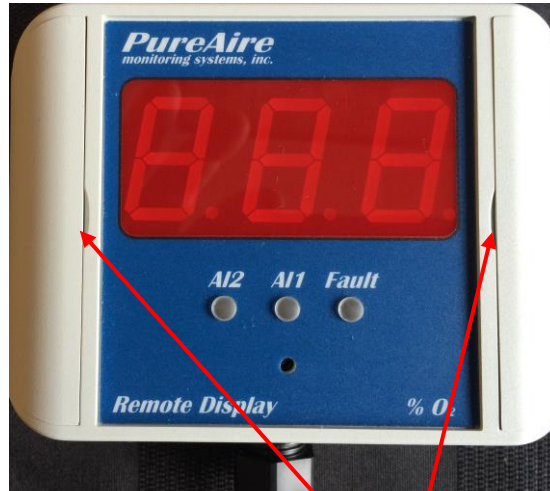# Remote Display Alarm Indicator for Universal monitor
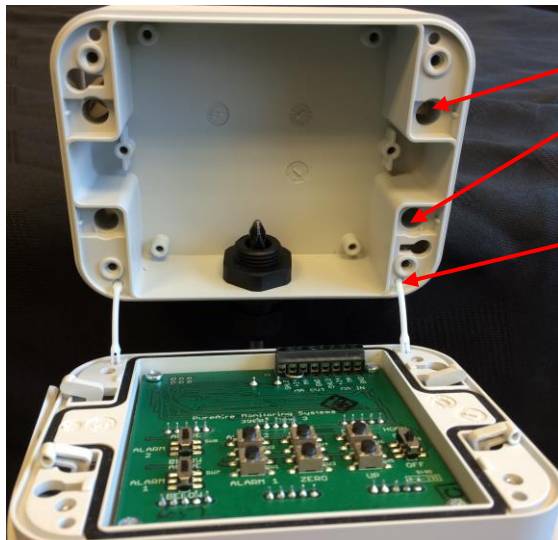
The Remote Display Alarm Indicator is designed to display remote oxygen concentration information from PureAire' oxygen monitors. All PureAire Universal monitors have a built in 4-20mA output. The remote display alarm easily connects to the monitor's input power and mA output connection. An 18 AWG, three conductor, shielded control and instrumentation cable, Belden 8770 or equivalent is recommended for the connection. The maximum permissible cable length is 250 feet. You can simultaneously connect one remote display to one Universal monitor and one programmable logic controller, PLC.

How to mount the Remote Display Alarm Indicator

1) Open the two side doors to expose the front panel screws.

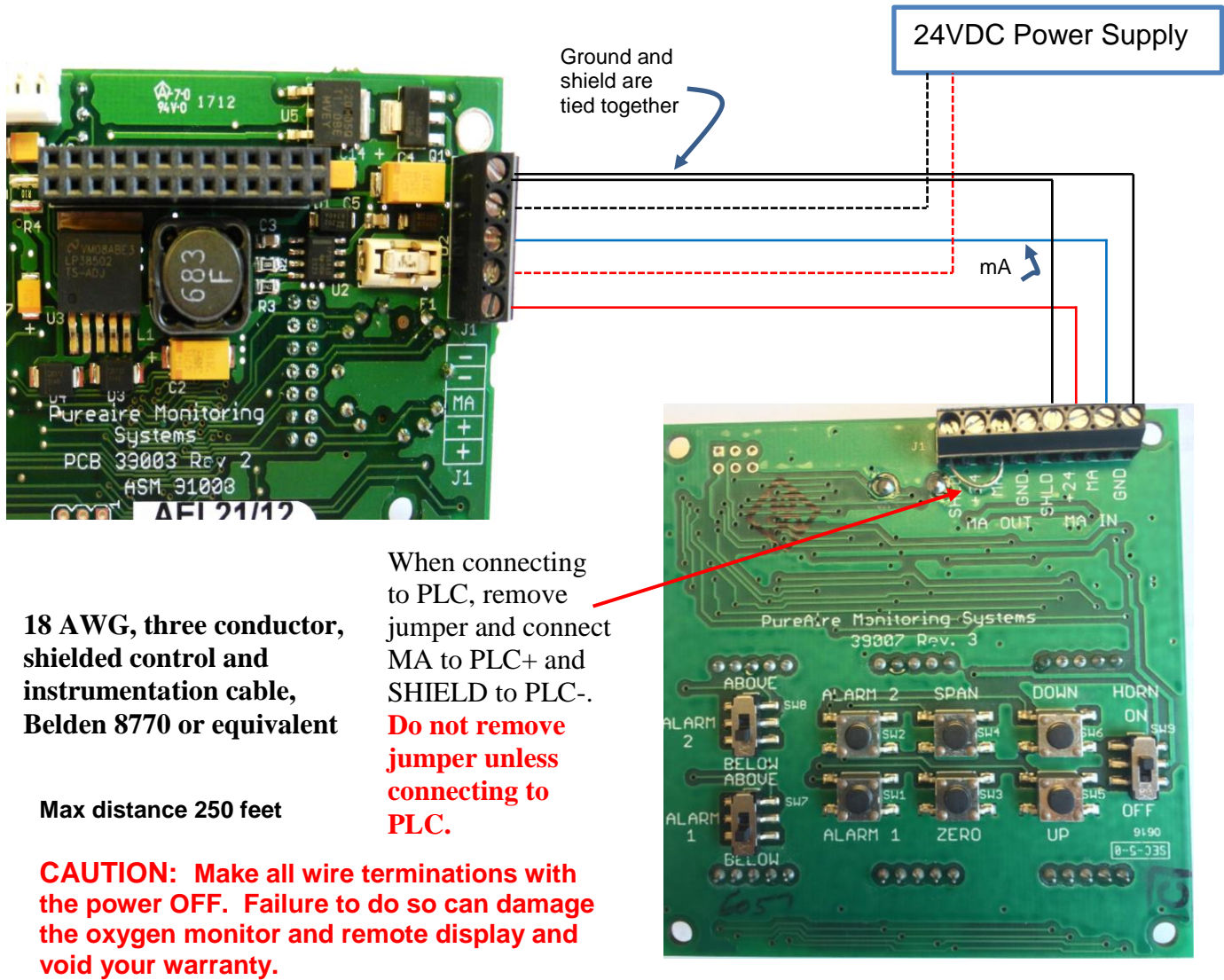2) Loosen the 4 screws to separate the front panel from the case.

Mount the case to a wall or other flat surface. There are 4ea. through holes for fastening the case.

The case is designed to be flush mounted.

NOTE: The front cover can be removed from the case by gently pulling on the plastic hinges. (they will stay connected to the front cover.
To connect the front cover, just push the plastic hinge into the case.

sHow to wire the Remote Display Alarm Indicator

24VDC Power Supply

Ground and shield are tied together

mA

18 AWG, three conductor, shielded control and instrumentation cable, Belden 8770 or equivalent

Max distance 250 feet

When connecting to PLC, remove jumper and connect MA to PLC+ and SHIELD to PLC-. **Do not remove jumper unless connecting to PLC.**

CAUTION: Make all wire terminations with the power OFF. Failure to do so can damage the oxygen monitor and remote display and void your warranty.
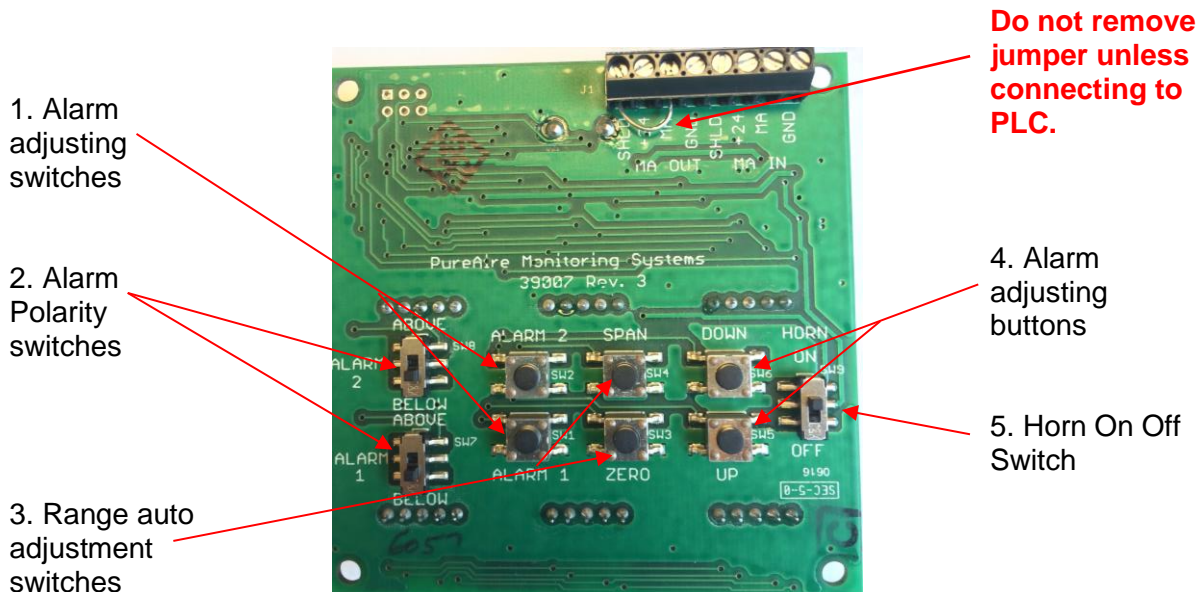
Identification of switches and controls

1. **Alarm Adjusting Switches** – These switches are used select the alarm level to be adjusted. They are factory set at 1 and 2 times the TLV for toxic and corrosive gases. (*Normally set at the factory*)

2. **Alarm Polarity Switches** – These switches are used to select when the alarms will activate. For oxygen the alarm switches are set for "Below". If the readings go below ambient, 20.9% then the internal horn and LED's will activate. When used with our toxic gas monitors, the polarity is set to "Above". (*Normally set at the factory*)

3. **Range Auto Adjustment Switches** – These switches are used to adjust the zero and full scale reading on the Remote Display Alarm Indicator. When sending a 4mA and 20mA

signal from your universal monitor, pushing these switches will automatically adjust the zero and full scale readings on the Remote Digital Display.

4. **Alarm Adjusting Buttons** – These buttons are used to increase, (UP) or decrease (DOWN) the alarm settings.

5. **Horn On/Off Switch** – This switch is used to turn the internal audio horn on and off. In the On position, any alarm will activate the audible horn. To disable the internal horn, turn the switch to Off.

1. Alarm adjusting switches

2. Alarm Polarity switches

3. Range auto adjustment switches

Do not remove jumper unless connecting to PLC.

4. Alarm adjusting buttons

5. Horn On Off Switch

How to Setup and Operate the Remote Display

CAUTION: Entering the set up menus will disable the real time gas readings

After wiring the remote display to your Universal monitor, turn on the power to your monitor. During the warm up the remote display will illuminate a yellow fault LED and the display will read FLt, (indicating that the oxygen monitor is in fault). This will clear after the universal monitor completes the 30 second minute warm-up.

During warm up

After warm up

How to set the zero and full scale range

This will need to be set up in the field to adjust to the length of cable between the universal monitor and the remote display alarm indicator. To perform this in the field, first enter the password on your universal monitor and select the "Set 4-20mA loop" menu

Push the joystick right to select "Set 4mA Zero" and then **push the joystick** **right one more time to activate it.** This sends a 4mA signal to the remote display. On the back of the remote display push the ZERO button for 3 seconds. You'll see the display reset and automatically adjust itself to the new zero. If necessary, you can push the joystick up or down to fine tune the zero reading. **NOTE:** *Both AL1 and AL2 LED's will also be illuminated.*
   (To exit the Zero menu, push the Joystick left once)

Push the joystick down once to select "Set 20mA Span" and then **push the joystick** **right one more time to activate it.** This sends a 20mA signal to the remote display. On the back of the remote display push the SPAN button for 3 seconds. You'll see the display reset and automatically adjust itself to the new span of the full scale reading for the gas you're monitoring. If necessary you can push the joystick up or down to fine tune the full scale reading.

To return the main menu, push the Joystick left until the monitor scrolls Oxygen 0-25% on the top line.

NOTE: *To fine tune the reading to match the reading on the universal monitor, use the "Set 20mA Span" menu. Push the joystick up or down until both displays match.*

CAUTION: If the universal monitor is in the measuring mode and the ZERO push button is pressed an "Err" will be displayed on the remote display and no readings will be recorded. **If the SPAN push button is pressed in the measuring mode, the remote display will automatically adjust to 25.0%.** You will need to repeat the above adjustment procedure again for the remote display to mirror the universal monitor.   **NEVER PUSH THE SPAN** in the measuring mode.

How to set the internal alarms on the Remote Display

The Remote Display has two user selectable alarms with a separate horn tone to identify Alarm 1 from Alarm 2. Both are preset at the factory to 1 and 2 times the TLV for the monitored gas. They can be changed in the field.

To set Alarm 1, Press Alarm 1 for two seconds to enter the alarm change mode. The display will show the current alarm setting and the right most decimal point will be lit. Use the UP or DOWN buttons to increase or decrease the alarm value. When done, push the Alarm 1 button for 2 seconds to get back to the monitoring mode.

To set Alarm 2, Press the Alarm 2 button for two seconds to enter the alarm change mode. The display will show the current alarm setting and the left most decimal point will be lit. Use the UP or DOWN buttons to increase or decrease the alarm value. When done, push the Alarm 2 button for 2 seconds to get back to the monitoring mode.