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
Septonics
Alderon
Time dosing of a single pump

* ON time cut short if Time Float Drops (OT or TD models)

FIGURE 5 - Mounting clamp detail.

Option 4E
Redundant Off / Alarm Activation
Wiring Diagram

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.

Jumper wire if no float

FIGURE 7 -
3 wire float (spdt) to gain low level alarm

Appropriate light will be on during that cycle

Ranges:
0-30
0-12
0-3
0-1.2

FIGURE 8 - Timer detail

NOTE: “OFF” time is cycled first.
INSTALLER FRIENDLY SERIES® - IFS Single Phase Simplex (Demand/TD)

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 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.

TOUCH PAD FEATURES

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

B. **H.O.A. (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).

 Problems encountered with float control should be noted by an authorized person. See schematic wiring diagram and pump specifications label for correct connections.

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. Definite 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.

*ON cycle completes if float drops

Timer over-ride = Demand does

**FEATURES**

- Entire control system (panel and switches) is UL Listed to meet industry 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

**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
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 button. The display will show for timed dose applications, or for demand applications.
- Press button. The display will show count in

**Program Timer On & Off Times**

With control power supplied to panel:

Press and hold button for 3 seconds until is displayed.

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

**Setting pump ON (follow Section A)**

<table>
<thead>
<tr>
<th>Section A</th>
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</thead>
<tbody>
<tr>
<td>Press button to display time in hh:mm:ss.</td>
</tr>
<tr>
<td>Press button until desired digit flashes</td>
</tr>
<tr>
<td>Press button until desired time is achieved.</td>
</tr>
<tr>
<td>Repeat process pressing and buttons until desired time is reached.</td>
</tr>
<tr>
<td>Press button to save.</td>
</tr>
</tbody>
</table>

**Setting pump OFF times**

Press 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 button for 3 seconds until is displayed.

Timer programming is complete.
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 SJÆ-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.
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.

Figure 1

Figure 2
Simplex Timed Dose

Figure 3
Simplex Demand

Figure 4
Duplex Demand 3 Float

Figure 5
Duplex Demand 4 Float
The EZ Series (E2S) 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-close) mode, the stop and start floats control the pump.

**Alarm Count** - Shown on display as **AL.CN**, 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.CN**. 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.CN**. 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 **E-On**. Counts down the time left in the "On" cycle. (timed dose only)

**Time left in "Off" time cycle** - Shown on the display as **E-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 **ER**
- Display shows **E.Open**
- Elapsed Time Count - the display shows **ET1** then alternates showing hours (hh) then minutes (mm).
- Cycle Count - the display shows **CC1** then the count.
- High Level & Power Fail Alarms - the display shows **AL.CN** then the count.
- Float Error Count - the display shows **FE.CN** then the count.
- Auxiliary Alarm Input Counts - the display shows **AIL** then the count.

**TIMED DOSE DISPLAY ONLY**

- Timer Override Count - the display shows **TO.CN** 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 **On** or **Off** 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 menu/enter button for 3 seconds to enter program mode.

The display will show **On** time in mm:ss.

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

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

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

Note: Setting the **Off** times to **M-Off** turns off timed dose mode and timed dose menu items. The panel will operate in demand mode.

Press menu/enter 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 **ER**
- Then float status. **C-Open**
- Display shows **E.Open**
- Elapsed Time Count - the display shows **ET1** then alternates showing hours (hh) then minutes (mm).
- Cycle Count - the display shows **CC1** then the count.
- Pump 1 Elapsed Time Count - the display shows **ET2** then alternates showing hours (hh) then minutes (mm).
- Pump 2 Elapsed Time Count - the display shows **ET3** then alternates showing hours (hh) then minutes (mm).
- Pump 2 Cycle Count - the display shows **CC2** then the count.
High Level & Power Fail Alarms - the display shows **AL.CU** then the count.

Float Error Count - the display shows **FR.CU** then the count.

Auxiliary Alarm Input Counts - the display shows **ALL** then the count.

Lag Float Count - the display shows **LAGC** then the count.

**Programming Panel Setting (Duplex)**
With control power supplied to panel:

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

**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 RX 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, reinstalation, 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.
Time dosing of a single pump

1st Screen

Pump Cycle CT
11
ETM (min)
4

High Lvl CT
11
Override CT
4

Low Level CT
11
Timer Flt CT
4

Power Faults
11
Operating Hr
4

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 audible

Ignore other screens

"ESC" key

Down arrow, "OK"

> Various timer settings
> Date & time settings
ORENCO MVP Panel

Set... settings

Clock - Screen contrast -

Set Param... settings

- Hi level alarm delay
- Minimum override 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

H2A Floats

Motor rated Floats in series w/pump (piggyback)

Multi-Flo Control Panel
**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)

<table>
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**SINGLE PHASE DUPLEX**

Timed Dosing, 2-20 ft Control Switches Included (Add X for No Floats)

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**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** (Independently 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)

**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
TIMED DOSING CONTROL PANELS

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

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<td>16-20 FLA</td>
<td>120</td>
<td>1329</td>
<td></td>
</tr>
<tr>
<td>21-30 FLA</td>
<td>120</td>
<td>1330</td>
<td></td>
</tr>
<tr>
<td>0-15 FLA</td>
<td>120/230</td>
<td>1331</td>
<td></td>
</tr>
<tr>
<td>16-20 FLA</td>
<td>120/230</td>
<td>1332</td>
<td></td>
</tr>
<tr>
<td>21-30 FLA</td>
<td>120/230</td>
<td>1333</td>
<td></td>
</tr>
</tbody>
</table>

SINGLE PHASE TS-DOSE - TIMED DOSE SIMPLEX & DEMAND SIMPLEX

<table>
<thead>
<tr>
<th></th>
<th>Pump</th>
<th>Volts</th>
<th>Circuit Breaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEMA 4X (Outdoor Enclosure)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-15 FLA</td>
<td>120</td>
<td>1335</td>
<td></td>
</tr>
<tr>
<td>16-20 FLA</td>
<td>120</td>
<td>1336</td>
<td></td>
</tr>
<tr>
<td>21-30 FLA</td>
<td>120</td>
<td>1337</td>
<td></td>
</tr>
<tr>
<td>0-15 FLA</td>
<td>120/230</td>
<td>1338</td>
<td></td>
</tr>
<tr>
<td>16-20 FLA</td>
<td>120/230</td>
<td>1339</td>
<td></td>
</tr>
<tr>
<td>21-30 FLA</td>
<td>120/230</td>
<td>1340</td>
<td></td>
</tr>
</tbody>
</table>

The Single Phase TS-DOSE control panel includes one timed dose 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.

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)

Alderon
Industries
Leading Edge Control Products

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

L1064-Rev.B
Diagram #1
2 Float Set-up (Factory Set-up)

FS-1
1 2 3 4 5 6 7 8
Jumper in place of float

FS-2
Trigger Alarm

Optional Jumper TB6-TB8
(Use if you want alarm float to trigger the peak cycling)

Up: Triggers Alarm (Audible/Visual)
Down: Reset Alarm

With optional jumper in place
Up: Enables peak dose/rest cycling.
If raised during a normal dose the normal dose will finish and then transition into a peak rest cycle. If raised during a normal rest cycle the controller will immediately transition into a peak dose cycle.
Peak cycling will continue until float peak dose time has finished and float drops
Down: Allows peak timer to finish and then return to normal cycling.

FS-1 Stop Float

Up: Normal dose/rest timer enabled; dose period initiated
If rest period has elapsed.
Down: Stops dosing immediately, resets dosing timer if running / initiates & runs rest timer (if not already active).

Jump shut off immediately

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

FS-1
1 2 3 4 5 6 7 8
Jumper in place of float

FS-2
Trigger Alarm

Optional Jumper TB6-TB8
(Use if you want alarm float to trigger the peak cycling)

Up: Triggers Alarm (Audible/Visual)
Down: Reset Alarm

With optional jumper in place
Up: Enables peak dose/rest cycling.
If raised during a normal dose the normal dose will finish and then transition into a peak rest cycle. If raised during a normal rest cycle the controller will immediately transition into a peak dose cycle.
Peak cycling will continue until float peak dose time has finished and float drops
Down: Allows peak timer to finish and then return to normal cycling.

Diagram #3
4 Float Set-up

FS-1
1 2 3 4 5 6 7 8

FS-2
Trigger Alarm

Up: Triggers Alarm (Audible/Visual)
Down: Reset Alarm

FS-3
Enable Peak Timer

Up: Enables peak dose/rest cycling.
If raised during a normal dose the normal dose will finish and then transition into a peak rest cycle. If raised during a normal rest cycle the controller will immediately transition into a peak dose cycle.
Peak cycling will continue until float peak dose time has finished and float drops
Down: Allows peak timer to finish and then return to normal cycling.

FS-4
Normal Timer Enable

Up: Normal dose/rest timer enabled; dose period initiated
If rest period has elapsed.
Down: Allows dosing timer to finish its cycle, allow rest timer to lapse, and then disable cycling until float rises.

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.

Pg. 2 of 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**

The screen shots above are of the main screen. This screen displays which 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 10 seconds.

**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 reset 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.
**EXPECTED ORDER OF FLOATS IN BASIN**

<table>
<thead>
<tr>
<th>SIMPLEX PANEL</th>
<th>TIME DOSE PANEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Level Float</td>
<td>High Level Float</td>
</tr>
<tr>
<td>Lag (or Overide) Float</td>
<td>Lag (or Overide) Float</td>
</tr>
<tr>
<td>On Float</td>
<td>Load (or Enable) Float</td>
</tr>
<tr>
<td>Off Float</td>
<td>Off Float</td>
</tr>
<tr>
<td>Redundant Off/Low Level Float</td>
<td>Redundant Off/Low Level Float</td>
</tr>
</tbody>
</table>

**dEPH**

<table>
<thead>
<tr>
<th>Code</th>
<th>Setting Description</th>
<th>Display</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>dEPH</td>
<td>Press Menu/Enter to access next menu field</td>
<td></td>
<td>Pressure Panels Only</td>
</tr>
<tr>
<td>Et. 1</td>
<td>Elapsed Time, # is Pump Number 1 or 2</td>
<td></td>
<td>Max Time: 9999 Hrs.</td>
</tr>
<tr>
<td>Lt.</td>
<td>Total Elapsed Run Time on Corresponding Pump</td>
<td></td>
<td>Press Set/Change button to alternate Hours, Minutes, Seconds</td>
</tr>
<tr>
<td>Cc. 1</td>
<td>Cycle Counter, # is Pump Number 1 or 2</td>
<td></td>
<td>Max Value: 9999</td>
</tr>
<tr>
<td>Lt.c</td>
<td>No. of Cycles on Corresponding Pump</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lt.c</td>
<td>Field 1 Timer</td>
<td></td>
<td>Time Dose Panels Only</td>
</tr>
<tr>
<td>Hl.c</td>
<td>Counts down time remaining in current cycle. Counts &quot;Pump(s) On Time&quot; in MM,SS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hl.c</td>
<td>LP-1</td>
<td>Lag Pump Counter</td>
<td>Duplex Panel Only (Max Value: 9999)</td>
</tr>
<tr>
<td>Or-1</td>
<td>Counts Pump Run</td>
<td></td>
<td>Time Dose Panel Only (Max Value: 9999)</td>
</tr>
<tr>
<td>Or-1</td>
<td>System Override</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hl.c</td>
<td>High Level Counter</td>
<td></td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
<tr>
<td>Hl.c</td>
<td>Counts number of times system reached High Level Point</td>
<td></td>
<td>Max Value: 9999</td>
</tr>
<tr>
<td>Hl.c</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Septronics, Inc.**

**Complete Menu Structure**
<table>
<thead>
<tr>
<th>Code</th>
<th>Setting Description</th>
<th>Display</th>
<th>Comments</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>L.5.5</td>
<td>Lead Pump Selection (Duplex Pumps Only)</td>
<td>Alternates “L.5.5” and Current Value</td>
<td>Press Set/Change button to select options 0 = Alternate Lead Pumps* 1 = Pump 1 Always Leads 2 = Pump 2 Always Leads</td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
<tr>
<td>L.A.L</td>
<td>Low Level Alarm</td>
<td>Alternates “L.A.L.” and Current Value</td>
<td>Press Set/Change button to select options 0 = Low Level Alarm Off* 1 = Flash Alarm Light Only 2 = Flash Alarm Light &amp; Sound Audible</td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
<tr>
<td>4F.LT</td>
<td>3 or 4 Float System (Duplex Pumps Only)</td>
<td>Alternates “L.5.5” and Current Value</td>
<td>Press Set/Change button to select options 0 = Lag Float Hung Below High Level Float* 1 = High Level Float is Hung Below Lag Float</td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
<tr>
<td>0.FT</td>
<td>On Float/Override Float Order (Time Dose Only)</td>
<td>Alternates “L.9F*t” and Current Value</td>
<td>Press Set/Change button to select options 0 = Float Failure Alarm Off* 1 = Flash Alarm Light Only 2 = Flash Alarm Light &amp; Sound Audible</td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
<tr>
<td>0.FL</td>
<td>Float Failure Alarm</td>
<td>Alternates “F.F.L.” and Current Value</td>
<td>Press Set/Change button to select options 0 = Do Not Reset Pump 1 Elapsed Time 1 = Reset Pump 1 Elapsed Time to 0</td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
<tr>
<td>C.C.1</td>
<td>Cycle Count Pump 1 Reset</td>
<td>Alternates “CC.1” and “Q”</td>
<td>Press Set/Change button to select options 0 = Do Not Reset Pump 2 Cycle Count 1 = Reset Pump 2 Cycle Count to 0</td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
<tr>
<td>E.T 1</td>
<td>Elapsed Time Pump 1 Reset</td>
<td>Alternates “E.T. 1” and “Q”</td>
<td>Press Set/Change button to select options 0 = Do Not Reset Pump 2 Elapsed Time 1 = Reset Pump 2 Elapsed Time to 0</td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
<tr>
<td>C.C.2</td>
<td>Cycle Count Pump 2 Reset</td>
<td>Alternates “CC.2” and “Q”</td>
<td>Press Set/Change button to select options 0 = Do Not Reset Pump 2 Elapsed Time 1 = Reset Pump 2 Elapsed Time to 0</td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
<tr>
<td>C.C.2</td>
<td>Override Count Reset (Time Dose Only)</td>
<td>Alternates “L.C.2” and “Q”</td>
<td>Press Set/Change button to select options 0 = Do Not Reset Pump Counter 1 = Reset Pump Counter to 0</td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
<tr>
<td>H.C.</td>
<td>High Level Count Reset</td>
<td>Alternates “H.C.” and “Q”</td>
<td>Press Set/Change button to select options 0 = Do Not Reset High Level Counter 1 = Reset High Level Counter to 0</td>
<td>Press Menu/Enter to access next menu field</td>
</tr>
</tbody>
</table>

**Note:**

- * indicates that the option is active.

---

**LCOPO**

**Code**

**Setting Description**

**Display**

**Comments**

**Options**

---

**FIT 1**

Field 1 Time 1 (Pump Enable Time)

Alternates “FIT 1” and Current Value

Press Set/Change button to select time

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.

---

**FIT 2**

Field 2 Time 2 (Pump Disable Time)

Alternates “FIT 2” and Current Value

Press Set/Change button to select time

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.”

---

**ORT 1**

Override Pump On Time (Time pump runs when override setpoint is reached)

Alternates “ORT 1” and Current Value

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

---

**ORT 2**

Override Pump Off Time (Time pump waits after override cycle)

Alternates “ORT 2” and Current Value

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

---

**OR-AL**

Override Alarm Turns on during Override Pump Cycle–Cleans when “Override Off” time is complete

Alternates “OR-AL” and Current Value

Press Set/Change button to change field

Indicates to end user to reduce water usage

0 = Override Alarm Off (Default) 1 = Flash Alarm Light Only 2 = Flash Alarm Light & Sound Audible

---

**HL t.d**

High Level Time Delay

Alternates “HL t.d” and Current Value

Press Set/Change button to select time

[Alarm delays the “set” time. When fluid level exceeds high Level set point for the “set” time without interruption, the alarm sounds] Set from 00.00 to 99.59

Press Menu/Enter to move between the time fields

[Default: 00.00]