Liquid Smart® Simplex System:

The OSSIM-TP-300X-OR-2 Liquid Smart® System incorporates pump controls and alarm sensors that differentiate between oil and water, allowing companies to responsibly discharge the water without worrying about contamination.

Models (ratings):

- OSSIM-TP-3001-OR-2 (1-1.6 pump full load amps)
- OSSIM-TP-3002-OR-2 (1.6-2.5 pump full load amps)
- OSSIM-TP-3003-OR-2 (2.5-4 pump full load amps)
- OSSIM-TP-3004-OR-2 (4-6.3 pump full load amps)
- OSSIM-TP-3005-OR-2 (6-10 pump full load amps)
- OSSIM-TP-3006-OR-2 (9-14 pump full load amps)
- OSSIM-TP-3007-OR-2 (13-18 pump full load amps)
- OSSIM-TP-3008-OR-2 (17-23 pump full load amps)
- OSSIM-TP-3009-OR-2 (20-25 pump full load amps)
- OSSIM-TP-3010-OR-2 (24-32 pump full load amps)

Features:

- Oil Smart® Pump Control, Liquid Smart® Alarm Switch and Wide Angle Float Switch
- NEMA 4X polycarbonate enclosure with stainless steel lockable latches
- Pump control visible indicators: pump hand-off-auto (H.O.A.) switch, green pump run light, red pump fault light, and green power on light
- Alarm visible indicators: red beacon alarm light, yellow light for oil, white light for water, alarm test and silence buttons
- Alarm horn sounds at 85 decibels at 10 feet
- Remote monitoring dry contacts: oil, water, high liquid, pump run, and pump fault with indicator
- Pump protection: motor protective switches included for both pumps (branch circuit protection, adjustable overload and disconnect)
- Sensor status indicators
- UL listed for the United States and Canada

WARNING

1. All installations must be in accordance with the National Electrical Code, and any other applicable state and local electrical requirements.

WARNING

1. The switch and pump are not rated for explosive environments. This product is intended for hydraulic oils only.

Panel and Component Installation:

1. Caution: To maintain the NEMA 4X rating, make all wiring connections with seal tight cable grips or conduit connections to be supplied by installer.
2. Determine mounting location for control panel. Mount panel using mounting feet supplied.
3. The control panel should not be mounted in an area that is subject to submersion.
4. Run pump cable, dual float switch cable, Liquid Smart® cable, and Oil Smart® cable through conduit. Make field connections as shown on wiring diagram.
5. Run power line conductor through conduit. Wire to terminals per enclosed schematic. Branch circuit protection to be provided by installer.
6. Install factory wire to appropriate transformer voltage tap (as show on wiring diagram).
7. Mount float switch, Oil Smart® Pump Control and Liquid Smart® Sensor with provided mounting hardware to pump discharge pipe. The off sensor of the Oil Smart® Switch shall be positioned at least 3" above the impeller of the pump. The Liquid Smart® Sensor shall be positioned at the appropriate high liquid level point.

Start up:

1. When the power is applied, the green power light located on the white front swing panel shall light.
2. The Pump HOA Switch shall be placed to the A (auto) position to ensure the system will pump. The pump can be tested or turned on manually if the HOA switch is in the H (Hand-Manual) position.

To test the alarm circuit, push the test button on the front panel, the audible alarm shall sound and the high red beacon will light.

Service:

Caution: Before checking electrical connections within the control or attempting to replace any components, turn off all branch circuits supplying power to the main control panel.
Liquid Smart® SYSTEM
Installation Manual

Additional Panel Options:

**Note:** This system requires one normally open and one normally closed solenoid, 1.5” or 2” discharge, depending on local jurisdiction. These items can be purchased through See Water, Inc. at 888-733-9283.

**JB - Junction Box (optional)**

Junction Box with 25’ cord connections. The junction box is clearly marked with field wiring connections.

**SF - Seal Failure Circuit (optional)**

The seal fail circuit will indicate when there is water in the pump chamber. The circuit is setup to work with a variety of pumps with a range of resistance sensitivity settings.

**AF - Alarm Flasher**
**ET - Elapsed Timer Meter w/ LCD display &**

**Oil Smart® Switch Operation:**

**Normal Condition (Water Only)**
When water comes in contact with the short “on” sensor, the pump will turn on. The pump will remain on until water clears the long “off” sensor.

**Oil Present Condition**
If oil comes in contact with the “on” sensor, the pump will not turn on.

**Water (Oil Present Condition)**
If the water level rises enough to contact the “on” sensor under the oil layer, the pump will turn on and remain on until the “off” sensor clears of water.

**Testing:**

**Liquid Smart® Alarm Testing**
Oil Test: Submerge both sensors in oil and the yellow oil indicator on the front panel will light. Water Test: Submerge both sensors in water and the white water indicator on the front panel will light. Both tests will turn on the red beacon alarm light and sound the alarm buzzer.

**Oil Smart® Pump Switch Testing**
Place your thumb on the short sensor of the Oil Smart® Pump Switch and the pump will turn on. While touching the short “on” sensor, touch the long “off” sensor with your fingers. Remove your thumb from the on sensor and begin to move your fingers down the off sensor. Remove your fingers from off sensor and the pump will turn off. Optional: Fill up sump area with water, when water reaches the on sensor, the pump will turn on and remain on until water clears the off sensor.

**Typical Installation for Liquid Smart® Pump Switch and Alarm System**
## Oil Smart Control Panel Troubleshooting Guide

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump Control does not activate the pump. Pump does not run.</td>
<td>Incorrect Polarity</td>
<td>Make sure phase and neutral are not reversed.</td>
</tr>
<tr>
<td></td>
<td>Loose connection in control panel or electrical system.</td>
<td>Confirm all connections are tight and secure.</td>
</tr>
<tr>
<td></td>
<td>Defective Control</td>
<td>Replace Control</td>
</tr>
<tr>
<td>Pump Control is not operating properly; not consistent or staying on.</td>
<td>Problem with electrical system</td>
<td>Check electrical circuits for common neutrals; may cause switch to malfunction.</td>
</tr>
<tr>
<td></td>
<td>Improper Field Wiring</td>
<td>Do not run DC conductors through same conduit as AC conductors.</td>
</tr>
<tr>
<td></td>
<td>Control is not clean of conductive material.</td>
<td>White plastic case must be kept clean. Clean with household rubbing alcohol and rag.</td>
</tr>
<tr>
<td></td>
<td>Improper Mounting of Components</td>
<td>Keep control (1&quot; to 2&quot;) clear of any metallic material. Mount to pvc pipe or if mounting to metal pipe, make sure to mount with See Water quick mount PVC bracket.</td>
</tr>
<tr>
<td></td>
<td>Float switch attached to pump</td>
<td>Float switch must be removed, secured in manual operation, or replaced with correct pump.</td>
</tr>
<tr>
<td></td>
<td>Defective Control and/or Pump(s)</td>
<td>Replace Control and/or Pump(s)</td>
</tr>
<tr>
<td>Alarm will not activate</td>
<td>Power supply failure</td>
<td>Confirm separate 120V power to circuit board. Can be jumpered from incoming power on pump terminal if 120V is available.</td>
</tr>
<tr>
<td></td>
<td>Defective Alarm Sensor</td>
<td>Replace Alarm Sensor</td>
</tr>
<tr>
<td></td>
<td>Loose connection in control panel or electrical system.</td>
<td>Confirm all connections are tight and secure.</td>
</tr>
<tr>
<td>Pump will not turn on or pump is not functioning properly.</td>
<td>Incorrect match on control panel and pump.</td>
<td>Confirm correct pump voltage and wires matched to correct control panel</td>
</tr>
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Any technical questions on this product should be directed to See Water, Inc at 888-733-9283.