Control Panels / Time dosing

Control panels DO NOT operate the same, it is imperative you understand how your panel works.

The primary differences are:

- During "over ride" float conditions, some panels default back to a demand dose (which defeats the purpose of time dosing) while others enable a secondary timer setting.
- When the "timer on" float drops, some panels finish the current pump"on" cycle, others immediately shut the pump off which can lead to false pump event counter readings.
- Some floats are wired at 120 volts (motor rated) and some at 24 volts (signal rated).
- Some float wiring terminals have a common hot wire, some have a common neutral wire.
- Some panels need a jumper wire installed or removed to operate with or without optional floats.

Following are the schematics and basic panel information for the more common control panels along with instructions to set the timers.

Panels included:

Rhombus manual dial type TD (time dosed)
Rhombus IFS series
Rhombus EZ series
Orenco MVP
Multi-flo
Septronics
Alderon

SJE-Rhombus® Type TD

Time dosing of a single pump

* ON time cut short if Timer Float Drops (OT or TO models)

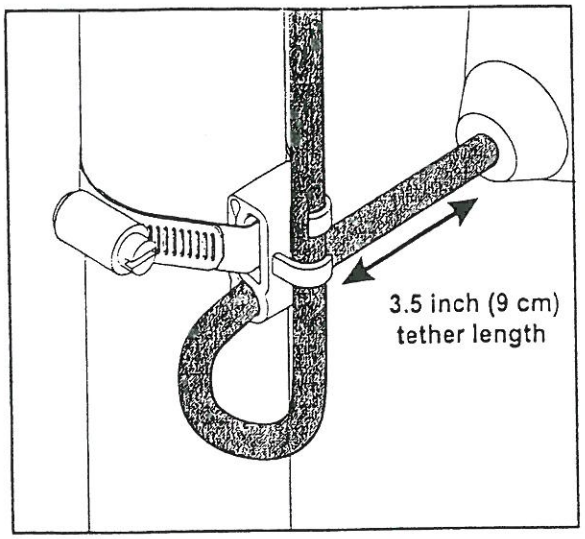


FIGURE 5 - Mounting clamp detail.

Option 4E
Redundant Off / Alarm Activation
Wiring Diagram

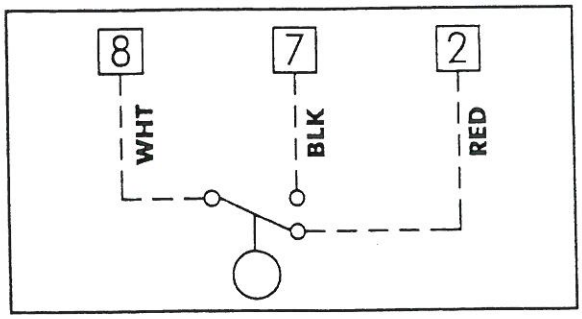


FIGURE 7 -

3 wire float (spdt) to gain low level alarm

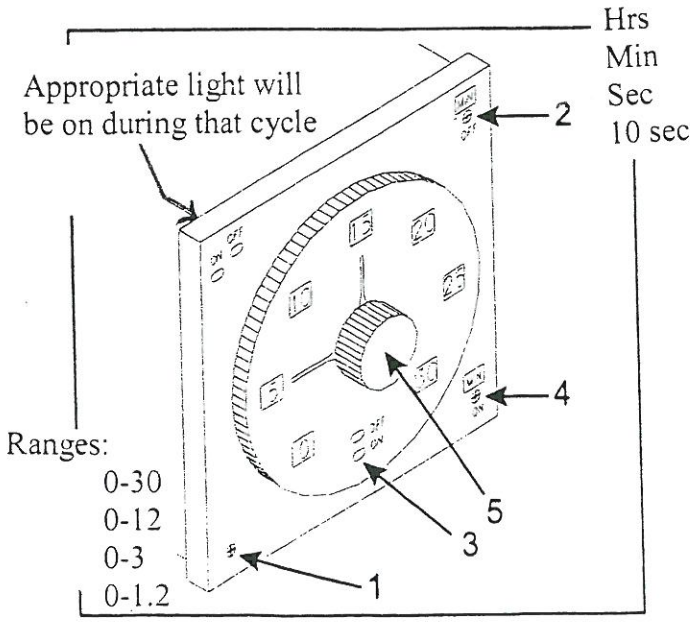


FIGURE 8 - Timer detail

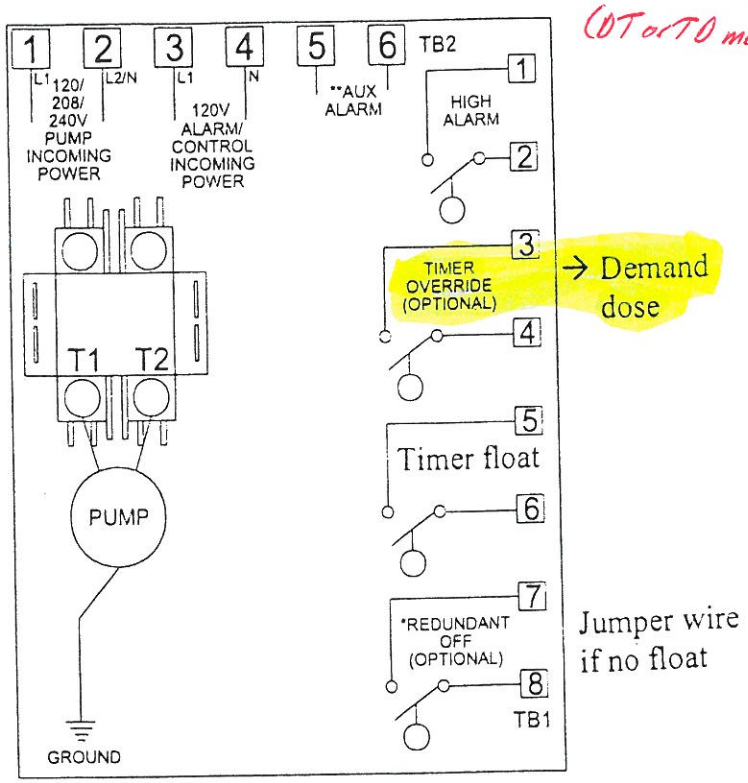


FIGURE 6 -
TD wiring diagram

Setting the timer

Remove the timer by clipping the tie strap and pulling it straight out of the socket.

1. Determine the pump "on & off" time and turn the adjustment screw (**1**) so that the most appropriate range of numbers (usable for both the on and off cycles) is visible in the windows on the dial face.
2. Adjust the off time range selector (**2**) to the appropriate period. (e.g.: minutes).
3. Adjust the outer dial (**3**) so the green pointer indicates the off time period required. (e.g.:15)
4. Adjust the on timer range selector (**4**) to the appropriate period (e.g.: minutes).
5. Adjust the inner dial (**5**) so the red pointer indicates the on time period required. (e.g.: 5)
6. When setting is complete, place the timer back in the socket.
7. In the example shown, the pump would be off for 15 minutes and then on for 5 minutes. This cycle would continue as long as there was enough liquid in the tank to float the low level cutoff switch.

NOTE: "OFF" time is cycled first.

IFS ½

* ON cycle completes if Timer Float Drops

Timer over-ride = Demand dos

INSTALLER FRIENDLY SERIES® - IFS Single Phase Simplex (Demand/TD)

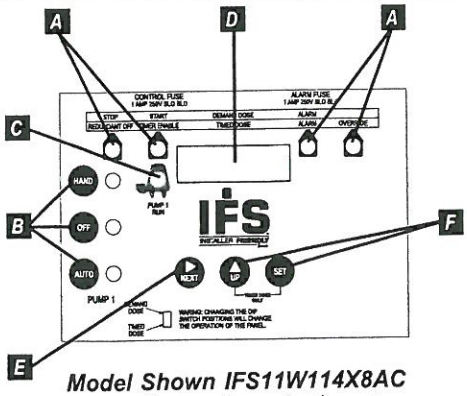
CONTROL PANELS

Single phase, simplex demand dose or timed dose, float controlled system for pump control and system monitoring.

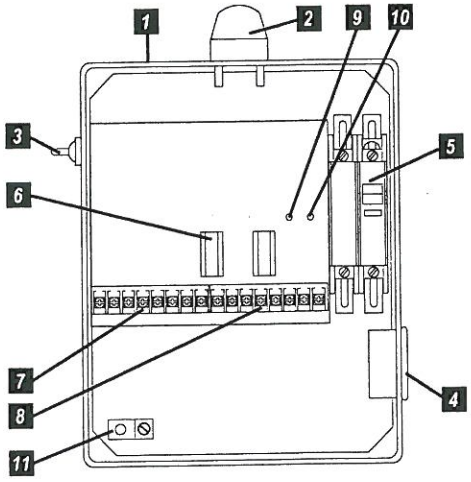
The IFS simplex control panel is designed to control one 120, 208, 240 VAC single phase pump in water and sewage installations.

The IFS control panel features an easy-to-use touch pad with display on the inner door for programming and system monitoring.

The panel configuration can be easily converted in the field to either a timed dose or demand dose.



Model Shown IFS11W114X8AC
(Inner door view)



Model Shown IFS11W114X8AC
(Inside view)

TOUCH PAD FEATURES

A. **Float Indicators** illuminate when floats are activated. Alarm will activate if a float operates out of sequence.

B. **HOA (Hand-Off-Automatic) Buttons** control pump mode with indication. Hand mode defaults to Automatic when stop level or redundant off level is reached.

C. **Pump Run Indicator** illuminates when pump is called to run.

D. **LED Display** shows system information including: mode, pump elapsed time (hh:mm), events (cycles), alarm counter, float error count, timed dose override counter (timed dose only), and ON/OFF times (timed dose only).

E. **NEXT Push Button** toggles display.

F. **UP and SET Push Buttons** set pump ON/OFF times (timed dose only).

PANEL COMPONENTS

1. **Enclosure** base measures 10 X 8 X 4 inches (25.4 X 20.32 X 10.16 cm). NEMA 4X (ultraviolet stabilized thermoplastic with removable mounting feet for outdoor or indoor use). **Note:** Options, voltage, and amp range selected may change enclosure size and component layout.
2. **Red Alarm Beacon** provides 360° visual check of alarm condition.
3. **Exterior Alarm Test/Normal/Silence Switch** allows horn and light to be tested and horn to be silenced in an alarm condition. Alarm automatically resets once alarm condition is cleared.
4. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating).
5. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.
6. **Power Relay** controls pump by switching electrical lines. Definate purpose contactor used when pump full load amps are above 15.
7. **Float Connection Terminal Block**
8. **Incoming Control/Alarm Power & Pump Terminal Block**
9. **Control Power Indicator/Fuse** indicator light illuminates if control power is present in panel. Alarm will activate if control fuse is blown.
10. **Alarm Power Indicator/Fuse** indicator light illuminates if alarm power is present in panel.
11. **Ground Lug**

NOTE: Schematic/Wiring Diagram and Pump Specification Label are located inside the panel on enclosure cover

Floats: OR > unusual switches
HLA
TO
RO

Reg. Cdn Pat. & TM Off

FEATURES

- Entire control system (panel and switches) is UL Listed to meet and/or exceed industry safety standards
- Dual safety certification for the United States and Canada
- Standard package includes:
  Demand Dose - three 20' SJE MilliAmpMaster™ control switches
  Timed Dose - two 20' SJE MilliAmpMaster™ control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty

c UL us LISTED

SJE Rhombus®
PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com

IFS 3/2

Operations

The Installer Friendly Series (IFS) control panel uses float switches to continuously monitor and control the liquid level in the tank.

Hand Operation - The stop/redundant off float must be raised to put panel in HAND operation. To override the stop/redundant off float, press and hold the HAND button. The pump runs until the HAND button is released. The panel then returns to the AUTO mode. If the stop/redundant off float is raised and the panel is placed in the HAND mode, and left in the HAND mode, the pump continues to run until the stop/redundant off float lowers. The panel then returns to the AUTO mode.

Off Operation - The panel is in the OFF mode.

Auto Operation - In time dose (t-dose) mode, when the panel is in the AUTO mode, the timer controls pump ON and OFF time as long as the low level float is raised. In demand (d-dose) mode, the stop and start floats control the pump.

Alarm Count - Shown on display as "AL-Ct", counts the number of times the alarm is activated. Note: Alarm counter does not include testing operations in the total count. High alarm and floats out of sequence add to count.

Green Control and Alarm Power Indicators - (mounted on interior circuit board) Illuminates when control power and alarm power is present. If the control fuse needs replacing, the panel sounds an alarm.

Display - Will turn off after one minute of non-use.

Float Indicators - Illuminates if the float is raised. If the float is out of sequence, the panel goes into alarm mode and display shows "FE" float error.

Timer Override Float - Overrides the OFF time and pump will run for full dose ON time. (timed dose only, optional)

Float Error Count - Shown on the display as "FE-Ct". Counts the number of times floats are out of sequence.

Timer Override Count - Shown on the display as "tO-Ct". Counts the number of times the timer override float is activated. (timed dose only)

Time left in "On" time cycle - Shown on the display as "t-On". Counts down the time left in the "On" cycle. (timed dose only)

Time left in "Off" time cycle - Shown on the display as "t-Off". Counts down the time left in the "Off" cycle. (timed dose only)

Viewing Panel Settings

With control power supplied to panel:

Press (NEXT) button. The display will show [t-dose] for timed dose applications, or [d-dose] for demand applications.

Press (NEXT) button. The display will show [Et 1] count in hh:mm. elapsed Time

Press (NEXT) button. The display will show [CC 1] count. Cycle counter

Press (NEXT) button. The display will show [Et 2] count (pump 2) in hh:mm. (duplex panels only) Elapsed time #2

Press (NEXT) button. The display will show [CC 2] count (pump 2) (duplex panels only)

Press (NEXT) button. The display will show [AL-Ct] alarm count. Alarm count

Press (NEXT) button. The display will show [FE-Ct] float error count. Float error count

Press (NEXT) button. The display will show [tO-Ct] timer override count. (timed dose mode only) Timer override count

Press (NEXT) button, The display will flash [On], then the ON time in hh:mm:ss. (timed dose mode only) on setting

Press (NEXT) button. The display will flash [OFF], then the OFF time in hh:mm:ss. (timed dose mode only) off setting

Press (NEXT) button. The display will flash either [t-On] or t-Off, then the time left in the ON or OFF cycle. (timed dose mode only) Time left on current cycle

Program Timer On & Off Times

With control power supplied to panel:

Press and hold (SET) button for 3 seconds until [Prog] is displayed.

The display will flash [ON], then the time in hh:mm:ss.

Setting pump ON (follow Section A)

Section A

Press (SET) button to display time in hh:mm:ss.

Press (NEXT) button until desired digit flashes

Press (UP) button until desired time is achieved.

Repeat process pressing (NEXT) and (UP) buttons until desired time is reached.

Press (SET) button to save.

Setting pump OFF times

Press (NEXT) button. The display will flash OFF and show the OFF time in hh:mm:ss. **Repeat the instructions in Section A to set OFF times.**

Press and hold (SET) button for 3 seconds until [run] is displayed.

Timer programming is complete.

*ON Cycle completes if Timer Float Drops

Timer over-ride = Demand dose

EZ Series™

SJE-Rhombus® Type EZS

Installation Instructions and Operation/Troubleshooting Manual

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.

All conduit running from the sump or tank to the control panel must be sealed with conduit sealant to prevent moisture or gases from entering the panel. **NEMA 4X enclosures are for indoor or outdoor use,** primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water and hose-directed water. **Cable connectors must be liquid-tight in NEMA 4X enclosures.**

Installation

The EZ Series™ Type EZS control panels are designed to control single phase pump(s). The controller records pump status, number of cycles, elapsed run time, alarm counter, and float error counts.

Mounting the Control Panel

Note: The control panel should not be mounted in a location that may be subject to submersion.

1. Determine mounting location for panel. If distance exceeds the length of either the float cables or the pump power cables, splicing will be required. For outdoor or wet installation, we recommend the use of an SJE-Rhombus® liquid-tight junction box with liquid-tight connectors to make required connections. **You must use conduit sealant to prevent moisture or gases from entering the panel.**
2. Mount control panel with mounting devices furnished.
3. Determine conduit entrance locations on control panel. Check local codes and schematic for the number of power circuits required. **(Float cables require separate conduit from power and pump cables.)**

Note: Be sure the proper power supply voltage, amperage, and phase meet the requirements of the pump motor(s) being installed. If in doubt, see the pump identification plate for voltage/phase requirements.

4. Drill proper size holes for type of connectors being used.

Note: If using conduit, be sure that it is of adequate size to pull the pump cable(s) through.

5. Attach cable connectors and/or conduit connectors to control panel.

FOR INSTALLATION REQUIRING A SPLICE, FOLLOW STEPS 6-10; FOR INSTALLATION WITHOUT A SPLICE, GO TO STEP 11.

6. Determine location for mounting junction box according to local code requirements. **Do not** mount the junction box inside the sump or basin.
7. Mount junction box to proper support.
8. Run conduit to junction box. Drill proper size holes for the type of conduit used.

Warranty void if panel is modified.

Call factory with servicing questions:

1-800-RHOMBUS

(1-800-746-6287)

Manufactured by:

SJE Rhombus®

22650 County Highway 6 ■ P.O. Box 1708
Detroit Lakes, Minnesota 56502 USA
1-888-DIAL-SJE (1-888-342-5753)
Phone: 218-847-1317 ■ Fax: 218-847-4617
E-mail: sje@sjerhombus.com
Website: www.sjerhombus.com

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1023074A • Rev 02/09

Installation Instructions

9. Identify and label each wire before pulling through conduit into control panel and junction box. Make wire splice connections at junction box.

10. Firmly tighten all fittings on junction box.

11. If a junction box is not required, pull cables through conduit into control panel.

12. Connect pump wires per wiring diagram or schematic and float wires to the proper terminals as shown on the schematic.

13. Connect pump, control, and alarm incoming power conductors to proper position on terminals. See schematic for terminal connections.

VERIFY CORRECT OPERATION OF CONTROL PANEL AFTER INSTALLATION IS COMPLETE.

Installation of Floats

CAUTION: If control switch cables are not wired and mounted in the correct order, the pump system will not function properly. Control switches need to run in separate conduit from pump and power lines.

WARNING: Turn off all power before installing pump wires in pump chamber. Failure to do so could result in serious or fatal electrical shock.

1. Determine your normal operating level and desired float configuration, as illustrated in **Figures 2-5.**

2. Mount float switches at appropriate levels. Be sure that floats have free range of motion without touching each other or other equipment in the basin.

3. For mounting clamp installation: place the cord into the clamp as shown in **Figure 1**. Locate the clamp at the desired activation level and secure the clamp to the discharge pipe as shown in **Figure 1**.

   NOTE: Do not install cord under hose clamp.

4. Tighten the hose clamp using a screwdriver. Over tightening may result in damage to the plastic clamp. Make sure the float cable is not allowed to touch the excess hose clamp band during operation.

   NOTE: All hose clamp components are made of 18-8 stainless steel material. See your SJE-Rhombus® supplier for replacements.

5. If using an optional redundant off float, mount slightly below the timer enable float.

6. The alarm float can be positioned anywhere that the alarm level is desired.

override will run till Timer ON is down

Figure 1

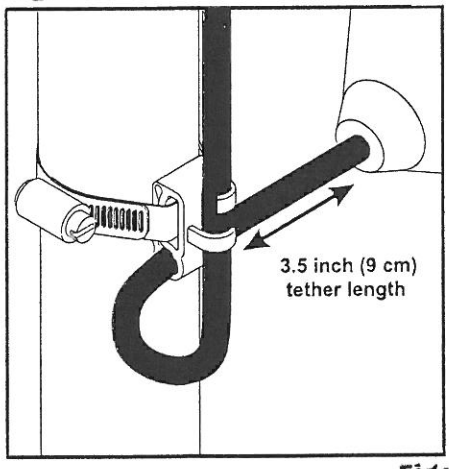


Figure 2
Simplex Timed Dose

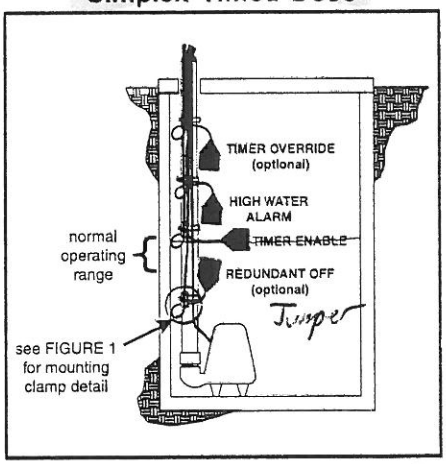


Figure 3
Simplex Demand

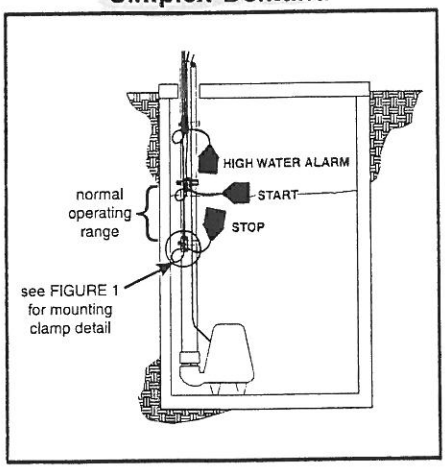


Figure 4
Duplex Demand 3 Float

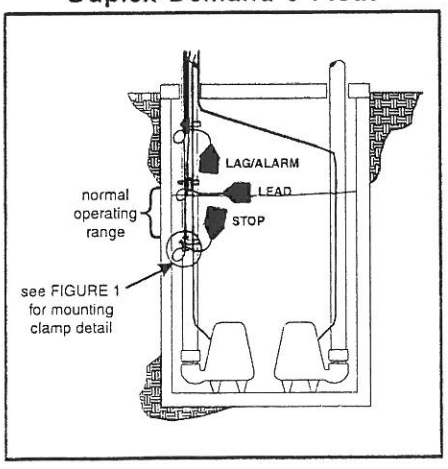
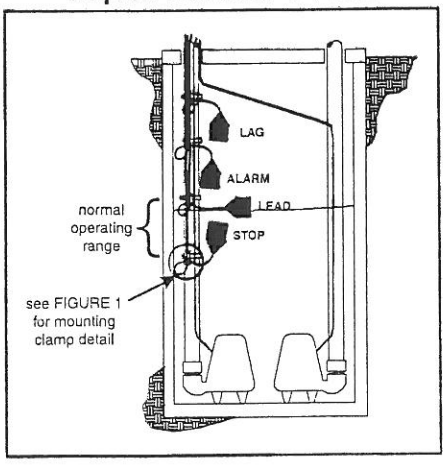


Figure 5
Duplex Demand 4 Float



Operations

The EZ Series (EZS) 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.

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

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

Alarm Count - Shown on display as AL.Ct, counts the number of times the alarm is activated. Note: Alarm counter does not include testing operations in the total count. High alarm and alarm power loss add to count.

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

Timer Override Float - Overrides the OFF time and pump will run for full dose ON time. (timed dose only, optional)

Float Error Count - Shown on the display as FE.Ct. Counts the number of times floats are out of sequence. Alarm horn will sound and alarm light will flash.

Timer Override Count - Shown on the display as tO.Ct. Counts the number of times the timer override float is activated. (timed dose only)

Time left in "On" time cycle - Shown on the display as t-On. Counts down the time left in the "On" cycle. (timed dose only)

Time left in "Off" time cycle - Shown on the display as t-Off. Counts down the time left in the "Off" cycle. (timed dose only)

Green Pump Run Indicator(s) - Illuminates when pump(s) are called to run.

Panel Viewing Panel Settings (Simplex)

With control power supplied to panel:

Press menu/enter button to scroll to the desired display screen.

Float Status or Float Error - the display shows FS or FE then float status. c=closed o=open

Elapsed Time Count - the display shows ET.1 then alternates showing hours (hh) then minutes (:mm).

Cycle Count - the display shows CC.1 then the count.

High Level & Power Fail Alarms - the display shows AL.Ct then the count.

Float Error Count - the display shows FE.Ct then the count.

Auxiliary Alarm Input Counts - the display shows AL1 then the count.

TIMED DOSE DISPLAY ONLY

Timer Override Count - the display shows tO.Ct then the count.

ON Time - the display flashes On then the ON time in mm:ss.

Off Time - the display flashes Off then the Off time in hh:mm.

Remaining ON/OFF Times - the display flashes either t-On or tOFF then the time left in the On cycle (mm:ss) or OFF cycle (hh:mm).

Programming Panel Setting (Simplex):

With control power supplied to panel:

Press set/change button for 3 seconds to enter program mode.

The display will show ON time in mm:ss.

Press set/change button to set the pump On time. Use the menu/enter button to select digit desired to change. Use the set/change button to change On time.

Press menu/enter button. The display will show OFF time in hh:mm.

Press set/change button to set the pump Off time. Use the menu/enter button to select digit desired to change. Use the set/change button to change Off time.

Note: Setting the OFF times to 00:0d turns off timed dose mode and timed dose menu items. The panel will operate in demand mode.

Press set/change button for 3 seconds to return to the view menu.

Panel Viewing Panel Settings (Duplex)

With control power supplied to panel:

Press menu/enter button to scroll to the desired display screen.

Float Status or Float Error - the display shows FS or FE then float status. c=closed o=open

Pump 1 Elapsed Time Count - the display shows ET.1 then alternates showing hours (hh) then minutes (:mm).

Pump 1 Cycle Count - the display shows CC.1 then the count.

Pump 2 Elapsed Time Count - the display shows ET.2 then alternates showing hours (hh) then minutes (:mm).

Pump 2 Cycle Count - the display shows CC.2 then the count.

High Level & Power Fail Alarms - the display shows AL.Ct then the count.

Float Error Count - the display shows FE.Ct then the count.

Auxiliary Alarm Input Counts - the display shows AL1 then the count.

Lag Float Count - the display shows LA.Gc then the count.

Programming Panel Setting (Duplex)

With control power supplied to panel:

Press set/change button for 3 seconds to enter program mode.

The display will show ALtr then either ALt, 1-2 or 2-1.

Press set/change button to set the desired pump sequence.

Press menu/enter button to display 3FLt or 4FLt.

Press set/change button to choose 3FLt or 4FLt.

Press menu/enter button.

Press set/change button for 3 seconds to return to the view menu.

Troubleshooting

Float Controls

1. Check the floats during their entire range of operation. Clean, adjust, replace and repair damaged floats.

2. Measure the float resistance to determine if the float is operating properly.

To measure float resistance:

a. Isolate the float by disconnecting one or both of the float leads from the float terminals.

b. Place one ohmmeter lead on one of the float wires, and the other ohmmeter lead on the other float wire.

c. Set the ohmmeter dial to read ohms and place on the R X 1 scale. With the float in the "off" position, the scale should read infinity (high resistance), if not replace the float. With the float in the "on" position, the scale should read close to zero, if not replace the float. **Readings may vary depending on the accuracy of the measuring device.**

Alarm Light

With power on, hold the test/silence switch in the "test" position. The alarm light should turn on. If not, replace the bulb with that of the same type.

Alarm Horn

With power on, hold the test/silence switch in the "test" position. The alarm horn should turn on. If not, replace the horn with that of the same type.

SJE-Rhombus® Three-Year Limited Warranty

SJE-RHOMBUS® warrants to the original consumer that this product shall be free of manufacturing defects for three years after the date of consumer purchase. During that time period and subject to the conditions set forth below, **SJE-RHOMBUS®** will repair or replace, for the original consumer, any component which proves to be defective due to defective materials or workmanship of **SJE-RHOMBUS®**.

ELECTRICAL WIRING AND SERVICING OF THIS PRODUCT MUST BE PERFORMED BY A LICENSED ELECTRICIAN.

THIS WARRANTY DOES NOT APPLY: (A) to damage due to lightning or conditions beyond the control of **SJE-RHOMBUS®**; **(B)** to defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with printed instructions provided; **(C)** to failures resulting from abuse, misuse, accident, or negligence; **(D)** to units which are not installed in accordance with applicable local codes, ordinances, or accepted trade practices, and **(E)** to units repaired and/or modified without prior authorization from **SJE-RHOMBUS®**.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

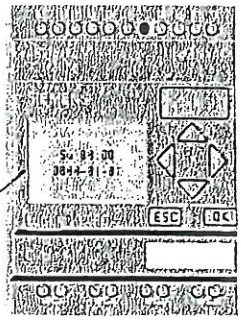
TO OBTAIN WARRANTY SERVICE: The consumer shall assume all responsibility and expense for removal, reinstallation, and freight. Any item to be repaired or replaced under this warranty must be returned to **SJE-RHOMBUS®**, or such place as designated by **SJE-RHOMBUS®**.

ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS ARE LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. SJE-RHOMBUS® SHALL NOT, IN ANY MANNER, BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES AS A RESULT OF A BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.

Timer over-ride = Timed setting

ORENCO MVP Panel

Time dosing of a single pump



1st screen

Pump Cycl CT
11
ETM (min)
4

arrows ↕

High Lvl CT
11
Override CT
4

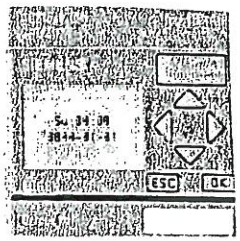
arrows ↕

Low Level CT
11
Timer Flt CT
4

arrows ↕

Power Faults
11
Operating Hr
4

arrows ↕



arrows ↔

arrows ↔

Input screen

I:
0.. 123456789

1 = low level float
2 = timer float
3 = override float
4 = High level float
5 = push button is pressed

↔

Output screen

Q:
0.. 123456789

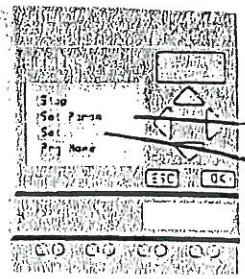
1 = pump
2 = alarm light
3 = alarm audibl

↔

Ignore other screens

"ESC" key ↕

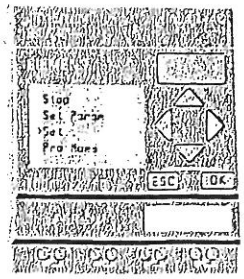
Down arrow, "OK"



->Various timer settings
> Date & time settings

ORENCO MVP Panel

Set.. settings



Set Param settings

Clock -
Screen contrast -

arrows

- Hi level alarm delay
- Minimum overide cycles
- Override ON time
- Override OFF time
- Pump ON time
- Pump Off time

"OK" key to allow setting adjustment
arrow keys to make setting changes
"OK" key again to accept new settings

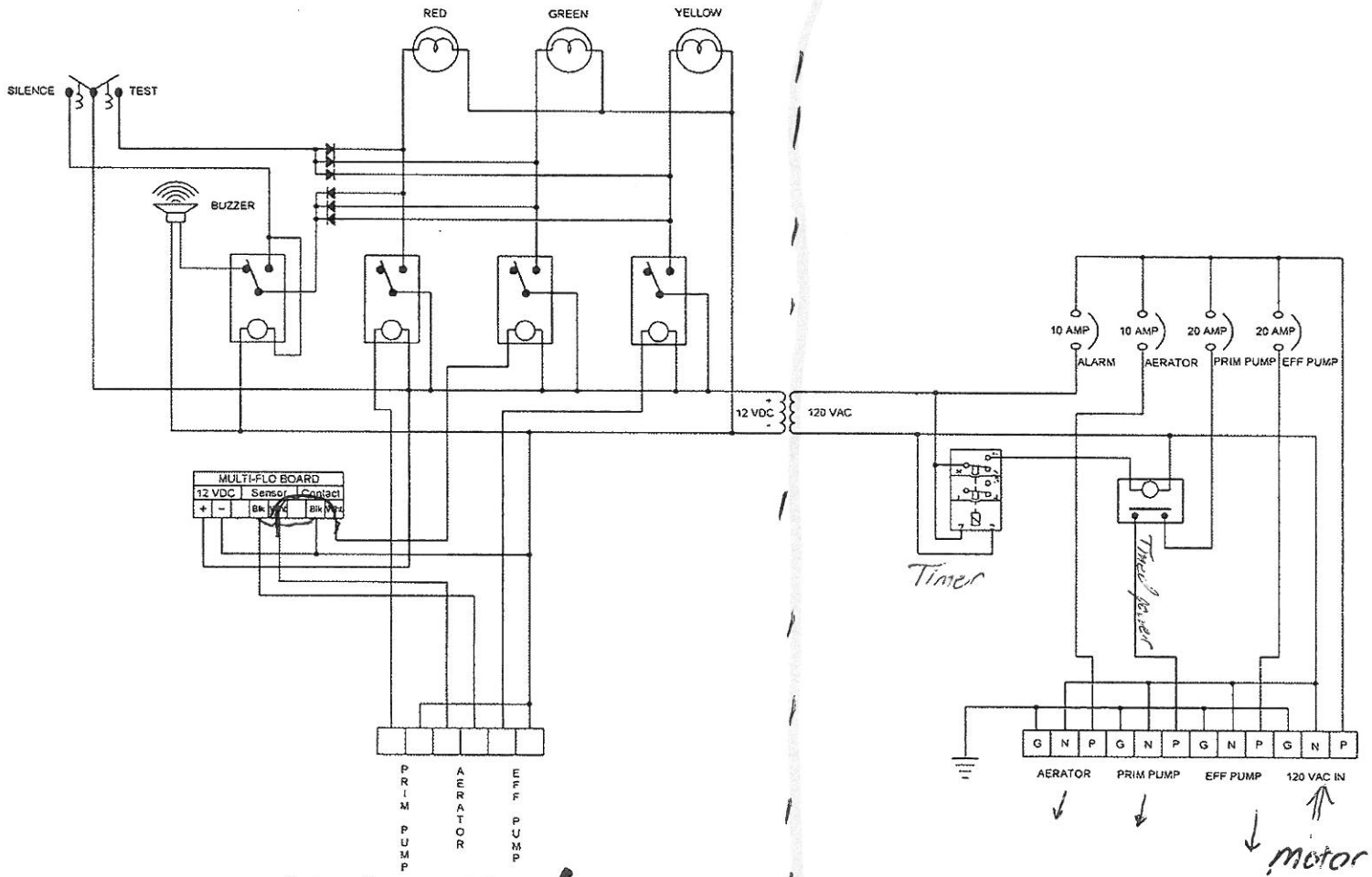
up/down arrows to next desired setting, and repeat as prior

"ESC" to return to previous sub-menu

Notes:
Push button on front of panel will silence audible alarm.
Small black cylinder on bottom of panel is audible alarm, pull wire to disconnect if necessary.
Red external alarm light -> flashing = Low level alarm
Red external alarm light -> steady = High level alarm
If you do not use a low level alarm float, make sure to install a "jumper" at the panel connection

timer format 01:55h = 1 hour and 55 minutes
01:55m = 1 minute and 55 seconds
01:55s = 1.55 seconds

12V Alarm side | 120V power side



HLA Floats

motor rated Float's in series w/pump (piggyback)

RJR	TITLE: 4080D4B-MF		
SIZE: A2	CAGE CODE	DWG NO: 021407RW	REV: 2

Multi-Flo control panel

ALDERON

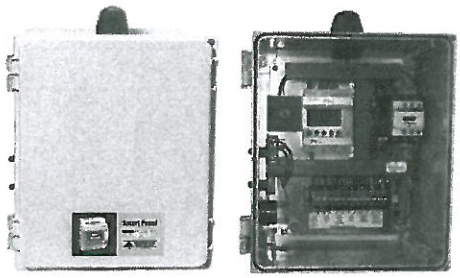
1/4

Timer over-ride = Timed setting

Smart Panels™ - Timed Dose

Leading Edge Design

Alderon's SMART PANELS™ use innovative programmable controllers that provide complete and accurate monitoring information useful for system designers, installers and maintenance personnel. The Smart Panels™ are easy to use and simple to install. Use Alderon's SMART PANELS™ when complete system monitoring and an affordable price is needed.



Timed Dosing Panels

SINGLE PHASE SIMPLEX — Timed Dosing, 2-20 ft Control Switches Included (Add "X" for No Floats)

Pump Volts	Pump Amps	NEMA 4X (Outdoor Enclosure) With Circuit Breaker	NEMA 4X (Outdoor Enclosure) Without Circuit Breaker	NEMA 1 (Indoor Enclosure) With Circuit Breaker	NEMA 1 (Indoor Enclosure) Without Circuit Breaker
120	0-15 FLA	1100	1103	1106	1109
120	16-20 FLA	1101	1104	1107	1110
120	21-30 FLA	1102	1105	1108	1111
120/230	0-15 FLA	1115	1118	1121	1124
120/230	16-20 FLA	1116	1119	1122	1125
120/230	21-30 FLA	1117	1120	1123	1126

SINGLE PHASE DUPLEX — Timed Dosing, 2-20 ft Control Switches Included (Add "X" for No Floats)

Pump Volts	Pump Amps	NEMA 4X (Outdoor Enclosure) With Circuit Breaker	NEMA 4X (Outdoor Enclosure) Without Circuit Breaker	NEMA 1 (Indoor Enclosure) With Circuit Breaker	NEMA 1 (Indoor Enclosure) Without Circuit Breaker
120	0-15 FLA	1300	1303	1306	1309
120	16-20 FLA	1301	1304	1307	1310
120	21-30 FLA	1302	1305	1308	1311
120/230	0-15 FLA	1315	1318	1321	1324
120/230	16-20 FLA	1316	1319	1322	1325
120/230	21-30 FLA	1317	1320	1323	1326

Ordering example grid ↓

Ordering grid example →

ORDERING EXAMPLE

Single phase duplex timed dosing panel for pumps 21-30 Amps, 230 VAC, NEMA 4X enclosure, no circuit breakers = Part Number 1320. For no floats = Part Number 1320X

Add Option Codes as required (see back).

Key Features

Elapsed Time Meter
(Auto mode only)

Pump Cycle Counter
(Auto mode only)

Timer Overide Cycle Counter

Alarm Cycle Counter

Programmable Timed Doses
(Independantly adjust pump on and off times)

Programmable Timer Overide
(Programmable pump run time when timer overide float activated)

Automatic Simplex Mode
(By placing either HOA switch in the off position on a duplex panel)

Flashing Alarm Indicator

Basic Features

Enclosure
Thermoplastic for NEMA 1/4X

HOA Switch
Automatic or manual pump control

Pump Run Indicator

Fused Control Disconnect
(Provides on/off function)

Pump Alternation
(Duplex only)

IEC Motor Contactor

Field Wiring Terminal Block

Terminal Block Field Wiring Label

Ground Lug

Mechanical Float Switches
Patented switching mechanism

Float Switches Labeled
For easy field wiring

Flashing Alarm Indicator
Top mounted beacon (NEMA 4X)
Door mounted indicator (NEMA 1)

Alarm Buzzer
Loud 100 db warble

Auto Reset Silence Switch
Horn silence

3-Year Warranty

Industrial Control Panel
(UL 508A)

c UL us LISTED

ALDERON™ Industries

Leading Edge Control Products

Alarm Systems · Control Panels · Float Switches · Leak Detection Systems

PO Box 827 • Hawley, MN 56549 • (218) 483-3034 • Fax (218) 483-3036 • www.alderonind.com

Miniature PLC Control

Smart Panels™ - Timed Dose

TIMED DOSING CONTROL PANELS

SINGLE PHASE TRIPLEX

3-20 ft Control Switches Included (Add "X" for No Floats)

NEMA 4X (Outdoor Enclosure)

Pump Amps	Pump Volts	With Circuit Breaker
0-15 FLA	120	1328
16-20 FLA	120	1329
21-30 FLA	120	1330
0-15 FLA	120/230	1331
16-20 FLA	120/230	1332
21-30 FLA	120/230	1333

SINGLE PHASE TSDS - TIMED DOSE SIMPLEX & DEMAND SIMPLEX

NEMA 4X (Outdoor Enclosure)

Pump Amps	Pump Volts	With Circuit Breaker
0-15 FLA	120	1335
16-20 FLA	120	1336
21-30 FLA	120	1337
0-15 FLA	120/230	1338
16-20 FLA	120/230	1339
21-30 FLA	120/230	1340

Pretreatment 2 pump applications

The Single Phase TSDS control panel includes one time dosing control and one demand pump control. The Time dose control includes two floats, low cut out and high water. Timer override and Redundant off floats are optional. The demand control utilizes two floats: Wide Angle on/off float and a high water alarm float. The high water alarm float in the demand system disables time dose control. The control panel will monitor pump hours and pump starts for each pump.

Timer ON

Key Features

Elapsed Time Meter
(Auto mode only)

Pump Cycle Counter
(Auto mode only)

Alarm Cycle Counter

Lag Delay Timer
(Duplex only)

Automatic Simplex Mode
(By placing either HOA switch in the off position on a duplex panel)

Flashing Alarm Indicator

Basic Features

Enclosure
Thermoplastic for NEMA 1/4X

HOA Switch
Automatic or manual pump control

Pump Run Indicator

Fused Control Disconnect
(Provides on/off function)

Pump Alternation
(Duplex only)

IEC Motor Contactor

Multi-Tap Transformer
(Three phase only)

Motor Protective Switch
(Three phase only)

Field Wiring Terminal Block

Terminal Block Field
Wiring label

Ground Lug

Mechanical Float Switches
Patented switching mechanism

Float Switches Labeled
For easy field wiring

Flashing Alarm Indicator
Top mounted beacon (NEMA 4X)
Door mounted indicator (NEMA 1)

Alarm Buzzer
Loud 100 db warble

Auto Reset Silence Switch
Horn silence

3-Year Warranty

Industrial Control Panel
(UL 508A)

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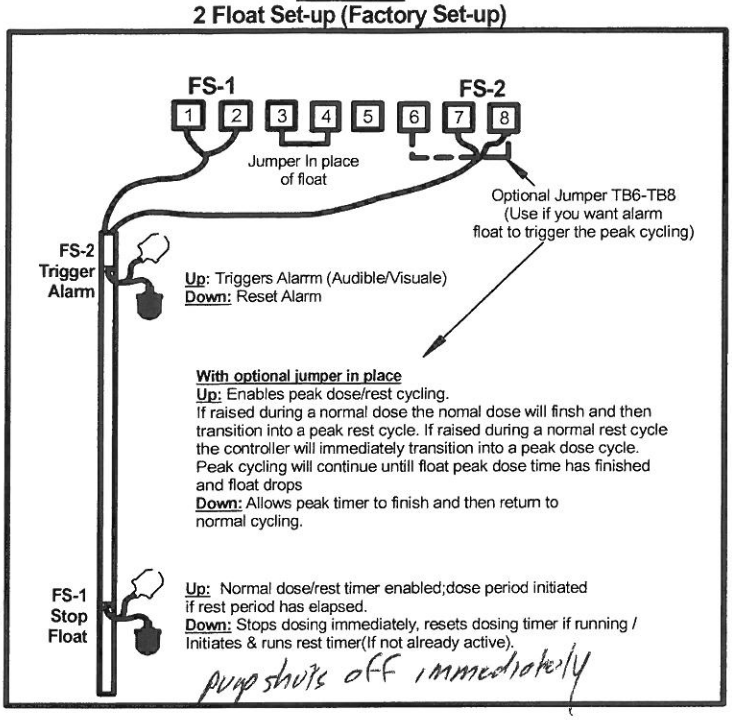
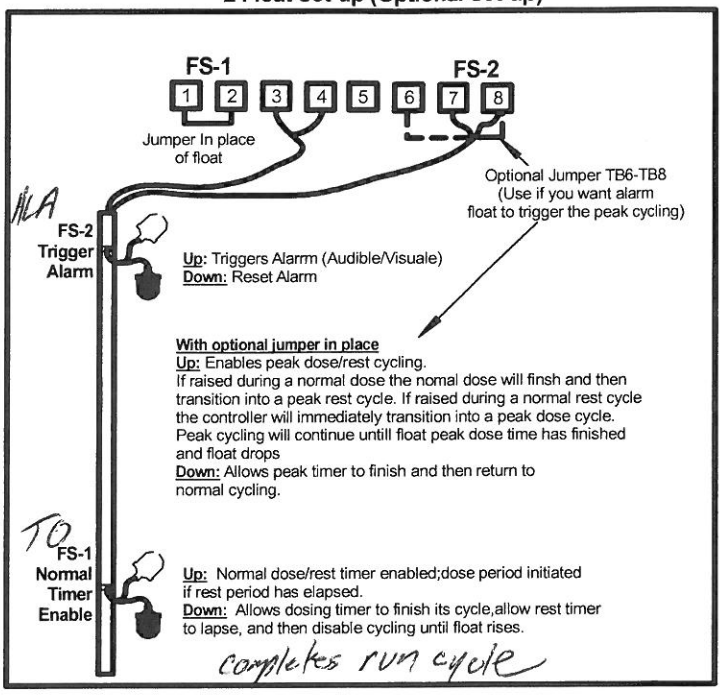
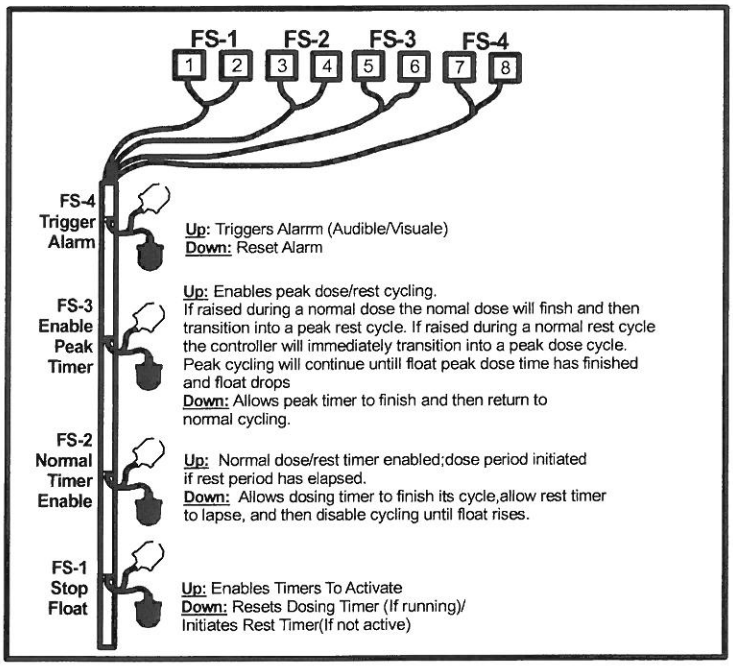
Diagram#1
2 Float Set-up (Factory Set-up)



Diagram#2
2 Float Set-up (Optional Set-up)



Diagram#3
4 Float Set-up



The difference between float set-ups in diagram#1 and diagram#2 is how the pump is shut off after the low float drops. In diagram#1 when the low float drops the pump shuts down immediately. In diagram#2 when the low float drops the dosing cycle is allowed to finish. In either case a jumper wire must be used in place of the non-used float. If using all four floats, as shown in diagram#3, the dosing time will be allowed to finish when FS2 drops and FS1 will act as a redundant off. If you choose to, you may place a jumper wire from TB6 to TB8 thereby allowing the alarm float to act as a peak cycle float. ⇒ HLA activates OR Timer

The rest timer will reset any time any time a pump is placed into hand mode. The rest period will have to lapse before a dose period will occur with the exception of a peak float closure.

Controller Display & Setting

4/4

The controller has 4 main display screens. To scroll between screens press buttons 1 or 4. Follow the instructions below for adjusting timers.

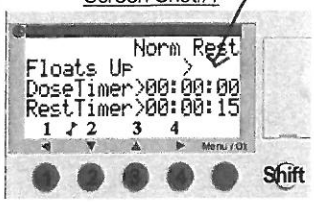
Main Display Screen Shots

no floats are up

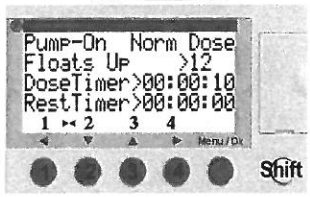
Floats 1 2 3 are all up (RO, TO, OR)

active cycle status

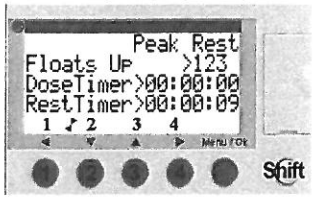
Screen Shot#1



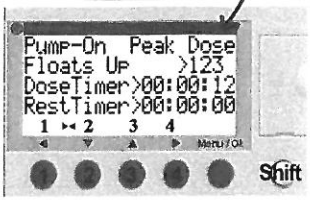
Screen Shot#2



Screen Shot#3



Screen Shot#4

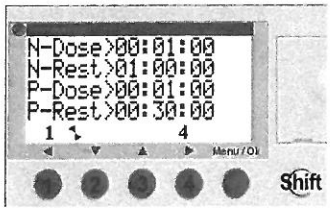


The screen shots above are of the main screen. This screen displays witch floats are in the up position, pump running condition, timer values, and which cycle has been initiated. If the screen does not show a dose or rest cycle taking place the controller is either waiting for a float closure. When the screen shows a peak dose has been initiated and the timer value is not changing then the HOA switch need to be placed into auto mode in order to resume dosing.

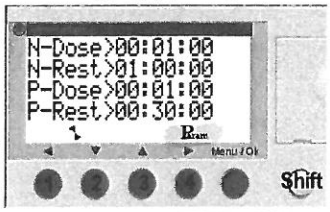
Timer Settings Display Screen Shots

The timer setting screen below may be scrolled to by pressing either buttons 1 or 4. Caution! Timer values can be adjusted from 00:00:00 to 99:59:59 hours:minutes:seconds, however setting values to low may cause short cycles which may damage equipment. Ensure all timer settings of at least 10seconds.

Screen Shot#5

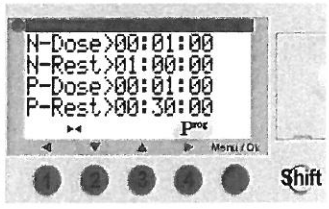


Screen Shot#6



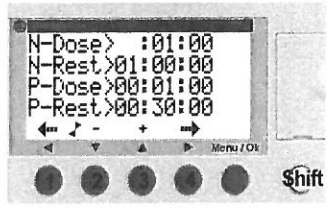
Step1: Press & hold down the shift key. The word **Parm** should appear.

Screen Shot#7



Step2: While holding down the shift key, press button 4 once then release the shift key. The word **Prog** should flash.

Screen Shot#8

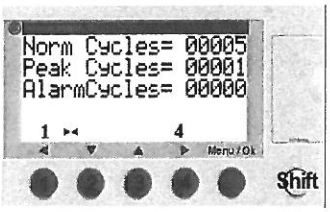


Step3: Use buttons 1 or 4 to scroll between settings and use buttons 2 or 3 to adjust the value of the setting. When finished adjusting timers to your specifications, press the Menu/Ok button to implement and save the values

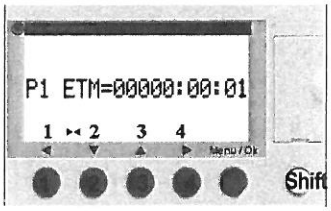
History Display Screen Shots

The history screen shots may be scrolled to by pressing button 1 or 4. These values are resettable or will automatically roll over after a value greater than 32750. To rest the values on screen#9 press and hold buttons 2&3 for five seconds Note: this will reset all counters on the screen to zero. To reset the pump elapsed run timer in screen#10 press and hold buttons 2&3 for five seconds.

Screen Shot#9



Screen Shot#10

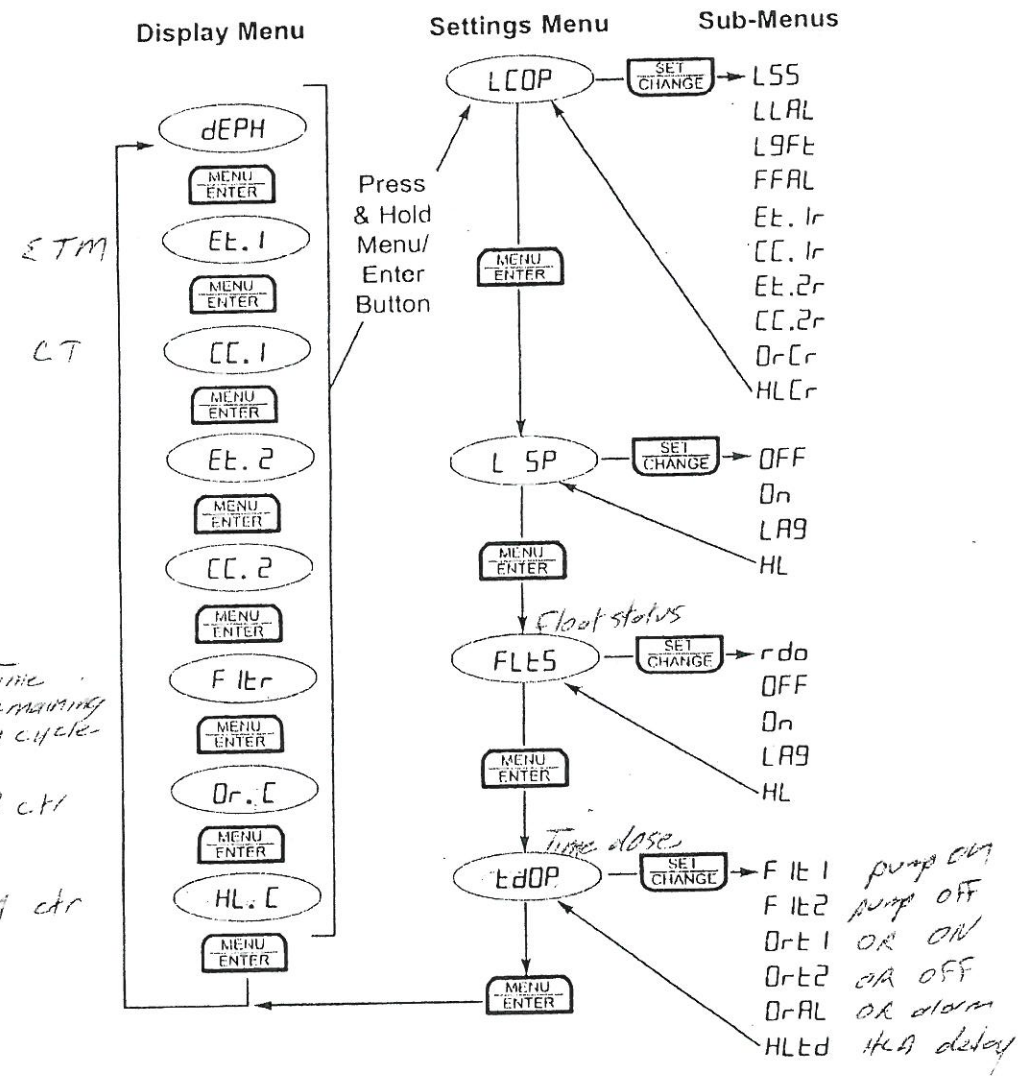


Timer over-ride = Timed setting

1/2

Septronics,® Inc.

Complete Menu Structure



EXPECTED ORDER OF FLOATS IN BASIN

SIMPLEX PANEL		TIME DOSE PANEL
	Expected Order Can Be Swapped →	High Level Float
High Level Float	→	Lag (or Override) Float
On Float		Lead (or Enable) Float
Off Float		Off Float
Redundant Off/Low Level Float	← (Optional) →	Redundant Off/Low Level Float

dEPH

Code	Setting Description	Display	Comments
dEPH			Pressure Panels Only
Press Menu/Enter to access next menu field			
Et.#	Elapsed Time, # is Pump Number 1 or 2	Total Elapsed Run Time on Corresponding Pump	Max Time: 9999 Hrs. Press Set/Change button to alternate Hours., Minutes, Seconds
Press Menu/Enter to access next menu field			
CC.#	Cycle Counter, # is Pump Number 1 or 2	No. of Cycles on Corresponding Pump	Max Value: 9999
Press Menu/Enter to access next menu field			
Fl tr	Field 1 Timer	Counts down time remaining in current cycle.Counts "Pump(s) On Time" in MM:SS.Counts "Pump(s) Off Time" in HH:MM	Time Dose Panels Only
Press Menu/Enter to access next menu field			
LP.C	Lag Pump Counter	Counts Lag Pump Run	Duplex Panel Only (Max. Value: 9999)
Or.C	Override Counter	Counts System Overrides	Time Dose Panel Only (Max Value: 9999)
Press Menu/Enter to access next menu field			
HL.C	High Level Counter	Counts number of times system reached High Level Point	Max. Value: 9999
Press Menu/Enter to access next menu field			

3/2

LCOP

Code	Setting Description	Display	Comments	Options
L55	Lead Pump Selection (Duplex Panels Only)	Alternates "L55" and Current Value	Press Set/Change button to select options	0 = Alternate Lead Pumps* 1 = Pump 1 Always Leads 2 = Pump 2 Always Leads
Press Menu/Enter to access next menu field				
LLAL	Low Level Alarm	Alternates "LLAL" and Current Value	Press Set/Change button to select options	0 = Low Level Alarm Off* 1 = Flash Alarm Light Only 2 = Flash Alarm Light & Sound Audible
Press Menu/Enter to access next menu field				
4FLT	3 or 4 Float System (Duplex Panels Only)	Alternates "LLAL" and Current Value	Press Set/Change button to select options	0 = 3 Float System 1 = 4 Float System
Press Menu/Enter to access next menu field				
OrFt	On Float/Overrride Float Order (Time Dose Only)	Alternates "L9Ft" and Current Value	Press Set/Change button to select options	0 = Lag Float Hung Below High Level Float* 1 = High Level Float is Hung Below Lag Float
Press Menu/Enter to access next menu field				
FFAL	Float Failure Alarm	Alternates "FFAL" and Current Value	Press Set/Change button to select options	0 = Float Failure Alarm Off* 1 = Flash Alarm Light Only 2 = Flash Alarm Light & Sound Audible
Press Menu/Enter to access next menu field				
Et.1r	Elapsed Time Pump 1 Reset	Alternates "Et.1r" and "0"	Press Set/Change button to select options	0 = Do Not Reset Pump 1 Elapsed Time 1 = Reset Pump 1 Elapsed Time to 0
Press Menu/Enter to access next menu field				
CC.1r	Cycle count Pump 1 Reset	Alternates "CC.1r" and "0"	Press Set/Change button to select options	0 = Do Not Reset Pump 1 Cycle Count 1 = Reset Pump 1 Cycle Count to 0
Press Menu/Enter to access next menu field				
Et.2r	Elapsed Time Pump 2 Reset	Alternates "Et.2r" and "0"	Press Set/Change button to select options	0 = Do Not Reset Pump 2 Elapsed Time 1 = Reset Pump 2 Elapsed Time to 0
Press Menu/Enter to access next menu field				
CC.2r	Cycle Count Pump 2 Reset	Alternates "CC.2r" and "0"	Press Set/Change button to select options	0 = Do Not Reset Pump 2 Cycle Count 1 = Reset Pump 2 Cycle Count to 0
Press Menu/Enter to access next menu field				
Or.Cr	Override Count Reset (Time Dose Only)	Alternates "LPCr" and "0"	Press Set/Change button to select options	0 = Do Not Reset Pump Counter 1 = Reset Pump Counter to 0
Press Menu/Enter to access next menu field				
HLCr	High Level Count Reset	Alternates "HLCr" and "0"	Press Set/Change button to select options	0 = Do Not Reset High Level Counter 1 = Reset High Level Counter to 0

tdOP

Code	Setting Description	Display	Comments	Options
Fltl	Field 1 Time 1 (Pump Enable Time)	Alternates "Fltl" and Current Value [Minutes:Seconds]	Press Set/Change button to select time [Default: 05:00]	Set from 00:00 to 99:59 (Press Menu/Enter to move between the time fields)
Note: Pump will be enabled to run once level reaches the "On" setpoint. If level reaches the "Pump Off" setpoint before time expires, Pump Disable time automatically begins.				
Press Menu/Enter to access next menu field				
Flt2	Field 1 Time 2 (Pump Disable Time)	Alternates "Flt2" and Current Value [Hours:Minutes]	Press Set/Change button to select time [Default: 01:00]	Set from 00:00 to 99:59 (Press Menu/Enter to move between the time fields)
Note: Amount of time designated between "Pump Run" cycles. If the level reaches the override (Lag) setpoint, the pump will run – regardless of "Pump Disable" time. To Disable Time Dose operation, set field to "00:00".				
Press Menu/Enter to access next menu field				
Ortl	"Override Pump On" Time (Time pump runs when override setpoint is reached)	Alternates "Ortl" and Current Value [Minutes:Seconds]	Press Set/Change button to select time [Default: 05:00]	Set from 00:00 to 99:59 (Press Menu/Enter to move between the time fields) *Set field to "00:00" to Disable*
Press Menu/Enter to access next menu field				
Ort2	"Override Pump Off" Time (Time pump waits after override cycle)	Alternates "Ort2" and Current Value [Hours:Minutes]	Press Set/Change button to select time	Set from 00:00 to 99:59 (Press Menu/Enter to move between the time fields) *Set field to "00:00" to Disable*
Press Menu/Enter to access next menu field				
OrAL	Override Alarm Turns on during Override Pump Cycle– Clears when "Override Off" time is complete	Alternates "OrAL" and Current Value	[Indicates to end user to reduce water usage] Press Set/Change button to change field	0 = Override Alarm Off (Default) 1 = Flash Alarm Light Only 2 = Flash Alarm Light & Sound Audible
Press Menu/Enter to access next menu field				
HLtd	High Level Time Delay	Alternates "HLtd" and Current Value [Minutes:Seconds]	[Alarm delays to the "set" time. When fluid level exceeds High Level set point for the "set time" without interruption, the alarm sounds.] Press Set/Change button to select time	Set from 00:00 to 99:59 (Press Menu/Enter to move between the time fields) [Default: 00:00]
Press Menu/Enter to access next menu field				

pump ON

pump OFF

or ON

o.r. OFF

o.r. alarm

HLA Delay