

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



**PUMP COMPANY**

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**60 Hz**

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## CONTROL PANEL for OIL SMART® & OIL GUARD® SYSTEMS INSTALLATION INSTRUCTIONS



- All installations must be in accordance with the National Electrical Code, and any other applicable state and local electrical requirements.
- Do not remove ground pin.** Severe electrical shock could occur.
- Check with local codes for proper installation.
- To reduce the risk of electrical shock, a properly grounded receptacle or control box must be installed in accordance with the governing codes. Never remove ground pin from plug.
- Make certain that the ground fault interrupter protected receptacle or control box is within the reach of the pump's power supply cord. **DO NOT USE AN EXTENSION CORD.** Extension cords that are too long or too light do not deliver sufficient voltage to the pump motor, and they could present a safety hazard if the insulation were to become damaged or the connection end were to fall into a damp or wet area.
- Installation and maintenance of this appliance is not intended for persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- The switch and pump are not rated for explosive environments. This product is intended for hydraulic oils only.

### CONTROL PANEL SETUP INSTRUCTIONS

Be sure the power is turned off before starting.

#### Simplex Control Panel:

Connect the Oil Smart® Pump Switch, Oil Smart® Liquid Alarm Switch, Alarm Power Supply, Pump, Pump Power Supply and Dry Contacts (for SCADA if used) as shown on the wiring diagram (see page 3).

#### Duplex Control Panel:

Connect the Oil Smart® Pump Switch, Oil Smart® Liquid Alarm Switch, Oil Smart® High Water Alarm Switch, Pump, Pump Power Supply, Alarm Power Supply and Dry Contacts (for SCADA if used) as shown on the wiring diagram (see page 4).

### INSTALLATION INSTRUCTIONS

*For DN40 (1-1/2") pipe:* Attach the Oil Smart® Pump Switch, Oil Smart® Liquid Alarm Switch, and Oil Smart® High Water Alarm Switch (if used) to the Quick Mount Brackets using the screws and nuts provided (see Fig. 1). Snap the pump switch bracket onto the discharge pipe or float tree with the end of the long sensor 50 mm (2") above the top of the pump. Snap the alarm bracket onto the discharge pipe or float tree with sensor end 50 mm (2") above the pump switch "on" (see Fig. 3). Snap

the Oil Smart® High Water Alarm Switch above the Oil Smart® Liquid Alarm Switch. Place hose clamps under the quick mount brackets as a reference locator for the switch. Mount switches clear of the basin inlet so they will stay clean. Note: Keep sensors 25 mm (1") to 50 mm (2") away from any metallic material.

*For pipe sizes other than DN40 (1-1/2"):* Attach the Oil Smart® Pump Switch, Oil Smart® High Water Alarm Switch (if used), and Oil Smart® Liquid Alarm Switch to the universal bracket. Place the supplied hose clamp through the slots in the bracket before mounting the switch with the screws and nuts provided (see Fig. 2). Clamp the Oil Smart® Pump Switch to the discharge pipe or float tree with the end of the long sensor 50 mm (2") above the top of the pump (see Fig. 3). Attach the Oil Smart® Liquid Alarm Switch onto the discharge pipe or float tree with sensor end 50 mm (2") above the pump's "on" level (see Figure 3). Attach the Oil Smart® High Water Alarm Switch above the Oil Smart® Liquid Alarm Switch. Mount switches clear of the basin inlet so they will stay clean. Note: Keep sensors 25 mm (1") to 50 mm (2") away from any metallic material.

*Float Tree (optional):* Attach quick mount bracket to basin wall (see Fig. 1). Snap DN40 (1-1/2") pipe with cap above bracket. Snap on pump and Oil Smart® Liquid Alarm Switch bracket.

Testing may be done prior to installation in a basin. Pump must be connected to control panel for testing.

### TESTING

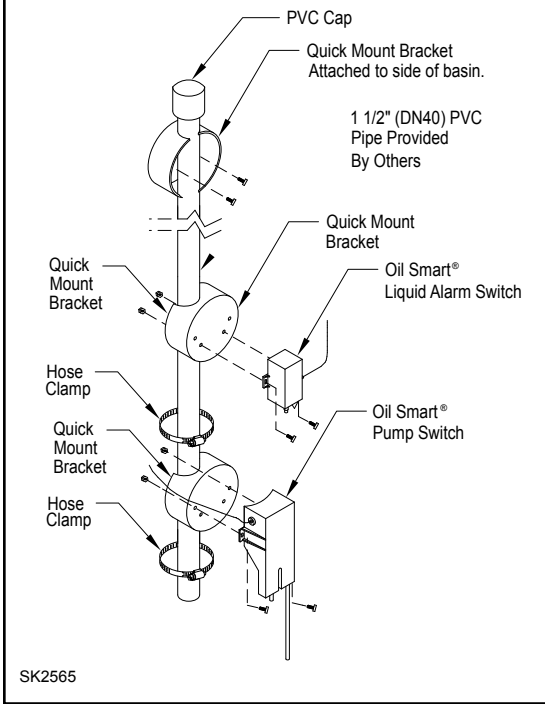
*Oil Smart® Liquid Alarm Switch:* Fill the supplied small cup with oil. Submerge only the plastic lens (optic sensor) into the oil. The alarm will activate showing oil present. The yellow "oil" light and the Red Beacon will illuminate, and the audible alarm will sound. Now, touch finger to the exposed steel sensor; the white water light will turn on.

*Oil Smart® Pump Switch and Control Panel:* Place the hand-off-automatic switch in the automatic position. Place your thumb on the short sensor rod of the Oil Smart® Pump Switch and the pump will start running. While touching the short sensor, touch the long sensor rod with your fingers. Remove your thumb from the short sensor rod as you move your fingers down the long sensor rod until they no longer touch the rod. The pump will turn off. Place the hand-off-automatic switch in the manual position and the pump will run.

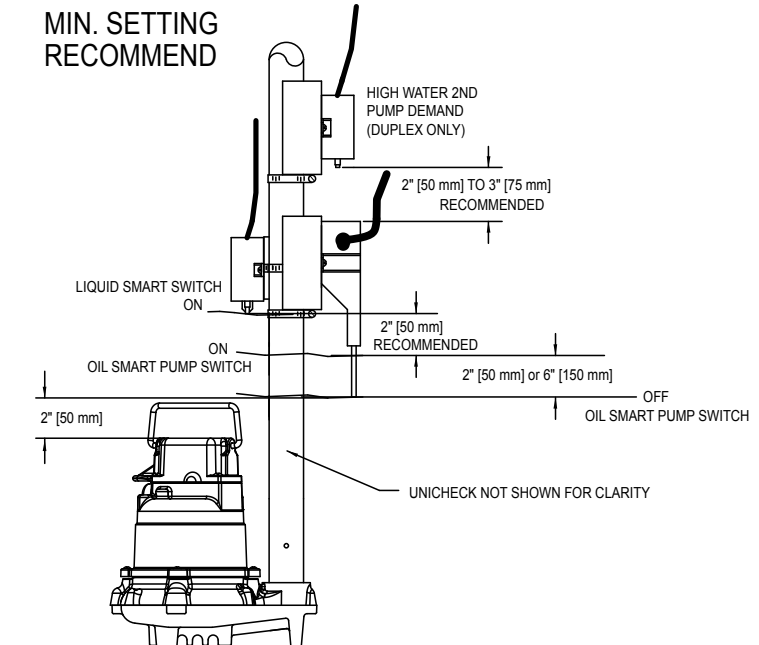
### MAINTENANCE

The plastic switch case must be kept clean and free of rust, mud, soap, etc. If the switch is submerged in water during initial installation, the switch must be cleaned. Clean the case and metal sensors with alcohol or an oil base solvent product such as kerosene.

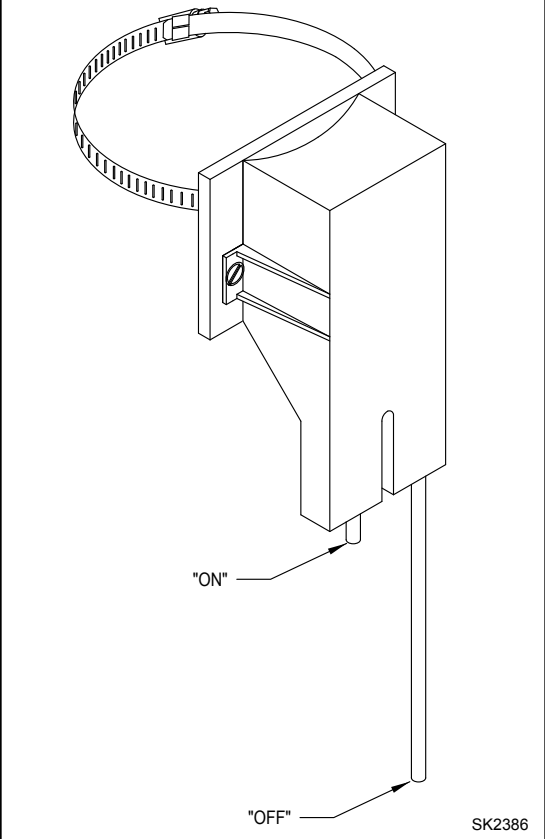
**FIGURE 1** Mounting for 1-1/2" (DN40) Pipe.



**FIGURE 3** Typical Installation of Oil Smart® Pump Switch and Alarm Panel.



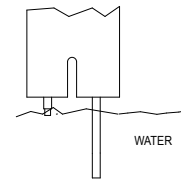
**FIGURE 2** Mounting for Pipe Sizes Other Than 1-1/2" (DN40) Pipe.



**Operation**

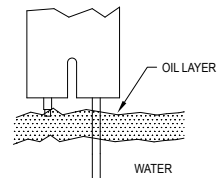
**Normal Condition (Water Only)**

The short sensor probe turns the pump "on" and the long sensor probe turns the pump "off". When the short sensor is in contact with water, the pump will continue to cycle "on and "off" until the short sensor detects oil.



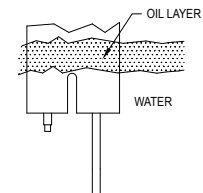
**Oil Present Condition**

The pump will not cycle if oil is in contact with the short sensor.

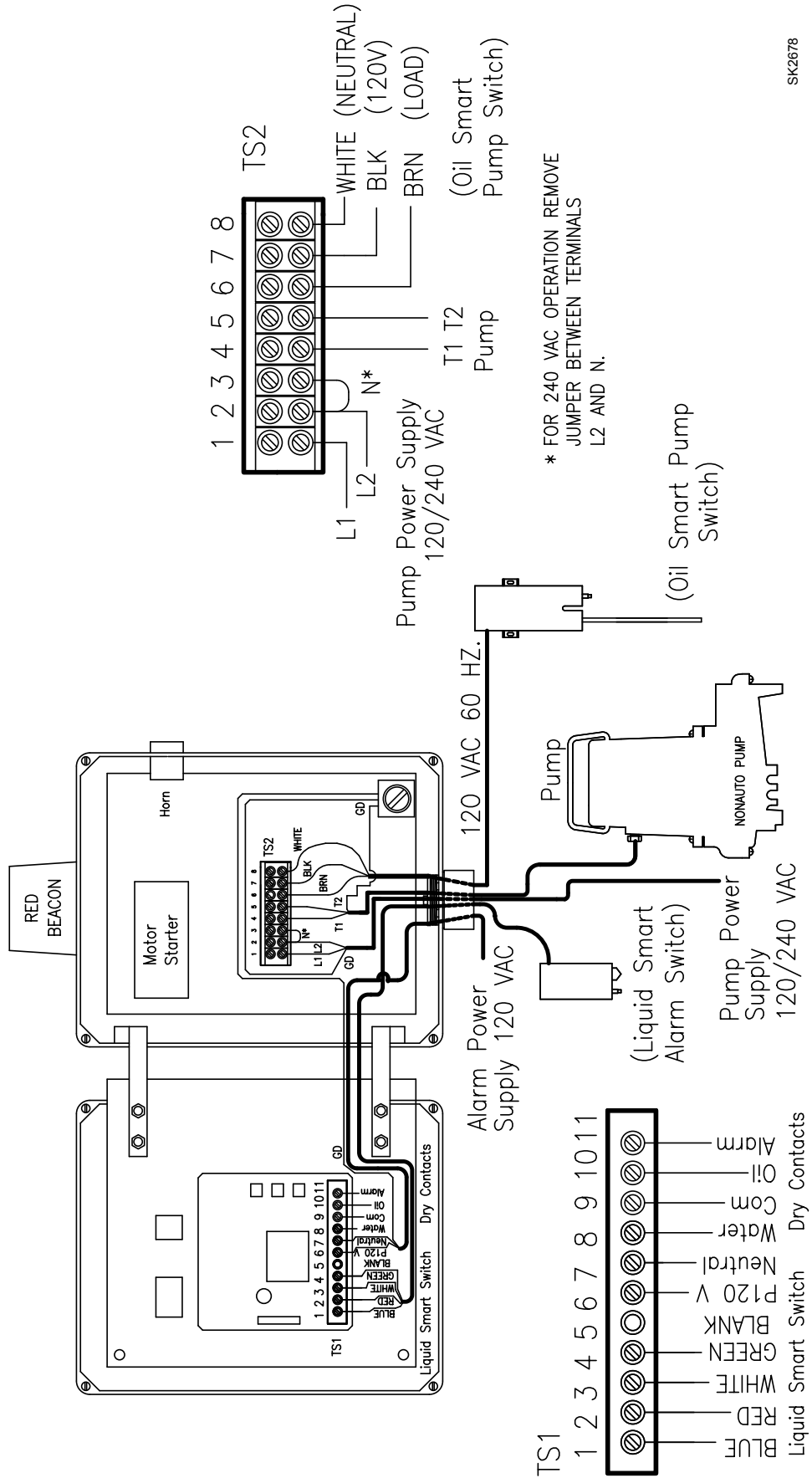


**High Water (Oil Present Condition)**

If additional water enters into the basin it will cause the oil layer to raise above the short sensor resulting in the pump cycling.

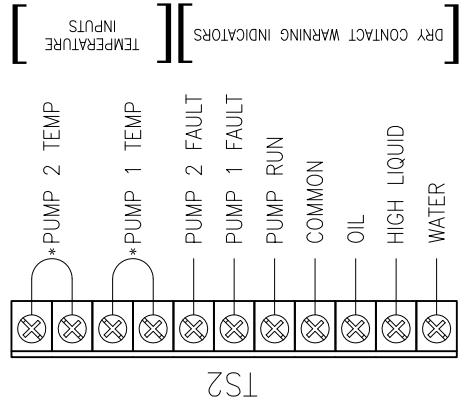
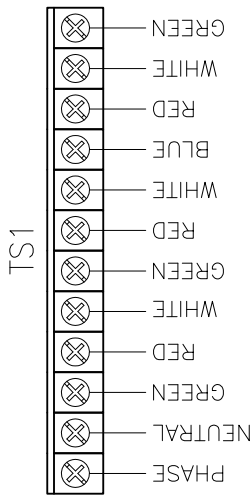
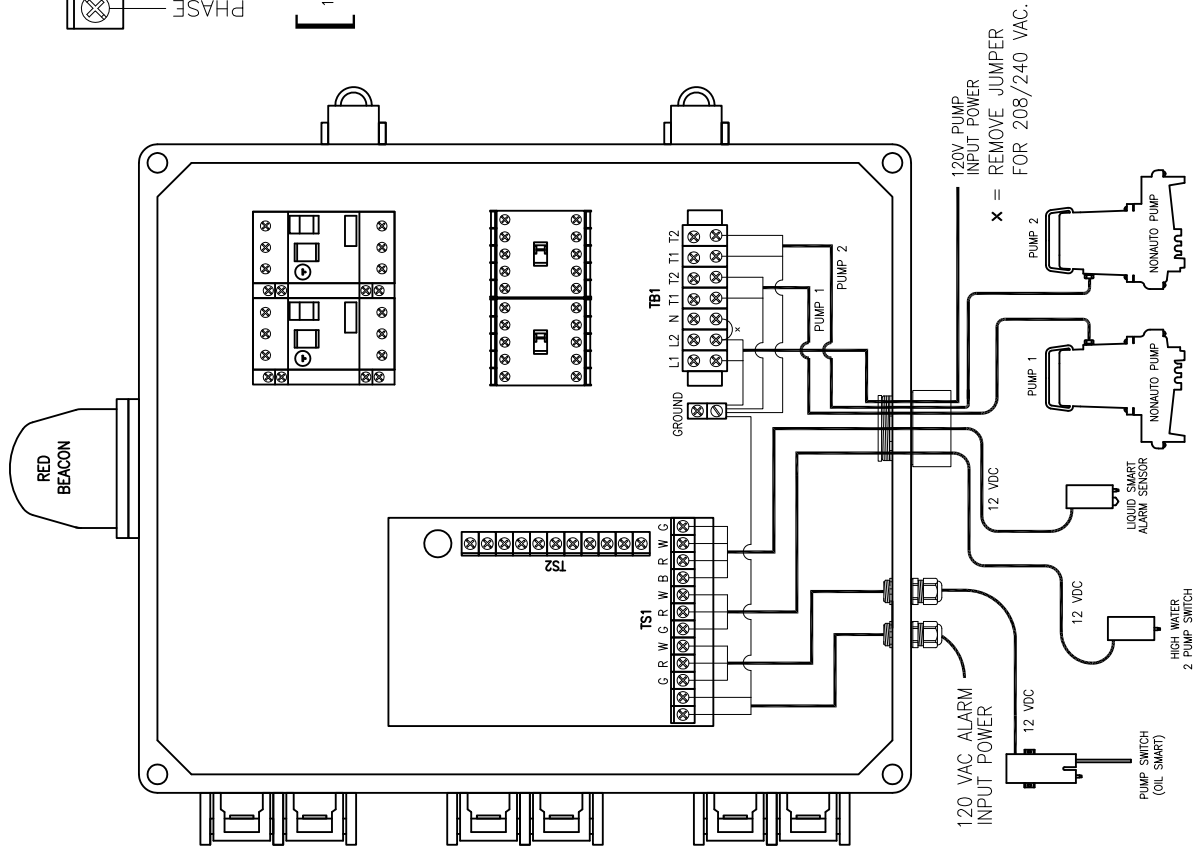


# WIRING DIAGRAM FOR SIMPLEX CONTROL PANEL WITH ALARM SINGLE PHASE - 60 HZ



SK2678

# WIRING DIAGRAM FOR DUPLEX CONTROL PANEL WITH ALARM SINGLE PHASE - 60 HZ



\*REMOVE FACTORY INSTALLED JUMPERS WHEN CONNECTING TEMPERATURE INPUTS.

TEMPERATURE INPUTS    DRY CONTACT WARNING INDICATORS



\* FOR 208/240V OPERATION, REMOVE JUMPER BETWEEN TERMINALS L2 AND NEUTRAL.

SK2679