

Oil Smart® Duplex System

The Oil Smart® OSD1P system incorporates pump controls and alarm sensors that differentiate between oil and water, allowing companies to responsibly discharge the water without the risk of pumping oil. Installation of the OSD1P keeps companies in compliance with Elevator Code ASME A17.1 and State/Federal regulations while reducing the risk of adverse publicity, fines, and expensive cleanup cost.

Model	FLA Range
OSD1P-1021	(0.0-7.0 FLA)
OSD1P-1022	(7.0-15.0 FLA)
OSD1P-1023	(15.0-22.0 FLA)
OSD1P-1024	(22.0-28.0 FLA)
OSD1P-1025	(28.0-36.0 FLA)

Enclosure Mounting: NEMA 4X RATED

Mounting Brackets - A mounting bracket and screw pack are provided with the premium enclosures. To assemble, turn the enclosure upside down on a flat surface, place the mounting bracket over the square boss either horizontally or vertically, and fasten the mounting bracket with the 1/4"-20 x 0.5 SS, countersunk phillips drive screws or vertically, with the mounting brackets in any config., using any acceptable fastening technique.

Covers/Doors - Covers/doors have a gasket pre-assembled to seal against the base.

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

Panel Installation:

1. Caution: To maintain the NEMA 4X rating, make all wiring connections with seal tight cable grips or conduit connections.
2. Run pump cable and Oil Smart® cables through conduit. Make field connections as shown on wiring schematic.
3. Run power line conductor through conduit. Wire to terminals per enclosed schematic.
4. Branch circuit protection to be provided by installer.
5. Panel circuit breakers are closed.
6. Mount Oil Smart® pump switch and Liquid Smart® alarm sensor with provided mounting hardware to pump discharge pipe. The 'OFF' sensor of the Oil Smart® pump switch shall be positioned at least 3" above the impeller of the pump.
7. Mounting of the High Water Lag Sensor is application driven and is to be placed where high demand pump is to be activated.
8. Mounting of the Liquid Smart® sensor is application driven and is to be placed where a high liquid is deemed necessary. The Liquid Smart® sensor is typically mounted 3" - 6" above the Oil Smart® pump switch.
9. Connect service conductors 120/208/240VAC to proper location.

Remote Monitoring Dry Contacts:

- Normally Open dry contacts for high oil, high level, pump run, and pump fault. Rated 0-120VAC/24VDC, 1 amp max.



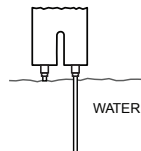
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Sequence of Operation:

Operation of Oil Smart®

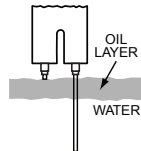
Normal Condition (Water Only)

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.



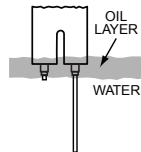
Oil Present Condition

If oil comes in contact with the (on) sensor, the pump will not turn on.



Water (Oil Present Condition)

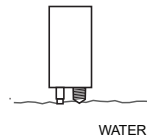
If the water level rises enough to contact the (on) sensor under the oil layer, the pump will turn on and remain on until the (off) sensor clears.



Operation of Liquid Smart®

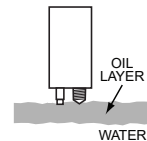
High Water Level

When water comes in contact with both sensors, the white water indicator on the front panel will illuminate. This condition will turn on the red beacon alarm light and sound the alarm buzzer.



High Oil Level

If oil comes in contact with both sensors, the yellow oil indicator on the front panel will illuminate. This condition will turn on the red beacon alarm light and sound the alarm buzzer.



Testing:

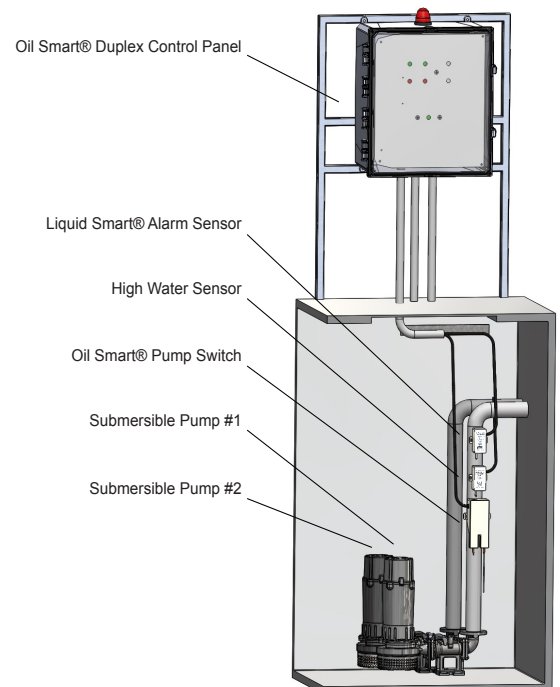
Oil Smart® Pump Switch Testing:

- Place your thumb on the short stainless steel 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 short 'ON' sensor and begin to move your fingers down the 'OFF' sensor simulating water being pumped down. Once fingers are removed from 'OFF' sensor, the pump will turn off.
- Optional: Fill the sump area with ground water, when water reaches the 'ON' sensor, the pump will turn on and remain on until water clears the 'OFF' sensor.

Liquid Smart® Alarm Testing:

- Submerge both sensors in oil and the yellow oil indicator on the front panel will illuminate. To test water sensor, submerge both sensor in ground water and the white water light will illuminate.
- Both test will illuminate the 360 degree visible beacon and sound an 85 decibel at 10' buzzer.

Typical Installation of Oil Smart® Duplex Control Panel



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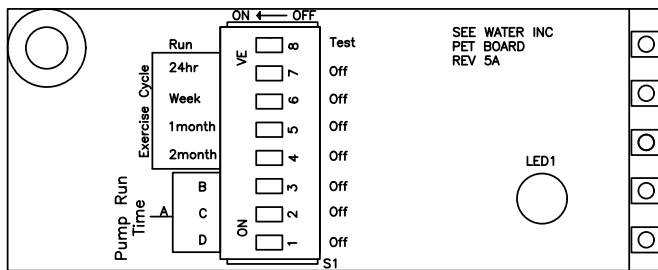
Additional Panel Options:

24 - Pump Exerciser

- Auto cycles pumps daily, weekly or monthly.

Run Time Options:

- Position A: 50ms (DIP Switch 1,2, and 3)
- Position B: 100ms
- Position C: 4s
- Position D: 8s



- 28 = Power On Dry Contact
- 3R = Painted Steel Enclosure
- 6P = Upgraded Enclosure (NEMA 6P Rated); Removes Buzzer and Beacon
- AF = Alarm Flasher
- AH = Anti-Condensation Heater
- C = Additional Cord Length Greater Than 20'
- CCD = Cycle Counter w/ LCD Display and Reset
- DPR = Dry Contact for Pump Run
- ETD = Elapsed Time Meter w/ LCD Display and Reset
- LAD/ = Lightning Secondary Surge Arrestor
- LAW
- MD = Main Disconnect
- PM = Phase Monitoring
- PX = Pump Portal® Wireless Remote Panel Control and System Monitoring
- SFD = Seal Failure Circuit w/ Indicator Lights
- ST = Upgraded Enclosure (Stainless Steel)

*Additional cord length greater than 20'. Specify after C.

Example: (OSD1P-1021-C50). Indicates 50' cord lengths for all components.

Troubleshooting:

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.

Pump control does not activate the pump or pump does not run

- Verify polarity is correct.
- Confirm all connections are tight and secure.
- White plastic case must be kept clean. Clean with house hold rubbing alcohol and rag.
- Keep control 1" - 2" clear of any metallic material. Mount to PVC pipe or if mounted to metal pipe, make sure to mount with See Water quick mount PVC bracket.

Alarm will NOT activate

- Confirm separate 120VAC power to circuit board TS1-1 and TS1-2. Power can be jumpered from incoming voltage if needed.
- Check for any visual damage to optic or stainless steel sensor on the Liquid Smart® sensor.

Preventive Maintenance

- The Oil Smart® pump switch and Liquid Smart® sensor must be kept clean. If the switches are submerged during install or maintenance, clean the white plastic case with rubbing alcohol. Consistent inspection and preventive maintenance ensures longevity and proper operation of components.

Warranty:

See Water, Inc. warrants that products of its manufacture are free from defects in material and workmanship for a period of 5 years from the date of purchase. This date shall be determined by the date on the invoice and the serial number on the product.

Replacement of the product is at the discretion of See Water, Inc. This warranty is valid when the product is installed in compliance with the manufacturer's installation instructions. The manufacturer's obligation under this warranty shall be limited to the repair or replacement of any parts found by the manufacturer to be defective, provided that the product is returned to See Water, Inc.'s factory, postage prepaid with proof of original purchase included.

The manufacturer of this warranty shall not be liable under this warranty if the product has not been properly installed; any alterations/additions/changes to the product will result in a void warranty. Failure to properly install and test this product can result in personal injury or equipment malfunction.

See Water, Inc. shall not be liable for any loss, damage or expenses from installation or use of its products.



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