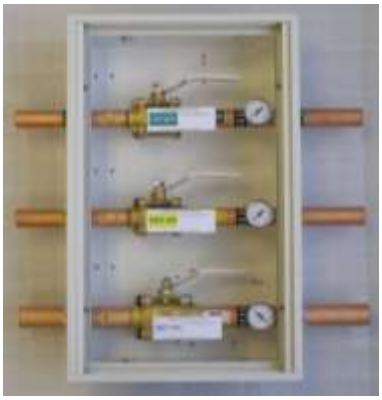
Installation Instructions for DU / DC Series Medical Gas Area Alarm Conversion Kits

This product has been designed to convert an existing area alarm to a Tri-Tech Medical Inc. area alarm. Installation of this kit involves the removal of the existing alarms front panel, power supply, and transducer(s). Installation also involves installing a flange, power supply, transducers and alarm front panel and making the necessary plumbing and electrical connections. All installation and testing should be done in accordance with NFPA 99 or CSA Z7396.1.

WARNING: Installation of this product requires the temporary shut down of medical gases to the affected area of the medical facility. All medical gases supplying the alarm to be converted must be shut down until the conversion is complete. It is the responsibility of the installer to obtain approval from the proper facility personnel before beginning this conversion.

WARNING: Electrical power supplying the alarm to be converted should be disconnected prior to beginning this conversion.

WARNING: This device should only be installed by qualified personnel. Installation should not be attempted by anyone not having general experience with the installation of devices of this nature.



Locate the medical gas zone valve box providing service to the area alarm to be converted. After approval has been granted by the proper facility personnel, close all gas valves providing service to the area alarm to be converted.

Disconnect electrical power to the area alarm to be converted.

Note: This manual illustrates the conversion of an Ohio™ area alarm. There are many other models of area alarms that may also be converted and there will be differences in the kits used to convert them.

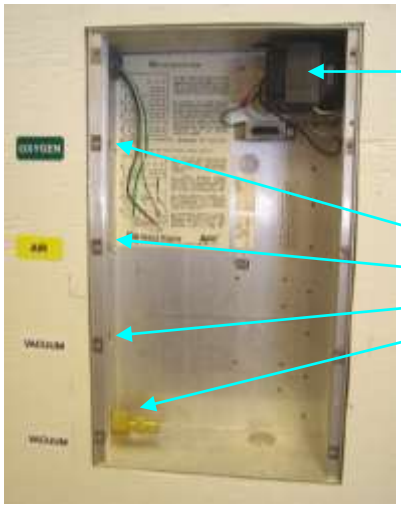
Remove the existing front panel, power supply and transducers.

Note: Gas labels corresponding to the gas services being monitored have been placed on the wall adjacent to the alarm before disassembly. This is to help prevent a possible mismatching of gas services during the conversion. These labels will be covered when the alarm is converted.

Note: the transducers may be located in the back box or remotely in the ceiling or remotely located in Tri-Tech Medical zone valve boxes as shown here).

Note: If the transducers are to be installed remotely, see Appendix F of the DU/DC Installation & Operating Instruction Manual for the proper techniques to wire remote transducers.

The Ohio™ area alarm (pictured here) must be disassembled from the bottom module up. Note there is a short hose connected to a Hanson™ quick connect coupling that must be disconnected in each gas module. There is also an electrical plug connector on each gas module that must be disconnected.



Remove existing power supply from back box

If the gas connection fittings are not DISS gas specific demand valves, they must be removed. In this conversion the Hanson couplings should be removed. When the fittings are removed the remaining fitting in most cases will be either a 1/8 or a ¼ NPT Female thread. In some conversions, the threads are flare fittings and adaptors are provided as part of the conversion kit.

Special adaptors – provided with conversion kit.

The demand check valve fittings are stamped with either the abbreviated gas name or the chemical symbol of the gas. **Take special note as to which gas service is being provided by each gas riser as they may not be labeled on the back box as shown here. If they are not labeled or marked, do so now.**

The special adaptors which have been included **must be used.** In some cases, there is insufficient clearance for the poppet in the demand check to open allowing gas to flow. These adaptors provide sufficient clearance to allow the demand valves to operate properly when engaged with mating fittings.

In this photo the adaptors and demand valves are installed.

Install the transducers onto the demand valves. This photo shows all of the transducers installed.

The power supply comes pre-installed on the flange. It may not be installed on the flange in the correct position to allow it to fit into the back box. If necessary, the power supply may be removed from the flange (2 screws) and repositioned on any of the 4 sides of the flange. Pre-drilled and tapped holes have been provided.

Position the flange with the power supply into the back box. The flange must cover the back box and the power supply must recess into the back box. As long as these requirements are met, the flange may still provide extra coverage and allow for centering as desired. **Warning: The wall prints should be checked for power, water or other service lines that may be installed.**

After the desired position of the flange has been chosen, holding the flange assembly in place, mark the four hole positions on the wall. The four holes are located near the corners of the flange. **It is recommended that a level be used.**

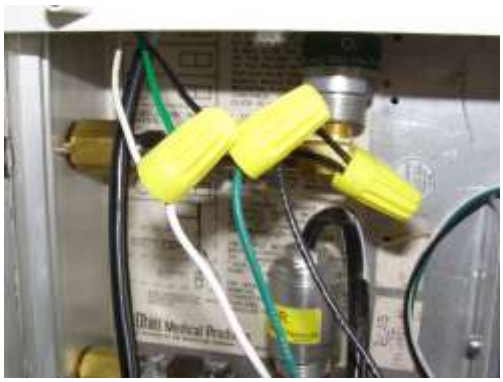
Temporarily hold the flange in the desired position and mark the wall (thru the holes that are located near the corners of the flange).

Remove the flange and drill the 4 holes using a 3/8" bit.

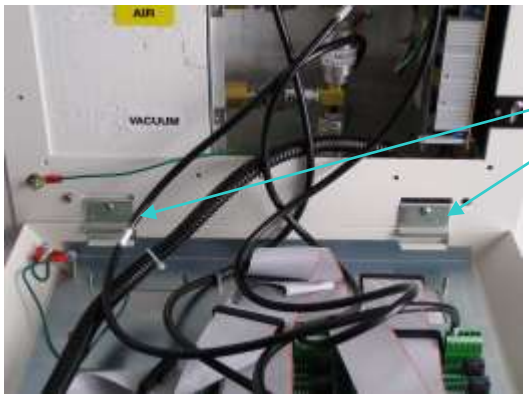
CAUTION: The molly bolts provided can be used for wall thicknesses of 5/8 to 1 ¼". If wall thickness is outside this range another type of wall anchor must be used.

Install the molly bolts (provided) into the four drilled holes. Tighten screws until snug. DO NOT OVERTIGHTEN. Remove the screws & washers.

Position the flange assembly onto the back box lining up the flange mounting holes with the mollies. Thread the molly screws with washer thru the flange into the mollies and tighten.

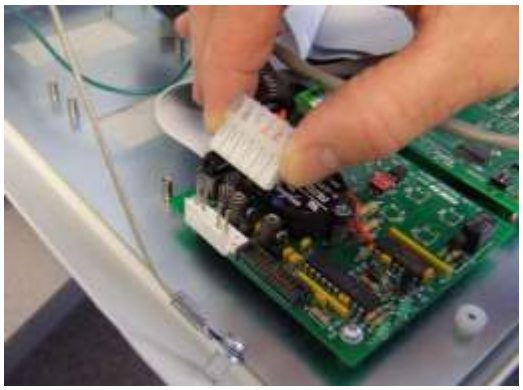


The power supply has been pre-wired for 110 VAC. Connect the three wires from the power supply (Black = Line, White = Neutral & Green = Ground) to the proper incoming 110 VAC wires using wire nuts.



Insert the Tri-Tech Medical alarm front panel over the two hinges located on the bottom of the flange.

Attach the two wire lanyards provided to the screw mounts on the sides of the flange.

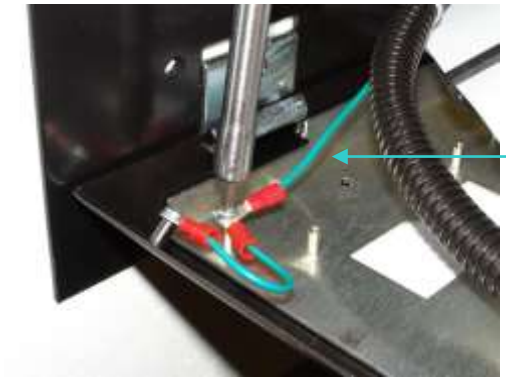


Attach the CPU wiring harness (the one with the black corrugated plastic cover) to the white plug in connector on the leftmost circuit board. Note it is very important that this connection be made properly, with the pins and holes in proper alignment and the latching mechanisms on the white connectors mated properly.

The CPU wiring harness connection will look like this when properly connected.

The wire terminal connector on the gas board has six wire connection slots. The two wires from the transducer should be installed in the BLK & WHT SENSOR slots. These are the two slots closest to the center of the gas board (as shown). It is preferred that the black wire be closest to the center of the gas board.

The transducer plug may be removed from the gas module to make it easier to install the wires.

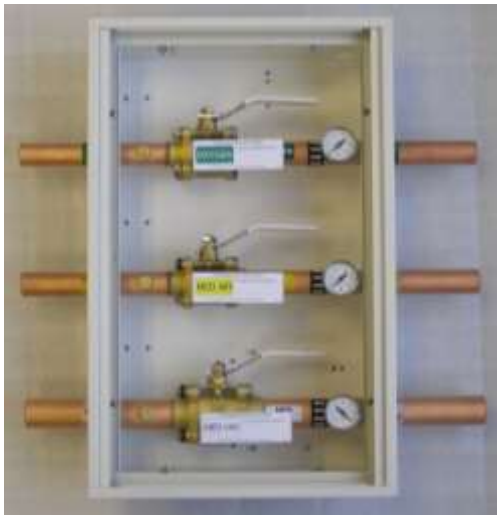


Attach the green ground wire, which is in the wiring harness, to the ground screw on the left corner of the front panel – just in front of the power supply.

Using the self-taping screw provided, attach the green ground wire harness originating from the ground lug terminal on the alarm front panel and power supply mount, to an appropriate grounding point in the back box.

The power supply has been provided with both a removable fuse and an on/off switch to provide for ease of any possible future service work to the alarm or changes to the medical gas piping system. Make sure the fuse is installed and the switch is in the on position.

When closing the alarm front, be careful to not pinch any wires between the alarm front panel and the flange.



Restore electrical power and medical gases to the converted area alarm. Before the facility restores this portion of the medical gas piping system to patient use, the alarm must be tested for high and low line pressure alarms for all gases (except vacuum & WAGD/evacuation which are tested for low line pressure only) and tested for possible cross-connection to ensure each gas module is monitoring the correct gas. It is recommended that this testing be done by an independent third party medical gas certification company.

See the Tri-Tech Medical Alarm Manual 99-0308 for complete instructions on testing and operating the new alarm panel.