Kitchensafe

WHEN INSTALLING THE KITCHENSAFE SYSTEM WE STRONGLY SUGGEST YOU REVIEW THE INSTALLTION MANUAL!

Check the contents of the Kitchensafe shipment using the enclosed checklist. Please report any items that may be missing.

Next install a “BASIC” Kitchensafe system. That means do not connect, the central alarm, manual pull station, horn strobe, and appliance (gas solenoid or electric relay). This will eliminate any of these items interfering with the Kitchensafe system operation. Once the system is installed with the basics, power it up and see if the power and appliance light on the L.E.D. panel are lit. Now you can install the other accessories.

Kitchensafe

The compact electronic control panel allows many installation options for the system.

Control panel measures 8 X 8 X 4 inches.

KITCHENSAFE IS SHIPPED WITH EVERY PART NEEDED TO INSTALL A COMPLETE, READY TO OPERATE SYSTEM

- Braided steel supply line
- Heat sensor
- Nozzle
- Reset/test tool
- Actuator
- Gas or electric disconnect
- Suppressant bottle

KITCHENSAFE
MAY BE MOUNTED UP TO 15 FEET FROM THE NOZZLE TO THE SUPPRESSANT CYLINDER WITH EXTENDED BRAIDED SUPPLY LINE.

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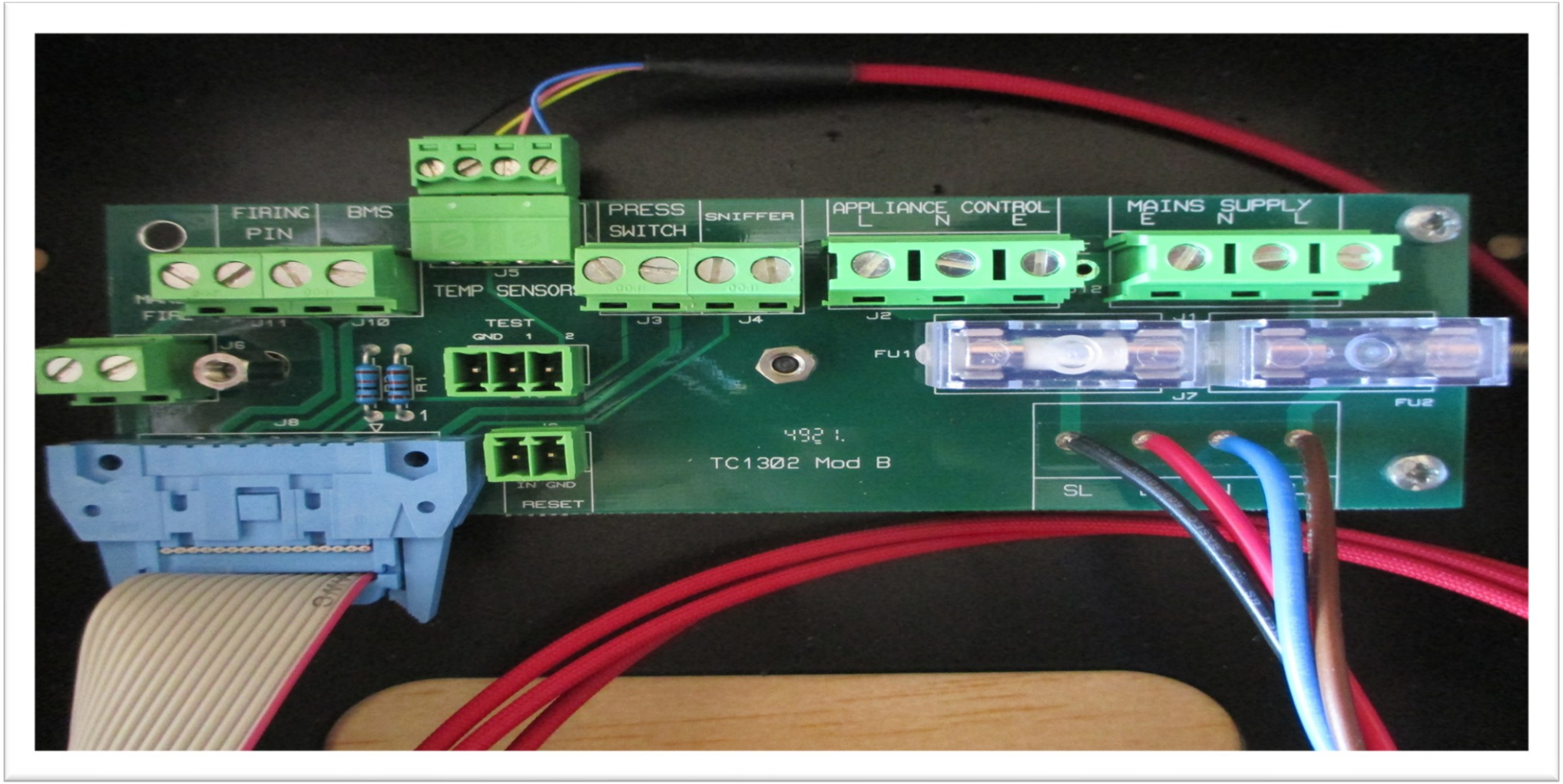
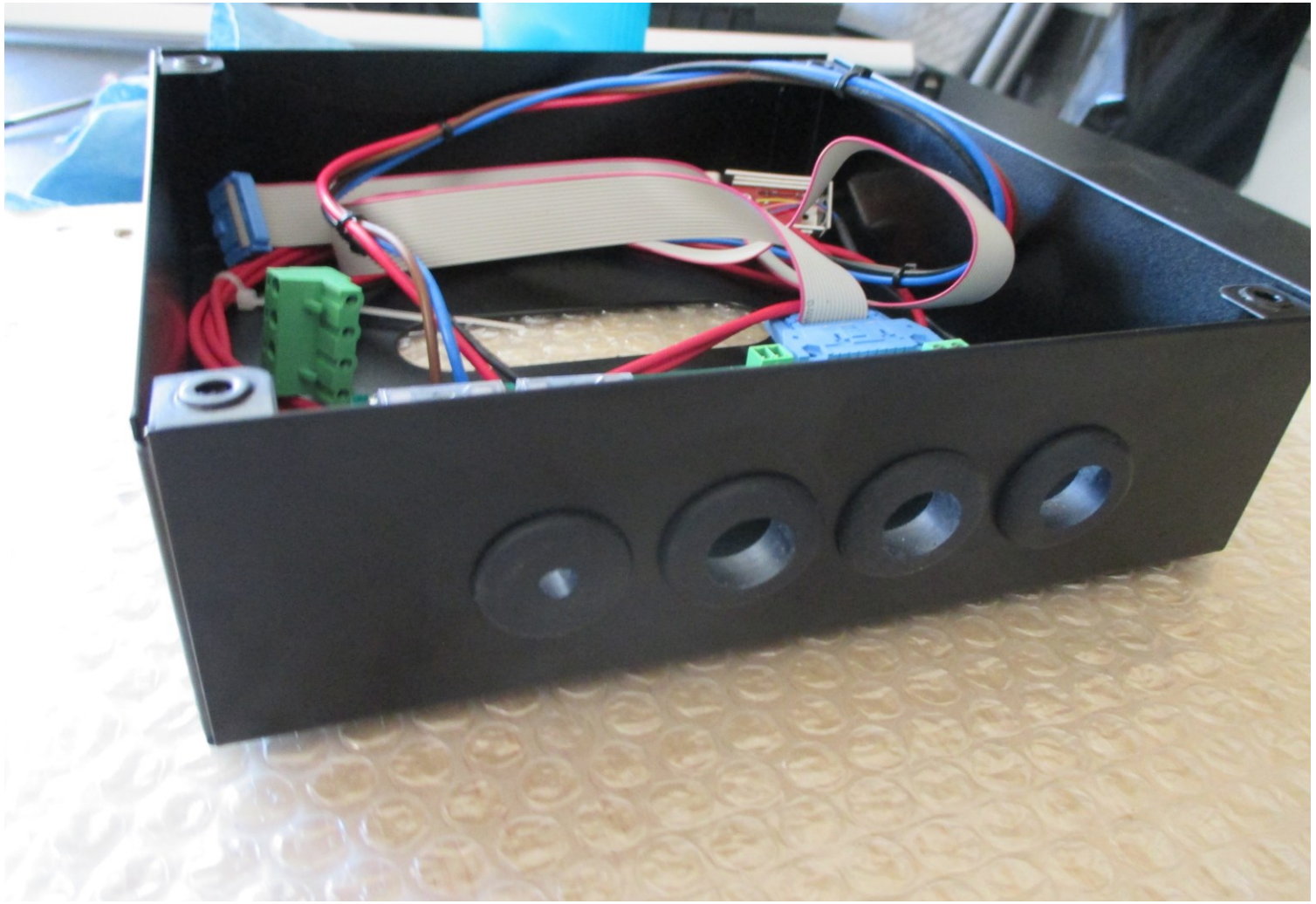
The electronic board of a Kitchensafe system displayed to show the terminals marked with identification.



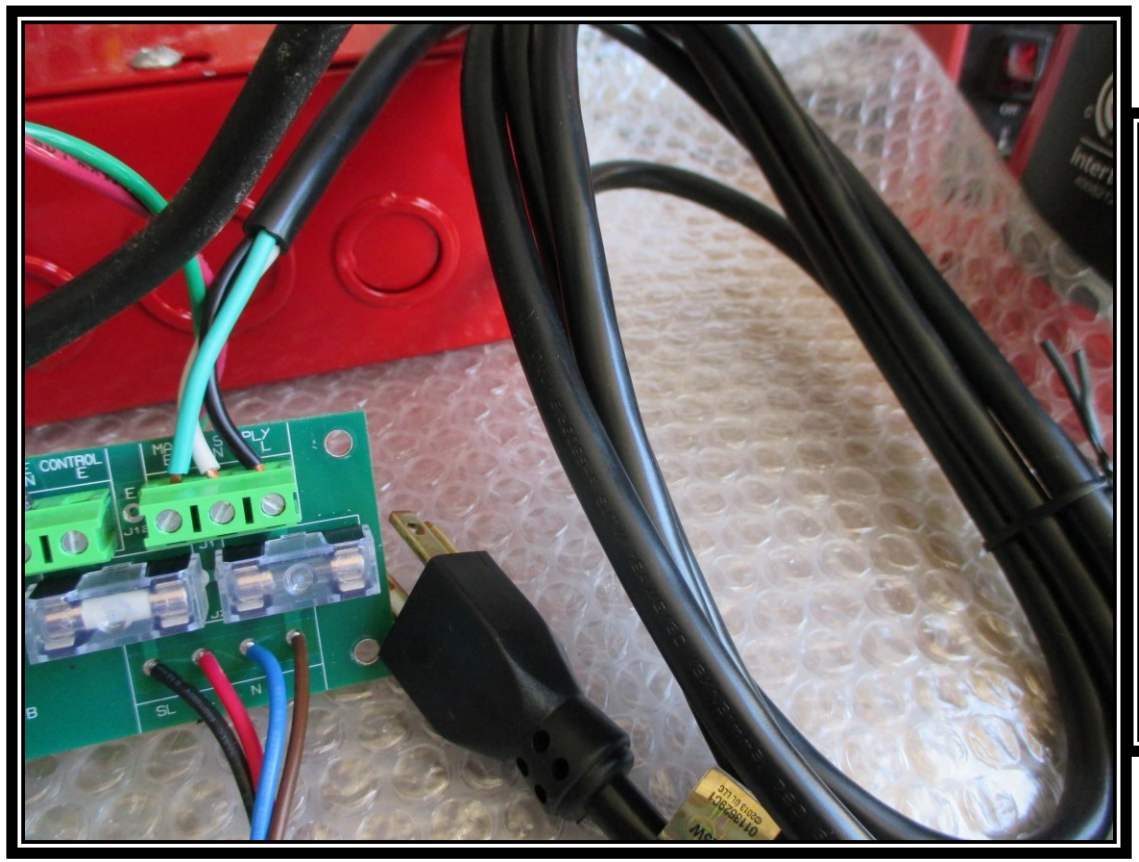
Pictured is the reverse side of the main board. This is the board with the L.E.D. status indicator lights.

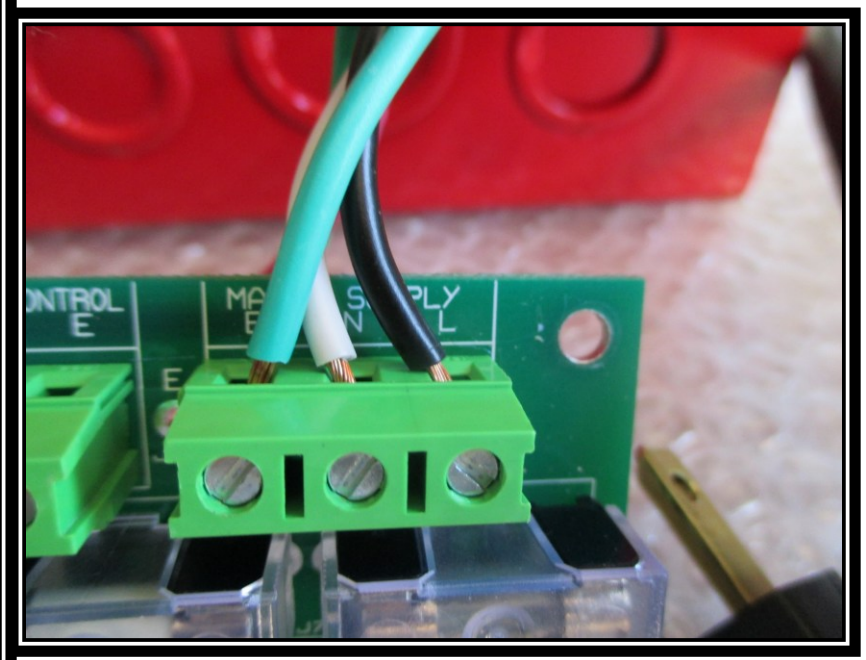
There is nothing that the installer must do on this board.



The control box now has a hinged door that opens to right. Take this into consideration when you install the heat sensor wiring, braided suppressant supply line, actuator, pressure sensor, and alarm wires.

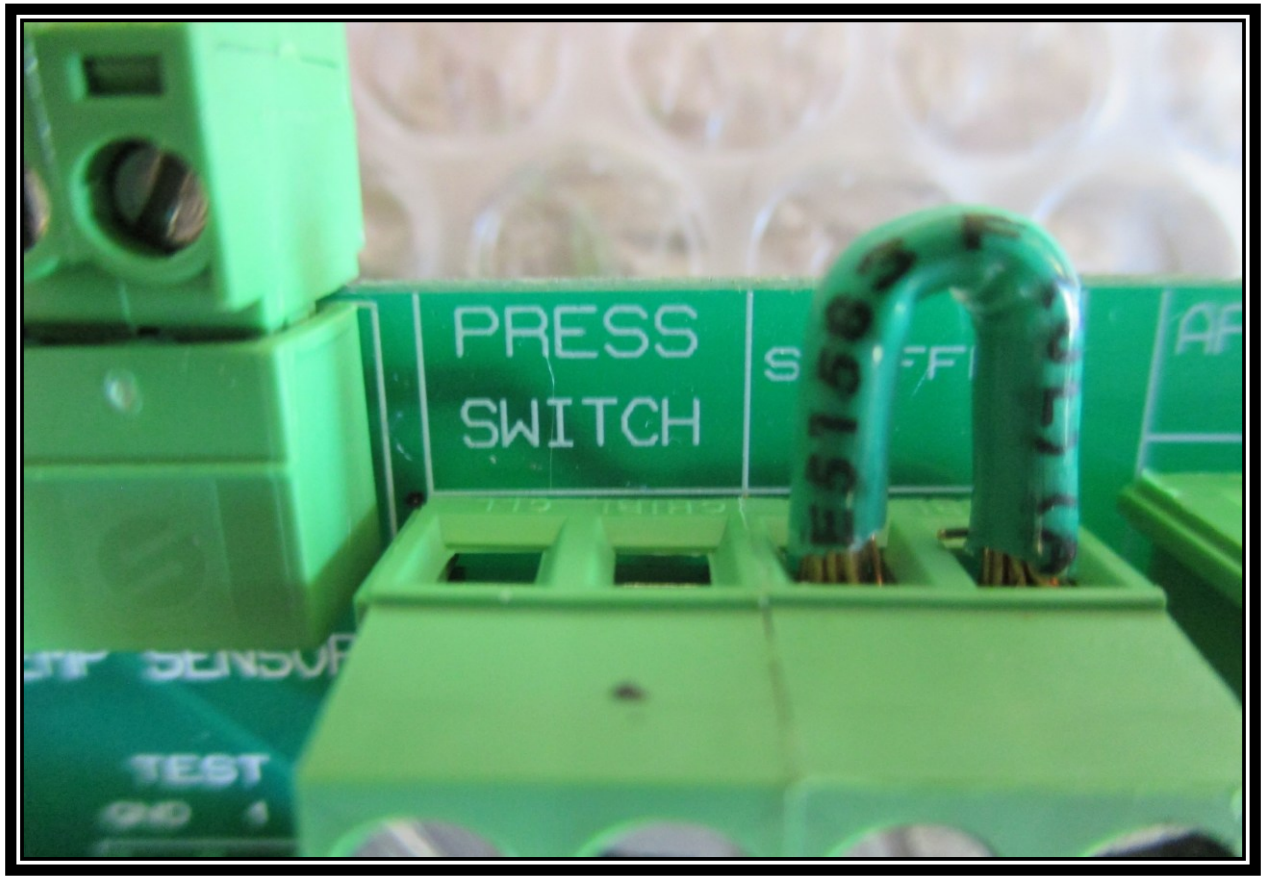
Power cord installed into the “E” earth/ ground, “N” neutral, “L” load.



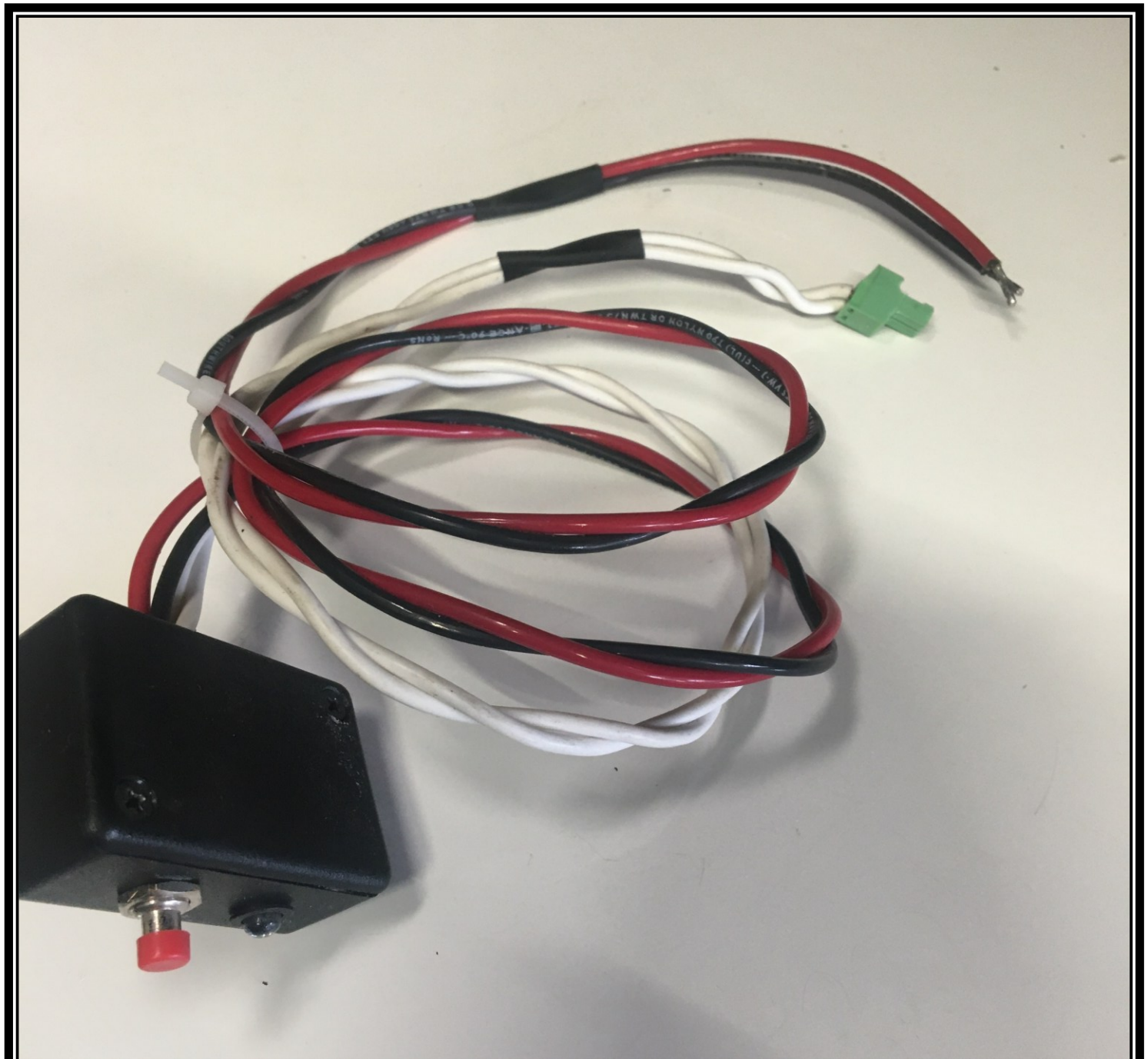


The sniffer terminal is used to detect any gas that may be present on the property.

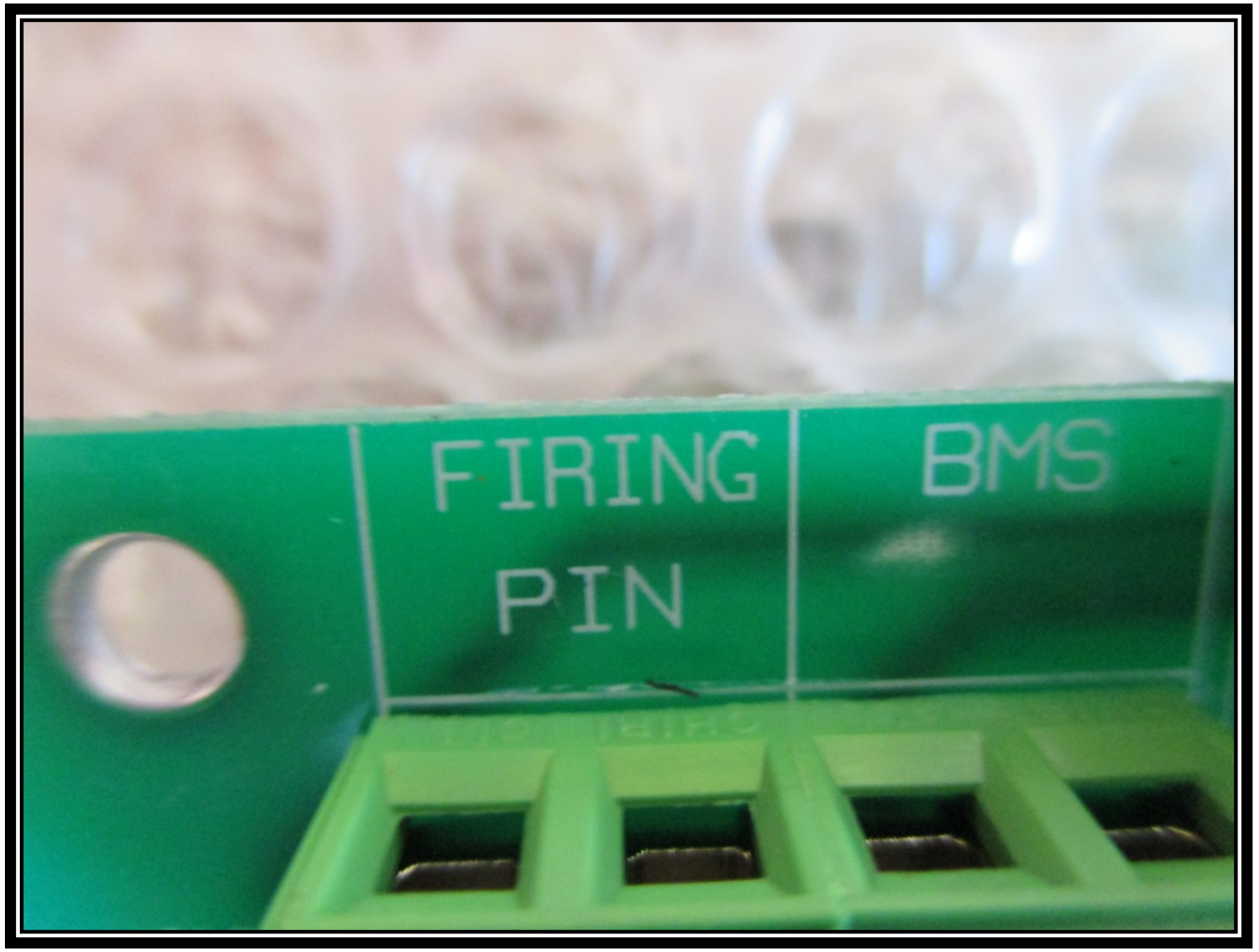
The “sniffer” terminal should have a loop installed when it is not in use.



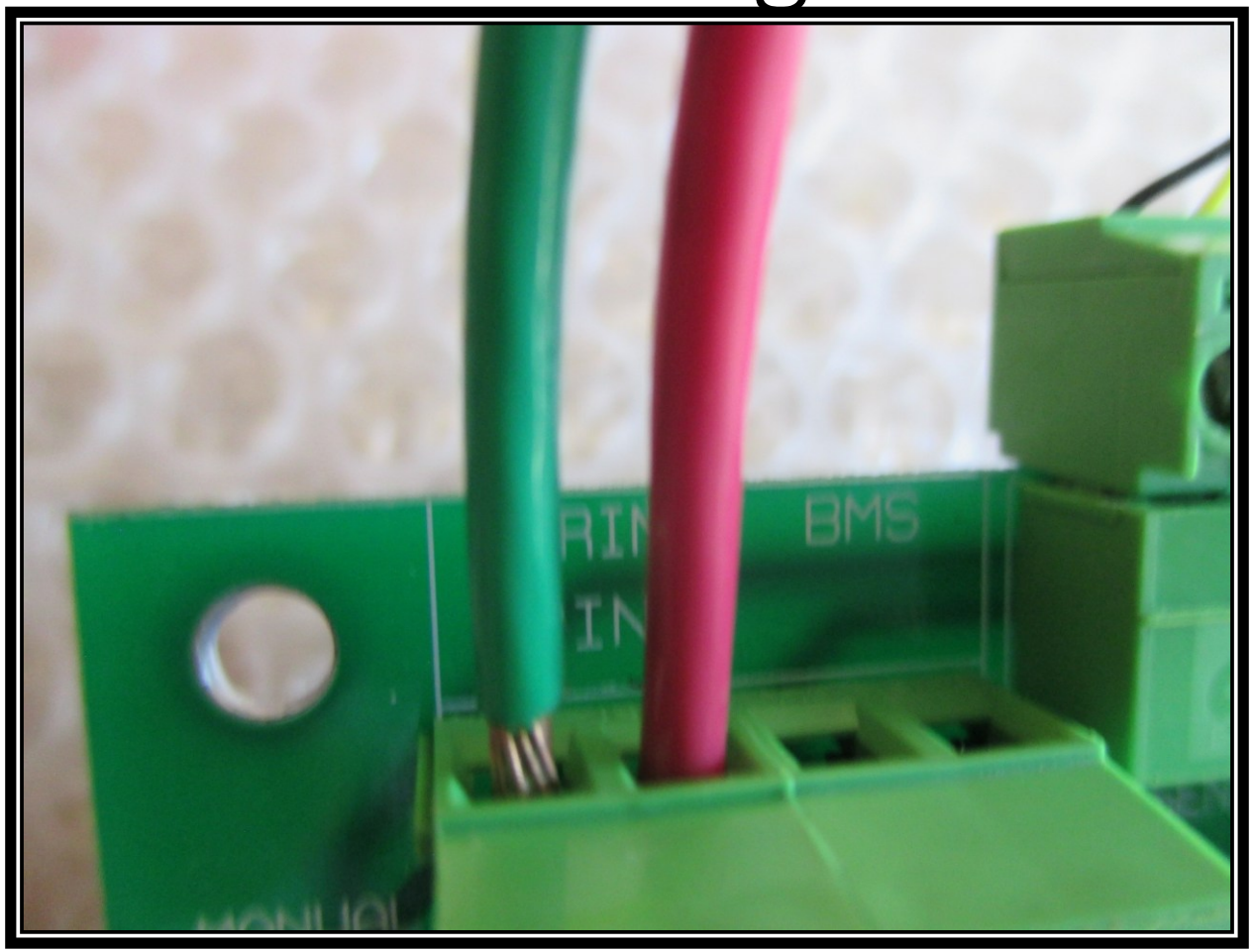
The reset / test tool is used in place of the actuator device when servicing the system. The test tool is placed in the firing pin terminal.



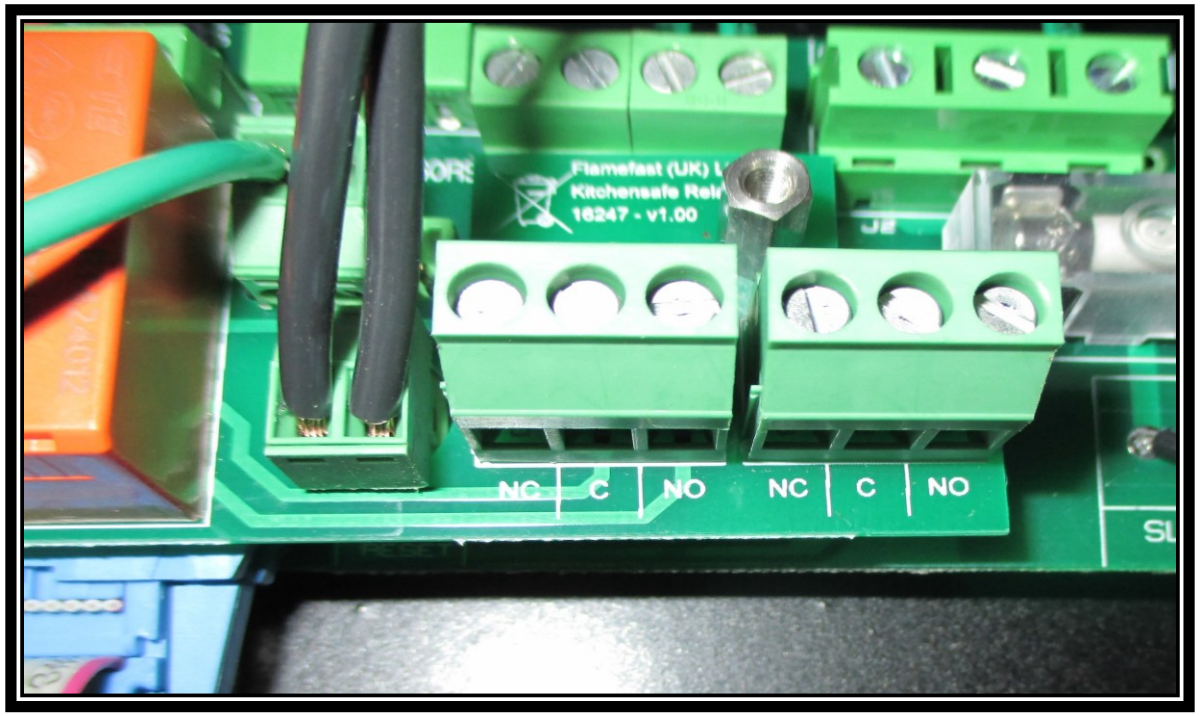
The “metron” / “actuator” takes the place for the “test / reset tool and the actuator / “firing” device.



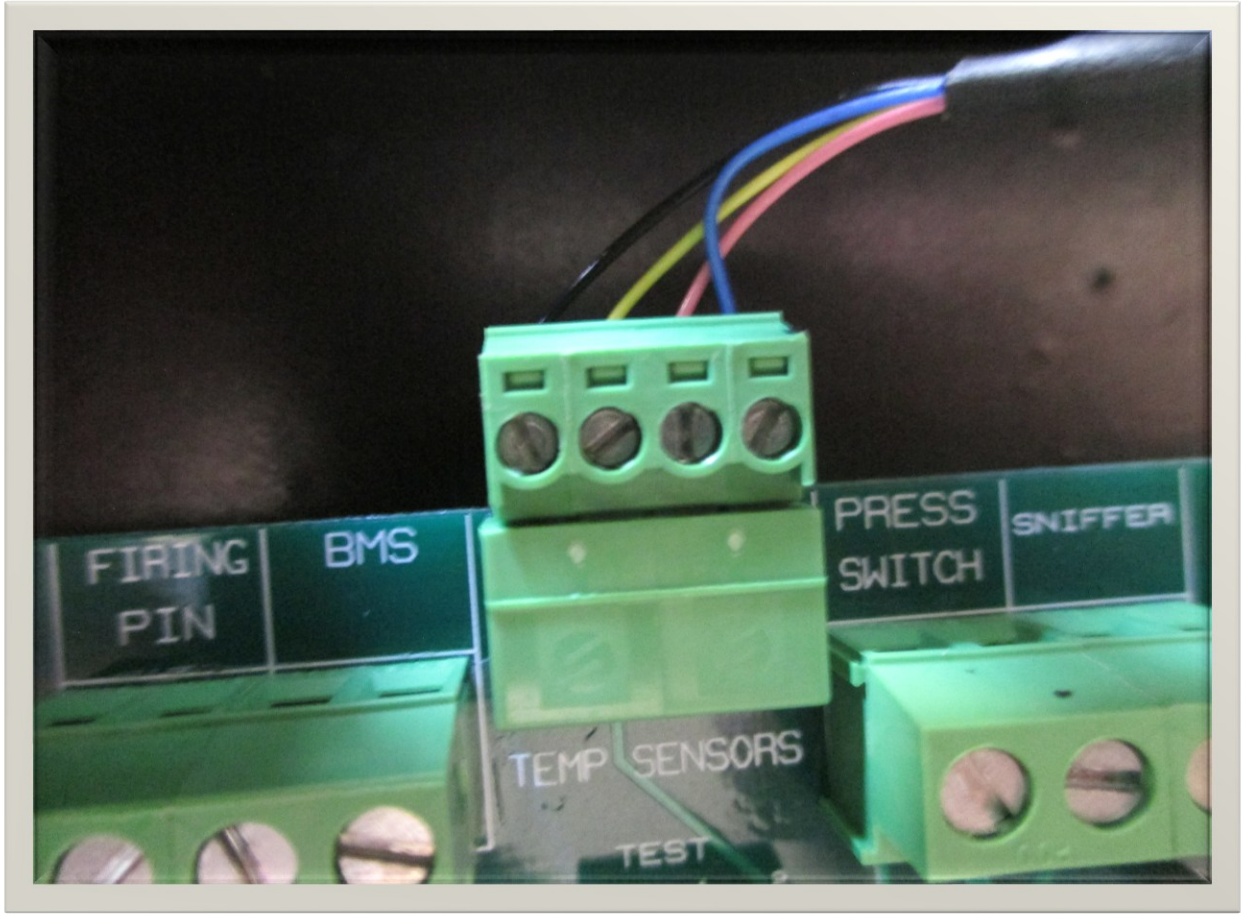
Test / reset tool in the firing terminal, red wire on the right side.



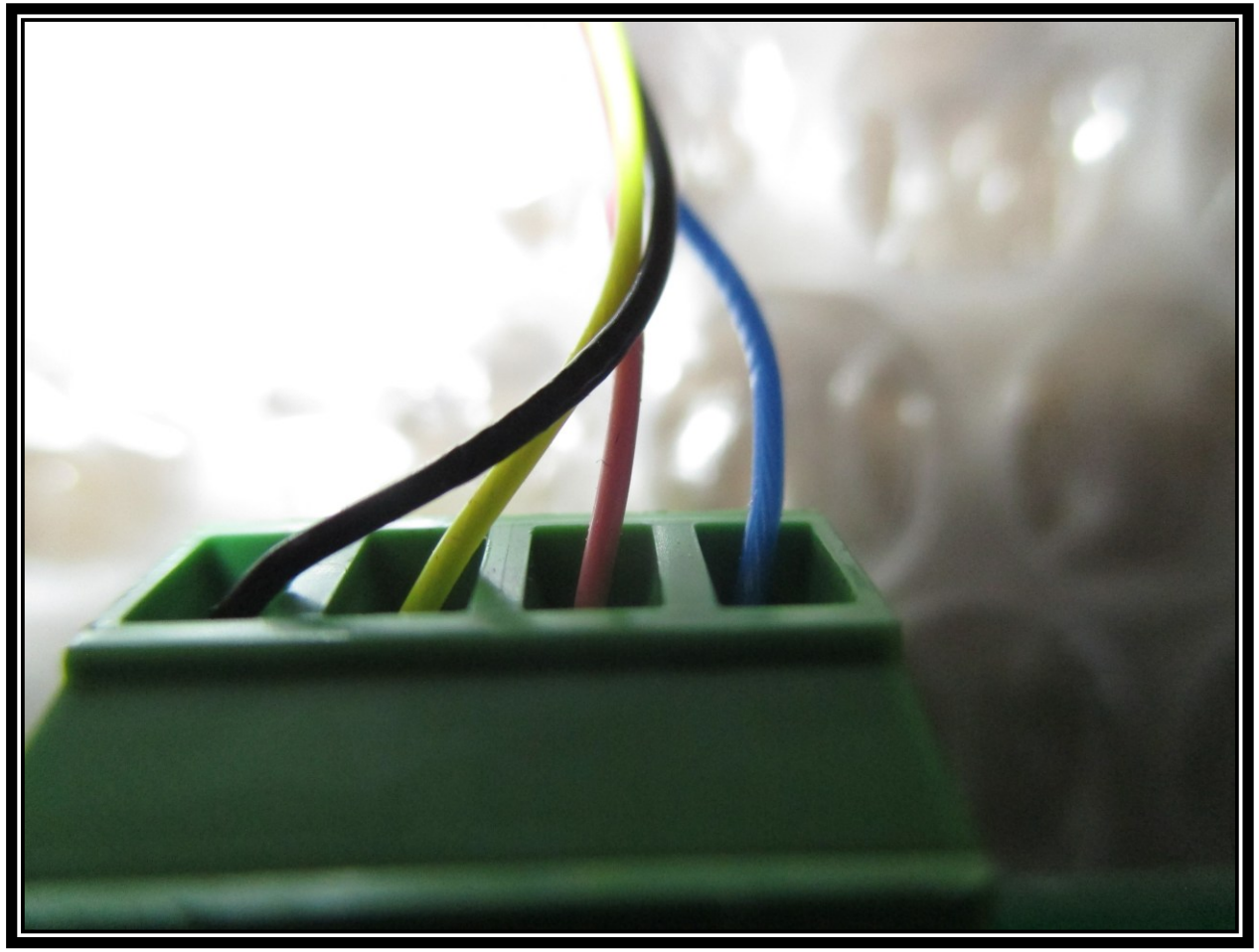
Pictured is the small green “Lego” plug in the reset hole to the left of the alarm terminals.



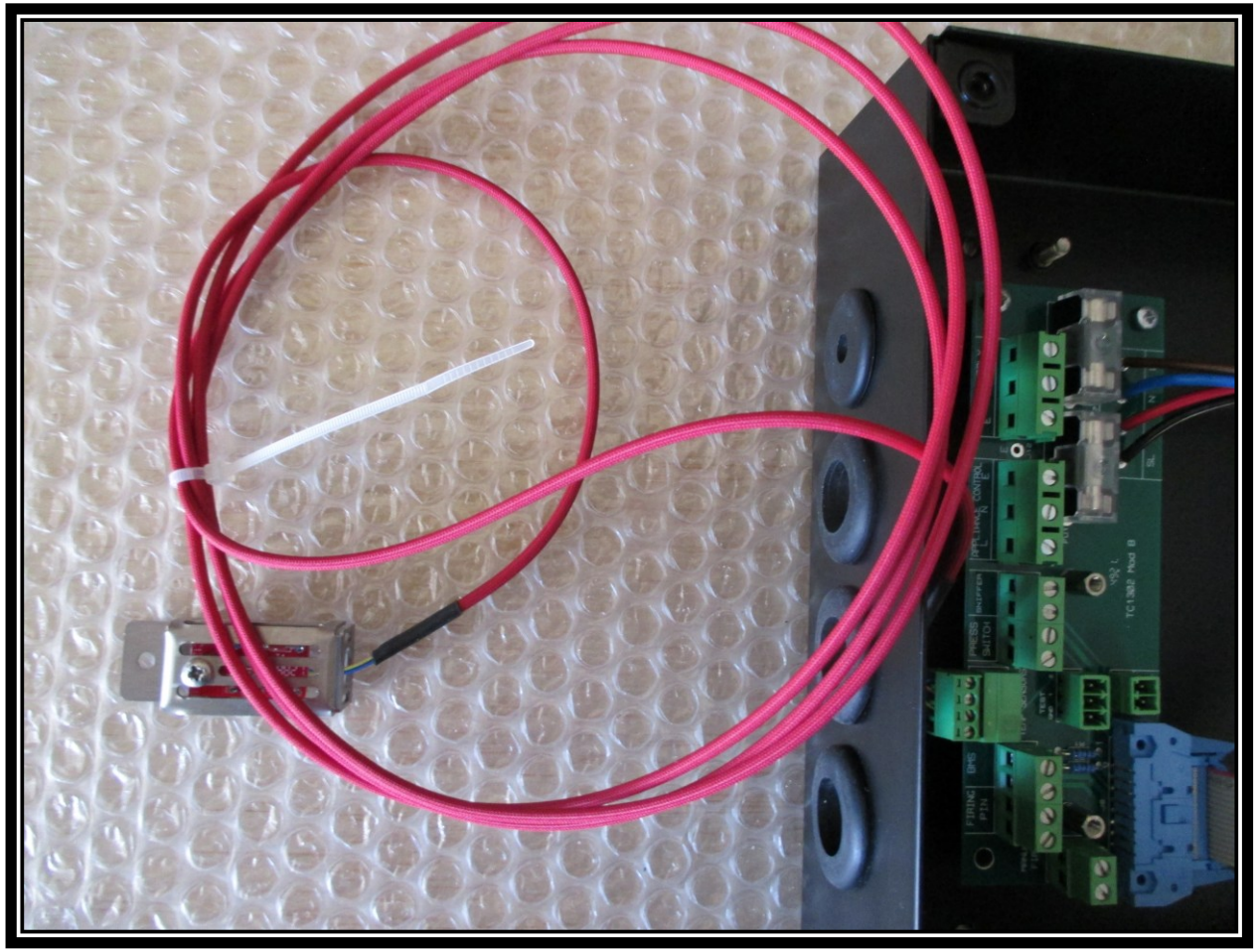
Heat sensor wire plug. Make note of the wiring order from the screw side of the plug.



Heat sensor wires may have to be removed from the plug to “run” the wire. Take note or a picture of the order of the wires. They must be in order.



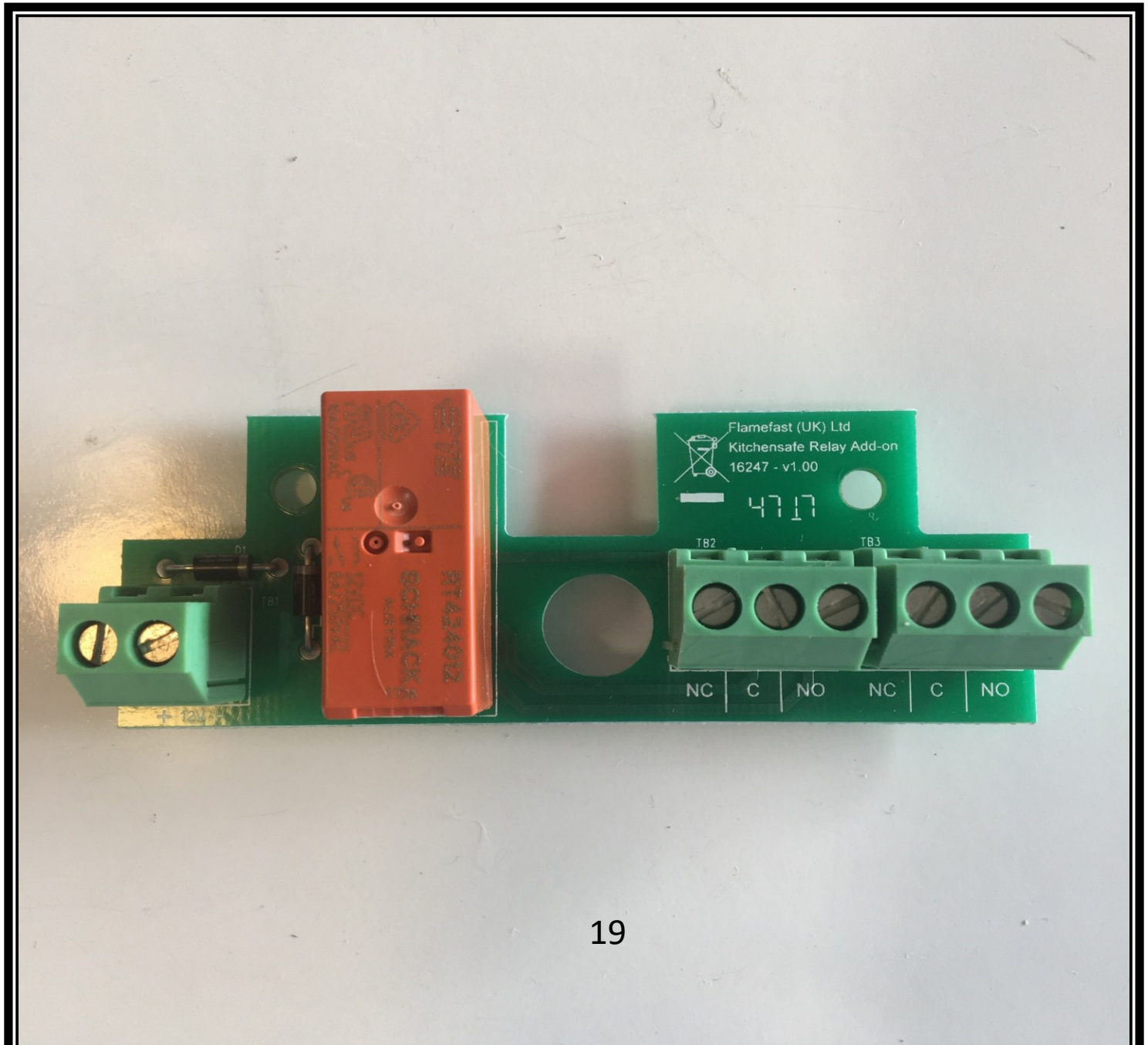
Heat sensor wire with sensor.



If you are installing a Kitchensafe system with only an alarm and NO pull station, use the “BMS” (building management system) terminal.

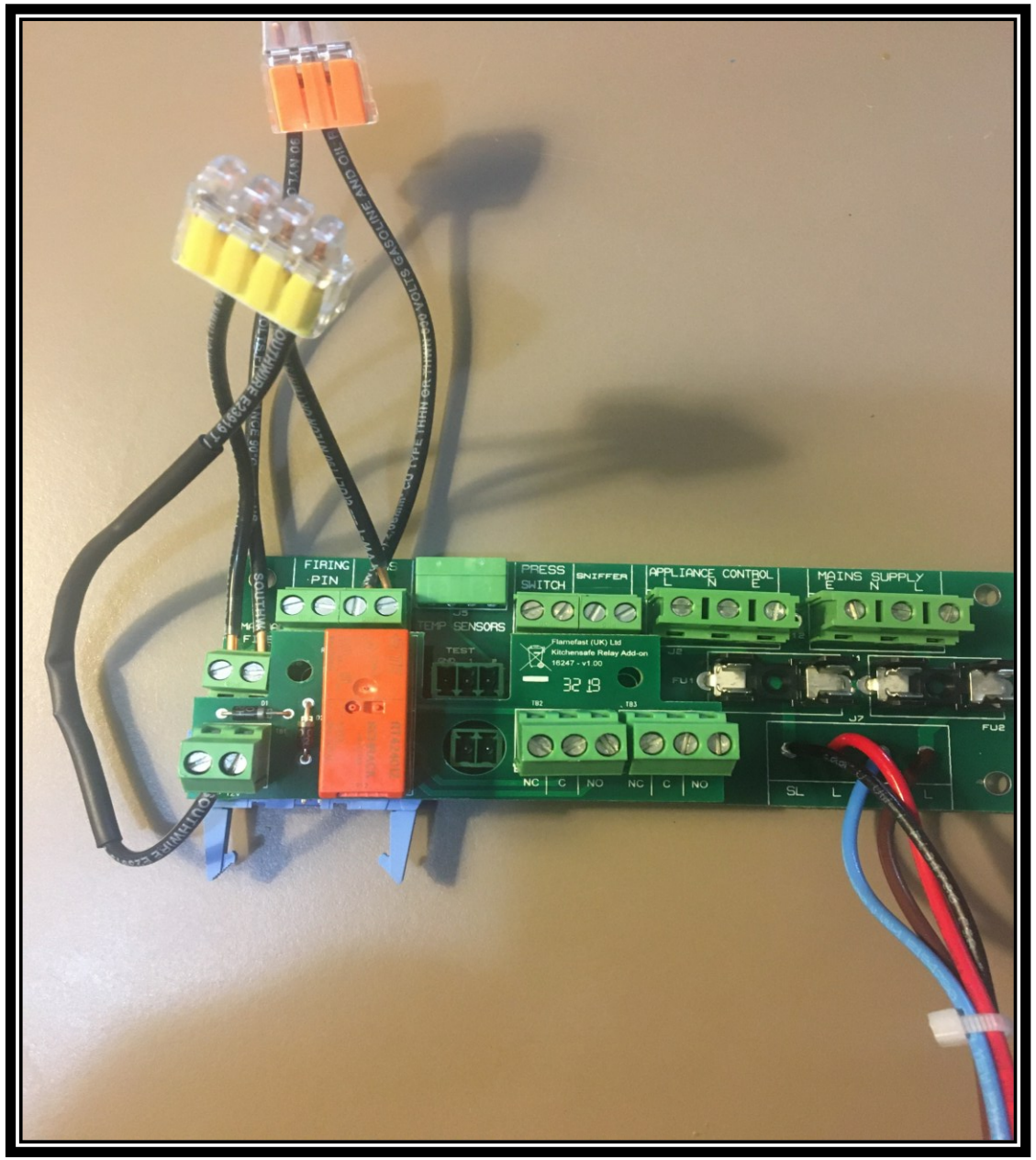
The auxiliary board is used when a pull station and central alarm is required.

Note the round hole. This is where the reset tool is inserted



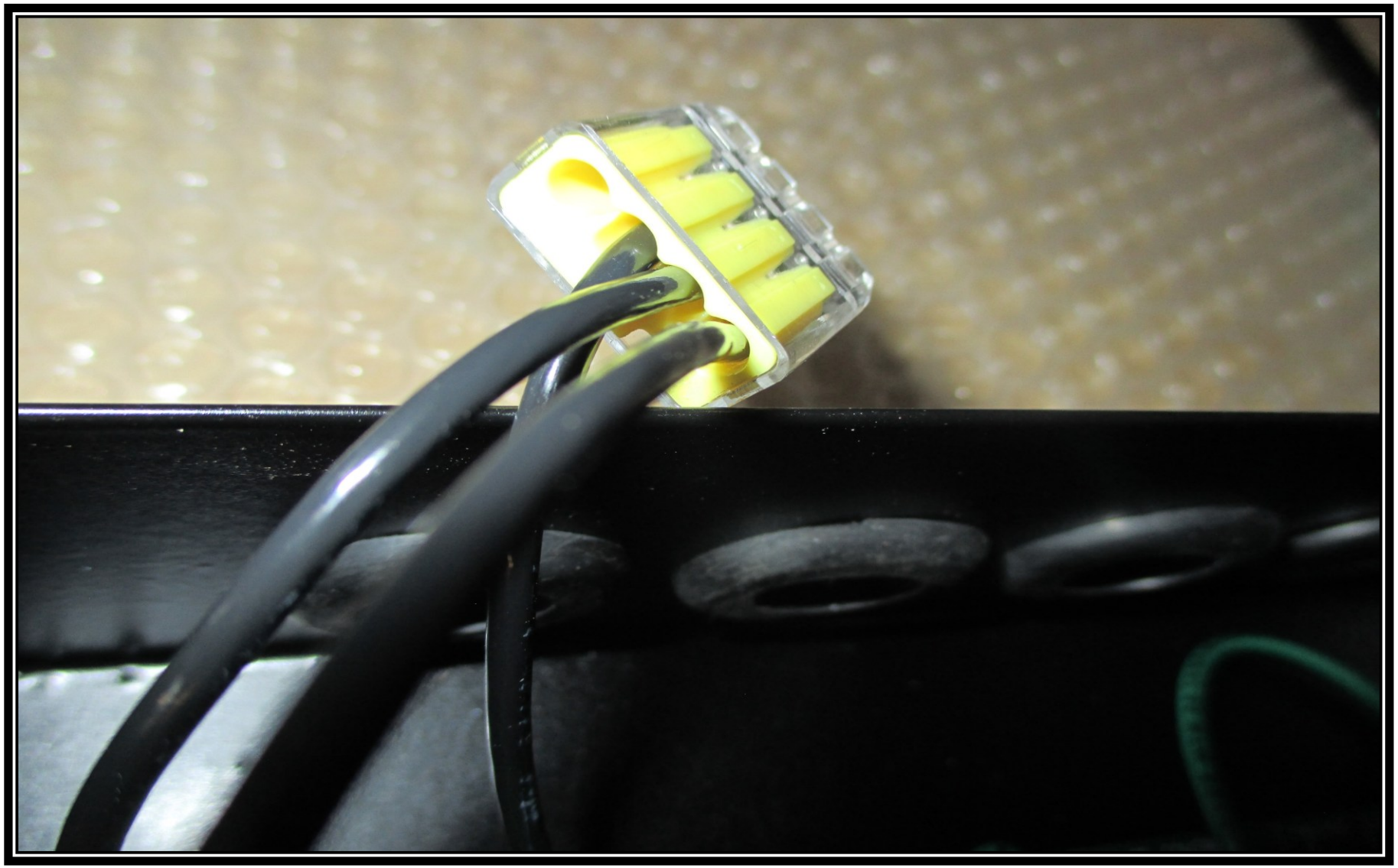
There are 2 terminals with normally closed, common, and normally open. These are for the alarm wiring.

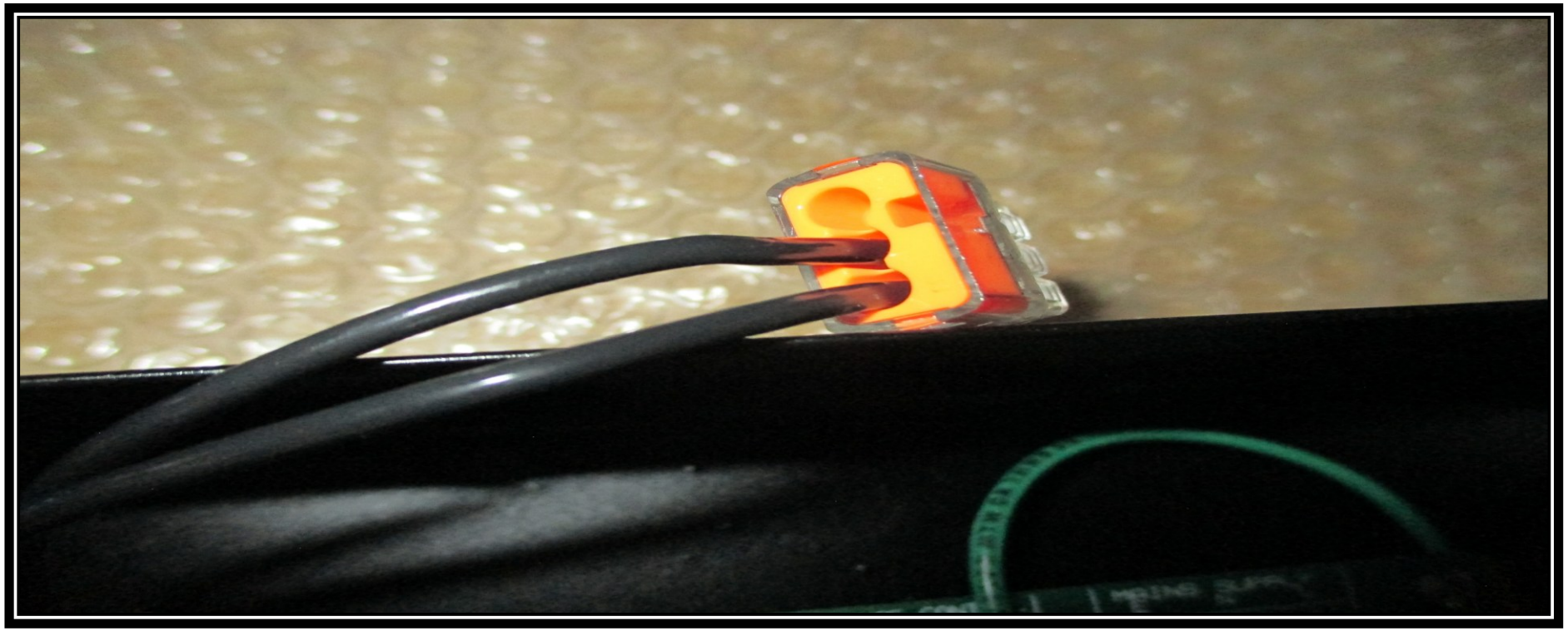
Push Connections are used with a manual pull station installation



One wire is inserted into the empty spot on each push connector. There is no polarity on these wires.

This “push” connector will have one empty hole for one of the pull station wires. NO POLARITY.





The second of the 2 push connectors. Install the other pull station wire into the empty hole.

Kitchensafe

2-wire manual pull station provided with Kitchensafe system.

The system has a terminal for a Horn Strobe if required.

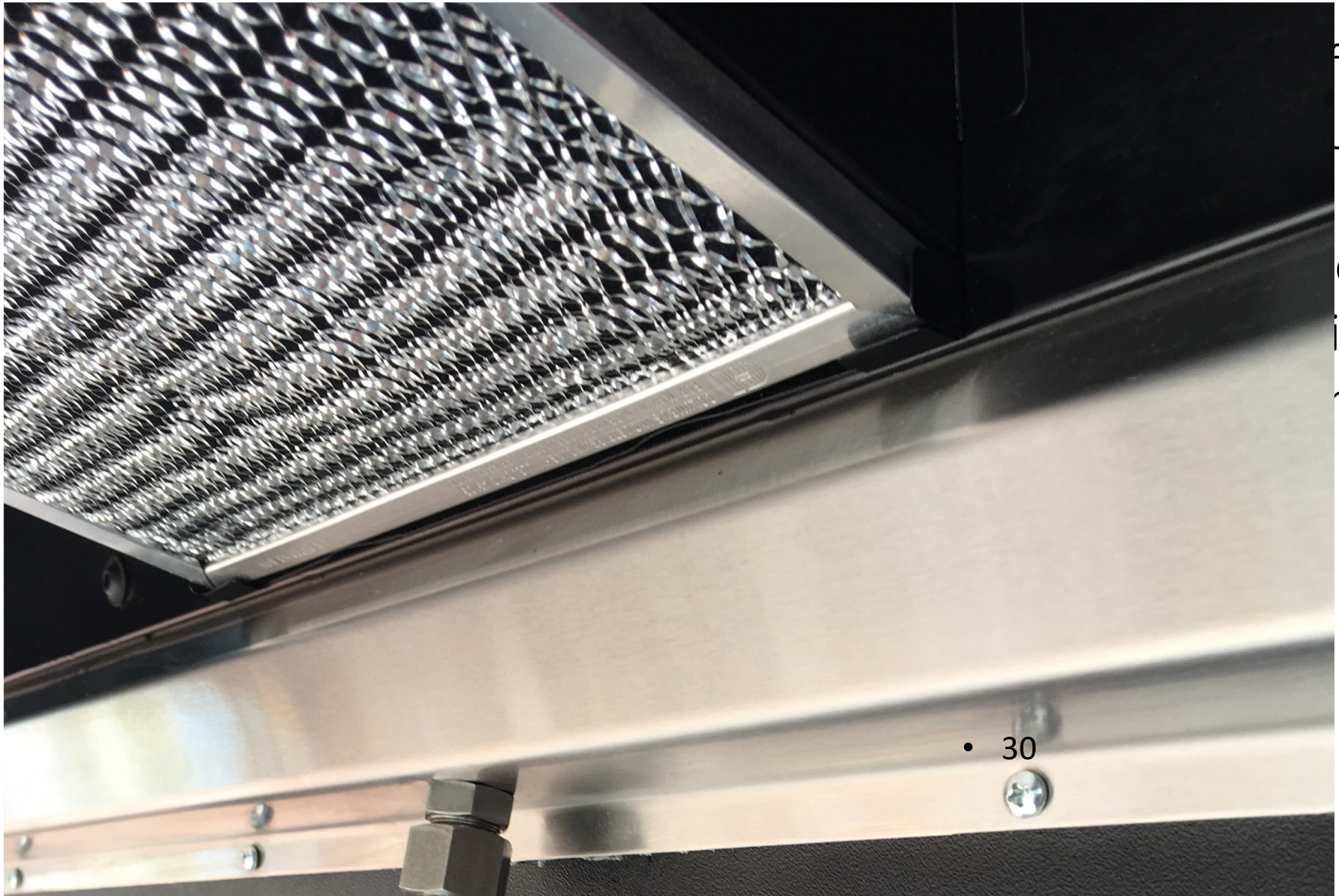
Use one of the alarm terminals for the Horn Strobe installation.

KITCHENSAFE

The “shunt trip” relay shuts off the power supply to the range to avoid a re-ignition of a fire.

Gas solenoid “shut off” is included when a gas supply is part of the kitchen system.

Kitchensafe can be installed on an “island” hood. The suppressant supply line can be up to 15 feet from the nozzle to the suppressant bottle.



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The nozzle can also be installed directly into the hood for a clean look.

Nozzle can also be installed into the cabinet next to the cooking surface

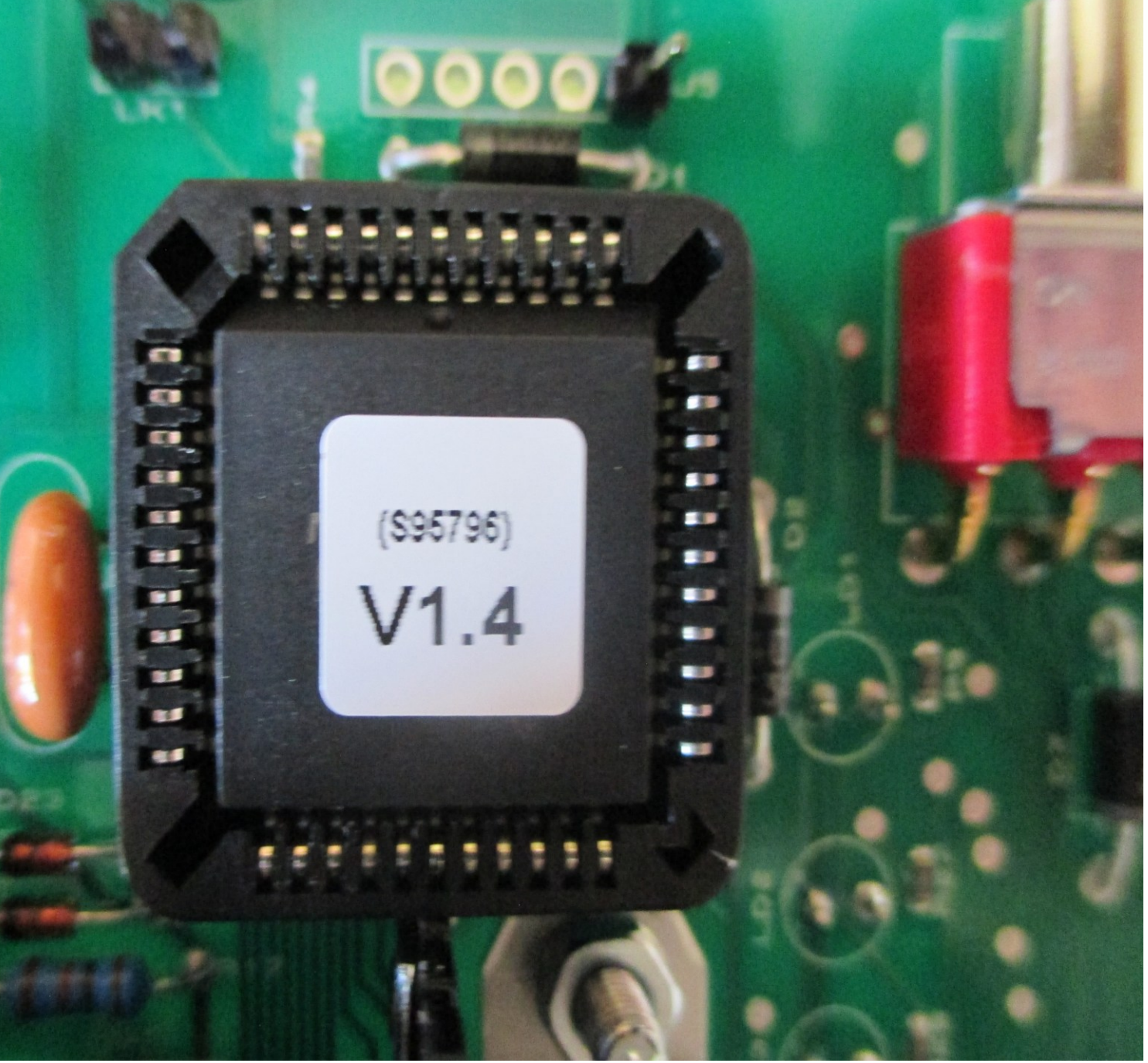
The nozzle can be placed in the into the hood or an adjacent cabinet.

Kitchensafe

The suppressant cylinder will be one of the last items installed. Check the pressure gauge for proper pressure.

Kitchensafe

The electronic “actuator” is the final item to be installed in the “firing pin” terminal.

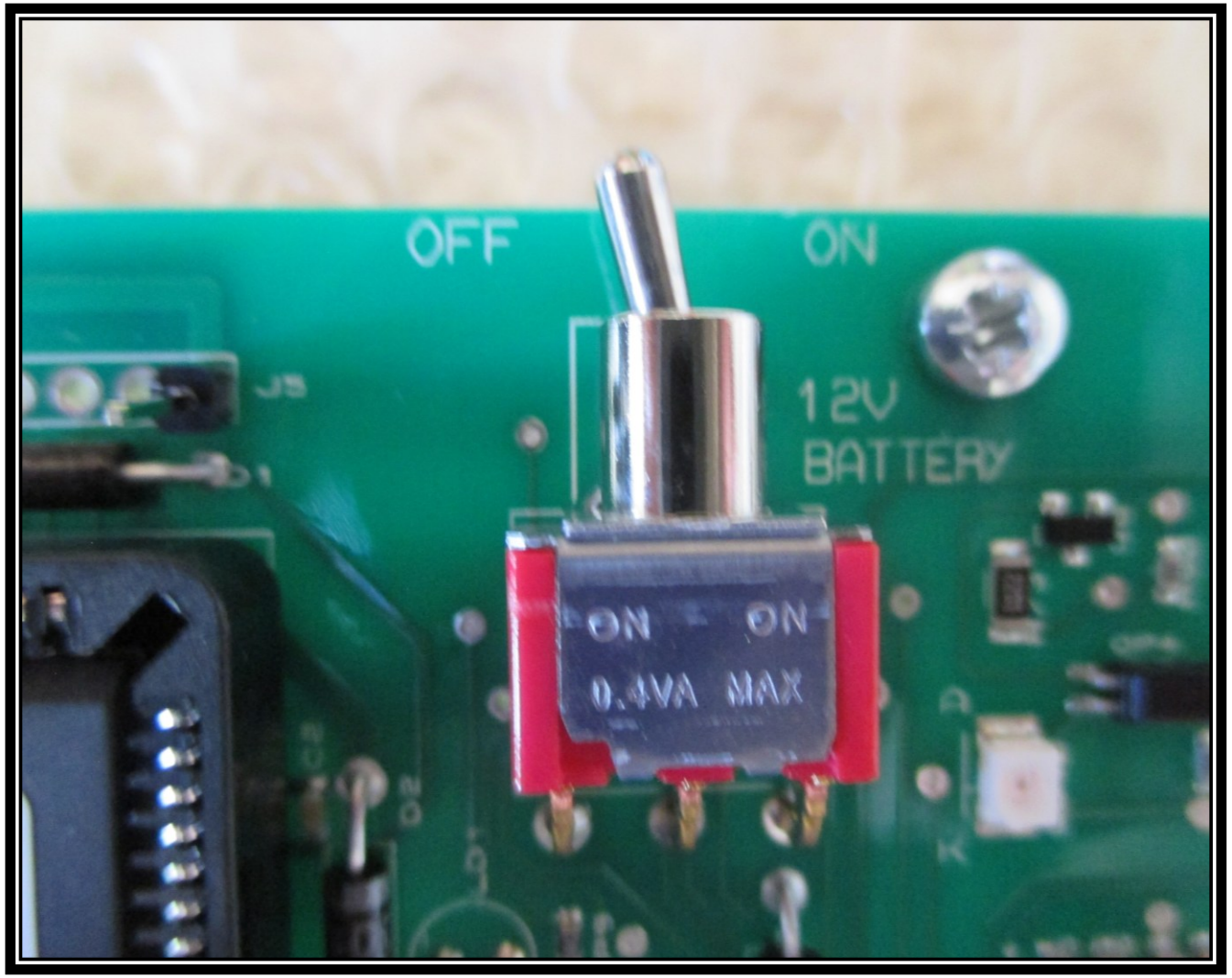


Pictured back of the L.E.D. board.

- The small square computer chip is the brain of the Kitchensafe system. The calendar in the chip resets to a year to signal the next inspection.

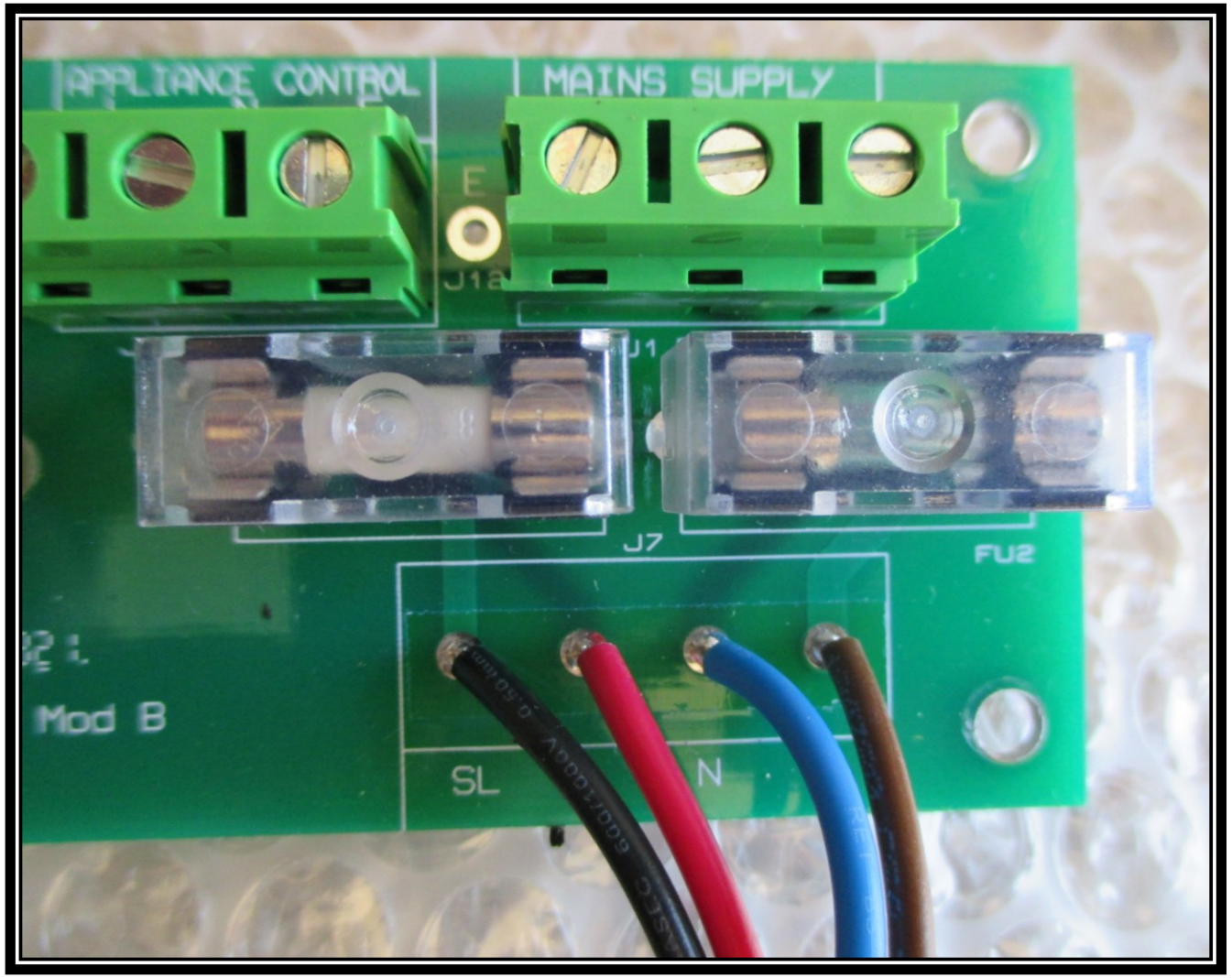
Battery toggle switch.

The silver toggle is when there is a battery back-up present. Battery back-up is not required, and it can be a source of problems if the battery is allowed to lose its charge.



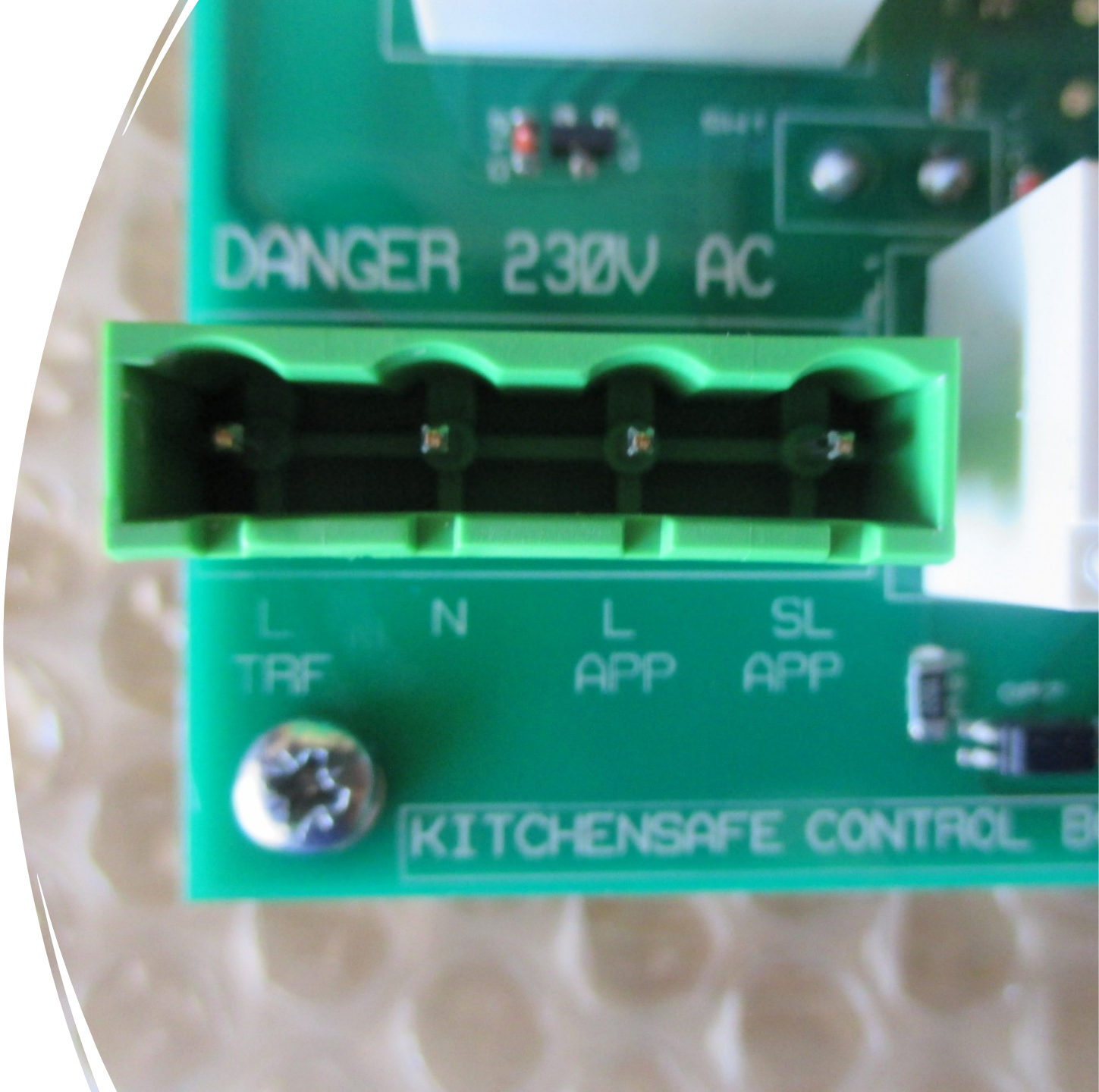
IN LINE FUSES

There are 2 in line fuses below the power source. The fuse on the left is for the 12-volt items. The fuse on the right is for the 120-volt items.



Kitchensafe can protect a gas or electric cooking surface up to 48 inches. The only change is that one nozzle is added.

Plug for the 4-wire connection that originates on the back power board.




BOARD
TC1301 ModG Type A

Pictured are the 4-wire plug and the flat communication strip plugged into the main board.

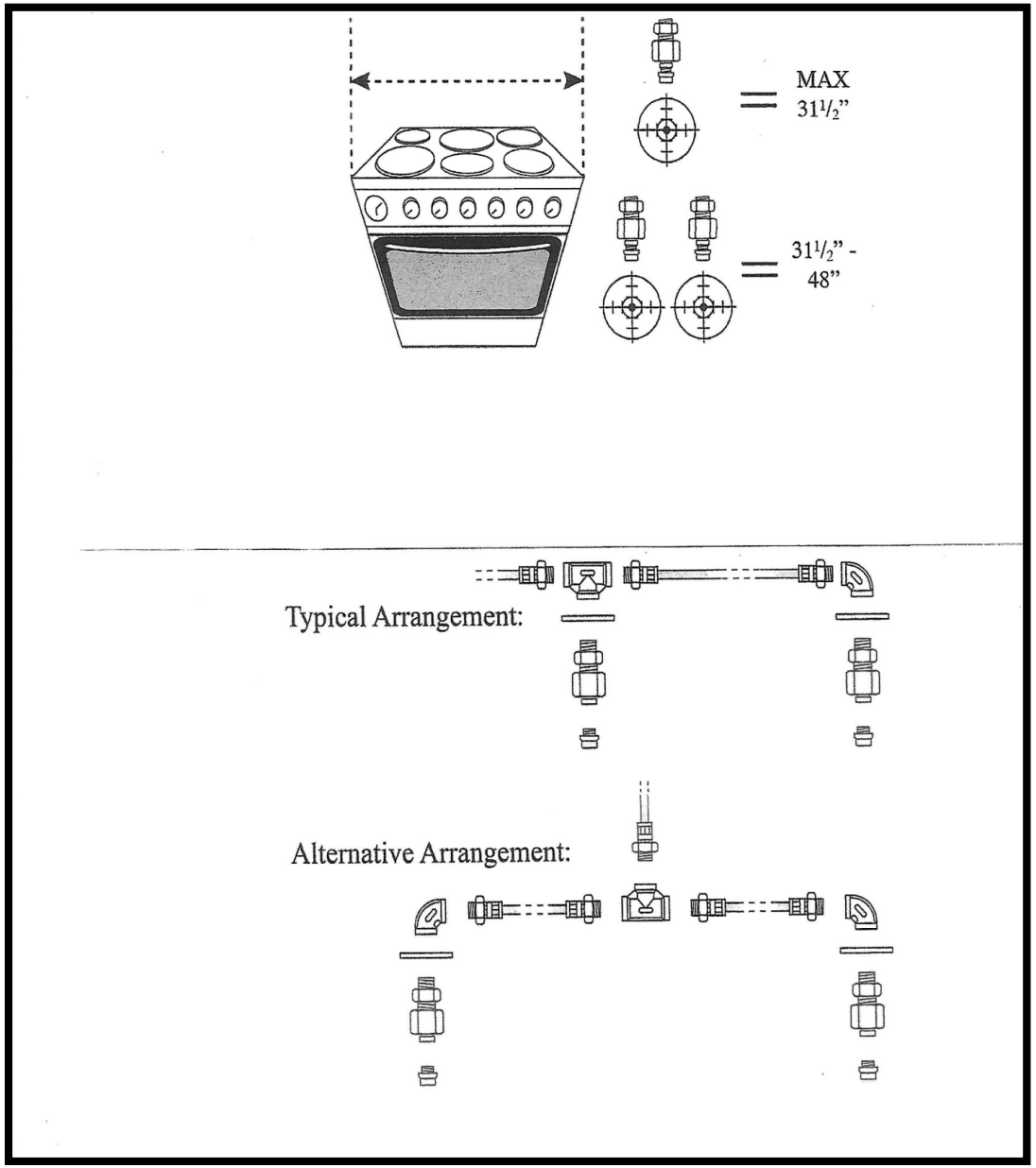
The Fire Marshal may require a 120-Volt relay to shut off the electrical supply of a gas appliance

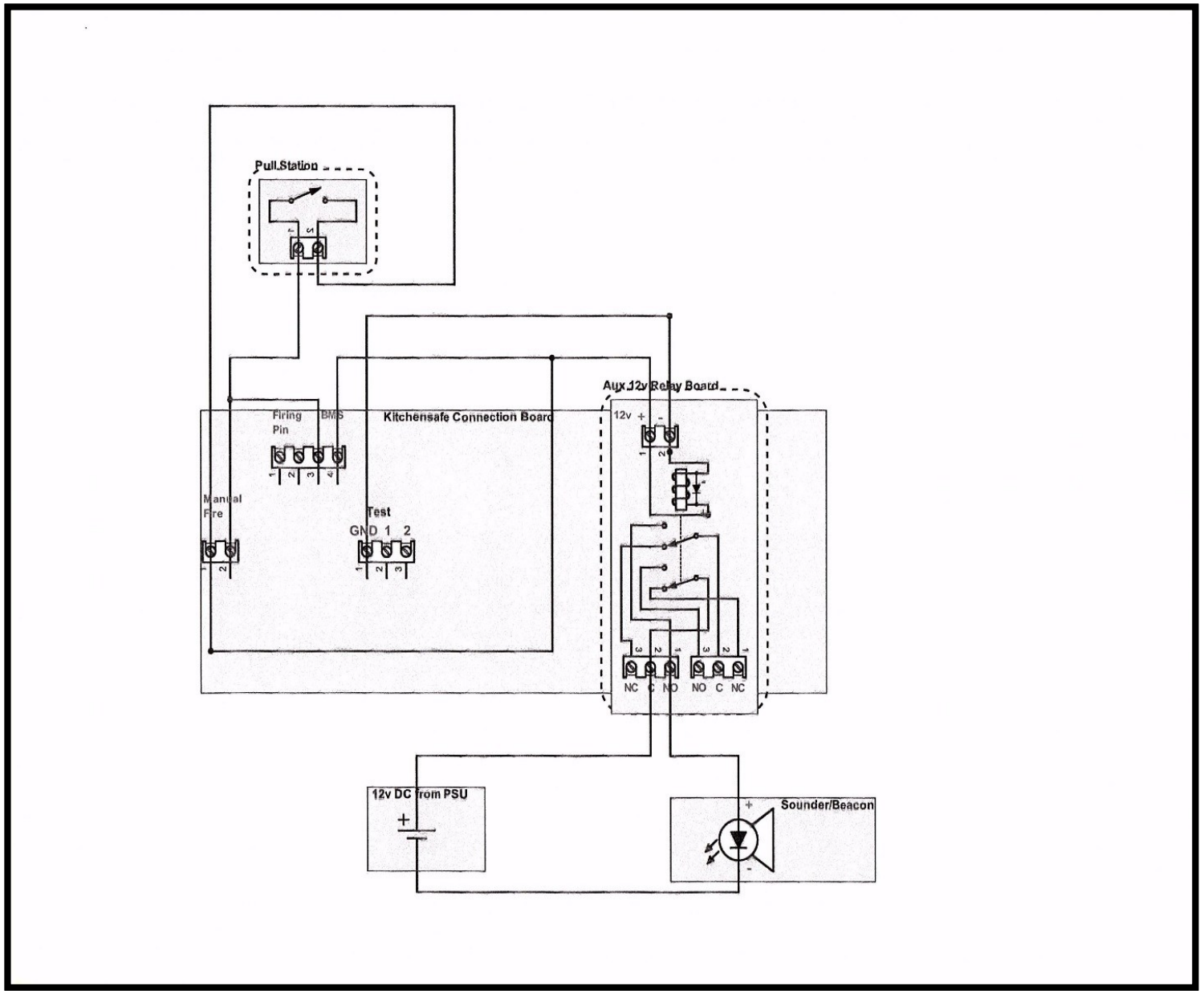
The Kitchensafe system can protect cooking surfaces up to 48 inches wide.

The only change to the system is that we add one nozzle to the system.

Just like a one nozzle system the manifold has 2 nozzles.

The typical arrangement for the stainless fittings and braided supply line are indicated in the diagram.

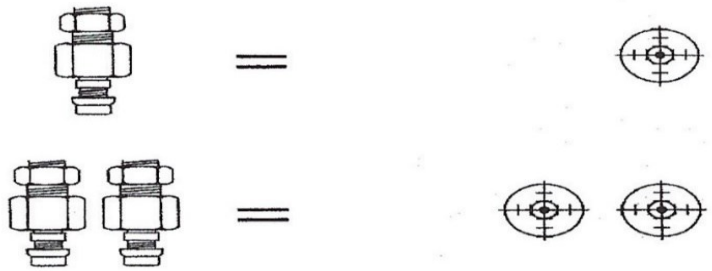




Kitchensafe

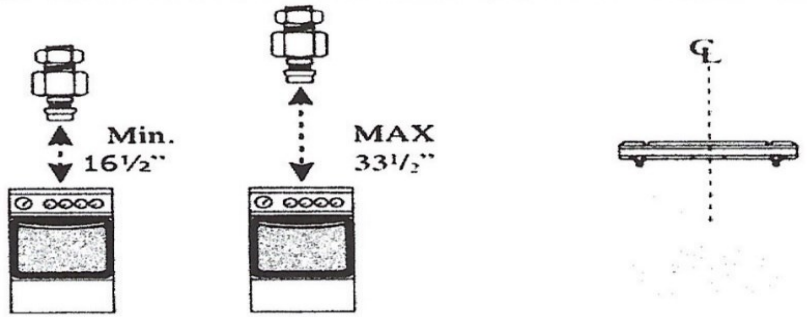
This is a wiring diagram for the central alarm. There are 2 sets of normally open, normally closed, and common terminals.

Figure KS 02 - Aiming Targets For Nozzles



- Ensure that the center of the Manifold is to be fitted at the center point above the cooking surface. The Nozzles must be mounted at a height between 16½ inch and 33½ inch from the surface of the cooktop to the tip of the nozzle(s). Refer to Figure KS 03, below.

Figure - KS 03 Allowed Nozzle Mounting For Manifolds



Nozzle mounting minimum and maximum distance from the cook top to the nozzle.

Minimum 16 ½ inches and maximum 33 ½ inches from the cooking surface to the nozzle.

Check the Kitchensafe box when it arrives

1. Box that is FedEx'd to you should include the control enclosure box with front and back electronic boards.
2. Enclosed are stainless steel nozzle(s), stainless nozzle fittings, white nylon washer, 90-degree fitting, braded steel supply line, electronic "actuator" activation device, suppressant bottle with agent. The relay/shunt box is included with an electric appliance, a ¾ inch Asco gas solenoid is included with a gas appliance. A manual pull station is also included.
3. Check power supply location, 120-volt service, the same outlet that serves the range hood can be used. This circuit does not need to be dedicated but does need to be unswitched**. Important: DO NOT power the Kitchensafe system up until the installation is complete, with the reset box installed.**

4. Check location for the Kitchensafe system. Check the route for the braided supply line and the heat sensor. Also, check where the cylinder will be placed remember, the actuator line and the pressure sensor wire need to be on the side of the control box where the “gromets” At this time, you could mark the 4 mounting holes on the back plate. To make the install easier you can unplug the front portion of the Kitchensafe system and remove the ground wire. If the Kitchensafe system is mounted inside a cabinet, it is a good idea to hold the bottom of the Kitchensafe unit at least 2 inches from the bottom of the cabinet. This ensures that the front cover can be removed and replaced easily.

5. If spaced is limited for wiring, there is a large oval hole at the back of the control box where wiring can be run. Some type of spacer will need to be place between the control box and the wall. A small piece of wood works fine.

6. Mount the back plate to the location either inside a cabinet or directly on the wall. If inside a cabinet, you will have to drill holes for the braided supply line, appliance relay wire, and heat sensor line.

7. Install the reset tool into the “firing pin” terminal with the RED wire in the right side of the terminal. The small green plug is inserted into the reset terminal. DO NOT power the Kitchensafe system up until install is complete.

8. Route the sensor wire from the center front edge of the hood to the sensor wire terminal inside on the back board of the Kitchensafe system. Mount heat sensor wire with a single self-taping screw, ensuring that you **DO NOT** drill through the hood causing the screw to protrude through the hood.

9. If a pull station is to be used, install wires into the terminal marked “BMS” (Building management system). There is no polarity for these wires. If the system is to be connected to a central alarm the configuration is different. The pull station plugs will be “push in” wire connectors at the same location near the upper right of the back-board terminals. There are 2 “push in” connectors one is a 3 wire, one is a 4 wire, insert either pull station wires into the empty port. There is no polarity for the pull station wires.

10. Route the appliance wires from either the “shunt” relay box or the gas solenoid behind the cook top to the appliance terminal on the back board of the Kitchensafe system.

11. Place the 2-liter suppressant cylinder in the bottle cradle, secure with the oversize “zip tie” provided and place the wires into the “pressure sensor” terminal. There is no polarity for these wires.

12. As you install be sure all wires are landed properly.

13. **Test the Kitchensafe system.** With the “test/reset” device installed power the Kitchensafe system. First pull the pull station and receive the audible alert. Remove power and reset the system. Apply heat to the heat sensor to ensure that the audible high heat warning sounds. As soon as the audible alert is heard remove the heat and allow the system to reset. Now apply heat to the sensor again and make sure that the system activates. The system must be reset again following the reset instructions.

14. Follow the reset instructions at the end of this “Power Point” presentation. If you do not hear the audible “beep” when you depress the bottom, most likely a wire is not placed properly. Check wiring again and make sure all is well.

15. PLEASE BE SURE TO MAKE SURE THE POWER SUPPLY TO THE KITCHENSAFE SYSTEM IS DISCONNECTED DURING ANY INSPECTION OF THE WIRING.

16. REMEMBER IF THE SYSTEM IS CONNECTED TO A CENTRAL ALARM SYSTEM, THE MAIN ALARM PANEL MUST BE SET IN “TEST” MODE.

17. Once the Kitchensafe system is reset, the “calendar module” is reset for a year. In one year, the system will give and audible alert and the “service required” L.E.D. light on the front panel will light. The user can silence the alert on the front panel for 24 hours, until it alarms again in 24 hours.

Kitchensafe cook top fire suppression system **reset** instructions.

1. After the Kitchensafe system has been installed, and the heat sensor has been tested with a heat gun and the pull station has been pulled, perform the following reset procedure **with the power off.**
2. Place the test tool, leads in the firing terminal**, RED wire on the right.**
3. Place the small green plug into the reset plug.
4. **Turn on main power to the system**.
5. Check the power and appliance L.E.D. lights are illuminated.
6. Depress the button on the test tool for 1 second. Listen for the audible alert “beep.
7. Turn off the power to the Kitchensafe system.
8. Remove reset tool from the firing pin terminal and remove the small green plug from the reset terminal.
9. Place the “Actuator” / “Squib” in the firing pin terminal. There is NO polarity. **Power up system.**

Check the status of the L.E.D. lights. The power and the appliance supply L.E.D. lights should be the only illuminated lights.
The Kitchensafe system is now reset and there is a year placed on the internal clock.

At the one year mark the system will audibly alert letting the user know that the Kitchensafe system is due for service. The user can push the “Silence Alarm” button on the front of the Kitchensafe system. This will silence the system for 24 hours and then it will signal again.

Trouble shooting:

If you receive any “fault” lights after installation, check all wiring connections and make sure they are all solid and tight.

Trace from the power source and beyond. Check small inline fuses to make sure they are both good.

If there is no power to the appliance, unplug the relay box from the wall and make sure that the wires that go to the appliance terminals and the relay box are properly attached.

If you receive LED faults it is usually something that can be easily traced.

Most faults that occur are a wire that has not been “landed” properly.

Make sure the power is off currently. Check that the “ribbon wire” is securely installed at each plug ends on to the front and back electronic boards. Also make sure that the other power plug with the green 4 wire plug is secure.

Do not use any heat source other than a heat gun. No open flame as the sensor can be damaged.

1. Check that the system control box is securely mounted.
2. Check for water or dirt ingress.
3. Check for correct routing of cables, check also that cables are not pinched or damaged either inside or outside the system box and that all connections of internal wiring are secure. Damaged cables must be replaced. The “ribbon wire” is very easily caught when closing the front lid of the system.

4. Check for signs of extinguishing agent leakage.
5. Check for corrosion due to contact with suppressant agent.
6. Check that all hoses are in good condition and routed without kinks or twists.
7. Check that the nozzle manifold (if used) is securely mounted.
8. Check that the temperature sensor is secure and mounted at the “centerline” of the hood.
9. Hold the “L.E.D. TEST” button on the front of the Kitchensafe system control box and make sure all L.E.D.’s illuminate.

Check the elevated heat, “SENSOR TEMP HIGH” alert.

1. Remove the firing device and place the test tool to avoid firing the metron.
2. Power the system on and allow it to initialize to the operating state with the power and appliance supply light on.
3. Using the hot air gun, slowly raise the temperature at the sensor until the “SENSOR TEMP HIGH” L.E.D. is illuminated. The audible alert should sound. Remove the heat from the sensor as soon the system alerts.
4. Allow the sensor to cool, watching for the “SENSOR TEMP HIGH” light to be no longer illuminated.

Check the upper-level alert, “FIRE DETECTED”.

1. Turn a single gas or electric burner on the cook top.
2. Using the hot air gun, apply heat to the Temperature Sensor, watch for the “SENSOR TEMP HIGH” L.E.D. to illuminate. The audible alert will sound.
3. Continue heating until the “FIRE DETECTOR” L.E.D. illuminates, stop heating the sensor.
4. When the “FIRE DETECTED” L.E.D. illuminates the L.E.D. on the test tool should also illuminate.
5. The oven will shut off when the system activates.

1. At this time, the gas solenoid or the “shunt trip” electric relay should shut off either the gas or electric supply to the cooktop.
2. Turn the Power to the Kitchensafe system off. The reset of the system must be performed. Follow the re-set instructions. After the re-set of the system turn the power back on and replace the firing pin/squib.
3. Make sure that the gas or electric cooktop is turned off at the burner control.
4. When the sensor has cooled, turn the system power on and make sure the “POWER” and “APPLIANCE” L.E.D.s are Illuminated.

Very Important: If you have used the “PULL STATION” to test the system, make sure it is properly closed and secured. If it is not properly closed the system will activate.

- Small electronic control enclosure allows many mounting options.
- Front L.E.D. panel constantly displays system status.
- Installs on any residential hood (even island hoods).
- Protects cooktops up to inches 48 inches wide.
- Fuel source shut off for gas and electric appliances.
- Low suppressant cylinder warning.
- Audible elevated heat signal (avoids unwanted discharge).
- Connects to central alarm system.
- Kitchensafe may be installed up to 15 feet from cooktop
- System self-monitors 24/7 and warns of any issue.
- Horn/Strobe ready.
- Rapid fire “knock down” (about 5 seconds).
- Suppressant agent cleans up with soap and water.
- Approved to UL300A and most recent NFPA fire-extinguishing system standards.

Kitchensafe is a self-contained system and is delivered with “shunt trip” relay, pull station, alarm relay, and test tool. This is a complete, ready to operate system. There are no extra expensive modules to purchase.


Kitchensafe