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1. **Ratings and Specifications**
   - Power Supply……………….240VAC  50/60 Hz
   - Temperature Range…………32°F - 122°F (0°C – 50°C)
   - Inputs……………………….Three thermistor temperature sensors 32°F – 120°F (0°C - 49°C)
     One water meter (contact closure)
     Two auxiliary inputs (contact closure)
   - Outputs……………………..One siren (1.5 Amps @ 12VDC)
     One dry contact (5 Amps @ 240 VAC)

2. **Warnings**

   **Warning!**
   
   When this controller is used in a life support heating and ventilation system where failure could result in loss or injury, the user should provide adequate back-up, or accept the risk of such loss or injury!
3. Introduction

The Farm Hand Alert Alarm Controller is an automatic audible alarm system that can trigger an alarm from temperature, water flow, power outage or other auxiliary contacts connected remotely to the controller. Individual adjustments provide for setting the high and low temperature limits for each sensor and the high and low water flow rates. A front panel display contains status, temperature, and water quantity indicators plus test functions. The Alert Alarm is designed to work with the entire Farm Hand line of agricultural controllers and can be connected to the Farm Manager network or to the Data Shuttle for remote monitoring and programming.

The Alert Alarm

The Alert Alarm has four main regions on the faceplate. These are the Channel Displays, the Display Indicators, the Control Buttons and the Power On/Off & Test Buttons.

3.1 Channel Displays

The five Channel Displays are on the left side of the faceplate. There are nine Channel Indicators. At the top of the Channel Displays is an LED indicator labeled “Conditions OK”. This indicator shows the current alarm status of the Alert Alarm. If it is green there are no alarms being generated. If it is off the Alert Alarm is in the alarm mode.

There are Channel Displays and Channel Indicators for Sensor 1, Sensor 2, Sensor 3, Water Quantity, and Water Total. In addition, there are Channel Indicators for Auxiliary 1, Auxiliary 2, Power Out and Low Battery. All nine of the Channel Indicators have red LED’s located on the lower right of the label for showing status and alarm information about the channel. Except for Water Total and Low Battery, the LED’s will light red if a channel is in an alarm mode. The function of the LED’s for Water Total and Low Battery are discussed later in this manual.
3.2 Display Indicator

The type of information in the Channel Display is shown by the green LED’s in the Display Indicator. For example, if the green light beside “Actual Reading” is lit, then the Channel Display is showing the current reading from a sensor. The other options for the Display Indicators are High Limit, Low Limit and Reset. These are changed by momentarily pressing the Mode button as discussed in the next section. Each press of the Mode button steps the Display Indicator to the next reading as follows:

### Display Indicator Selection Sequence

<table>
<thead>
<tr>
<th>Actual Reading</th>
<th>Press Mode</th>
<th>High Limit</th>
<th>Press Mode</th>
<th>Low Limit</th>
<th>Press Mode</th>
<th>Reset</th>
</tr>
</thead>
</table>

3.3 Control Buttons

Just below the Display Indicators on the right hand side of the controller is the Control Button region. This region has three buttons: Mode, Plus (+) and Minus (–). When the Mode button is momentarily pressed the green LEDs in the Display Indicators are changed to the next reading as shown above. By pressing and holding the Mode button for at least 5 seconds the Alert Alarm can be placed in the Program Mode as discussed in Section 7 of this manual.

The Plus (+) and Minus (–) buttons are used to change the values (readings) in the Channel Displays. Pressing the Plus (+) button increases a value. Pressing the Minus (–) button decreases the value.

3.4 Select Buttons

Each of the five Channel Displays is equipped with a Select button. This button is used when changing values in the Channel Display and viewing the History Mode as discussed in Section 6 of this manual.

3.5 Power On/Off & Test

Finally, in the bottom right hand side of the controller is the Power On/Off switch and the Siren Test button.
4. General Overview

4.1 Alarm Inputs

The Alert Alarm has seven inputs that can be used to sound an alarm. Three from temperature sensors, one water quantity, two auxiliaries and one for power out. The water quantity and temperature sensors can be enabled or disabled. If a sensor is enabled it will be used to generate an alarm. If a sensor is disabled, it will not generate an alarm, even if the Alert Alarm determines that its readings are out of limits. The Auxiliary and Power Out inputs are always enabled. The seven alarm inputs are:

4.1.1 Temperature Sensors #1, #2 and #3

The Alert Alarm comes from the factory with three temperature sensors. The Alert Alarm will trigger an alarm if the temperature goes above the high limit setpoint or below the low limit setpoint of the sensors. The Alert Alarm will wait 10 seconds after a sensor indicates it is out of range before triggering an alarm.

4.1.2 Water Quantity Sensor

The Alert Alarm will trigger an alarm if the water quantity goes above the high limit setpoint or if the water quantity goes below the low limit setpoint. The Alert alarm will wait 60 seconds after the water quantity limits have been exceeded before triggering an alarm. For low water quantity to trigger an alarm, there are two other conditions that must be considered as discussed in the next paragraphs.

Building a Water Flow History

The water quantity meter sends the Alert alarm a pulse of information for every quantity (unit) of water passing through the meter. The Alert Alarm must measure the time between these pulses to determine over what period a gallon of water has been used in order to calculate a water flow rate. For low water quantities, the time between these pulses of information become longer, so the Alert Alarm must build a history of water usage before making a decision that the low water setpoint has been crossed. The Alert Alarm needs about 10 minutes of water flow history to make a decision the low water quantity limit has been exceeded.

Considerations for Growers on Light Programs

If a grower is using an Alert Alarm for measuring water flow in houses that are on Light Programs, it is possible that the inactivity of the birds (while the lights are out) could reduce the water flow to levels below the low water setpoint. In these cases the Alert Alarm is equipped to monitor the time that the lights are out and disable the low limit alarm during these periods. The high water flow alarm is still active during these “lights out” periods.

Of course, during the lights out period, the Alert Alarm will loose its history record of low water usage. When the lights do turn back on, the Alert Alarm will begin building its history record that it needs for triggering a low water alarm. As stated earlier, this will take about 10 minutes.

4.1.3 Auxiliary Inputs #1 and #2

The Alert Alarm is equipped with two auxiliary inputs. These inputs are connected in a closed loop circuit. On the circuit board located on the door of the alarm enclosure there is a terminal block for connecting the Auxiliary Inputs (See Section 12.5 for a connection diagram). Each of the Aux 1 and Aux 2 connections has an IN and OUT terminal. If, at any time, the connection between the IN and OUT positions is broken (opened), the alarm will sound. There are many devices on the market that could be used with these inputs. For instance, water pressure switches, light meters, and thermostats could all be used. Farm Hand controllers could also be used as illustrated in Section 12.6. The Alert Alarm will wait 10 seconds after an auxiliary input is broken before triggering an alarm.
4.1.4 Power Out
The Power Out alarm indicates that there has been no electricity present on the alarm power feed for at least one minute. If it is found that there is power at the electrical outlet, the 2 Amp fuse located on the Alert Alarm circuit board (F1) could be blown. If this is the case, remove power for approximately 30 seconds, then reapply power. This should reset the fuse. The Alert Alarm will wait 60 seconds after a Power Out indication before triggering an alarm.

4.2 Alarm Outputs
The Alert alarm has two alarm outputs. These can be used individually or simultaneously. The alarm outputs are:

4.2.1 Siren
The siren hookup to the Alert Alarm will deliver a 12 volt DC signal with a current up to 1.5 amps. Many operators want to mount the siren a long distance from the controller. Sometimes, this is desirable in order to locate the siren closer to their dwelling, sometimes to get it away from their animals. The use of a small gauge wire to connect the Alert Alarm to the siren could cause a great deal of voltage drop. This voltage drop, in turn, can cause the siren to become inoperative. If the operator wants to mount the siren more than 50 feet from the controller, a relay with a 12VDC rated coil should be used to switch current to the siren. When a relay is added, the operator must provide a separate battery and charger for the siren circuit.

4.2.2 Dry Contact (N.O. and N.C. Contacts)
The Alert Alarm provides a set of dry contacts that can be used to trigger a modem, auto-dialer or other auxiliary equipment. Both normally open (N.O.) and normally closed (N.C.) contacts are available. See Section 12.5 for a wiring diagram.

5. Day to Day Operating Instructions
This section of the manual will give you what you need to know about the day to day operation of the Alert Alarm controller.

5.1 Checking Readings and Adjusting Setpoints
When a Control Button has not been pressed within one minute, the Display Indicator will show “Actual Reading”. This indicates that the Channel Displays are showing the current temperature and the current water quantity readings. To see the High Limit setpoints, press the button labeled “Mode”. This button is located in the right center of the controller faceplate. When you press the “Mode” button, watch the green LED’s beside the Display Indicator. When the Display indicator shows “High Limit” you are viewing the high limit setpoints in the Channel Displays. In addition, you can view the “Low Limit setpoint” and select “Reset”. These four readings are described as follows:

Actual Reading
For Sensor 1,2 and 3 and for the Water Quantity, this is the current reading from the sensor. For Water Total, this is the actual water quantity total as read from the water sensor and calculated by the Alert Alarm.

High Limit Setpoints

NOTE: Only the Sensor 1,2 and 3 and Water Quantity have high limit setpoints.

The High Limit setpoint for Sensor 1,2 and 3 is the temperature used to control the high-side at which the alarm will sound. For example, if the High Limit setpoint for Sensor 1, 2 or 3 is set to 90 degrees and the temperature becomes greater than 90 degrees, the Alarm will sound and the red LED at the lower right of the Channel Indicator will light. Each of the three temperature sensors
in the Alert Alarm can have different high and low limit setpoints. For Water Quantity, the Display Indicator shows the current setting for the high limit setpoint.

To adjust these settings, press the Mode button until you see the green LED beside the High Limit on the Display Indicator. Note the Select button next to the sensor or parameter setting you want to adjust. Press the Select button and you will see the reading begin to flash, indicating that you can change the setting by using the Plus (+) and Minus (-) buttons. Use the Plus (+) button to raise the value, and the Minus (-) button to lower the value. Although Sensor 1, 2 and 3 limits can be set individually to the same value, see Section 7.1 for an abbreviated procedure if it is desired to use the same limits for all three sensors.

The Water Quantity Sensor also has a high limit setpoint. The alarm will sound if the water quantity goes over the high limit setpoint. These are adjusted as explained above for the temperature sensors.

Water Total does not have a high limit setpoint and can not be used to trigger an alarm. See Section 5.2 for a discussion of Water Total.

Low Limit Setpoints

The Low Limit Setpoint for Sensors 1, 2 and 3 is the temperature used to control the low side at which the alarm will sound. For example, if the Low Limit Setpoint is set to 70 degrees and the temperature drops to less than 70 degrees, the alarm will sound. Each of the three temperature sensors in the Alert Alarm can have different high and low limit setpoints.

The Water Quantity Sensor also has a low limit setpoint. The alarm will sound if the water quantity goes below the low limit setpoint. These are adjusted as explained above for the temperature sensors.

Water Total does not have a low limit setpoint and can not be used to trigger an alarm. See Section 5.2 for a discussion of Water Total.

Reset

For Sensor 1, 2, 3 and Water Quantity, the setting of the Reset enables or disables the Alarm for each sensor. The sensor can either be enabled (ON) or disabled (OFF). To adjust these settings, press the mode button until you see the green LED beside “Reset” in the Display Indicator. Press the Select button next to the sensor or parameter setting you want to adjust, then use the Plus (+) button to set the value to ON and the Minus (-) button to set the value to OFF.

If Sensor 1, 2, 3 or the Water Quantity sensor are set to OFF, the Channel Display will flash alternatively between the display reading and the word “OFF”.

As discussed in the next section, Water Total is used to count the total quantity of water recorded by the water quantity sensor. The Reset button is used to set the water total reading to zero. To adjust this setting, press the mode button until you see the green LED beside “Reset” in the Display Indicator. Press the Select button next to the Water Total. To reset the water total to zero, the Reset must be set to “YES”. Use the Plus (+) button to set the value to “YES” and the Minus (-) button to set the value to “NO”.

NOTE: Only Sensor 1, 2 and 3 and Water Quantity have low limit setpoints.
When you are finished setting the Water Total, press the Mode button and the new setting will be stored in the Alert Alarm. If you do not press the Mode button within 10 seconds, the Alert Alarm will return to the "Actual Reading" and any changes you have made will not be remembered.

5.2 Water Total Readings
The Water Total indicator counts the total quantity of water recorded by the water quantity sensor. This reading does not have a high or low limit setpoint and can not be used to set off an alarm. The reading is for information purposes only.

For example, a grower might want to record the total amount of water used every day. Every day of the growout, the grower would note the reading of the Water Total and reset the indicator to zero.

The red LEDs at the lower right of the Display Indicator are used when reading the Water Total. If the LED is NOT lighted the indicator should be read directly. If the LED is lighted, the value from the indicator must be multiplied by 10 to get the actual reading. The red LED will always be lighted when the actual reading is greater than 10,000.

5.3 Checking the “Conditions OK” Alarm Status
At the top of the main display is the “Conditions OK” LED indicator that shows if the Alert Alarm is in an Alarm mode. If there are no alarm conditions, the LED is lighted green. If an alarm condition exists, the LED is not lighted.

5.4 Power ON/OFF
The Power ON/Off switch removes all power from the Alert Alarm. This includes disconnecting the internal battery from the circuit board and charger as well as the AC voltage. Note that the battery will not charge when the Power switch is OFF.

5.5 Test
The test button provides a means of verifying the operational status of the siren and alarm contacts. It is recommended that the operator press the test button for about 10 seconds at least twice a week. In addition to ensuring that the alarm is working properly, the sounding of the siren helps to condition livestock or poultry--this can be important during hot weather.

5.6 Low Battery
If the battery voltage has dropped below about 10.6 volts, the red LED on the Channel Indicator will light. This condition does not trigger an alarm. If the battery indicates low, the operator should set all controls so that the siren will not activate, and leave the machine plugged in with the Power ON/OFF switch in the ON position for about four hours. This should recharge the battery. If this doesn’t work the battery is probably bad. In this case, contact your Cumberland dealer for a replacement. Note that it is common for the Low Battery indicator to be lit if the alarm has sounded for a long time.

6. Checking the Alert Alarm History Record
The Alert Alarm has the capability to remember the highest and lowest temperature history readings, the highest and lowest water quantity history and the alarm history since the last time the Alert Alarm History was reset. The alarm LEDs will indicate the alarm history data. If the LED
is lighted for any channel, this indicates the channel has triggered an alarm since the last History record was reset.

To display this information, make sure the Display Indicator LED is indicating “Actual Reading”. Then press any Select button.

The Channel Display for the temperature and water rate will indicate the highest reading recorded since the History Record was reset as shown in the example at the right for Sensor 1. For the high limit there is an “H” on the left of the display.

To see the lowest readings, press the mode button and the lowest readings will be displayed with an “L” on the left of the display. The alarm LEDs will continue to indicate the alarm history data. If the LED is lighted for any channel, this indicates the channel has triggered an alarm since the last History record was reset.

To reset the History record, press the Mode button again and the green LED on the Display Indicator will indicate “Reset”. The Sensor 1, 2, and 3 indicators will indicate “HIS - NO” as shown below. Use the Plus (+) button to set the Reset to “YES” or the Minus (-) button to set the Reset to “NO”.

When you are finished setting the Reset, press the Mode button and the new settings will be stored in the Alert Alarm. If you choose “YES” for Reset, any alarm history data will also be reset at this time. If you do not press the Mode button within 10 seconds, the Alert Alarm will return to the “Actual Reading” and the History will not be reset.

7. **Program Mode**

Settings that are usually set up once per growout, or maybe even just for summer or winter, are referred to as program parameters and are accessed by placing the controller in the program mode. In the program mode there are General settings, PC Network Parameter settings and Temperature Sensor Calibration.

To get to program mode, press and hold the “Mode” button for at least five seconds. When the controller has entered program mode, the Channel Display will flash P1. All the program items for the controller have a parameter number assigned to them. When in program mode, you change the current parameter by
using the Plus (+) and Minus (-) buttons. When you have finished with the current setting, press the “Mode” button to move to the next parameter.

7.1 **General Parameters**

General parameters are associated with the operation and control of the Alert Alarm.

**P1 – Individual Sensor Limits**

This general parameter determines how to program the Sensor High and Low temperature limits. As indicated earlier, these limits can be set individually to different values. However, if it is desired to set Sensor 1, Sensor 2, and Sensor 3 to the same values, this parameter changes the programming procedure to allow limits to be entered only once but used for all sensors. If P1 is set to “YES”, the high and low sensor limits are entered individually. If P1 is “NO” limits are entered once for all sensors. To change the value of P1, Press the Plus (+) button for “YES” and the Minus (-) button for “NO”.

7.2 **PC Compatible Network Parameters**

These parameters are used with Cumberland’s Farm Manager Software. The controller has three parameters which are used to function with the Cumberland PC compatible inter-controller network (HH.Net). These parameters:

**P40 -- HHNet Address**

HH.Net permits up to 32 controllers to be addressed on a single communications port of a personal computer (PC). In order for the computer to recognize the communications from the controllers, each controller must have a unique network address. For example, if you have a Stage Master, an Alert Alarm, and two Power Vents on your network, you would need to set the Stage Master to address 1, the Alert Alarm to address 2, the first Power Vent to address 3, and the second Power Vent to address 4. Valid settings are 1 - 32. (You do not have to set the address of the controllers in any particular order.)

**P41 -- Version Number**

This is not settable by the user. It is the version of the controller software.

**P42 -- Controller Type**

This is not settable by the user. It is a unique number that allows the network software (Farm Manager) to recognize the type of controller.

7.3 **Sensor Calibration Parameters**

The Alert Alarm has two temperature sensors that can be calibrated. The parameter(s) for calibration are PSx where x is the sensor number. The sensor temperature reading is alternately displayed along with the parameter number.

You should never attempt to calibrate a sensor more than 8 degrees. If you have a setting that far out of range, it indicates that there is a problem other than sensor calibration.

**PS1 - Calibrate Sensor 1**

This reading can be changed by pressing the Plus (+) or Minus (-) button until the desired reading is displayed.

**PS2 - Calibrate Sensor 2**

This reading can be changed by pressing the Plus (+) or Minus (-) button until the desired reading is displayed.

**PS3 - Calibrate Sensor 3**

This reading can be changed by pressing the Plus (+) or Minus (-) button until the desired reading is displayed.

The temperature sensors can be set to display the temperature in English units (Fahrenheit) or in Metric units (Celsius). The choice is controlled by jumper J2. With the jumper installed the Alert
Alarm will use Fahrenheit. With the jumper removed the Alert Alarm will use Celsius. See Section 12.3 for the location of this jumper.

8. Recommendations

It is important to note the Cumberland temperature sensors are fabricated using thermistors and are not interchangeable with sensors commonly used on controllers from other manufacturers. The three temperature sensors may be installed in a variety of ways. It is recommended that a sensor be located high enough from the floor so that livestock or poultry can not peck at it. It is also essential that the sensor not be hung in front of heaters, fans or other devices that would cause false readings. If a sensor is to be run from one building to another, it is recommended that the connection be made with underground-rated wire buried between the two structures. This recommendation is to reduce the effects of lightning.

Once again, the temperature sensors should be dropped as low in the house as possible while still being out of reach of the livestock or poultry. And, as discussed earlier, it is recommended that the operator press the Test button for ten to fifteen seconds at least twice a week to verify the operation of the alarm as well as to condition the livestock or poultry to the sound of the siren.

9. Trouble-Shooting Your Alarm

Low Battery
If the battery in the Alert Alarm gets down to around 10.6 volts, the Low Battery alarm condition will be active. This is very common if the alarm has sounded for some time. If the Low Battery alarm is active, the Alarm should be set so that no alarm condition exists, and the battery allowed to recharge. This may require the operator to disconnect the siren to allow the battery to build back up. If recharging doesn’t fix the problem, then the battery must be replaced. Contact your nearest Cumberland dealer for a replacement.

Power Out
The Power Out alarm can occur in two cases. One is when the power has been out for more than one minute. The other situation could be caused by the 120VAC 2 amp fuse being blown. If the Power Out alarm condition is active, and you find that there is power present at the outlet where the alarm is plugged in, then you should check the fuses. See the paragraph below on “Resetting the Fuses”.

No Siren at Test
If the siren fails to sound when the test button is pressed, several conditions could exist. First, the battery fuse could be blown. See the following paragraph on “Resetting the Fuses”. Secondly, the battery could be disconnected or depleted. Third, the siren itself could be bad. Check for 12VDC at the siren leads. And, of course, there could be a bad connection somewhere in the siren circuit.

Resetting the 2 Amp Fuses
There are two re-settable fuses in the Alert Alarm on the circuit board. One is the 2 Amp fuse (F1) for the AC power. The other is a 2 Amp fuse (F2) in the Alarm circuit. To reset these fuses, remove the 120VAC power for approximately 30 seconds, then reapply power. This should reset the fuses.

Temperature Sensors Disconnected
If the temperature Sensors become disconnected or damaged, the Display Indicator for that sensor will show a line of four bars. This problem should be corrected before any attempt to calibrate the sensor is made.

Temperature Sensors Out of Calibration
If the operator believes that the temperature sensors are not reading correctly, the following steps should be followed: Obtain a thermometer that is known to be accurate. Place this thermometer next to the temperature sensor for at least 10 minutes. Insure that there are no strong breezes or
winds blowing on the thermometer and the sensor being calibrated. Note the temperature from the thermometer and use this reading to calibrate the sensor as described in Section 7.3 of this manual.

Trouble-Shooting the Auxiliaries
The auxiliary inputs must always form a closed loop circuit. If the loop is ever open, the alarm will sound. If an auxiliary input is sounding, the trouble can be isolated between the alarm and the circuit by disconnecting the circuit from the terminal block in the alarm box and replacing it with a jumper (See Section 12.5). If the corresponding auxiliary input still causes an alarm condition, the problem is the alarm, otherwise the circuit is the culprit.

10. Controller Installation and Setup

10.1 Tools Required

<table>
<thead>
<tr>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini Screwdriver</td>
</tr>
<tr>
<td>Standard Screwdriver</td>
</tr>
<tr>
<td>Wire Strippers</td>
</tr>
</tbody>
</table>

10.2 Installation Instructions

1. Unpack system, and check that all components are present.
   1. Farm Hand Alert Alarm
   1. Installation Kit
   1. Fuse Kit
   3. Temperature Sensors
   1. Water Quantity Sensor
   1. Manual

2. Hang Farm Hand Alert Alarm with four screws.

3. Make sure all power supplies are disconnected before breaking any wires, or reaching into the Alert Alarm enclosure.

4. Open Alert Alarm and find all connections. Refer to wiring diagrams in Section 12 of this manual.

5. Run temperature sensors out to locations inside the house. Be sure that the sensors are in a safe location, free from any temperature influences (direct sunlight, water, etc.) Use care when securing sensor wires so that the wire is not accidentally cut. Any short, or break in the wire will cause improper sensor operation. Next, run the two wires into the enclosure via the watertight connector at the bottom of the box. The wires should be cut off and stripped. They next should be attached to the terminal block in the positions marked Sen 1, Sen 2 and Sen 3. Note that the sensors are not polarity sensitive, and it therefore makes no difference as to which wire goes to which sensor terminal.

6. Run water quantity sensors leads from the water meter to the controller. Use care when securing sensor wires so that the wire is not accidentally cut. Any short, or break in the wire will cause improper operation.

7. If using a Light Program, run the Light Signal leads to the area of the house where an external relay can be installed. Provide dry contacts for the signal leads as shown in Section 12.8 of this manual. The external relay should provide a closed circuit when the lights are on and an open circuit when the lights are off.

8. After the siren is mounted, it should be wired into the control box. This is done at the terminal block locations labeled siren red and siren white. Note that polarity is important here and that the red siren wire must be connected into the siren red terminal block position and the same for the white wire. Note also, any 12VDC device that uses less than 1.5 Amps of current could be connected in the siren’s place.
9. Connect wires from Alarm terminals to the alarm circuit or relay box. (See wiring diagrams in Section 12.4 for locations of terminals.)

10. If using a modem, connect wires from Modem terminals to the modem circuit or relay box. (See wiring diagrams in Section 12.5 for locations of terminals.)

11. If necessary, connect the Alert Alarm to the Cumberland inter-controller Network or to the Data Shuttle. (See the connections in Section 12.8 of this manual.)

11. **Maintenance**

Check the calibration of your temperature sensors at least once per quarter. You will need to have two people, one at the sensor with a trusted thermometer, and one at the controller to calibrate the sensor.

12. **Wiring Diagrams, Schematics, etc.**

The following diagrams the Alert Alarm circuit board connections and how the Alert Alarm in connected to external equipment.
12.1 Alert Alarm Circuit Board Layout
12.2 Connecting AC Power to the Alert Alarm

Inset A

Inset A

Power Supply
240 VAC

AC Power
240 VAC
12.3 Connecting Sensors to the Alert Alarm

12.4 Connecting an Alarm or Siren to the Alert Alarm
Farm Hand Alert Alarm

Inset A

Internal Switch (Non-alarm) position

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Red</th>
<th>Siren</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Com</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Connect to alarm, modem, auto-dialer, etc. as desired.

White (-)  Red (+12V)  Siren
12.5 Connecting External Inputs to the Alert Alarm

NOTE: The jumper across J6 and/or J8 must be removed if an external alarm input is connected.
12.6 Connecting Other Farm Hand Controllers to the Alert Alarm

Farm Hand Alert Alarm Series Alarm Connection

The diagram below shows the proper way to connect the Farm Hand family of auxiliary alarm outputs to a Farm Hand Alert Alarm. The alarm activates when the connection is broken between the OUT and IN terminals.

Note 1: As long as a path for current to flow is present, the Alert Alarm is not activated. Consequently, if one controller alarms, the path will be broken and the alarm will be activated.

Note 2: Remove the jumper between the OUT and IN terminals when installing external alarm inputs.
12.7 Connecting the Alert Alarm to the HH.Net or to a Data Shuttle

Inset A
To the HH.Net

Inset B
Twisted Pair Cable

Jumper

NOTE: The "Net Term" jumper must be removed unless the Farm Hand Alert Alarm is the last controller on the network.
Warning!

The external relay is not supplied for the light circuit. Do not apply high voltage AC to the "Light Sig" input!

Farm Hand Alert Alarm

Inset A

Inset B

LIGHT CONTROL

Light Switch

House Lights

AC Power

WATER METER

External Relay

Jumper J11 is used to represent a “Lights On” condition. If a Light Program is used, J11 must be removed and the circuit shown in “Light Control” should be added.
13.9 Internal Connection Diagram

13. Replacement and Optional Parts
   Farm Hand Siren Driver/Speaker……………………………Product # 3016-1380
   Farm Hand Water Quantity Meter……………………………Product # 3025-0101
   Farm Hand Temperature Sensor……………………………Product # 6407-2593
   Battery for the Alert Alarm…………………………………..Product # 3014-2174
14. Temperature vs. Sensor Resistance Table

The following chart gives the resistance when measured between the white and black sensor wires at a given temperature. To check a sensor, first know the temperature in the area, then, use a multi-meter to check the resistance.

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<th>Temp (°C)</th>
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15. Farm Hand Alert Alarm Program Label

**Programming**

(Alert Alarm)

**P 1-9 General Parameters**

\[ P1 = \text{Individual Temperature Limits} \]

Yes = Temp Limits are Set Individually
No = Temp Limits are Identical

**P 40-49 Cumberland Network**

\[ P40 = \text{Network Address} \]
\[ P41 = \text{Software Version} \]
\[ P42 = \text{Controller Setup} \]

**PS Sensor Calibration**

\[ PS1 = \text{Sensor 1} \]
\[ PS2 = \text{Sensor 2} \]
\[ PS3 = \text{Sensor 3} \]

To view History: Press any "Select" button while the Green Display Indicator is showing "Actual Reading". Then press "Mode" button to advance on to see the low history and to reset the history.

4501-6035
16. Limited Warranty - Protein Products

The GSI Group, LLC. (“GSI”) warrants products which it manufactures, to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months from the date of purchase (or, if shipped by vessel, 14 months from the date of arrival at the port of discharge). If, in GSI’s sole judgment, a product is found to have a defect in materials and/or workmanship, GSI will, at its own option and expense, repair or replace the product or refund the purchase price. This Limited Warranty is subject to extension and other terms as set forth below.

Warranty Enhancements: The warranty period for the following products is enhanced as shown below and is in lieu of (and not in addition to) the above stated warranty period.

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<td>AP® and Cumberland® fans</td>
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<td>Feeder System Pan Assemblies</td>
<td>5 Years, prorated **</td>
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<td>Feed Tubes (1.75” and 2.00”)</td>
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Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH HEREIN; SPECIFICALLY, GSI DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) ANY PRODUCT MANUFACTURED OR SOLD BY GSI, OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

The sole and exclusive remedy for any claimant is set forth in this Limited Warranty and shall not exceed the amount paid for the product purchased. This Warranty only covers the value of the warranted parts and equipment, and does not cover labor charges for removing or installing defective parts, shipping charges with respect to such parts, any applicable sales or other taxes, or any other charges or expenses not specified in this Warranty. GSI shall not be liable for any other direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. Expenses incurred by or on behalf of a claimant without prior written authorization from the GSI warranty department shall not be reimbursed. This warranty is not transferable and applies only to the original end user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor. Prior to installation, the end user bears all responsibility to comply with federal, state and local codes which apply to the location and installation of the products.

This Limited Warranty extends solely to products sold by GSI and does not cover any parts, components or materials used in conjunction with the product, that are not sold by GSI. GSI assumes no responsibility for claims resulting from construction defects, unauthorized modifications, corrosion or other cosmetic issues caused by storage, application or environmental conditions. Modifications to products not specifically delineated in the manual accompanying the product at initial sale will void all warranties. This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained.

Service Parts:

GSI warrants, subject to all other conditions described in this Warranty, Service Parts which it manufactures for a period of 12 months from the date of purchase, unless specified in Enhancements above. Parts not manufactured by GSI will carry the Manufacturer’s Warranty.