red. Off Float	Open/Closed
Pump Off Float	Open/Closed/Failed
Pump On Float	Open/Closed/Failed
Timer Ovrd Flt	Open/Closed/Failed
High Level Float	Open/Closed/Failed
Time Dose Options Menu	Default Setting in **Bold**
Pump On Time	**05:00** (mm:ss)
Pump Off Time	**00:00** (hh:mm) activates TD Control
Override On Time	**05:00** (mm:ss)
Ovrd. Off Time	**00:30** (hh:mm)
Override Alarm	**Off**, Alarm Light Only, Light & Audible
H.L Time Delay	**00:02** (mm:ss)

Duplex Float Model	
Display Main Menu	Navigation
P1 Elapsed Time 0000:00 (hh:mm:ss) P1 Cycle Count 0 to 9999 P2 Elapsed Time 0000:00 (hh:mm:ss) P2 Cycle Count 0 to 9999 Lag Pump Count 0 to 9999 High Level Count 0 to 9999	Press Menu/Enter to advance Menus in Display Main Menu: To access Settings Menu press and hold Menu/Enter for 3 seconds
Settings Menus	
Level Control Options Menu Float Status Menu	Press Menu/Enter to advance Setting Menus: Press Set/Change to access Sub Menus & edit
Level Control Options Menu	Default Setting in **Bold**
Lead Selection	**Alternate**, Pump #1 is Lead, Pump #2 is Lead
Low Level Alarm	**Off**, Alarm Light Only, Light & Audible
Number of Floats	**4 Float System**, 3 Float System
Float Order	**Lag Below H.L.**, Above H.L.
Float Fail Alarm	**Off**, Alarm Light Only, Light & Audible
P1 E.T.M. Reset	**Set/Chg to Reset**, Reset P1 E.T.M.
P1 C.C. Reset	**Set/Chg to Reset**, Reset P1 C.C.
P2 E.T.M. Reset	**Set/Chg to Reset**, Reset P2 E.T.M.
P2 C.C. Reset	**Set/Chg to Reset**, Reset P2 C.C.
Lag Count Reset	**Set/Chg to Reset**, Reset Lag Count
H.L. Count Reset	**Set/Chg to Reset**, Reset H.L. Count
Float Status Menu	Condition
Red. Off Float	Open/Closed
Pumps Off Float	Open/Closed/Failed
Lead Pump On Float	Open/Closed/Failed
Lag Pump On Flt	Open/Closed/Failed
High Level Float	Open/Closed/Failed

Field Wiring Connections

Terminal Strip with All Available Options
Note: This is only a sample, please follow the specific connection instructions located inside your panel.

L1	L2	N	G	1	2	3	4	N	G	5	6	N	G	7	8	9	10	11	12	13	14	15	16	17	18	+	–	S

L1, L2, & N	115/230 VAC Pump Power
1	115 VAC Alarm Power
2	115 VAC Control Power
3 & 4	Pump 1 Mtr.
N	For 115 Volt Pump Connection
5 & 6	Pump 2 Mtr
N	For 115 Volt Pump Connection
7 & 8	Redundant Off Float
9 & 10	Off Float
11 & 12	Lead On Float
13 & 14	Lag On Float
15 & 16	Alarm Float
17 & 18	Aux. Alarm Contact
+	Excitation Voltage 4-20mA Level Transmitter
–	Signal Input for 4-20mA Level Transmitter
S	Shield for 4-20mA Level Transmitter Cable

Note: Terminal strips will differ between Power Zone™ models and options. Your panel may be missing some of these terminal strip numbers. However, this example shows all possible field wiring connections.

Troubleshooting

Alarm Light Flash Pattern	Audible Alarm Pattern	Alarm Description	Other Indications
2 per second		High Level	Aux. Contact Closed
1 every 4 sec.	1 every 4 sec.	Control Power Short	Control Power Light Off Control Power Short Light On
1 every 4 sec.	None	Alarm Power Short	Alarm Power Light Off Alarm Power Short Light On
1 every 4 sec.	None	Alarm Power Fail	Alarm Power Light Off Alarm Power Short Light Off
2 every 4 sec.	2 every 4 sec. (if enabled)	Timer Override Warning	
3 every 4 sec.	3 every 4 sec. (if enabled)	Float Failure	"Failed" in Float Status Menu
5 every 4 sec.	2 every 4 sec. (if enabled)	Low Level	