

PROGRAMMING ALTERNATING TANK EVENT ON 4IO BOARD

TWO TANK MANIFOLD ALTERNATIVE

The PROTEUS ATG uses a 4IO board to switch between the pumps of two tanks. Every time a tank level threshold is passed (volume in Tank A goes X inches/mm below the volume in Tank B) the relay will change state and vice versa.

1. If the corresponding input is off/open, the relay can switch on level changes. We do not want to switch the relay if the fuel pump is on.
2. The input detects if a fuel pump is on or not. If the pump is on, the input should be pulled to ground.
See **Typical Application** on page 2 of this document.

Note: The alternating tank feature requires a PROTEUS X Gen IV ATG controller equipped with an XB-4IO board (software version P2F and MCU software version P1AV or later).

To program the alternating tanks feature:

- A. Go to the **SETUP MENU PAGE 2** (use the down arrow for PAGE 2) and select the **INTERFACE BOARDS RELAYS** button.
- B. Select the **4-CHANNEL RELAY 4IO BOARD**.
- C. Select the **PROGRAM EVENTS** button and select an empty event field.
- D. Click on the **SELECT EVENT TYPE** dropdown and choose **TANK**. See (D) below.
- E. You will default to Tank 1. Press **NEXT TANK** to advance to the next available tank associated with the system. The S/TANK# field up top will fill with **T#(first tank) + (second tank)**. See (E) below and (4) under **Typical Application** (page 2).
- F. Press the **SELECT EVENT** dropdown and choose **ALTERNATING TANKS** from the list. See (F) below.
- G. A TANK 1 and TANK 2 button will appear on the left. See (G) below.
- H. Press TANK 2 and the S/TANK# field up top will fill with **T#(first tank) + (second tank)**. See (E) below.
- I. Select one relay (R1-R4) used to switch the pumps. See (I) below.
- J. Select one input. See (J) below.
- K. Set the level (in inches/mm) for the relay switching point. See (K) below.
- L. Press the **SAVE EVENT** button. See (L) below.

- D (above): Select Event Type (green)
- E (above): S/TANK # w/first tank (red)
- F (above): Select Event (yellow)
- G (above): Select Tank (blue)
- H (above): S/TANK # w/second tank (red)
- I (above): Select (one) relay (brown)
- J (above): Select (one) input (orange)
- K (above): Set the level for the relay switching point (black)
- L (above): Save Event (purple)

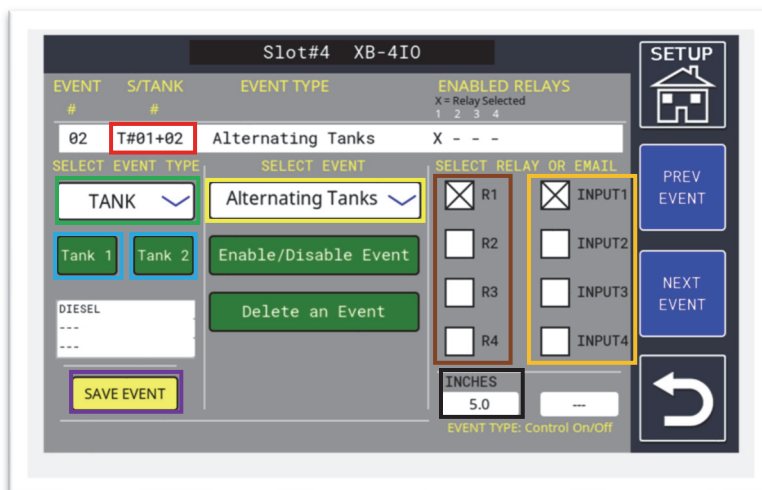


Figure 1.1



PROGRAM RELAY/INPUT MODES

- 03:01:38PM 09/27/2023

Status: **SETUP**

Input Selections (For XB-4IO / MCU Inputs)

MCU 1

ON LABEL (23 char. max)

OFF LABEL (23 char. max)

CHANGE MODE

Input

CHANGE MODE I/O

☒ ENABLE

☐ LOG INPUT

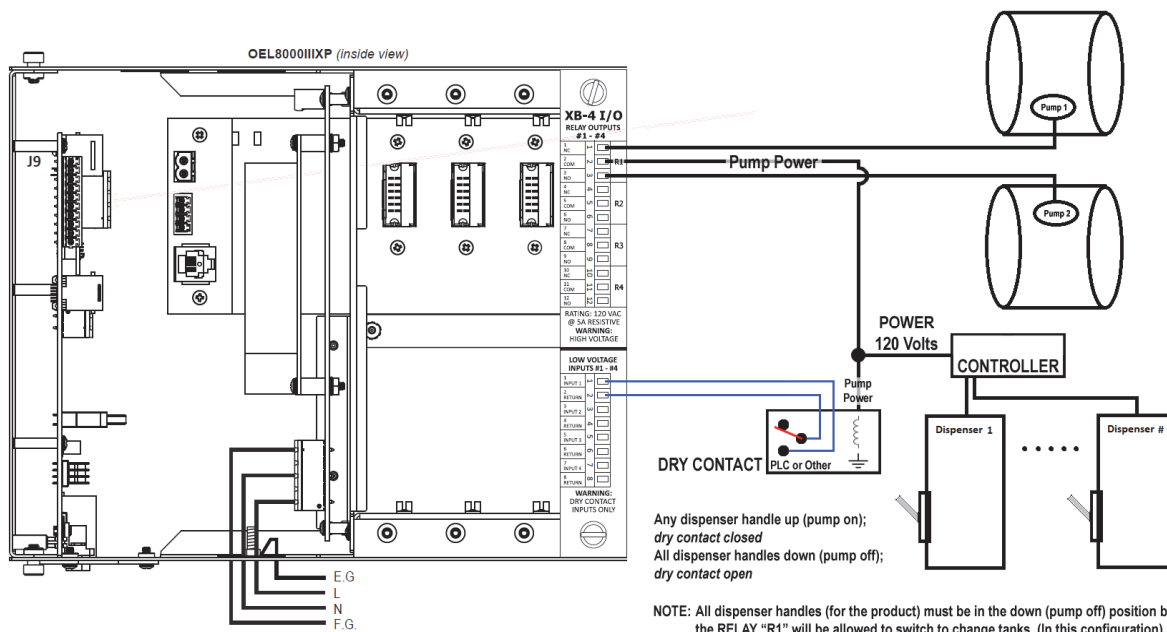
☐ FAILSAFE MODE

☐ SEND TO PRINTER

☐ ALARM ON INPUT

☐ EMAIL ON INPUT
- SAVE INPUT CHANGES (this input only)
- SETUP

NEXT INPUT



1. A **“DRY CONTACT”** must be used on the PROTEUS input port; NO HIGH VOLTAGES.
2. If the active tanks probe has a **TIMEOUT/NO RESPONSE** error, the relay will switch to the other tank.
3. The **RELAY** used in the alternating tank (manifold) mode should be dedicated for its uses only. Make sure that no other relay events on this card uses this relay.
4. If the tanks are switching out of order, you can reverse the tank order by doing one of the following:
 - o If the relay card is set to FAILSAFE, this will reverse the Normally Open/Normally Closed (NO/NC) order of Tank 1 and Tank 2.
 - o You can also reverse the NO/NC wiring on relay output (R1) on Figure 1.3.
 - o You can reverse the tank order in Figure 1.1 (see bullet point G on page 1; [blue](#)).