The Incubator Company

Alarms

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A Bit About Your Alarms

- An alarm is a system or series of systems that use audible, visual, or other means such as ‘call out’ to make you aware that there is a problem.

- We will be covering Primary Alarms and High Temperature Back Up Alarms.

  -Primary alarms are any one of a number of alarms generated directly from your incubation equipment.

  -A High Temperature Back up Alarm is a redundant, independent system that makes you aware of ‘over temperature’ situations only.

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A Bit About Your Alarms

- The primary alarm system uses a series of relays to allow one electrical/mechanical device to send or stop sending a signal to another electrical/mechanical device.

- We send this signal through what is called ‘the alarm loop’ which is the wiring system that connects all of these relays & allows them to “communicate”.

- Series wiring is easiest described as “in line” or “one path”, while parallel wiring is best described as “all together” or “many paths”.

- The most important thing about alarms is not the alarm itself, but the response to the alarm. If I pull the fire alarm and the fire department never shows up, the alarm was useless!

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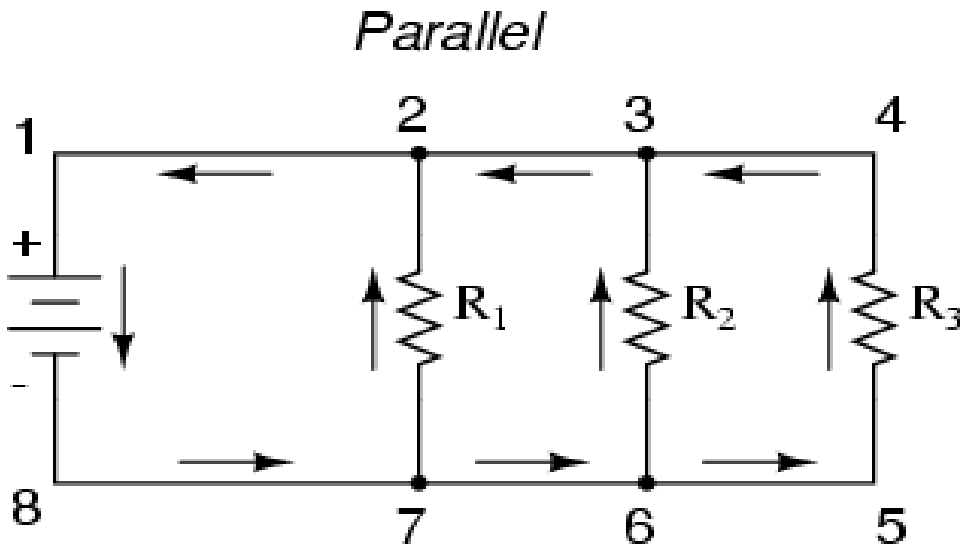
Primary Alarms

- Parallel primary alarms
- Very “old school”
- **Not fail safe**
- There are still parallel systems out there and in use



- Bypass switch and relays wired in series
- Led to the more fail safe series type alarm
- Most often wired to a 12 volt horn

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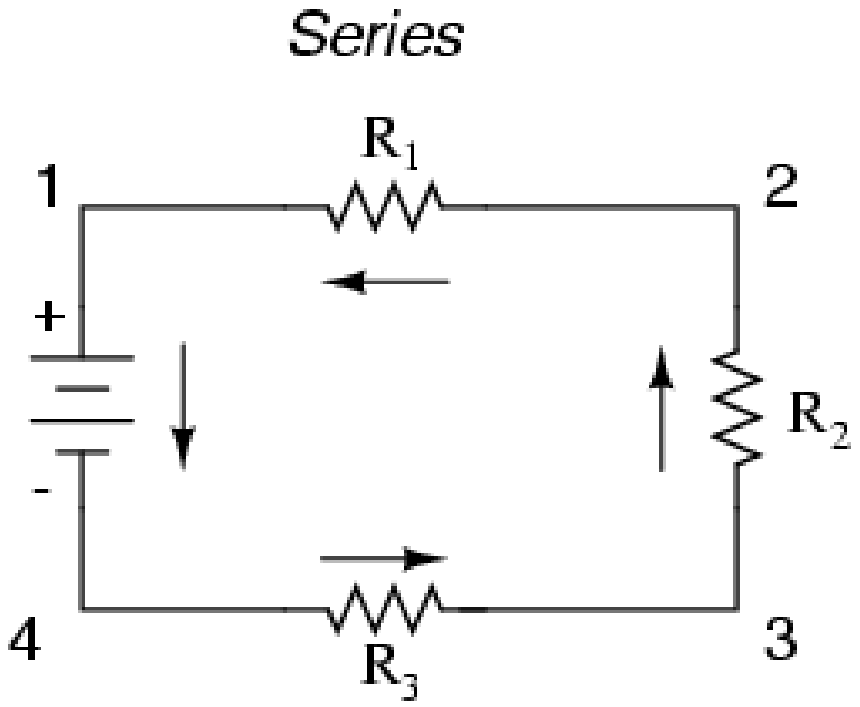
Primary Alarms

- Series primary alarms
- Common in newer sites
- **Very fail safe**
- Can be wired to a horn or other systems
- Alarm relay and bypass switch are wired in parallel



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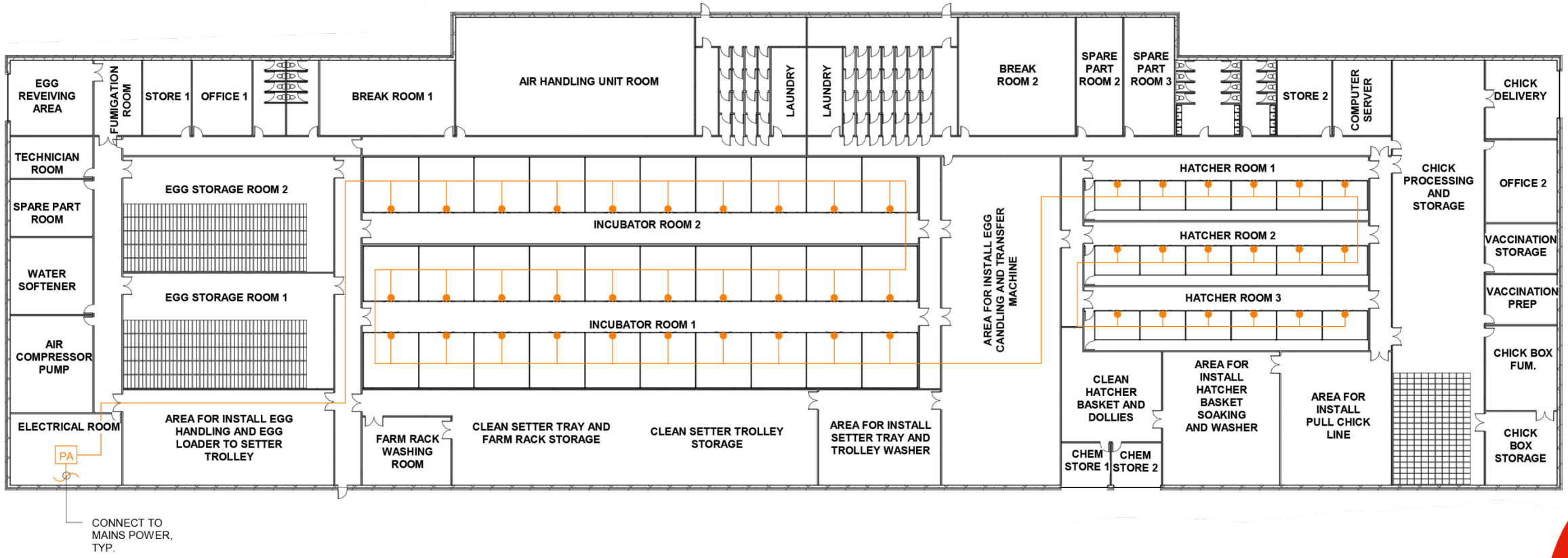
Alarm Loop Length and Options



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Q-101
LEVEL 1 FLOOR PLAN - PRIMARY ALARM

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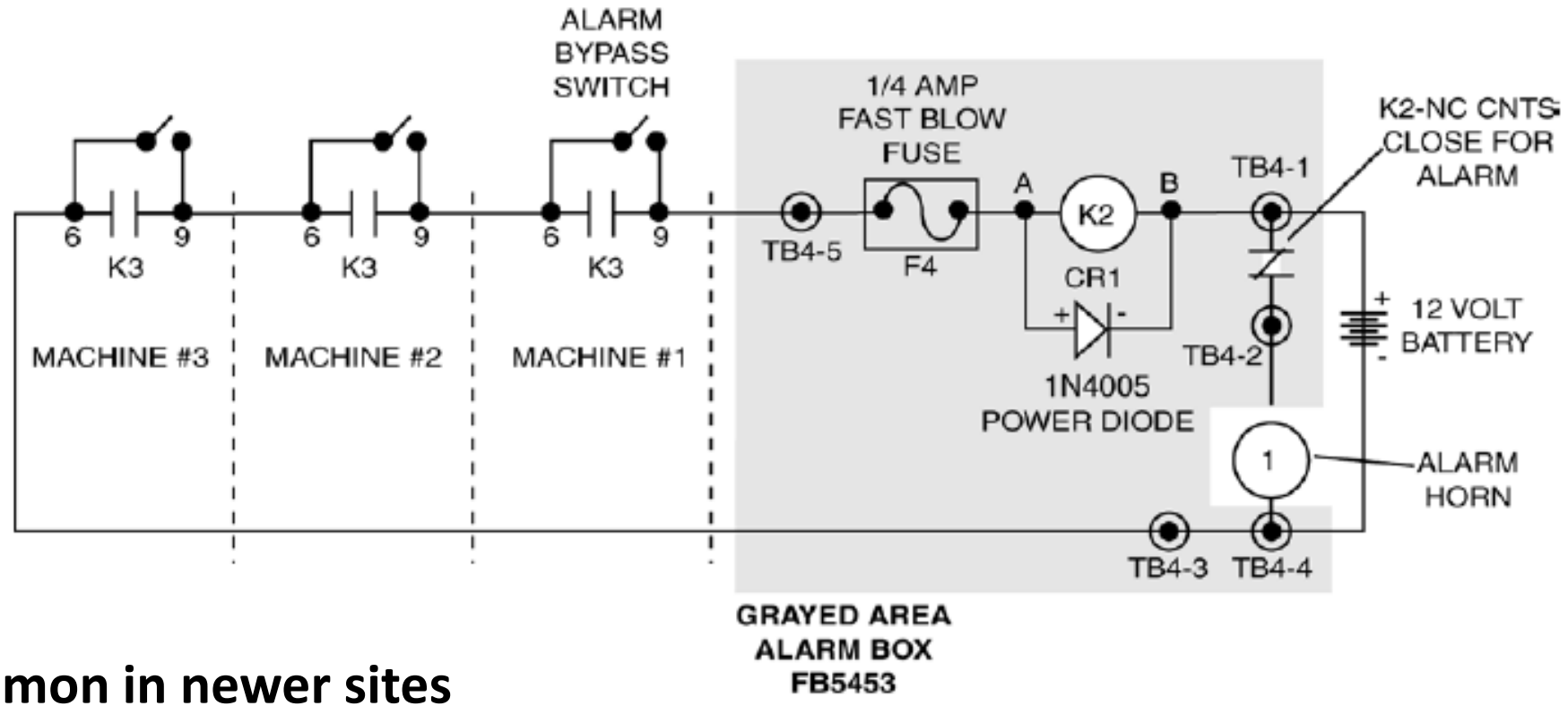
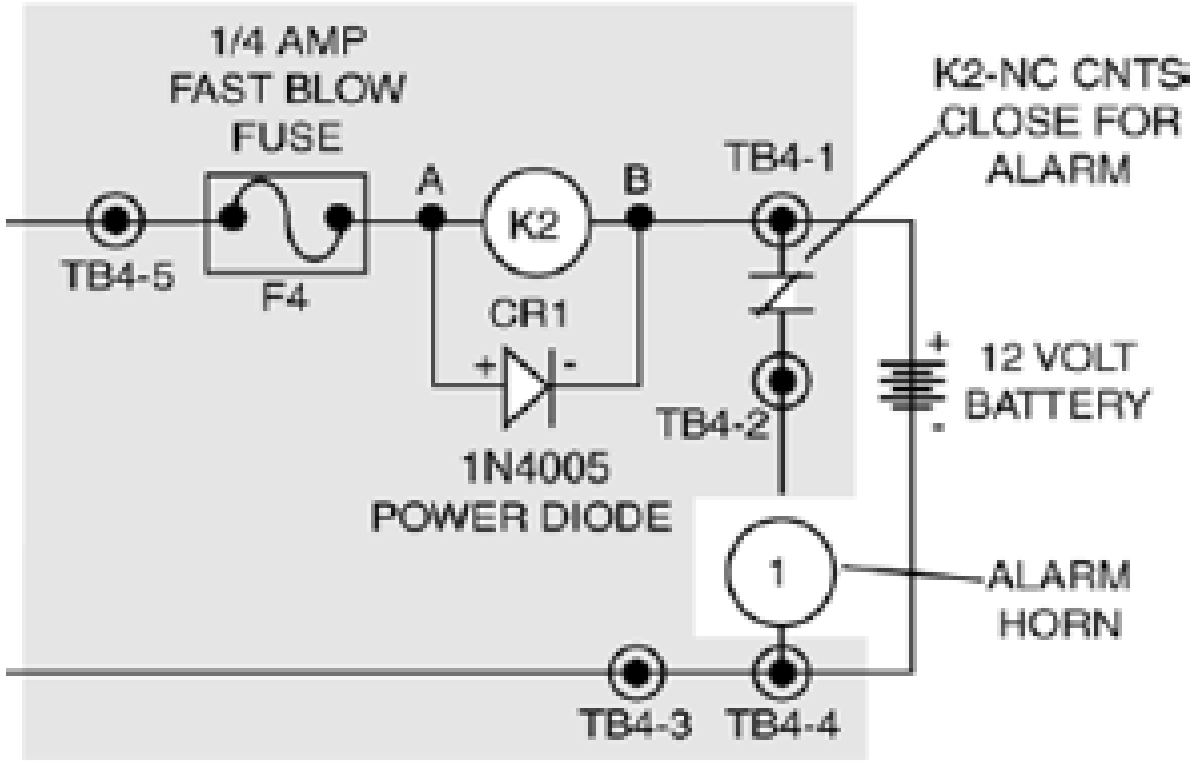
External Alarm

Two conductors in and out of each machine. Handy Troubleshooting tool



- **Common in newer sites**
- **Very fail safe**



GRAYED AREA
ALARM BOX
FB5453

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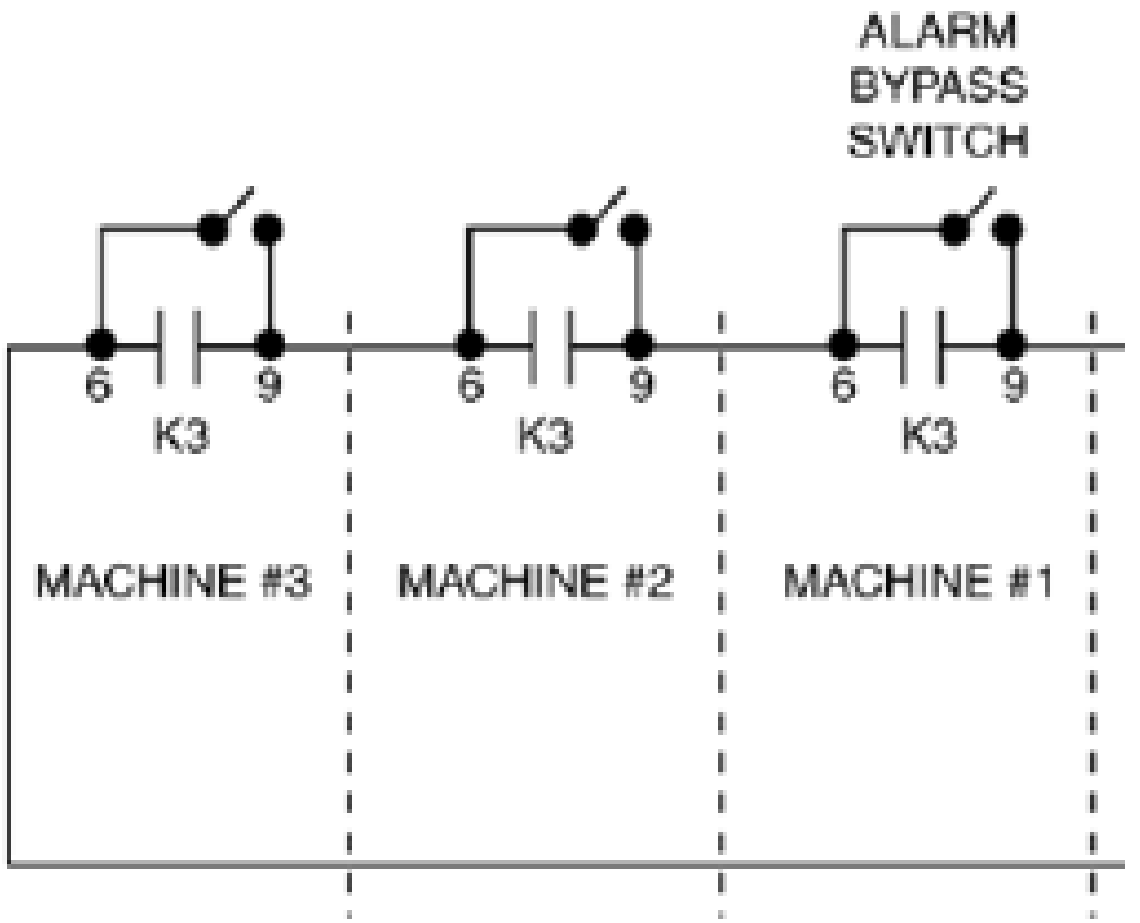

Actual wiring verses wiring diagram

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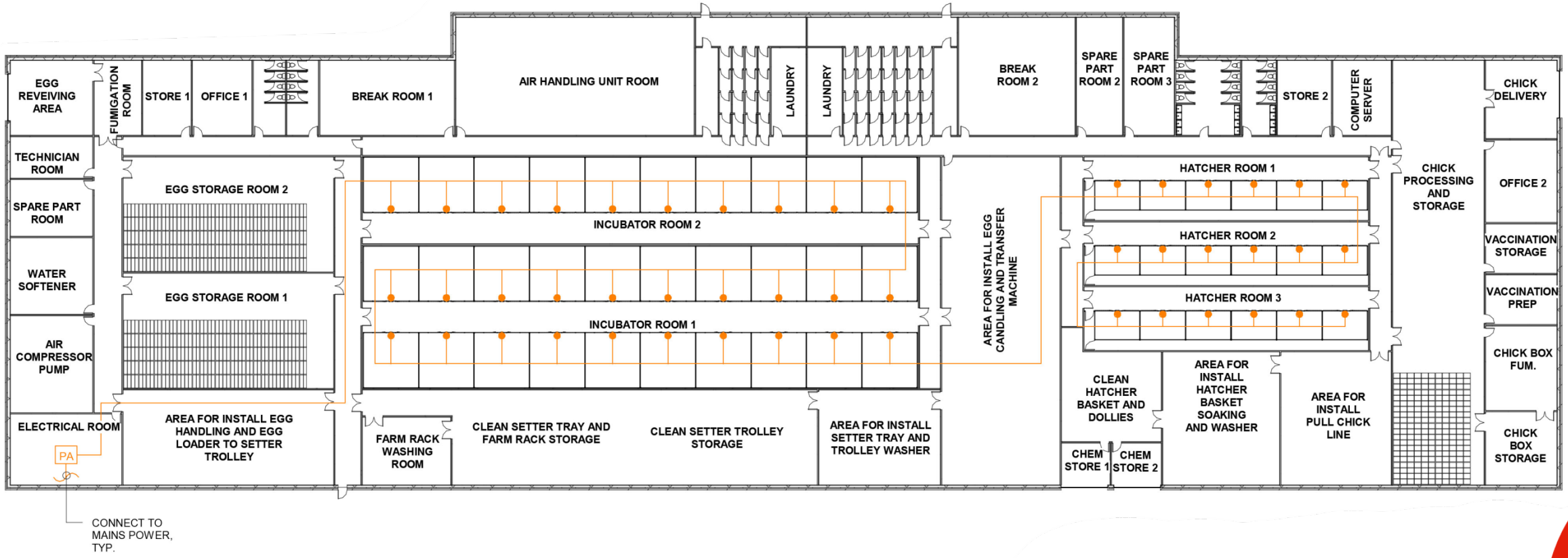
Alarm Loop Length and Options



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Q-101
LEVEL 1 FLOOR PLAN - PRIMARY ALARM

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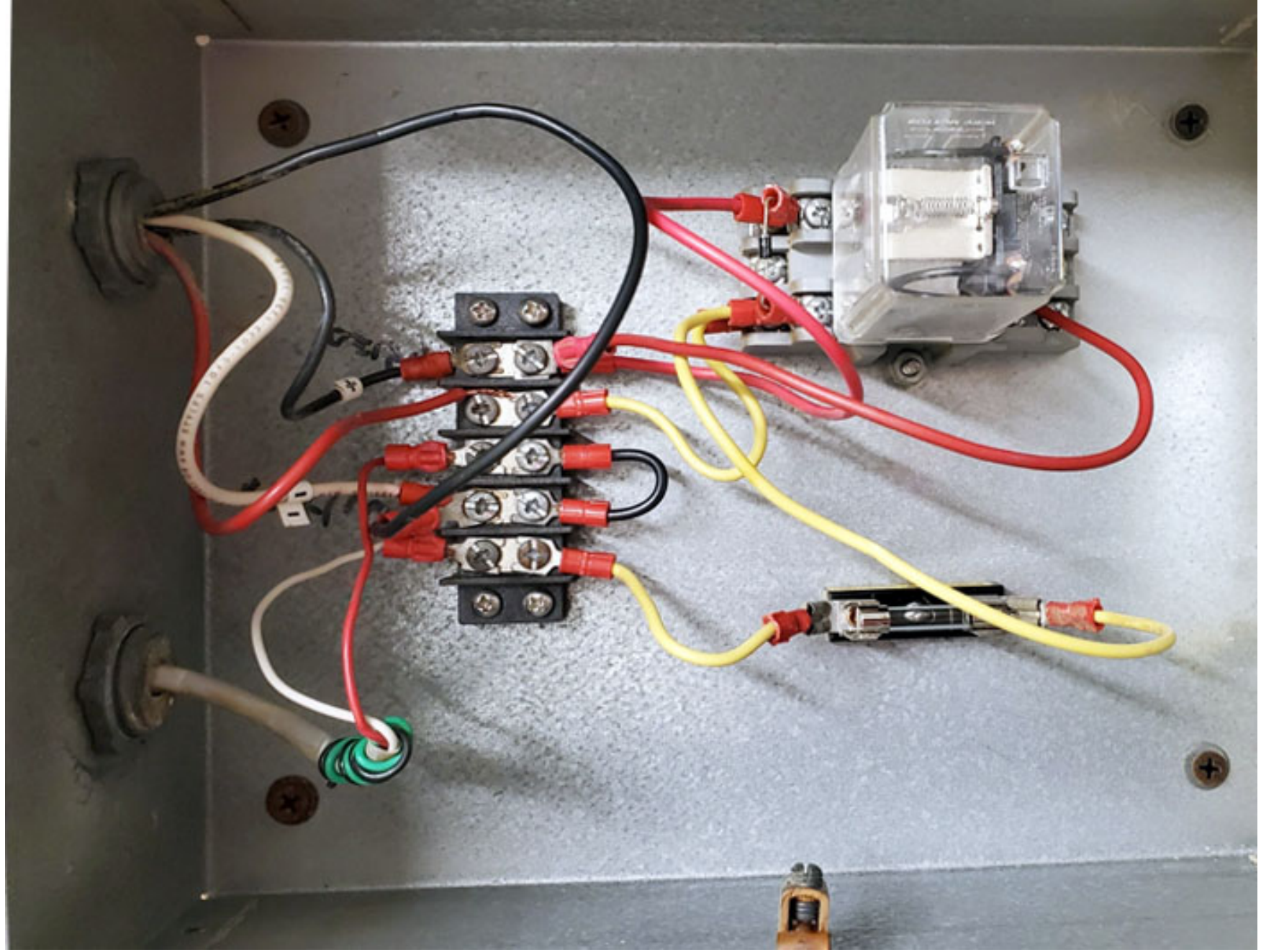

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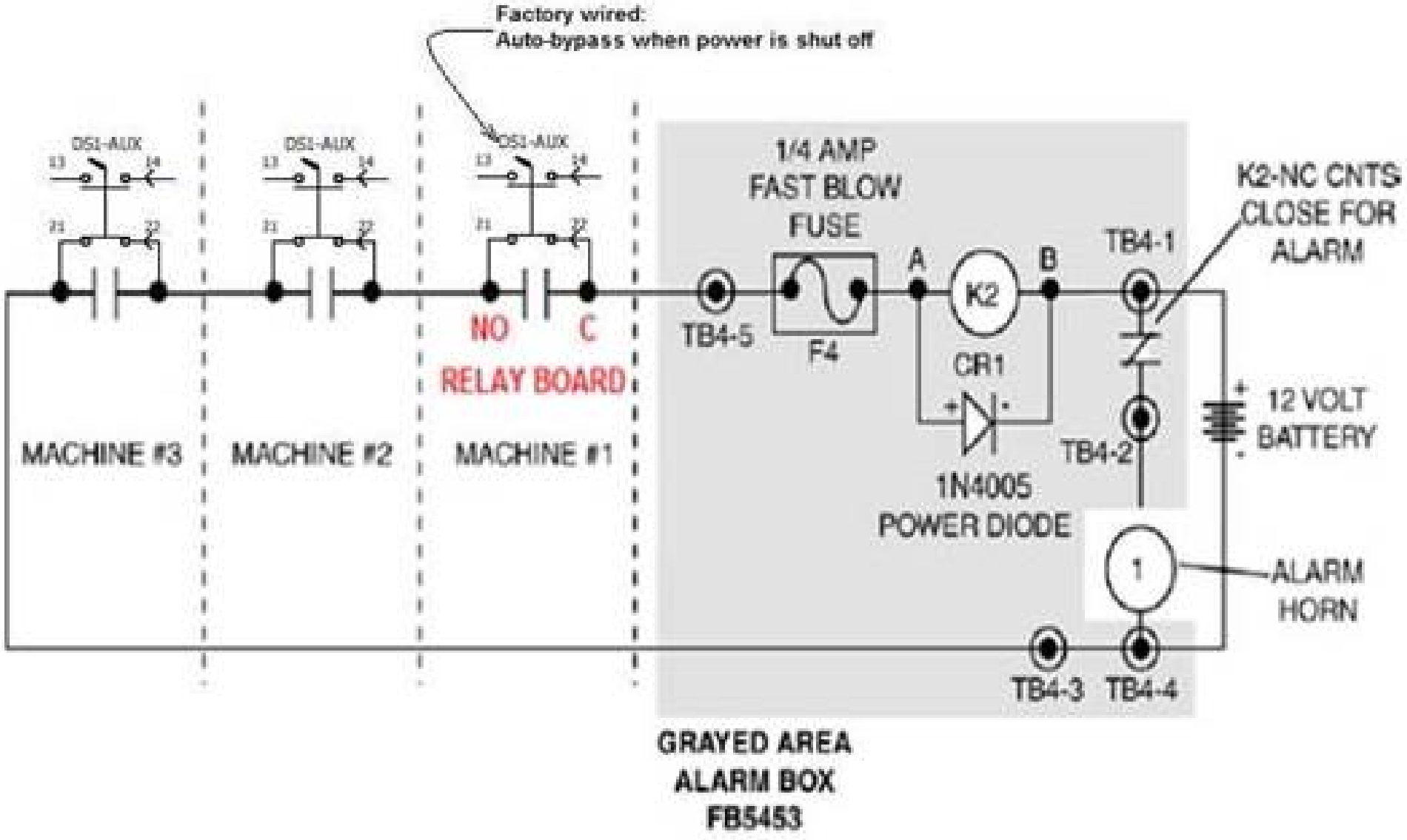
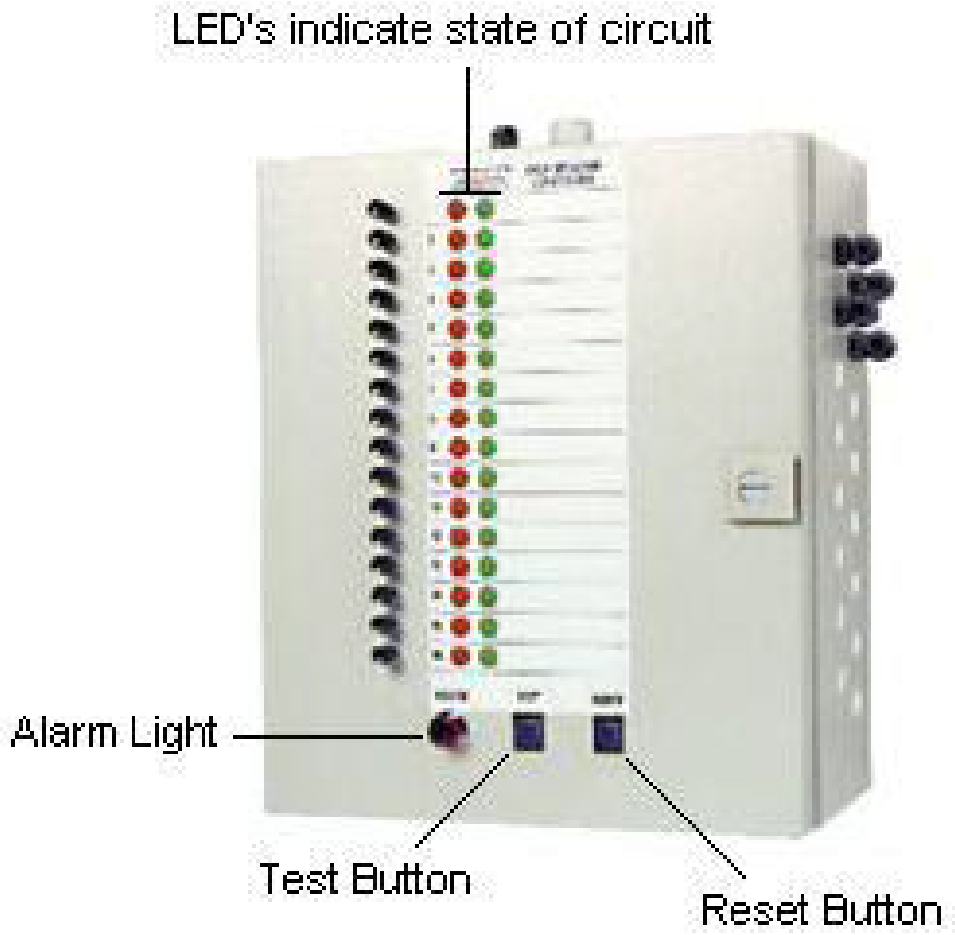
24 Volt Platinum



Back Up Alarms

- Completely independent system not tied to incubator or Hatchcom
- There are mercury systems and two types of mercury free systems
- Calibration required and critical on mercury free



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High Temp Panel LEDS

The various states of the LED's and the circuit condition are as follows:

Red LED	***Green LED***	***Alarm Light***	***Circuit Condition***
Off	Off	Off	Circuit disabled
Off	On	Off	Normal operation
Flash	Off	Flash	High temperature
Flash	Flash	Flash	Thermostat removed, dis-connected or cable cut.

When an alarm condition occurs, the LED's will show the state of the circuit, the global alarm light will flash and the alarm relay will be activated. This state will stay latched until the alarm is acknowledged (Alarm Cancel). The alarm condition must be corrected within fifteen minutes or the alarm will be reactivated.

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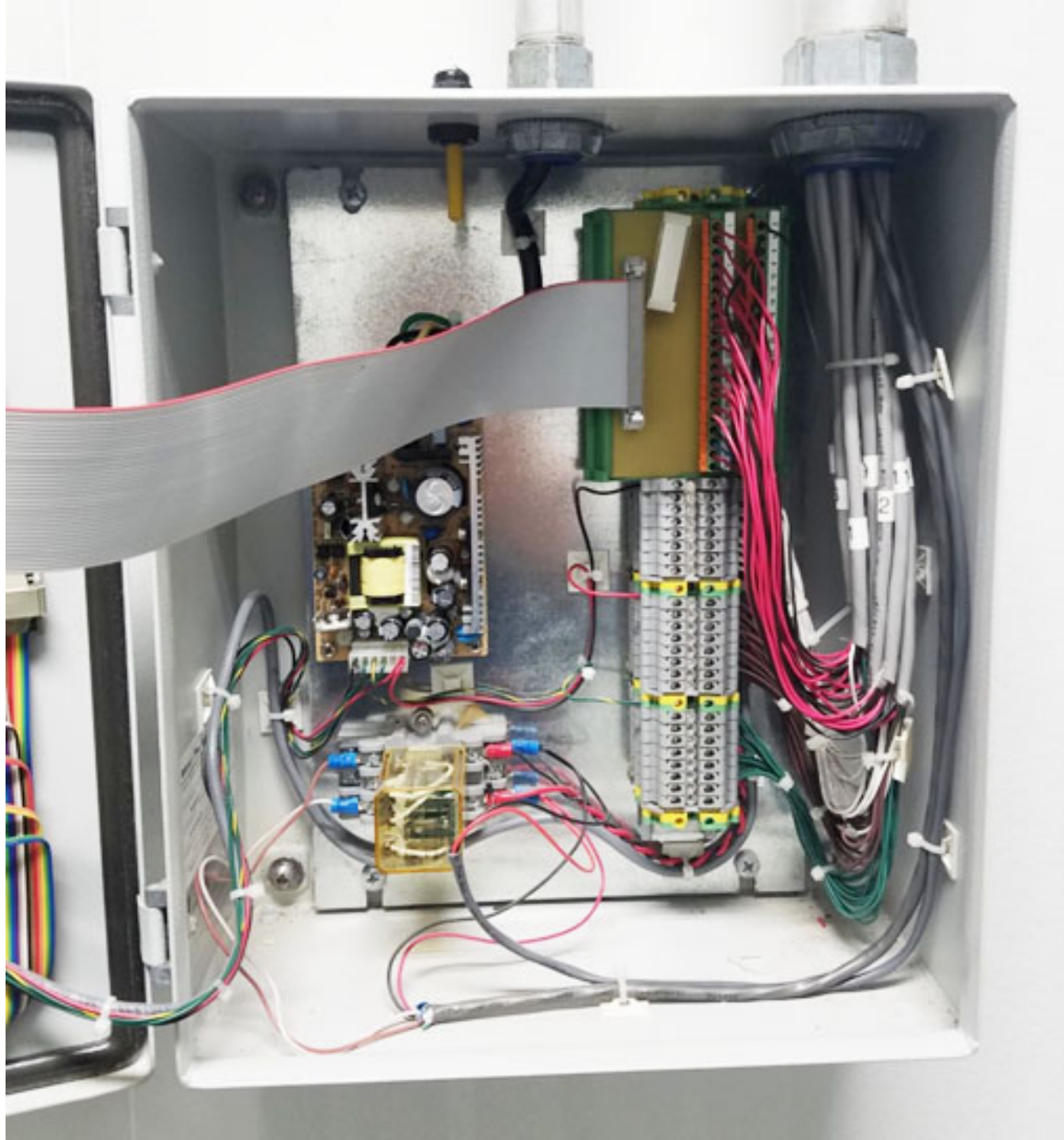

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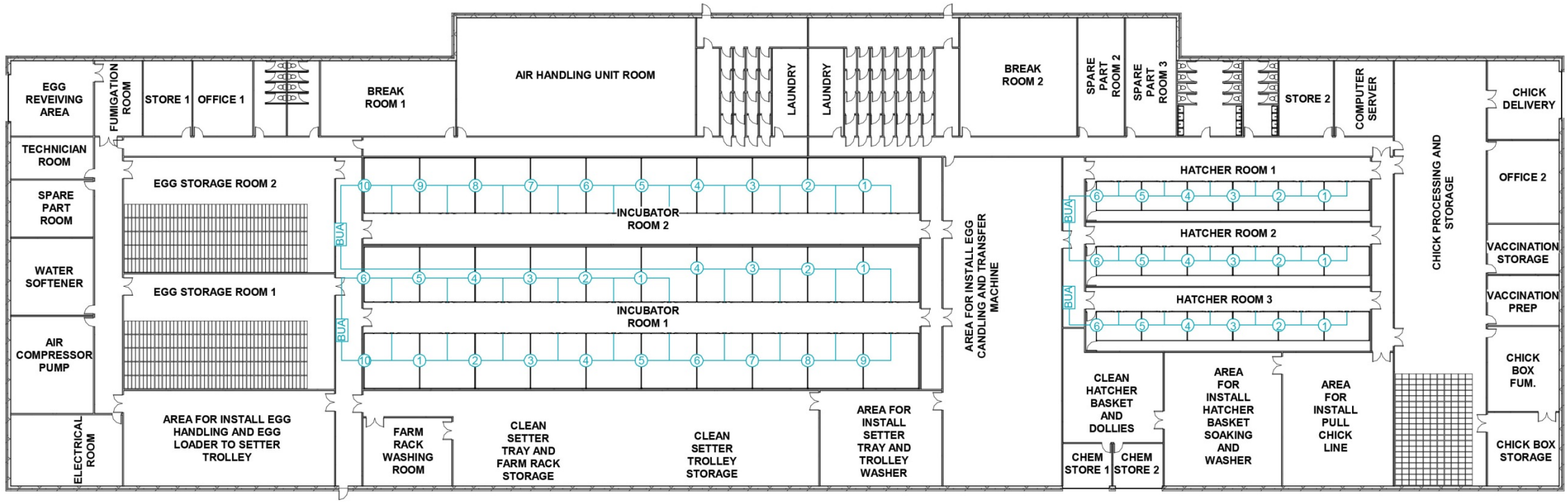

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Q-102 LEVEL 1 FLOOR PLAN - BACK UP ALARM

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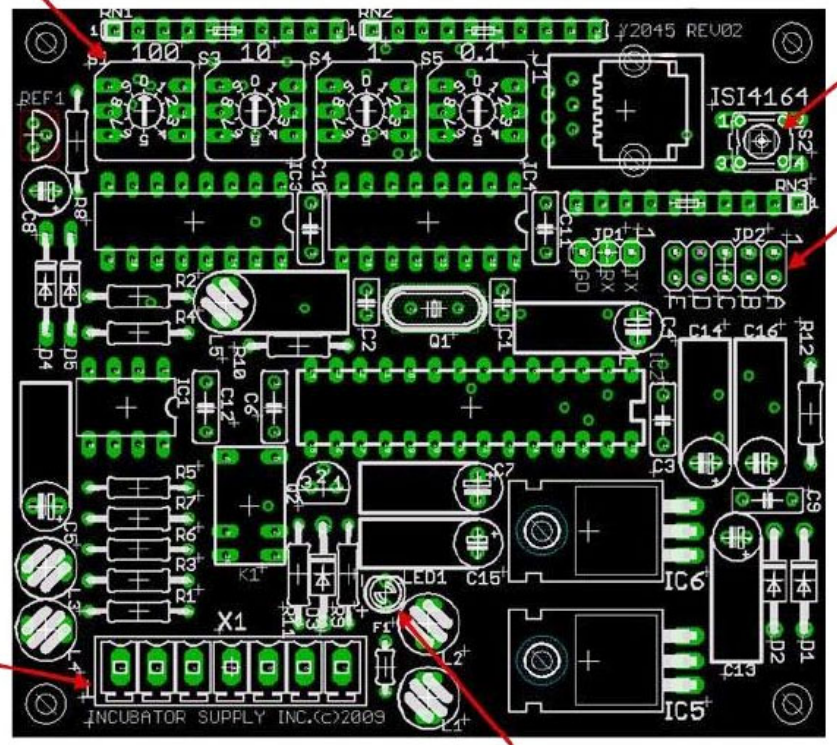
Mercury Free Thermostat JW2367

Rotary Switches to set temperature. For example, to set a temperature of 100.5 set the switches to

1 0 0 5



Calibration pushbutton. Press and hold, relay will tick when calibration completed.

Jumper Position A:
Insert shunt for "Low Temp" alarm operation.
Omit shunt for "Hi Temp" alarm operation.

Jumper Position B:
With shunt, LED1 is On and Relay is activated for a "No Alarm" condition.
With no shunt, LED1 is Off and Relay is not activated for a "No Alarm" condition.

Jumper Positions C-E:
Not used.

For 101.0 insert a shunt into Position C only
For 100.5 insert a shunt into Position D only.
For 100.0 insert a shunt into Position E only.

Wiring connector

Probe wire
Probe wire
Relay NC
Relay Com
Relay NO
-12/24VDC
+12/24VDC

LED indicates status of Alarm relay

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Calibration

Requires calibration to ensure accuracy of desired high temperature alarm

1. Turn on incubator or hatcher and allow it to reach the desired operating temperature
2. A machine full of eggs will be more stable than an empty machine
3. Insert electrotherm probe and allow it to stabilize
4. Remove cover and turn rotary dials to match electrotherm
5. Press calibration button
6. Turn rotary dials back to desired high temperature set point
7. Replace cover

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Conclusion

- Alarms & response to alarms are a critical part of a successful operation
- Many of the older parallel (non-fail safe) alarm systems can be converted to fail safe
- Mercury High Temperature Back Up alarms can be converted to Mercury Free
- Worry Free does not equal the absence of problems, it refers to our ability to deal with problems

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Send questions to: webinars@jamesway.com

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