

Oil Alert™ 3-Zone Alarm Panel

Standard, Model: VA-04 | Rated Type 1 (Indoor), Alarm Panel



Leading Edge Control Products

Operation, Maintenance, and Installation Manual



Introduction



Before proceeding with the installation or operation of the product, make sure to read all instructions thoroughly, as well as complying with all Federal, State and Local Codes, Regulations and Practices. The product must be installed by qualified personnel familiar with all applicable local electrical and mechanical codes. Refer to the National Electrical Code (NFPA 70). Failure to properly install and test this product can result in personal injury or equipment malfunction.

Safety Guidelines

1. DISCONNECT ALL ELECTRICAL SERVICE BEFORE WORKING ON OR HANDLING THE PRODUCT.
2. DO NOT USE WITH FLAMMABLE OR EXPLOSIVE FLUIDS SUCH AS GASOLINE, FUEL OIL, KEROSENE, ETC. DO NOT USE IN EXPLOSIVE ATMOSPHERES.
3. ALARM PANEL MUST BE MOUNTED INDOORS. FOR OUTDOOR APPLICATIONS, CONSULT FACTORY.

Specifications

Primary Power
120VAC, 50/60 Hz

Circuit Board Primary Power
11.1VDC, 500mA maximum

Circuit Board Secondary Power
9VDC, standard 9VDC battery
(battery backup; not included)

Watts
1.4 Watts

Field Connection Sensor
9-10VDC, 200mA minimum
(signaling device)

Auxiliary Contacts
24VDC, 500mA maximum (each)
Normally Open

Auxiliary Alarm Power
8-10.2VDC, 150mA maximum

LEDs
Green (power) and Red (alarm)

Buzzer
85 dB @ 10-feet

Wall-Mounted Power Supply
120VAC, 50/60 Hz (input)
11.1VDC, 500mA maximum (output)
(6-foot cord)

Enclosure
Thermoplastic
5 x 4 x 1.3 (inches)
Type 1, Indoor
Removable cover

Certifications
CSA (US and Canada)

Three-Year Limited Warranty

Description of Operation

The Oil Alert™ 3-Zone Alarm is an indoor rated alarm panel, powered by a standard 120VAC wall outlet. The green power LED will illuminate (solid) when powered. This alarm panel is used with Alderon™ Oil Alert™ control panels for the safe operation of pumping, alarming, and monitoring of: elevator sump pits, transformer vaults, and leachate well applications. The Oil Alert™ control panel will activate a pump to remove water from pits in accordance with ASME A17.1, stopping the pump before oil or other harmful substances enter the water supply.

The alarm panel is equipped with audible and visual alarm indication for high oil, high water, and trouble alarm events. A preset level sensor is wired to the control panel from the monitoring area and the control panel auxiliary contacts are wired to the terminal block on the alarm panel. Installing a 9VDC battery (not included) provides battery backup during power outages. Use the auxiliary contacts to connect to building automation systems (BAS) and phone dialers.

An alarm condition occurs when the control panel's sensor for high oil, high water, and/or trouble alarm activates the control panel's auxiliary contacts (which are field connected to the alarm panel inputs terminal block), during which the red alarm LED(s) will illuminate (solid), buzzer will annunciate (solid), and the auxiliary contacts will activate. The trouble alarm input is activated by multiple alarms depending on the model of the control panel and may include power loss, pump overload, sensor error, and other trouble alarms (see control panel user guide for full details). The alarm condition will stay on until the sensor for high oil, high water, and/or trouble alarm deactivates. If the alarm silence pushbutton is pressed during an alarm condition, it will silence the buzzer while the alarm LED(s) remain on. The silence condition will reset when the sensor for high oil, high water, and/or trouble alarm deactivates and the alarm panel will auto reset for the next alarm cycle.

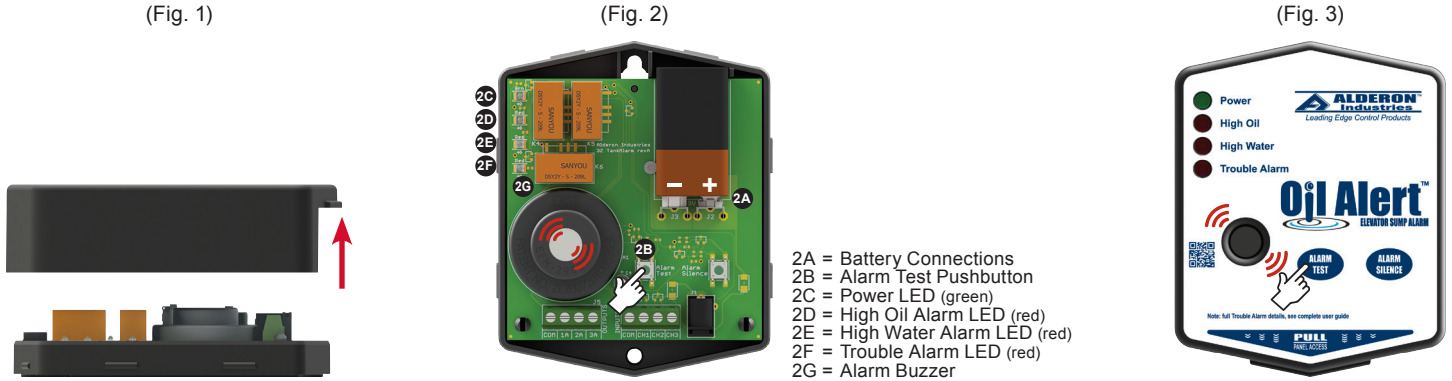
Note: If zone-1 (high oil) is in an alarm condition and the buzzer is silenced, and then zone-2 (high water) or zone-3 (trouble alarm) goes into an alarm condition, the buzzer will reactivate until the alarm silence pushbutton is pressed to acknowledge that a new alarm condition has occurred.

Installation of the Alarm Panel

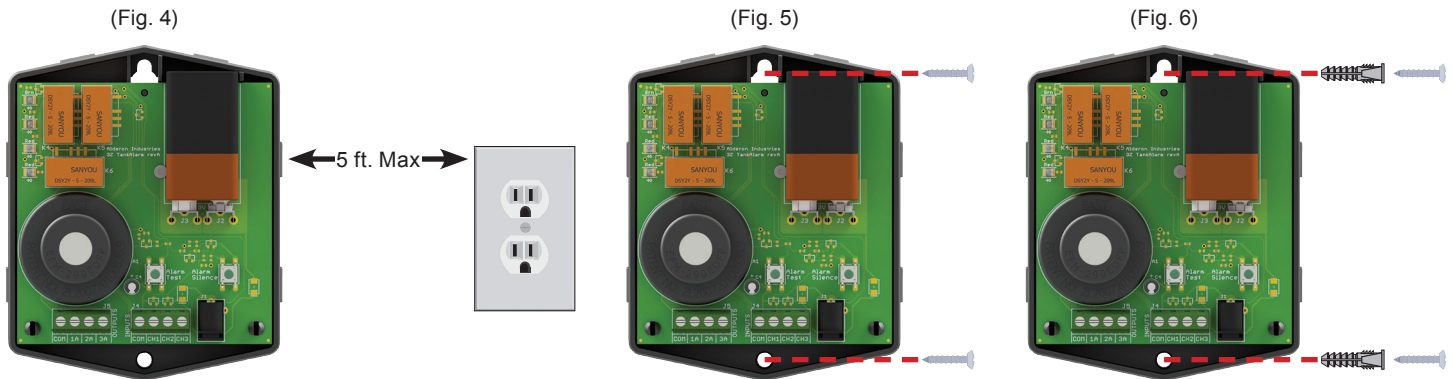
1. To install/replace the battery for the backup power feature, remove the enclosure cover (Fig. 1) and install a 9VDC battery (not included) by pressing down into the positive (+) and negative (-) terminal connections (Fig. 2). After installing battery, perform a quick test, press and hold the alarm test pushbutton (Fig. 2 and Fig. 3) to activate the alarm and make sure the battery is working properly. The alarm LEDs should illuminate (solid), buzzer should annunciate (solid), and auxiliary contacts should activate. Leave the enclosure cover off until step 3 and step 4 are completed for the auxiliary contact and signaling device wiring.

Note: When on battery backup, the green power LED will not illuminate to conserve battery power.

WARNING: Do not connect AC power from a standard wall outlet or receptacle to the alarm panel until all steps of the installation are complete and the system is ready for testing.



2. Determine the mounting location for the alarm panel and leave the enclosure cover off. Make sure power outlet (120VAC, 50/60 Hz) is within 5-feet of the alarm panel (Fig. 4). The power outlet should be on a separate circuit breaker from any other device and not on a switched receptacle to maintain system integrity. Mount the alarm panel using two (2) #6 self-tapping screws (not included / Fig. 5). Use two (2) #8 plastic anchors (not included / Fig. 6) if mounting the alarm panel to sheet rock.



Installation of the Alarm Panel (continued)

3. If connecting to an existing alarm security system or building automation system (BAS), use 18 gauge 2-conductor wire to connect the existing product to the OUTPUTS terminal block on the Oil Alert™ alarm panel (Fig. 7). See below for wiring information. The auxiliary contacts of the Oil Alert™ alarm panel are activated when the Oil Alert™ control panel's circuit board auxiliary contacts are "closed" during an alarm condition. When connected, run the wire(s) towards the bottom/center of the alarm panel to go through the wiring access hole once the enclosure cover is replaced (Fig. 9 and Fig. 10).
4. Connect the Oil Alert™ control panel auxiliary contacts (signaling device) to the INPUTS terminal block on the Oil Alert™ alarm panel (Fig. 8), use 18 gauge 4-conductor wire. See below for wiring information. The alarm is activated when the auxiliary contacts of the control panel's circuit board are activated indicating an alarm condition has occurred. When connected, run the wire(s) towards the bottom/center of the alarm panel to go through the wiring access hole once the enclosure cover is replaced (Fig. 9 and Fig. 10).

Note: When installing a sensor or connecting to another device, always refer to its installation instructions for complete operating information.

CAUTION: Route all wires away from sharp objects and internal components when installing wires.

Auxiliary Contacts (OUTPUTS):

Terminals COM and 1A

Zone-1 (Oil Alert™ High Oil or Tank Filling Alarm)
Connects to external monitoring device

Terminals COM and 2A

Zone-2 (Oil Alert™ High Water or Alarm Tank Full Alarm)
Connects to external monitoring device

Terminals COM and 3A

Zone-3 (Oil Alert™ Trouble, High Sump Level, or High Holding Tank Alarm)
Connects to external monitoring device

Note: Terminal 3A will monitor power loss, pump overload, input sequence error (if enabled), fire mode indication (if enabled), and redundant off alarm (if enabled) depending on the model of control panel connected to the alarm panel. For remote monitoring of pump run status, connect an external monitoring device to the Oil Alert™ control panel terminals C2 and P (Fig. 8; i.e., 4A).

Normally Open Dry Contacts

Normally open dry contacts can switch 24VDC, 500mA maximum (each)

Note: The auxiliary dry contacts of the Oil Alert™ alarm panel are normally open ONLY, recommended to use 18 gauge 2-conductor wire. Used for remote monitoring.

Signaling Device (INPUTS):

Terminal COM

Connects to Oil Alert™ Control Panel, TB-C1 (common)

Terminal CH1

Connects to Oil Alert™ Control Panel, TB-O (oil alarm)

Terminal CH2

Connects to Oil Alert™ Control Panel, TB-W (water alarm)

Terminal CH3

Connects to Oil Alert™ Control Panel, TB-T (trouble alarm)

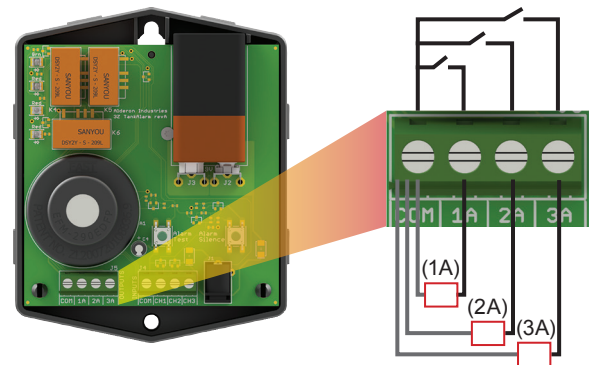
Normally Open or Normally Closed
9-10VDC, 200mA minimum

(* Oil Alert™ Control Panel Terminals, Pump Run Auxiliary Contacts:

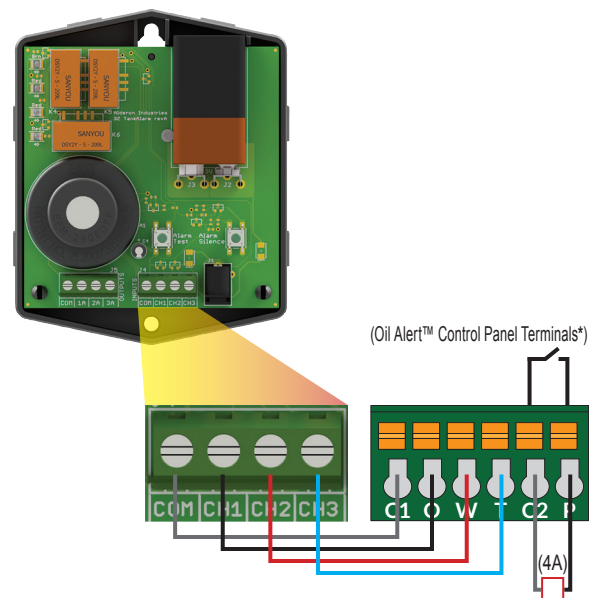
Terminals C2 and P

Connect the Oil Alert™ control panel pump run auxiliary contacts, terminals C2 and P, to an external monitoring device (Fig. 8; i.e., 4A).

(Fig. 7)



(Fig. 8)



(* The Oil Alert™ control panel's circuit board exact terminal style may vary but C, O, W, T is consistent for wiring connections.

Installation of the Alarm Panel (continued)

5. After the wiring is completed and before replacing the enclosure cover, run the wire(s) towards the bottom/center of the alarm panel to go through the wiring access hole once the enclosure cover is replaced (Fig. 9 and Fig. 10).

CAUTION: Route all wires away from sharp objects and internal components when installing wires.

(Fig. 9)



(Fig. 10)



6. Plug the alarm panel power supply into a standard wall outlet or receptacle (120VAC, 50/60 Hz), and then plug the quick connect of the power supply cord into the incoming power receptacle of the alarm panel. The green power LED should illuminate (solid) when powered (Fig. 11).

(Fig. 11)



Testing the Alarm Panel

1. Test the alarm panel by pressing and holding the alarm test pushbutton (Fig. 12). The alarm LEDs should illuminate (solid), buzzer should announce (solid), and the auxiliary contacts should activate. Press the alarm silence pushbutton and the buzzer should silence while the alarm LEDs remain on. After the alarm test pushbutton is released, the alarm panel will auto reset for the next alarm cycle. Test product weekly to ensure system integrity.

(Fig. 12)

