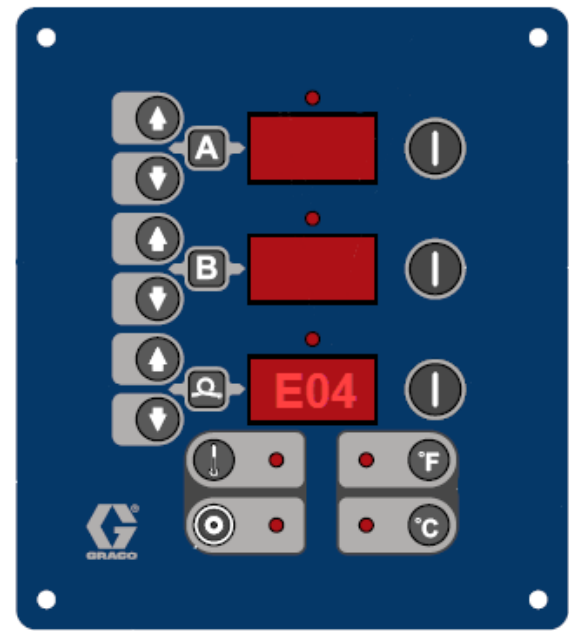


# Respiratory Alert Shutdown (RAS)

**\*\*Patent Pending**



The RAS system shuts down a Graco Reactor when the CO Monitor on your breathable filtration panel alarms. The RAS system creates a break in the FTS or RTD function causing an E-04 error code on the Hose Heat Zone display (Figure 1).



When you return to the spray rig, the CO Monitor could still be alarming or it may have stopped. If the alarm has stopped, the E-04 error code could be the result of the CO Monitor system alarm. The RAS

module, which is mounted on or just above the Graco Reactor Display, houses an LED light that will be illuminated when the CO Monitor is alarming



The RAS consists of a control module with three wires. The wires coming from the left side of the control box (A) are the power wires, which connect to the respiratory filtration panel alarm. The wires on the right side of the control module (R) connect to the RTD/FTS of the Graco Reactor.

Note: The FTS is used on the original Graco Reactors (Referred to as Graco Reactor 1 in this document) and the RTD is used on all Graco Reactor 2 systems and Integrated Graco Reactors.

## Installation Instructions:

### 1. Install RAS module:

Mount the RAS module in a visible location on the Reactor and on the side of the unit for Reactor 2 systems. The RAS can be secured on your Graco Reactor with double sided sticky tape provided, or on the wall of the rig with the provided bracket. We suggest a location at least above the recirculation valves or as high as possible to avoid chemical spillage and optimize visibility of red LED. The red LED is provided should the audible alarm malfunction.



*Reactor 2*

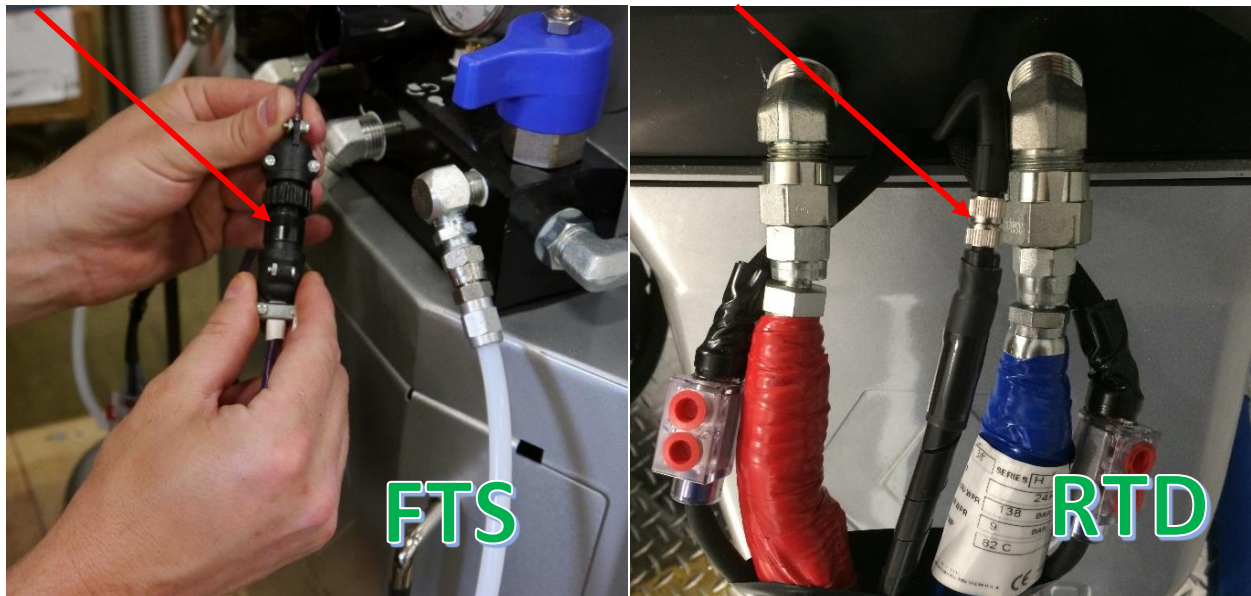


*Reactor 1*

### 2. Connect RAS to Graco Reactor FTS/RTD Connection

- a. Route the FTS/RTD wires (R) wire down the rear of the Graco Reactor in a location where the wires can be easily secured with zip ties, then route the connection to the front of the machine.
- b. For Graco Reactor 1 & 2:

i. Find FTS/RTD connection on front of machine



ii. Disassemble FTS/RTD connector





- iii. Connect RAS connectors (Reactor 1 has purple cables / Reactor 2 has yellow cables) to existing hose and Graco Reactor connectors.



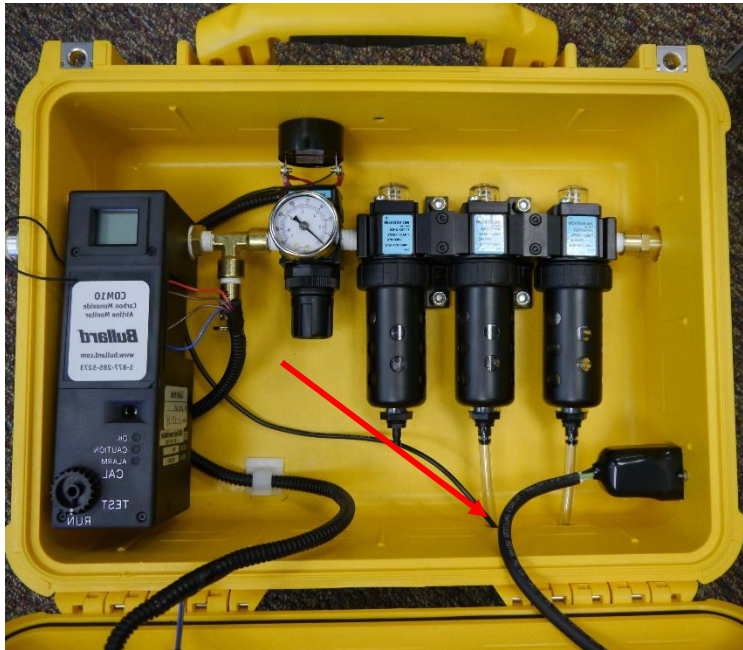
*Graco Reactor 2 Shown (Graco Reactor 1 Cable is Purple)*

### **3. Connect RAS Power Cable to the Breathable Air System:**

- a. Route the 25' power cable to the breathable panel location using supplied clamps.
  - i. Note: It's recommended to run cable up the wall, then along top edge of the wall, then down to the breathable panel.

b. Bullard Systems Connection

- i. Route the power cable through space available in drain tube hole located on bottom of box.



- ii. Remove audible alarm by unthreading shroud from exterior of box so the module will fall into box.





- iii. Connect red wire to red terminal by unscrewing and replacing screw. Place the black wire with the blue wire on the other terminal unscrewing and replacing screw. Coil up any extra wire and secure with zip ties. Figure XXX.





- iv. Place audible alarm back into box and thread shroud back on to secure it.

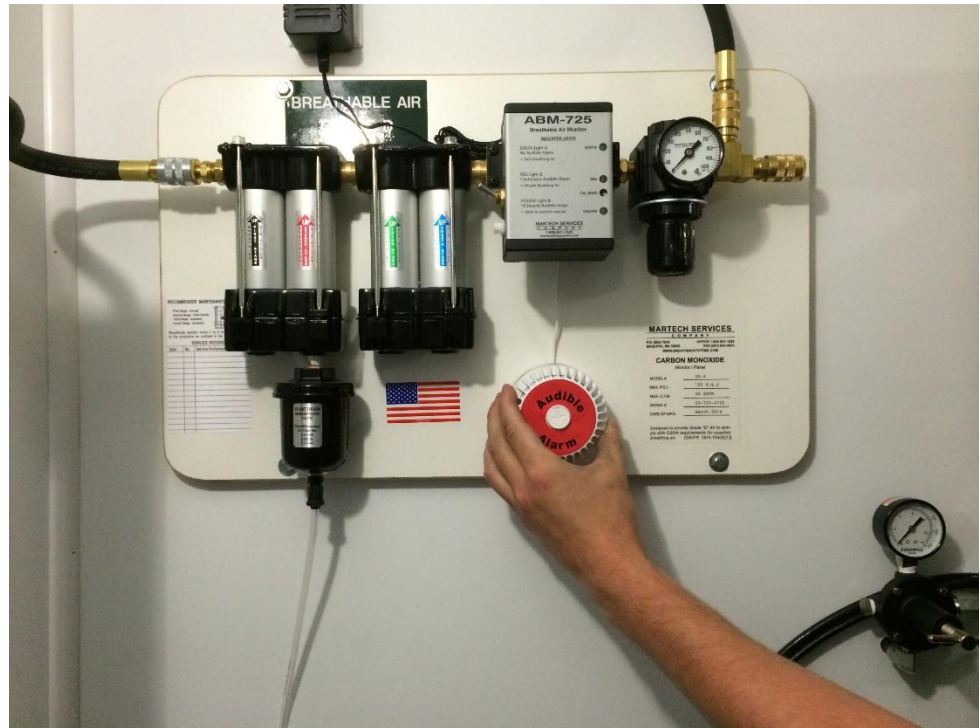


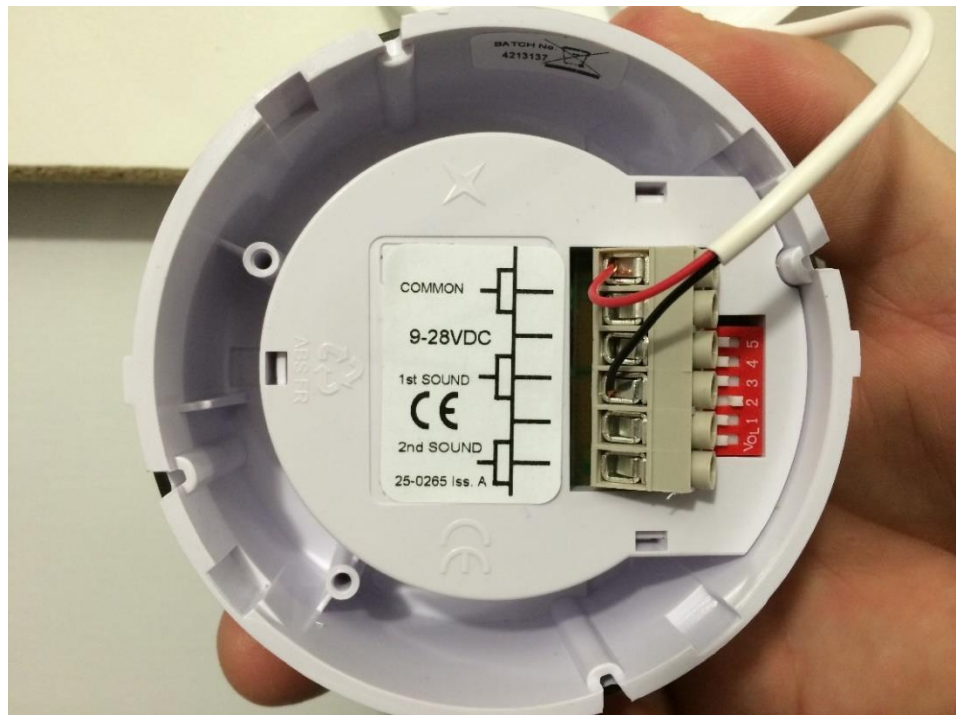
- v. Optional Bullard Plug Kit  
Available for Bullard breathable systems series CAB30, CAB50 and CAB100 is an add-on plug allowing for easier installation. Simply plug in the supplied connector to the Bullard box connector (located on the side). Coil up any extra wire and secure with zip ties. Figure XXX.

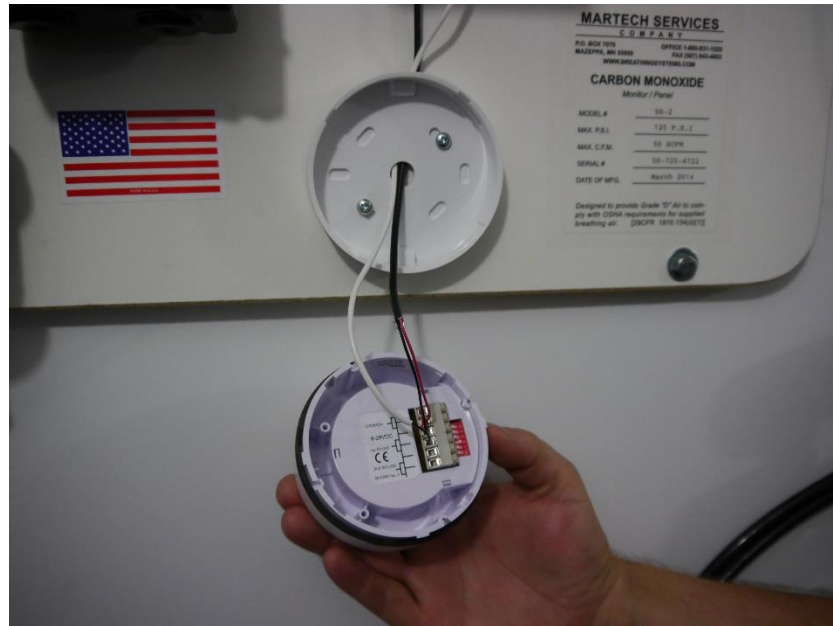


c. Martech System Connection:

- i. Route the alarm wire down the panel to the alarm, following white wire powering audible alarm
- ii. Unscrew the audible alarm and loosen alarm base. Cut ring terminals off and strip wire. Route power cable under the housing along the other wire. Retighten base. Add red wire to screw terminal labeled (+) and black wire to screw terminal labeled (-). Tighten setscrews. Replace alarm by screwing onto base.







- iii. Replace audible alarm by screwing back onto the base. Coil up any extra wire and secure with zip ties.



## Notes

- RAS is non-serviceable, if there is a malfunction, complete replacement is necessary.
- To test functionality you will have to create an alarm situation through calibrating your filtration panel.

## Warranty

- The RAS is covered under a 1 year replacement warranty