ADI5778-A

CONCOA®
PRECISION GAS CONTROLS
Certified ISO 9001

# Remote Display Alarm




## Indicator for air safety monitors

## INSTALLATION AND OPERATION INSTRUCTIONS

Before Installing or Operating, Read and Comply with These Instructions

Controls Corporation of America
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## Remote Display Alarm Indicator for Carbon Monoxide monitor

The Remote Display Alarm Indicator is designed to display remote carbon monoxide concentration information from CONCOA carbon monoxide monitors. All CONCOA CO 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 CONCOA carbon monoxide monitor and one programmable logic controller, PLC.

**NOTE: The 4-20mA output is only used for the carbon monoxide sensor. The Remote Display Alarm Indicator can only be used for carbon monoxide only.**



# How to mount the Remote Display Alarm Indicator

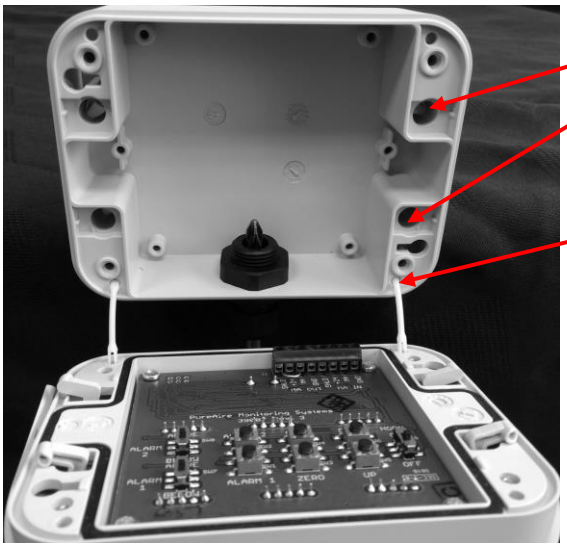






1) Open the two side doors to expose the front panel screws.

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

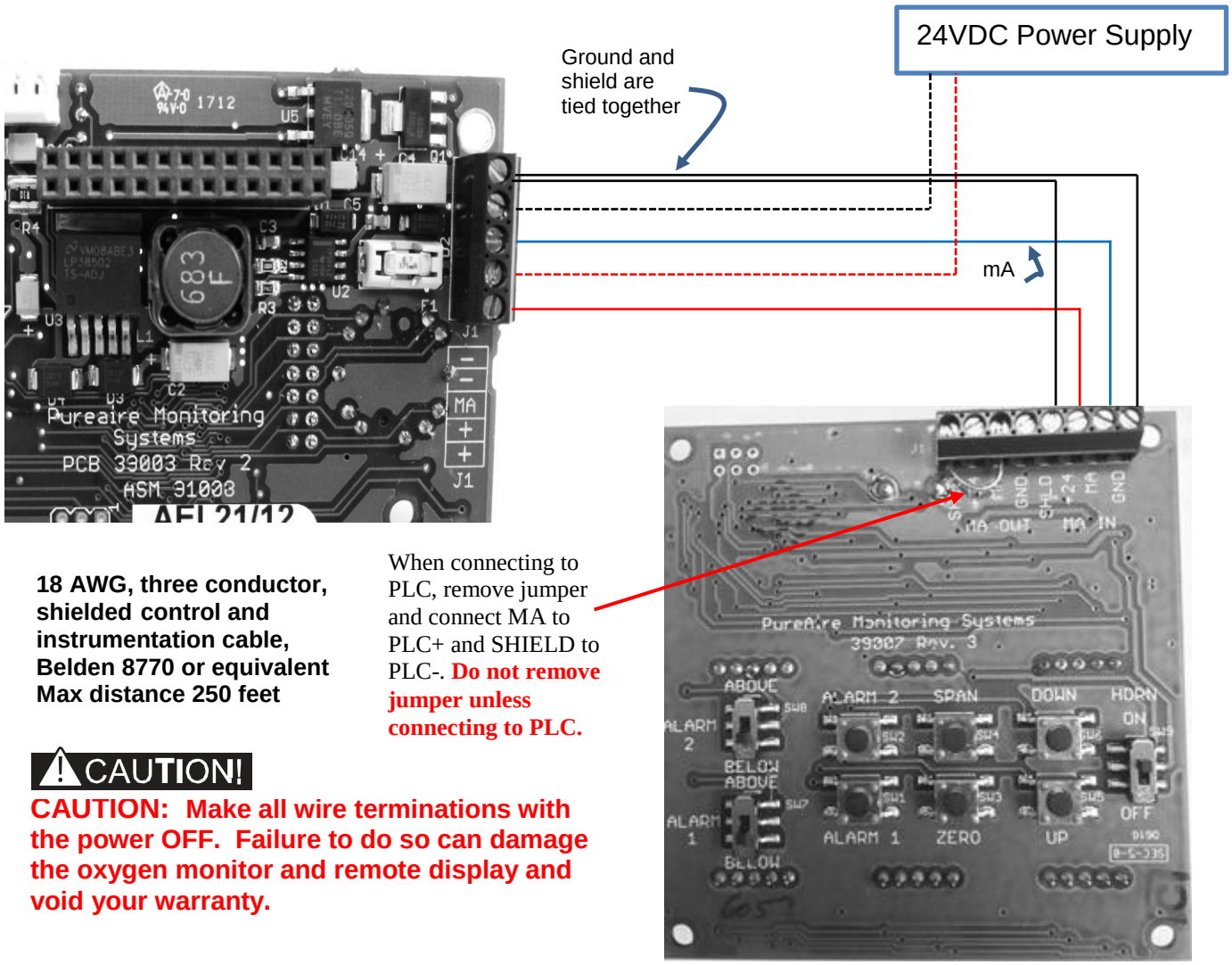


Mount the case to a wall or other flat surface. There are 4ea. through holes for fastening the case.

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.

# How to wire the Remote Display Alarm Indicator




**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!**

**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

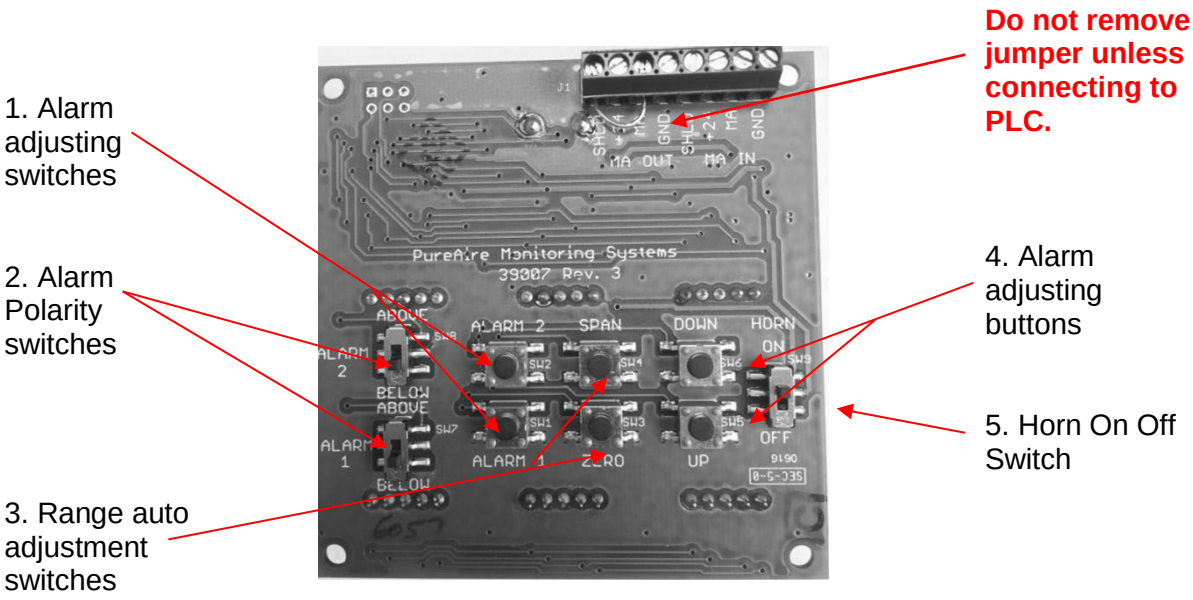
**1. Alarm Adjusting Switches** – These switches are used select the alarm level to be adjusted. They are factory set at 25ppm for Alarm 1 and 50ppm for Alarm 2. (*Normally set at the factory*)

**2. Alarm Polarity Switches** – These switches are used to select when the alarms will activate. For carbon monoxide the alarm switches are set for "Above". If the readings go above 50ppm then the internal horn and LED's will activate.

**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 carbon monoxide 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.




## How to Setup and Operate the Remote Display

**CAUTION: Entering the set up menus will disable the real time carbon monoxide readings**

After wiring the remote display to your Carbon monoxide monitor, turn on the power to your carbon monoxide monitor. During the warm up the remote display will illuminate a yellow fault LED and the display will read FLt, (indicating that the carbon monoxide monitor is in fault). This will clear after the carbon monoxide monitor completes the 4 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 carbon monoxide monitor and the remote display alarm indicator. To perform this in the field, first enter the password on your carbon monoxide monitor and select the "Set 4-20mA loop" menu. (See Section 5.5.1 Set 4-20mA loop in your carbon monoxide manual).

On your carbon monoxide monitor, use the joystick to select "Set 4mA Zero". 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.*

Once adjusted, use the joystick to select "Set 20mA Span". 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 50ppm. If necessary you can push the joystick up or down to fine tune the full scale reading.







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

⚠ CAUTION!

**CAUTION:** If the carbon monoxide 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 100ppm.** You will need to repeat the above adjustment procedure again for the remote display to mirror the carbon monoxide 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; AL1 = 25ppm and AL2 = 50ppm. 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.

# Warranty Information

This equipment is sold by CONTROLS CORPORATION OF AMERICA under the warranties set forth in the following paragraphs. Such warranties are extended only with respect to the purchase of this equipment directly from CONTROLS CORPORATION OF AMERICA or its Authorized Distributors as new merchandise and are extended to the first Buyer thereof other than for the purpose of resale.

For a period of one (1) year from the date of original delivery (90 days in corrosive service) to Buyer or to Buyer's order, this equipment is warrantied to be free from functional defects in materials and workmanship and to conform to the description of this equipment contained in this manual and any accompanying labels and/or inserts, provided that the same is properly operated under conditions of normal use and that regular periodic maintenance and service is performed or replacements made in accordance with the instructions provided. The foregoing warranties shall not apply if the equipment has been repaired: other than by CONTROLS CORPORATION OF AMERICA or a designated service facility in accordance with written instructions provided by CONTROLS CORPORATION OF AMERICA; or altered by anyone other than CONTROLS CORPORATION OF AMERICA; or if the equipment has been operated under improper conditions or outside published specifications; or if the equipment has been damaged or does not function due to improper installation, improper supply of required utilities, accident, abuse, misuse, natural disaster, insufficient or excessive electrical supply, abnormal mechanical or environmental conditions, or debris or particles in the gas or liquid source of supply.

CONTROLS CORPORATION OF AMERICA's sole and exclusive obligation and Buyer's sole and exclusive remedy under the above warranties is limited to repairing using new or reconditioned parts or replacing, free of charge except for labor if permanently installed for the continuous supply of gas by other than a technician certified by CONTROLS CORPORATION OF AMERICA specifically to do so, at CONTROLS CORPORATION OF AMERICA's option, the equipment or part, which is either (1) reported to its Authorized Distributor from whom purchased, and which if so advised, is returned with a statement of the observed deficiency, and proof of purchase of equipment or part not later than seven (7) days after the expiration date of the applicable warranty, to the nearest designated service facility during normal business hours, transportation charges prepaid, and which upon examination, is found not to comply with the above warranties with return trip transportation charges for the equipment or part paid by Buyer or (2) in the case of designated equipment permanently installed for the continuous supply of gas, reported to an Authorized Service Center with proof of initial installation no later than seven (7) days after the expiration date of the applicable warranty, and which is evaluated for compliance with the above warranties by technician certified by CONTROLS CORPORATION OF AMERICA, and which is determined by CONTROLS CORPORATION OF AMERICA based on said evaluation to be non-compliant.

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