ProLine PL-2004

User Guide
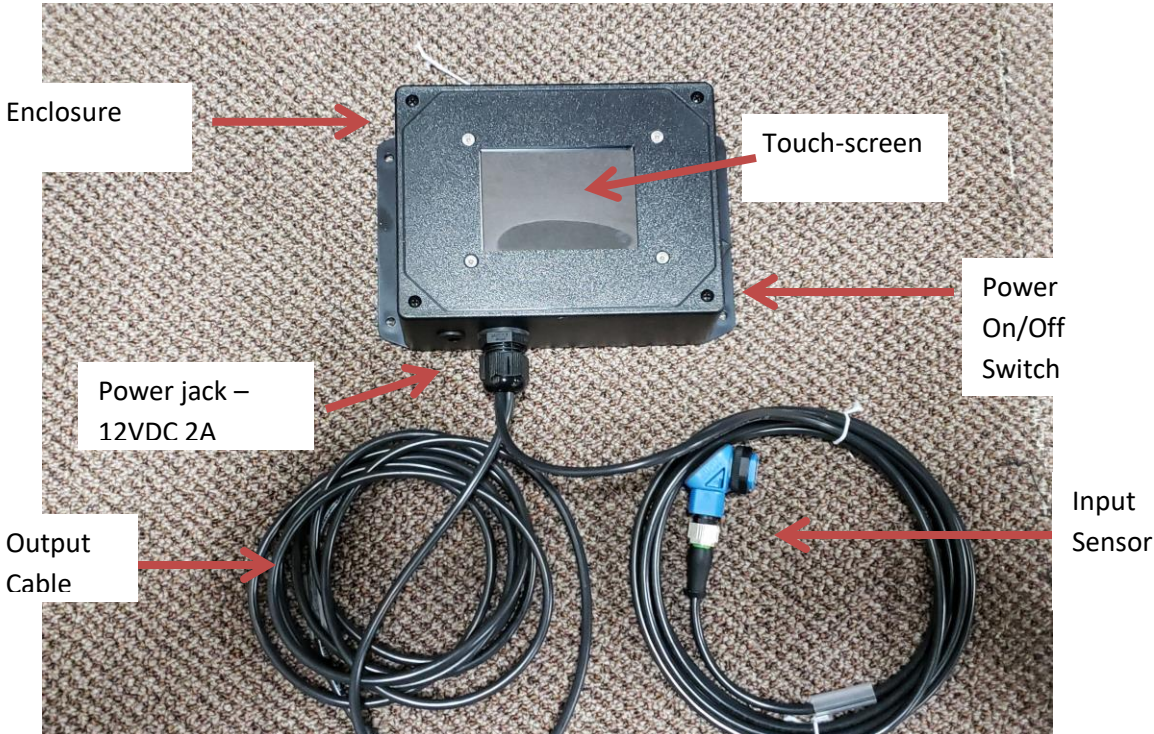
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1. Features

Enclosure

Touch-screen

Power On/Off Switch

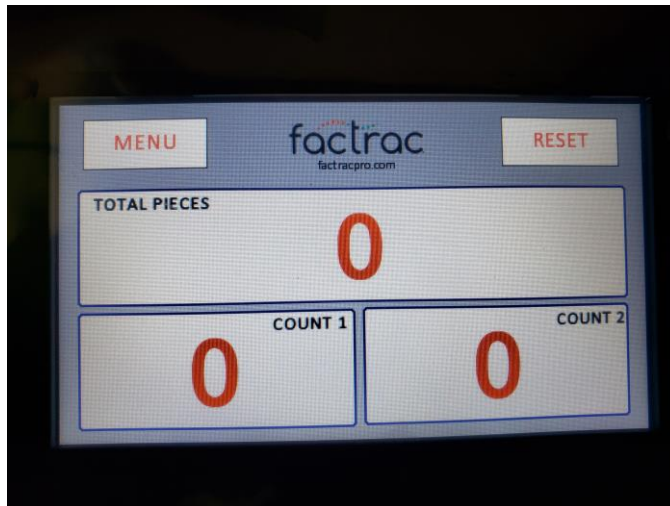Power jack – 12VDC 2A

Input Sensor

Output Cable

2. Inputs

This unit comes with one input. Input 1 is used for both Total Count and Count 1. Input 2 (optional) is used for Count 2.

3. Home Screen

The home screen is where the count values are displayed. From this screen, you can perform Reset functions and advance to settings via the Menu button.


Touch the Menu button to perform setup functions.

NOTE: ALL VALUES WILL RESET TO DEFAULT UPON POWER OFF. TO PREVENT THIS, LEAVE THE UNIT POWERED ON.

4. Total Count

Total Count can be configured to count up continuously (total pieces) or can be set to count down from a preset number.

To use COUNT UP, press the "circle" next to Count Up. This will begin at zero and keep a total piece count of the operation asserted from Input 1.
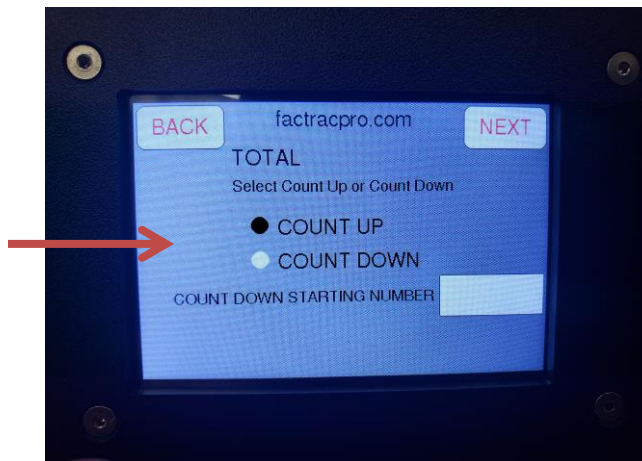
To use COUNT DOWN, press the "circle" next to Count Down. Press the number box to set the value that you want to count down from. A pop up keyboard will appear on the screen. Select the value, press the enter key. When counting down, you can assign Output 1 to activate each time the count reaches zero. Note: This count will show negative after reaching zero.
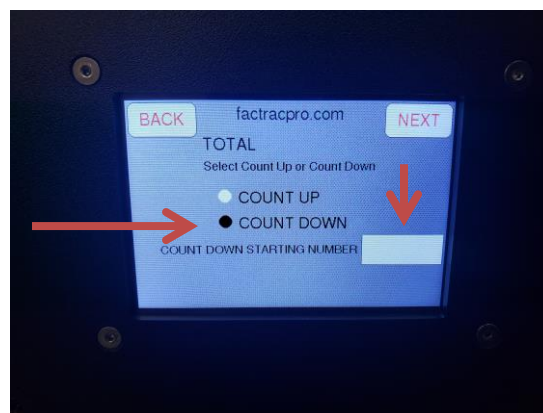

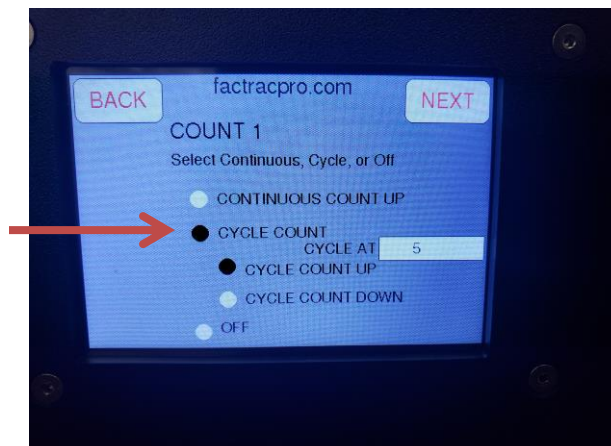Press the NEXT button in the top right corner to move to the next screen.

5. Count 1

Count 1 can be configured to count up continuously or can be set to count in cycles and reset.

To count up continuously, press the "circle" next to Continuous Count Up. This will begin at zero and increment the count asserted from Input 1. If you elect not to use Count 1, you can turn it off by pressing the "circle" next to Off.

Note: If Total and Count 1 are both set to Count Up and Continuously Count Up, it will be a duplicate function.
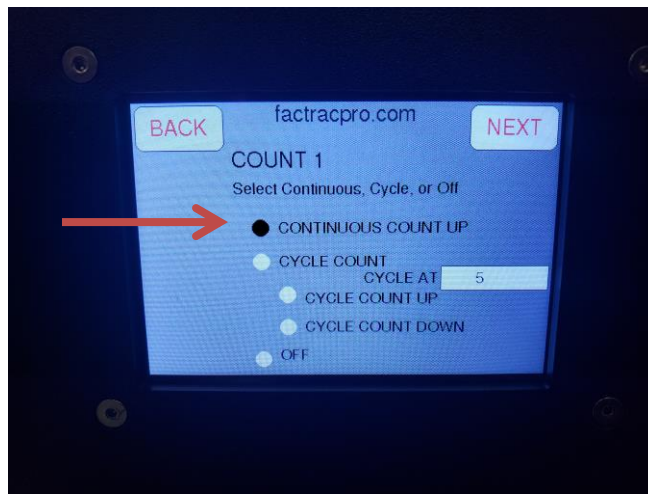

To use the Cycle Count feature, press the "circle" next to Cycle Count. You can then set the batch size to count up to or down from. When the count or zero is reached, the number displayed will reset and allow you to force an output on Output 1 or Output 2.

Next, enter the batch size for this count by pressing the batch size "box". A pop up keyboard will appear on the screen. Select the value and press the enter key.
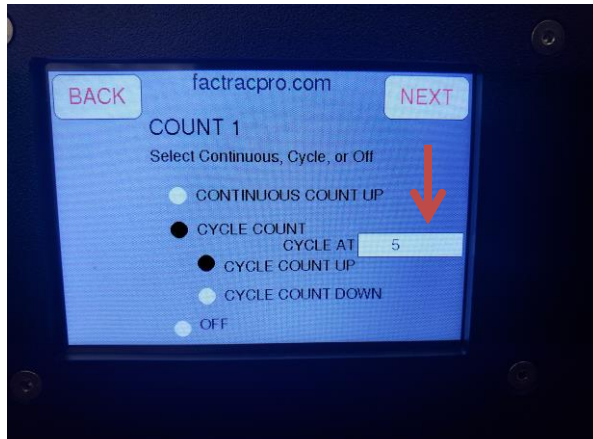
Next, you can assign Count 1 to Cycle Count Up or Down by pressing the "circle" next to the desired one. Cycle Count Up will start at zero. Once the batch size is reached, it will reset to zero. Cycle Count Down will start at the number you entered in for the Batch Size. Once the count reaches zero, it will reset to the beginning number.
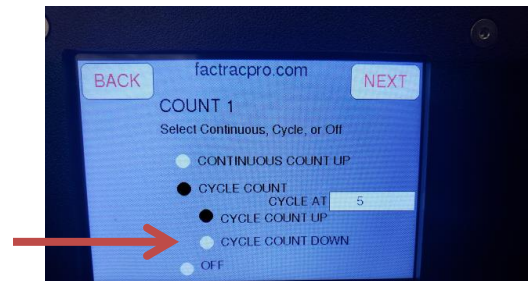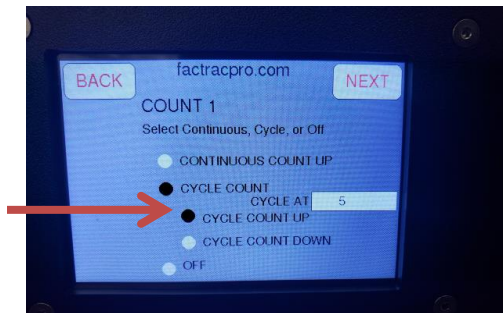

Press the NEXT button in the top right corner to move to the next screen.

6. Count 2

Count 2 can be configured to count up continuously or can be set to count in cycles and reset.

To count up continuously, press the "circle" next to Continuous Count Up. This will begin at zero and increment the count asserted from Input 1. If you elect not to use Count 1, you can turn it off by pressing the "circle" next to Off.

Count 2 can be used as its own count or can be used to verify from Count 1. For example, if you have products going into a machine and need to confirm the same number came out.
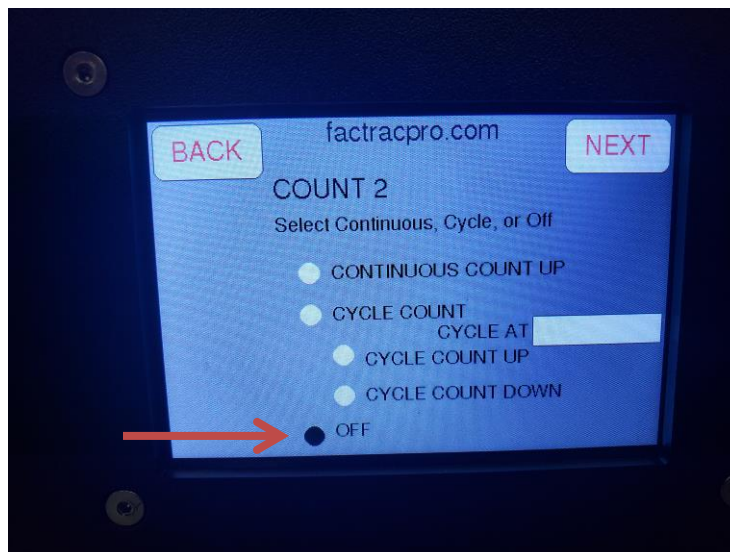

To use the Cycle Count feature, press the "circle" next to Cycle Count. You can then set the batch size to count up to or down from. When the count or zero is reached, the number displayed will reset and allow you to force an output on Output 2 (as long as Count 1 has not been assigned to Output 2)
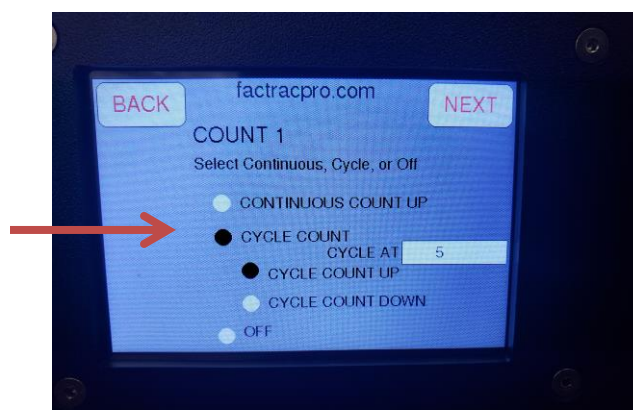
Next, enter the batch size for this count by pressing the batch size "box". A pop up keyboard will appear on the screen. Select the value, press the enter key, and then press the SET button.
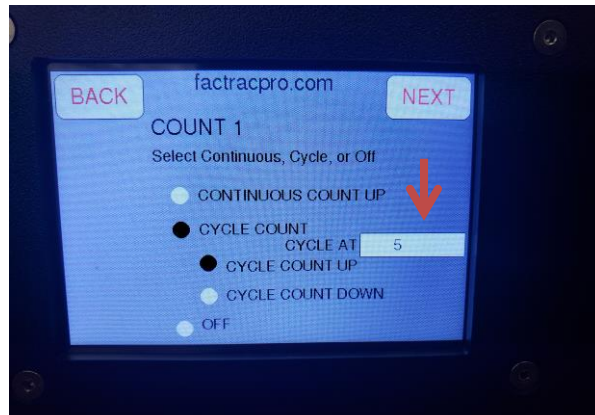
Next, you can assign Count 1 to Cycle Count Up or Down by pressing the "circle" next to the desired one. Cycle Count Up will start at zero. Once the batch size is reached, it will reset to zero. Cycle Count Down will start at the number you entered in for the Batch Size. Once the count reaches zero, it will reset to the beginning number.
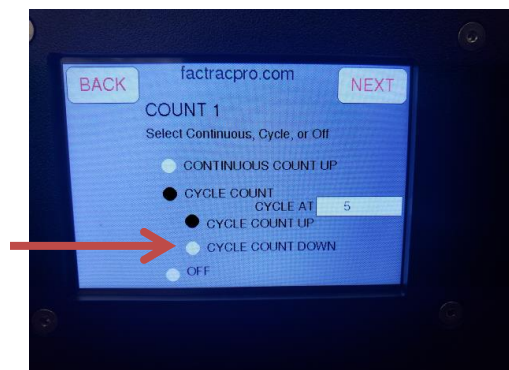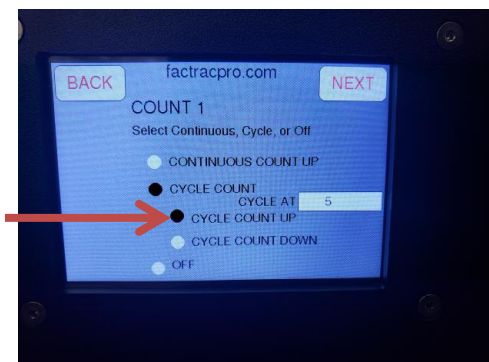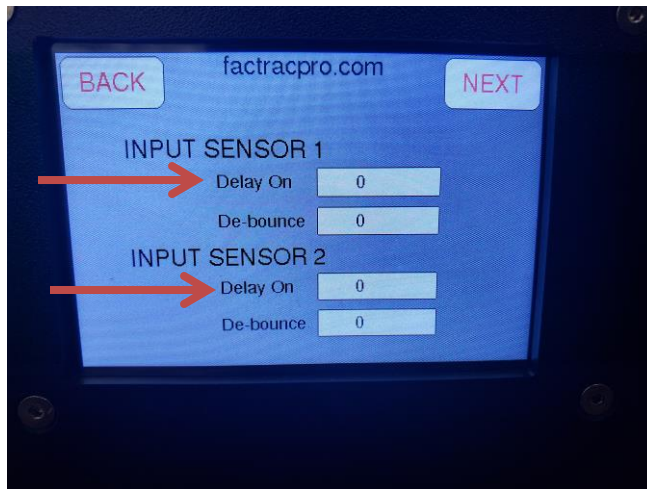

Press the NEXT button in the top right corner to move to the next screen.

7. Input Delay / Debounce

The next setup screen provides signal conditioning in the form of adding delay or debouce to the inputs.

Delay is used in cases where you want to delay the signal a specific amount of time before registering the count. A good setting value to start with is 0ms

Debounce is used in cases where you may have a product that has drastic color changes or has 3D characteristics. Once the input is asserted, the count will change but then the sensor will ignore all other potential inputs for the given amount of time set for. A good setting value to start with is 5ms.

To set, press the "box". A pop up keyboard will appear on the screen. Select the value, press the enter key.
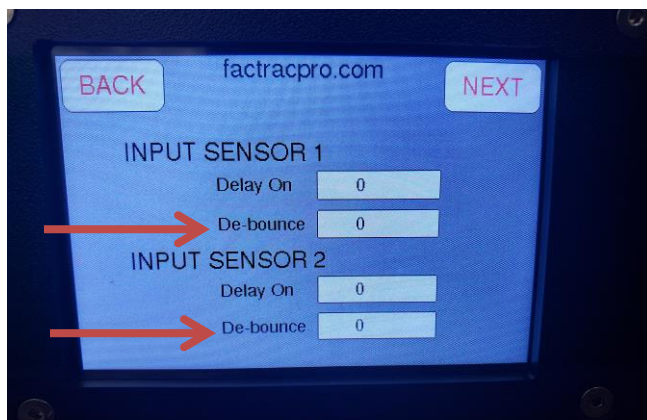
Press the NEXT button in the top right corner to move to the next screen.

8. Output

The Normally Open outputs can be used to activate tower lamps, alarms, or pause upstream/downstream devices. Both outputs are in a single cable. **Colors red & white are output 1 and colors green & black are output 2**. The contacts are dry contact and are rated for up to 2A @ 24VDC

The outputs can be configured to latch on assertion or be asserted momentarily.

Output 1 can be assigned to Total or Count 1. To assign the output with Total, count down must be selected in the Total setup screen.

Output 2 can be assigned to Count 1 or Count 2 when Total is set to count down and has been assigned to Output 1.
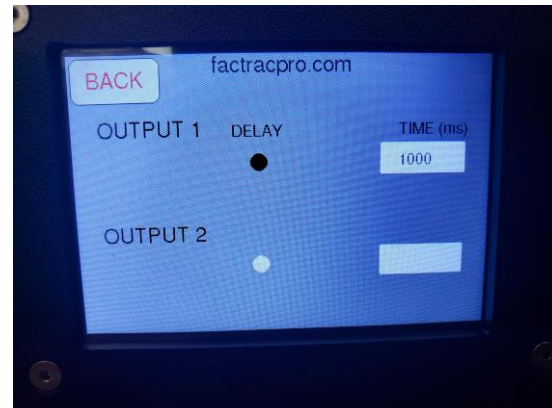
To latch the output, press the "box" below Latch. Based on your other settings, when the value reaches its target, the output will latch and remain until Reset is pressed.

To momentarily assert the output, press the "box" below Momentary. When monetary is selected, you will have the option to set the amount of time the output remains active.

Press the Time ms box to set the length of time. A pop up keyboard will appear on the screen. Select the value, press the enter key. Do this for both outputs if they are both being used.

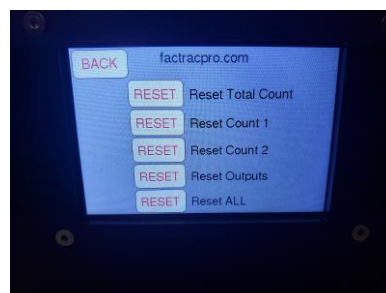The Output screen is the last one. Press the BACK 5x to return to the Home screen.

9. Reset

The rest feature allows you to manually reset Total Count, Count 1, Count 2, Outputs, or reset All.
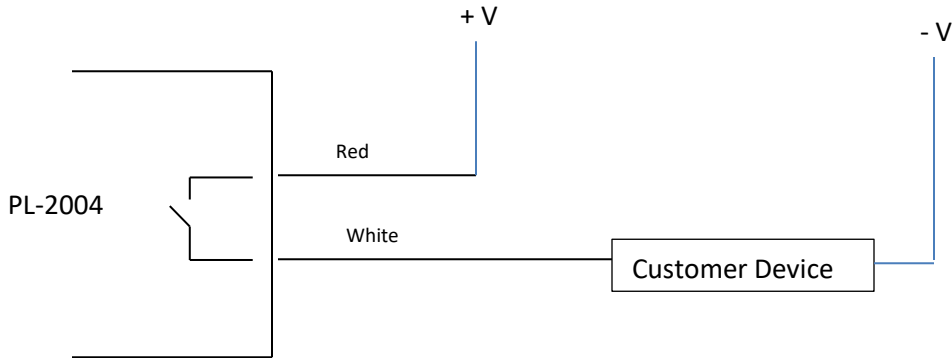
Press the Reset box in the upper right corner of the screen.
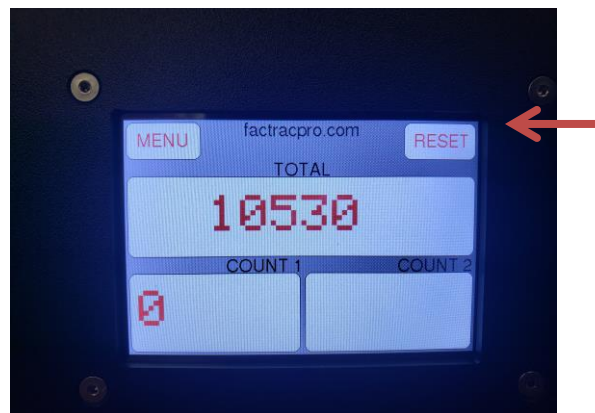
Once pressed, the Reset screen will appear and provide the options of which features you would like to reset.

10. Sample Wiring of Output

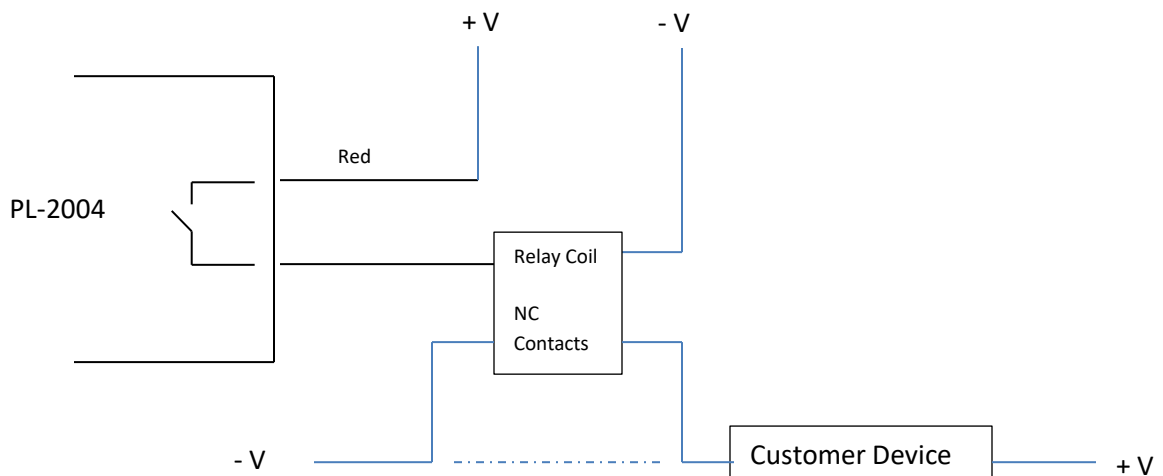Customer device can be a tower lamp, alarm, solenoid, etc.

+V is an external power source 12 or 24VDC (supplied by customer)

The contacts inside the PL-2004 are dry contact and are rated for up to **2A @ 24VDC**

Each time the output is asserted, the switch inside the PL-2004 closes and completes the circuit.

NOTE: If your application requires the output signal to be normally closed, open when asserted, a relay will need to be added in between the PL-2004 and host device.

Example

End