

***Installation Instructions for
Med-Touch Series LCD Medical Gas Area, Master &
Combination Alarms Conversion Kits***



Area Alarm Conversion

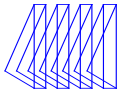


Master Alarm Conversion



Combination Alarm Conversion

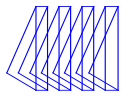




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***See Med Touch Alarm Installation & Operating Instruction Manual #99-0500
For Testing and operation***

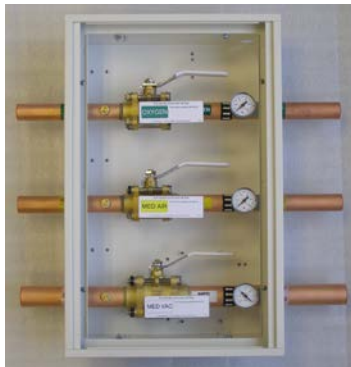


This product has been designed to convert an existing area alarm to a Tri-Tech Medical Inc. area alarm. Installation of this kit involves the removal of the existing alarms front panel, power supply, and transducer(s). Installation also involves installing a flange, power supply, transducers and alarm 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 intended for the alarm to be installed should be disconnected prior to installation.

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.

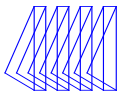


Note: Gas labels corresponding to the gas services being monitored have been placed on the wall adjacent to the alarm before disassembly. This is to help prevent a possible mismatching of gas services during the conversion. These labels will be covered when the alarm is converted.

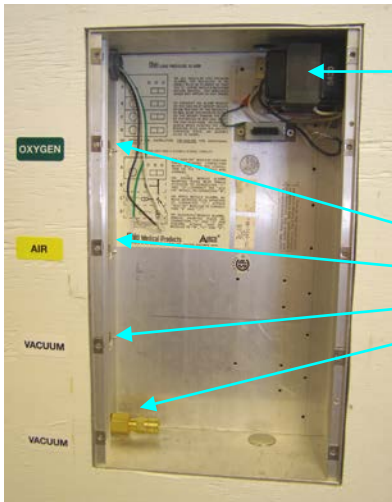


Note: the transducers may be located in the back box or remotely in the ceiling or remotely located in Tri-Tech Medical zone valve boxes as shown here).

Note: If the transducers are to be installed remotely, see the Med Touch Installation & Operating Instruction Manual #99-0500 for the proper techniques to wire remote transducers.

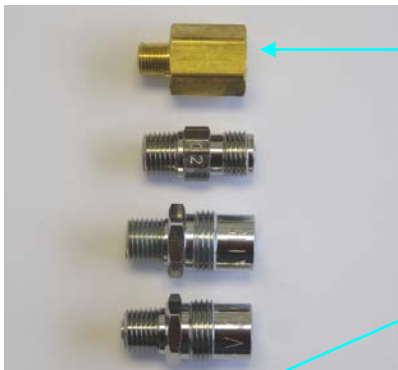


The Ohio™ area alarm (pictured here) must be disassembled from the bottom module up. Note there is a short hose connected to a Hanson™ quick connect coupling that must be disconnected in each gas module. There is also an electrical plug connector on each gas module that must be disconnected.



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 1/4 NPT Female thread. In some conversions, the threads are flare fittings and adaptors are provided as part of the conversion kit.

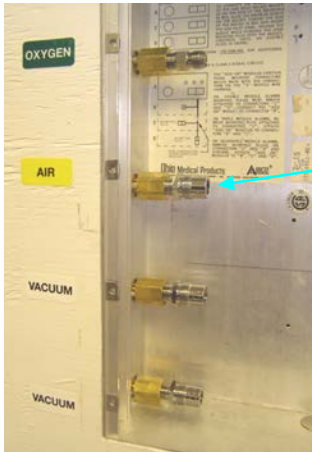
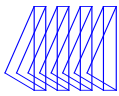


Special adaptors – provided with conversion kit.

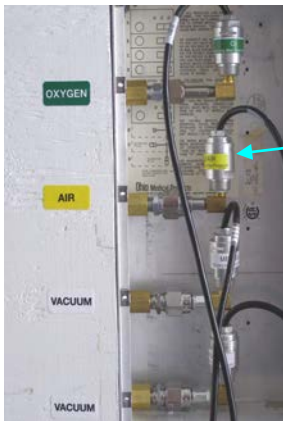
The demand check valve fittings are stamped with either the abbreviated gas name or the chemical symbol of the gas. **Take special note as to which gas service is being provided by each gas riser as they may not be labeled on the back box as shown below. If they are not labeled or marked, do so now.**



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.



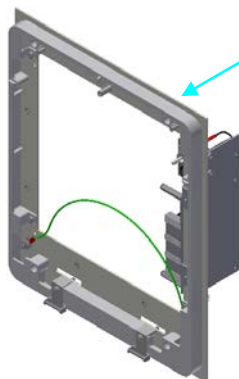
In this photo the adaptors and demand valves are installed.



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

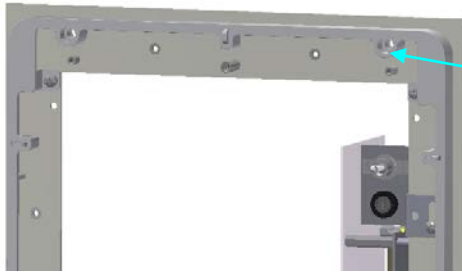
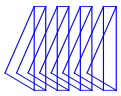


The power supply comes pre-installed on the conversion plate. It may not be installed on the conversion plate in the correct position to allow it to fit into the back box. If necessary, the power supply may be removed from the conversion plate (2 screws) and repositioned on any of the 4 sides of the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



Position the conversion plate with the power supply into the back box. The conversion plate must cover the back box and the power supply must recess into the back box. As long as these requirements are met, the conversion plate 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 conversion plate has been chosen, holding the conversion plate assembly in place, mark the four holes positions on the wall. The four holes are located near the corners of the conversion plate. **It is recommended that a level be used.**

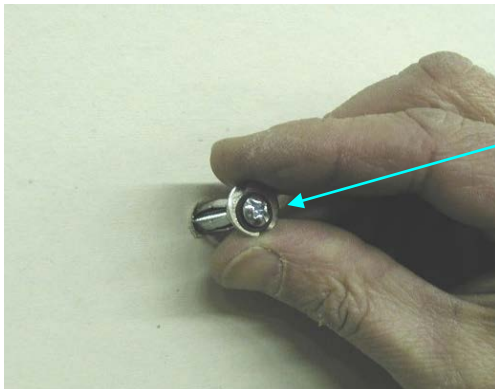


Temporarily hold the conversion plate in the desired position and mark the wall (thru the holes that are located near the corners of the conversion plate).



Remove the conversion plate 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 1/4". If wall thickness is outside this range another type of wall anchor must be used.

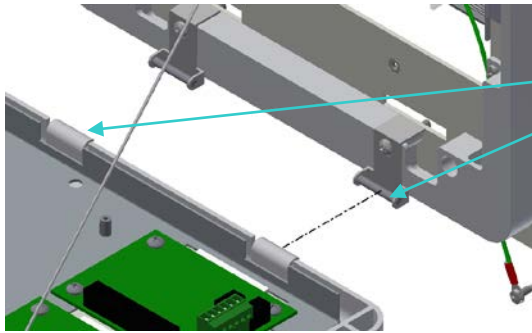
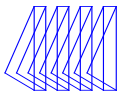


Install the molly bolts (provided) into the four drilled holes. Tighten screws until snug. **DO NOT OVERTIGHTEN.** Remove the screws & washers.

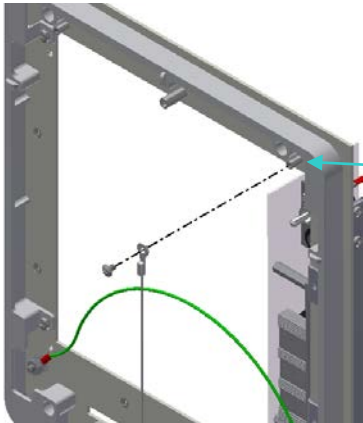
Position the flange assembly onto the back box lining up the conversion plate mounting holes with the mollies. Thread the molly screws with washer thru the conversion plate into the mollies and tighten.



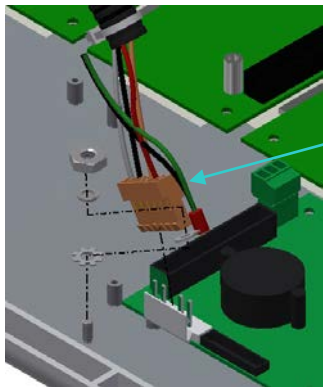
The power supply has been pre-wired for 110 VAC. Connect the three wires from the power supply (Black = Line, White = Neutral & Green = Ground) to the proper incoming 110 VAC wires using wire nuts.



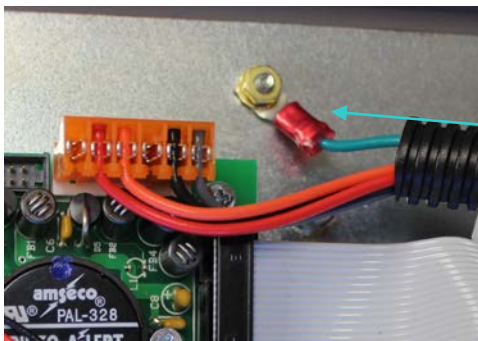
The alarm front panel snaps onto the two hinge pins. If the hinge gets detached, simply snap it back on.



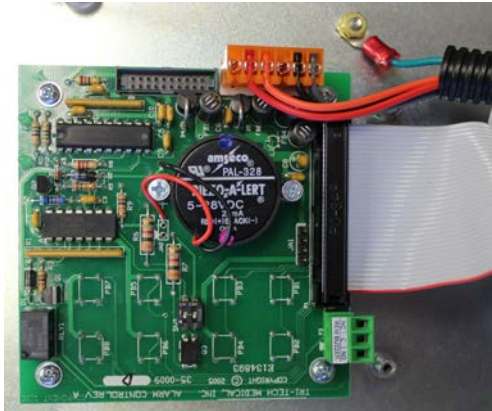
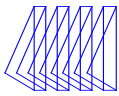
Attach the two wire lanyards provided to the screw mounts on the sides of the conversion plate.



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.



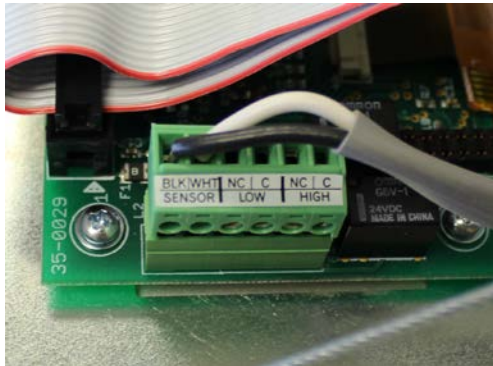
Attach the green ground wire, which is in the wiring harness, to the ground screw on the left corner of the front panel – just in front of the power supply.



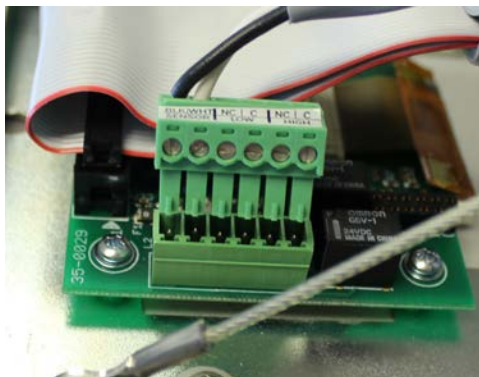
The CPU wiring harness connection will look like this when properly connected.



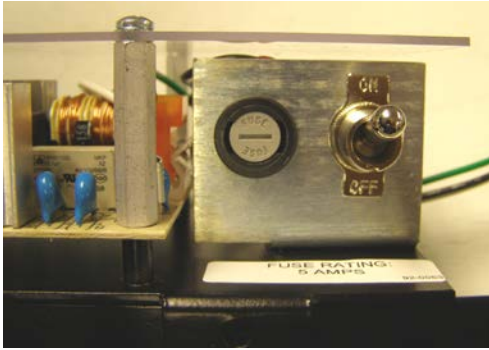
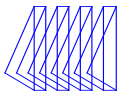
Using the self-tapping screw provided, attach the green ground wire harness originating from the ground lug terminal on the alarm front panel and power supply mount, to an appropriate grounding point in the back box.



The wire terminal connector on the gas board module 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 top edge of the gas board (as shown).



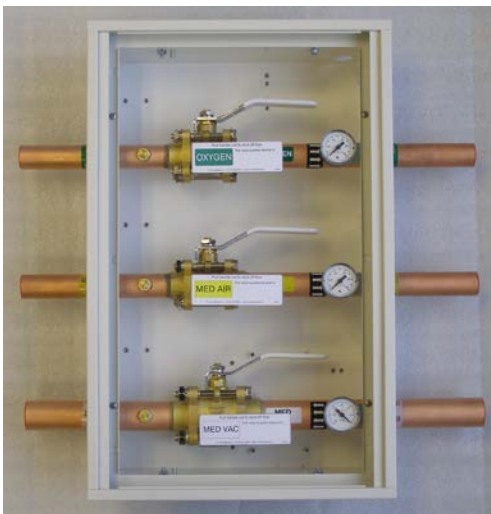
The transducer plug may be removed from the gas module to make it easier to install the wires.



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.

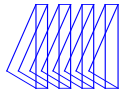


When closing the alarm front, be careful to not pinch any wires and ribbon cable between the alarm front panel and the conversion plate.
Note: Also verify that the ribbon cable is not touching or blocking the latching panel screw.

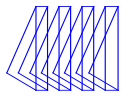


Restore electrical power and medical gases to the converted area alarm. Before the facility restores this portion of the medical gas piping system to patient use, the alarm must be tested for high and low line pressure alarms for all gases (except vacuum & WAGD/evacuation which are tested for low line 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 Med Touch Alarm Installation & Operating Instruction Manual #99-0500 for complete instructions on testing and operating the new alarm panel.



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This product has been designed to convert an existing master alarm to a Tri-Tech Medical Inc. master alarm. Installation of this kit involves the removal of the existing alarms front panel and power supply. Installation also involves installing a flange, power supply, and alarm front panel and making the necessary 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 shutdown of the medical gas master alarm panel being converted, but should not effect any other master alarm(s) in the facility. It is the responsibility of the installer to obtain approval from the proper facility personal before beginning this conversion.

WARNING: Electrical power intended for the alarm to be installed should be disconnected prior to installation.

WARNING: All alarms for medical gas sources monitored by the alarm to be converted will be shut down until the conversion is complete. Arrangements should be made to monitor these alarms from another master alarm panel and/or manually.

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.



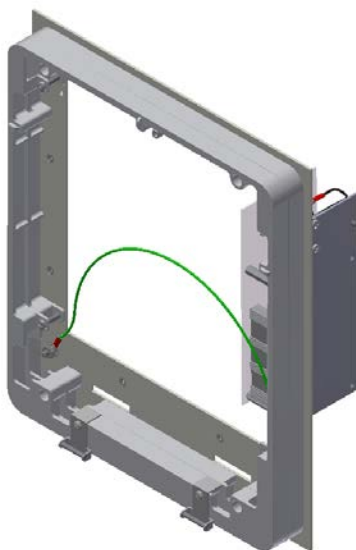
Locate the electrical breaker providing service to the master alarm to be converted. After approval has been granted by the proper facility personnel, shut off the breaker providing 120 VAC electrical service to the master alarm to be converted.

Remove the front panel of the alarm to be converted.

Label each common & signal wire with the alarm signal name before disconnecting them from the original circuit board.

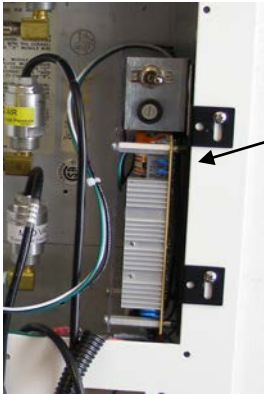
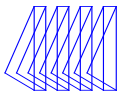
Disconnect all of the common & signal wires from the original front panel.

Remove the existing power supply and fuse.



Position the conversion plate with the power supply into the back box. The conversion plate must cover the back box and the power supply must recess into the back box. As long as these requirements are met, the conversion plate 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 conversion plate has been chosen, holding the conversion plate assembly in place, mark the four holes positions on the wall. The four holes are located near the corners of the conversion plate. **It is recommended that a level be used.**



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



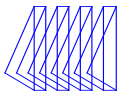
Holding the flange assembly in place, mark the four hole positions on the wall. The four holes are located near the corners of the flange.



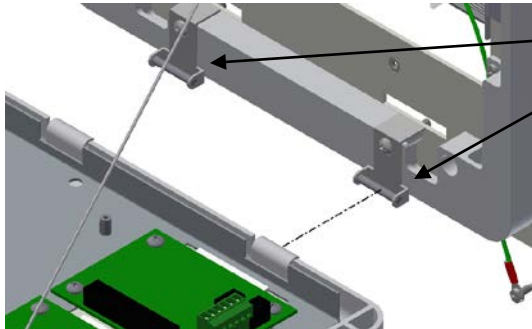
Remove the flange with power supply assembly. Drill the four holes positions using a 3/8" bit.



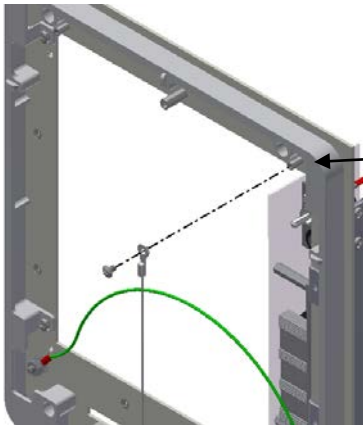
Install molly bolts into the four holes drilled. Tighten screw until snug. **DO NOT OVERTIGHTEN.** Remove screw and washer.



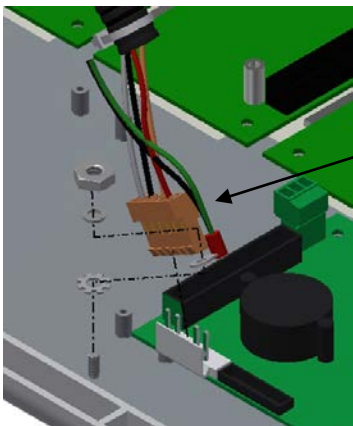
The power supply has been pre-wired for 110 VAC. Connect the three wires from the power supply (Black = Line, White = Neutral & Green = Ground) to the proper incoming 110 VAC wires using wire nuts.



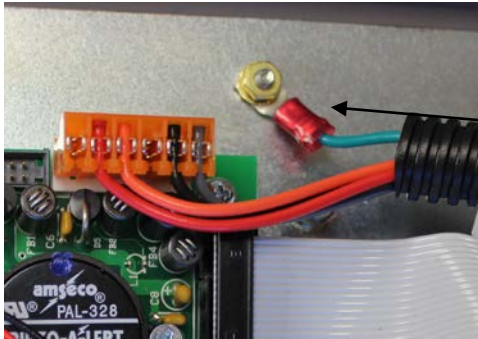
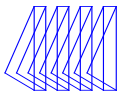
The alarm front panel snaps onto the two hinge pins. If the hinge gets detached, simply snap it back on.



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



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.



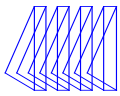
Attach the green ground wire, which is in the wiring harness, to the ground screw on the left corner of the front panel – just in front of the power supply.



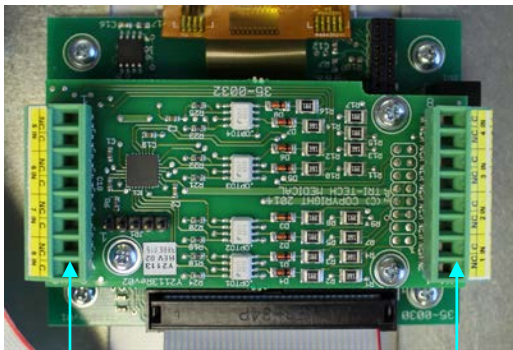
Using the self-taping screw provided, attach the green ground wire harness originating from the ground lug terminal on the alarm front panel and power supply, to an appropriate grounding point in the back box.



When completed the ground and 120 VAC wiring connections should look like this.

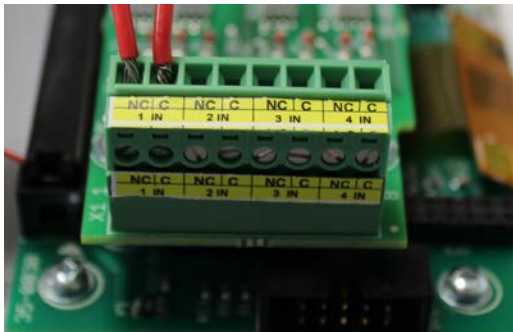


Wiring the Remote Devices to Remote Signal Master Board (dry contacts)

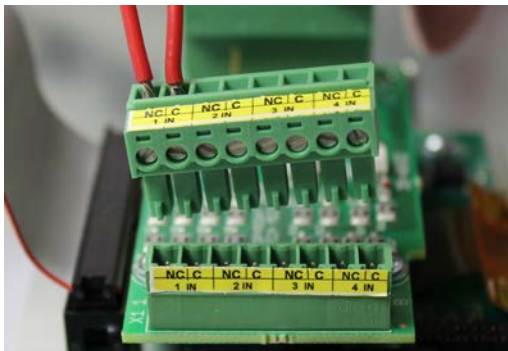


Locate the two banks of 8 terminal connectors on the back of the remote signal (master) board.

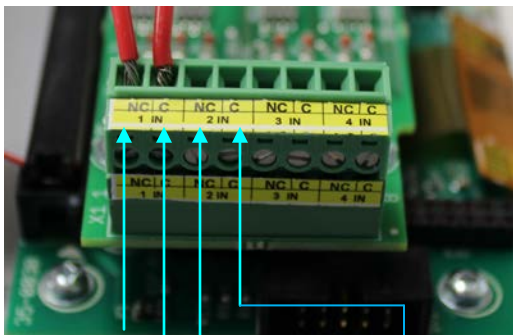
Inputs 1 thru 4 are on the right edge of the board and 5 thru 8 are on the left edge of the board



There are a total of 16 connection points – two connection points for each remote signal. The pairs are labeled 1 IN thru 8 IN on the circuit board. **The NC (normally closed) labeled terminal of each pair is where the signal wire should be landed. The C (common) labeled terminal of each pair is where the common wire should be landed. Note: it is required that polarity be maintained between the switch being monitored and the master alarm.**

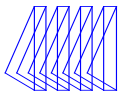


The terminal connector may be unplugged from the circuit board to simplify installation of the remote signal wires.

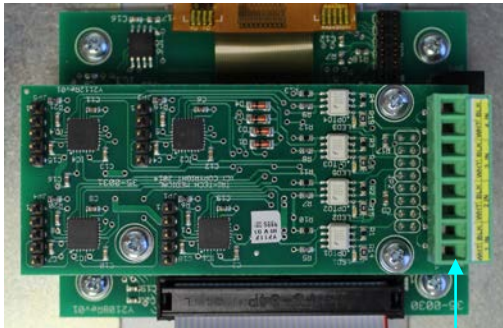


Land the corresponding signal on the NC (normally closed) & common wires on the C (common) terminal of each pair of terminal connectors. It is imperative that the signal wires are landed in the NC position and that the common wires are landed in the C position.

Remote signal #1 Remote signal #2
Common wire signal #1 Common wire signal #2



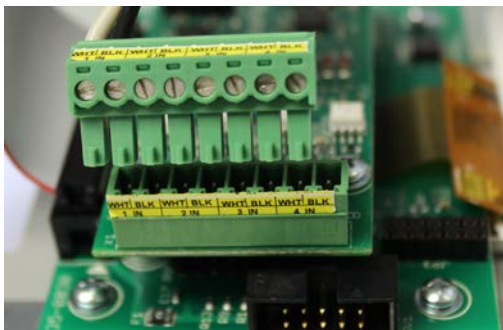
Wiring the Remote Devices to Remote Signal Master Board (transducer sensors)



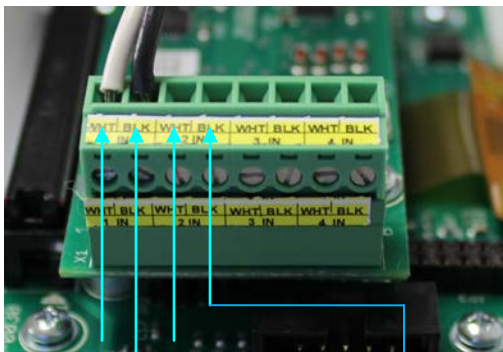
Locate the bank of 8 terminal connectors on the right edge of the back of the remote signal (master) board.



There are a total of 8 connection points – two connection points for each transducer sensor. The pairs are labeled 1 IN thru 4 IN on the circuit board. **The white wire from the transducer should be landed in the WHT position and the black wire from the transducer should be landed in the BLK position. Note: only Tri-Tech Medical D and T series alarm transducers are compatible with the Med Touch alarm system.**

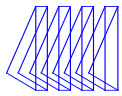


The terminal connector may be un-plugged from the circuit board to simplify installation of the remote signal wires.

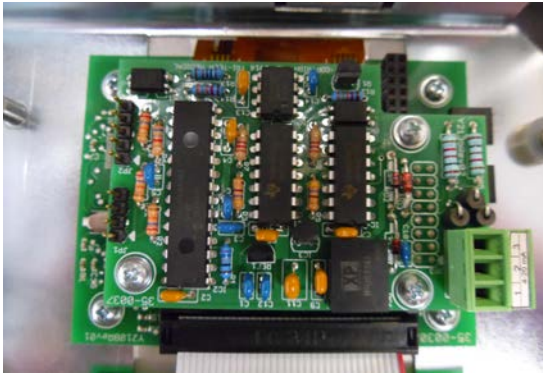


Transducer # 1 white Transducer #2 white
Transducer #1 black Transducer #2 black

The sequence in which the transducers are connected to the board correspond with the order in which they will appear on the display. The #1 transducer will be displayed on top and the #4 transducer will be displayed on the bottom. There will be up to two display positions (high line pressure and low line pressure) for each transducer.



Wiring the Remote Devices to Remote Signal Master Board (4-20mA transmitters)



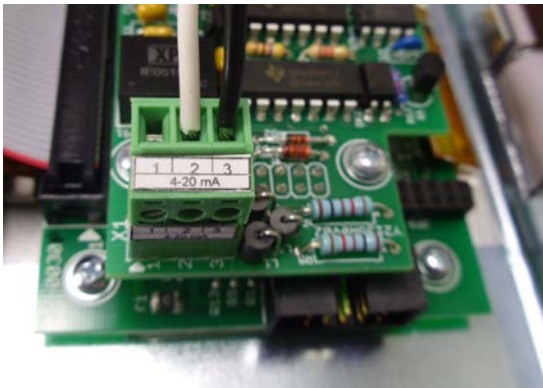
Locate 3 port terminal connector on the right edge of the back of the remote signal (Master) board.

The terminal connector will be labeled 4-20mA.

The terminal connector may be unplugged from the circuit board to simplify installation of the wires.

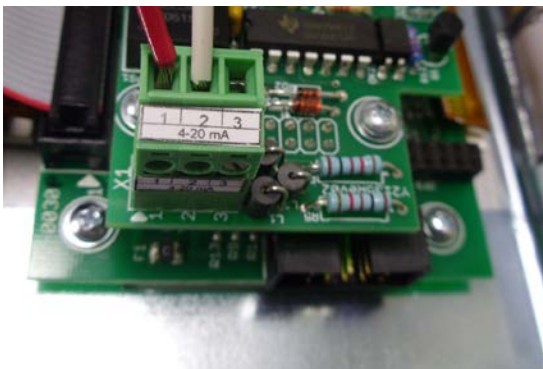
For 4-20mA transmitters with loop power supplied by an external source.

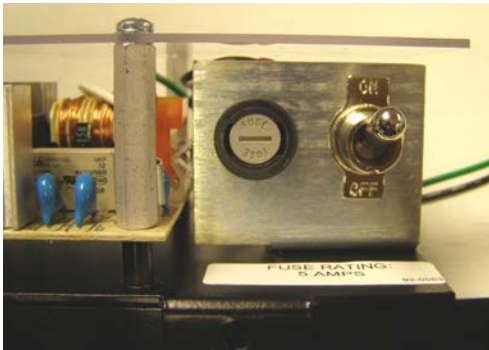
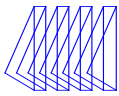
Land the 4-20mA signal wire in the Number 2 terminal port. Land the (-) ground wire to the Number 3 terminal port



For 4-20mA transmitters with loop power supplied by the Alarm Circuit Board (35-0037)

Land the 4-20mA signal wire to the Number 2 terminal port. Land the +12VDC wire to the Number 1 terminal port.



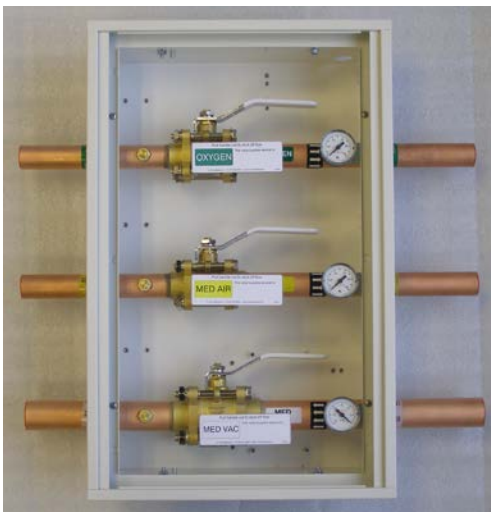


The power supply has been provided with both a removable fuse and an on/off switch to provide for ease of any possible future service work to the alarm or changes to the medical gas piping system. Make sure the fuse is installed and the switch is in the on position.



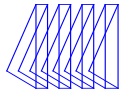
When closing the alarm front, be careful to not pinch any wires and ribbon cable between the alarm front panel and the conversion plate.

Note: Also verify that the ribbon cable is not touching or blocking the latching panel screw.



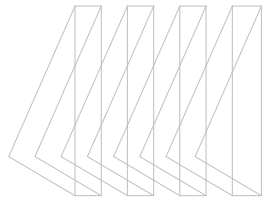
Restore electrical power and medical gases to the converted area alarm. Before the facility restores this portion of the medical gas piping system to patient use, the alarm must be tested for high and low line pressure alarms for all gases (except vacuum & WAGD/evacuation which are tested for low line 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 Med Touch Alarm Installation & Operating Instruction Manual #99-0500 for complete instructions on testing and operating the new alarm panel.



**Tri-Tech
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