PREFACE

The **Mark 220** Informer Alarm was primarily designed to monitor environmental conditions of one poultry or livestock confinement building. It is relatively easy to install.
The kit includes:

.... Power outage detection
.... Digital **TherMinder-2L** high and low temperature detector plus memory of high and low since reset
.... Two siren sounds. Yelp & Steady
.... 6 Status lights, Reset/Fully Functional Test Switch, and On/Off Switch
.... 12 Volt Sealed Lead Acid Battery and powerful charger
.... 140 ft. of wire to install the siren and **TherMinder-2L**
.... Adjustable time delay from 45 seconds to 90 seconds

Pro-Tech developed the TWO level siren many years ago. We refer to it as a "Telltale" siren. It allows the operator to disarm the problem and if a new problem occurs or the same problem corrects itself and reoccurs, the **Mark 220** sounds the alarm again. When the problem corrects itself, such as the power is restored or the temperature is corrected, the **Mark 220** goes to low level. For instance, if you come home and the siren is operating at peak loudness, your attention is needed immediately. If the siren is on low level, you probably have time to change clothes if necessary.

Having a siren and **Mark 220** on each building provides an indication which house is having problems. If all buildings are having trouble, the sirens will provide lots of noise.

The **Mark 220** can monitor any reasonable number of **N**ormally **O**pen (**NO**) or **N**ormally **C**losed (**NC**) contacts. The **Mark 220** is shipped with the **NC** contacts programmed with time delay, while the **NO** contacts are instant. You can have it your way and program it differently. This a good reason for choosing the **Mark 220**.

Pro-Tech has attempted to make the **Mark 220** kit economical so you can justify one per building. We feel you need to locate the problem quickly when you have been alerted.

Instructions for Installing the Mark 220 Informer Alarm

(l) Mount the **Mark 220** Alarm Control panel convenient to the fan breaker panel with the mounting screws provided. Mount the battery in the right hand corner in the bottom part of the enclosure.

(2) Mount the transformer on a knockout of the breaker panel, connect the primary wires to a *230-volt fan breaker*, preferably the "workhorse" fan breaker. Connect the two conductor white wire from the **Mark 220** to the secondary terminals of the transformer.

(3) a. Install the siren on the outside of the building and aim it toward the dwelling. Two-conductor lamp cord should be used to wire the siren to the control panel. Connect the smooth wire to common on the siren and the ribbed wire to yelp on the siren. Connect the (-) smooth wire to *GND* on T3 and the ribbed wire to *YELP*.

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b. The **Mark 220** is equipped with a time delayed power outage detector. It will also turn on the alarm when voltage drops below 150 VAC at which time the low power indicator lamp will glow. A header is on the board so you can remove power to the alarm without turning off the breaker. It is located in the lower left corner of the circuit board. Just remove the shunt and AC is removed from the **Mark 220**. Just remember to put the shunt back on when you are finished testing.

(4) The **Mark 220** is equipped with a **NO** alarm circuit and a **NC** alarm circuit. Wiring is limited to 5000 ft. of 18 ga. wire. The on-off switch and the reset switch control these supervised circuits. Here is the way the **Mark 220** is set-up. If the **NC** circuit opens, the alarm sounds after a preselected delay. If the **NO** circuit is closed, the alarm sounds immediately. The **Mark 220** powers the **TherMinder-2L** included with your kit. The Red wire connects to *(+) DC* on T2; the Black wire connects to *GND* on T3. The wires from the contacts connect to the sensing circuit of your choice. (1) The White and Blue go to the **NO** circuit, or the White and Brown go to the **NC** circuit.

(5) The status OK light is red when the unit is armed. The light will turn off after a problem occurs or when you test the **Mark 220**. When the problem is corrected, the siren will stay on low level until the unit is reset.

(6) TO TEST: With the alarm armed, push the test switch one time, and the *Status OK* light goes out. You may reset the alarm by pressing the reset button twice. Now is a good time to evaluate the battery. When anybody asks you, tell him or her it is a 12-volt sealed lead acid rechargeable battery. It should charge anywhere from 13.9 volts DC up to 14.1 volts DC. Let us test the battery now. You can use a voltmeter if you have one, or you can test it with your ears. Did you HEAR that? Test a battery with you EARS. Yes, EARS!

Ears first: Make sure the *Status OK* light is on. Now locate the *AC* test jumper in the lower left corner of the board. Pull the shunt off the two pins. The longer this procedure takes, up to 30 minutes, the better the test. If you can hear a significant difference in the sound of the siren when the shunt is pulled off, the battery may be weak. Charge it for 24 hours in the **Mark 220**, and if a new test reveals the same results, replace the battery.

Voltmeter second: Press the RESET button until the siren sounds. Place the leads of the voltmeter on the battery. It should read near 14.0 volts DC. Pull the shunt off the two pins located in the lower left corner of the board labeled AC test. Watch the voltage on the battery while the siren sounds. If the voltage drops below 11.5 volts in five minutes, the battery may need to be replaced. You may consider charging the battery for 24 hours and retest. The battery will normally recharge in 24 hours if it is weak.

(9) If the battery needs to be replaced disconnect the battery leads and install them on the new battery, making sure the red wire goes to (+) Batt.

NOTE: We at Pro-Tech have designed and manufactured this alarm to give good service. However, since we are human, it was subjected to human error. With time, this alarm will fail; so frequent testing can reduce this element of surprise.

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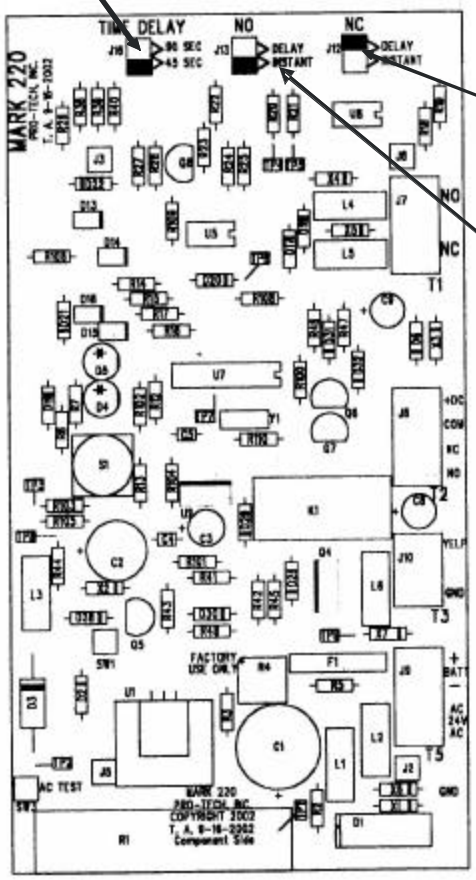
SET-UP AND ADJUSTMENTS FOR THE MARK 220 ALARM

TIME DELAY SELECTION: 45 seconds or 90 seconds

For a 45 second delay put the jumper on the middle & bottom pins.

For a 90 second delay put the jumper on the top & middle pins.



Selecting Instant or Delay on the **NO** and the **NC** Circuits:

The unit is shipped with the **NC** on Delay.

The jumper is on the top & middle pins for a delayed response.

The unit is shipped with **NO** on Instant.

The jumper is on the middle and bottom pins for an instant response.

The AC power is factory set on a delayed response.

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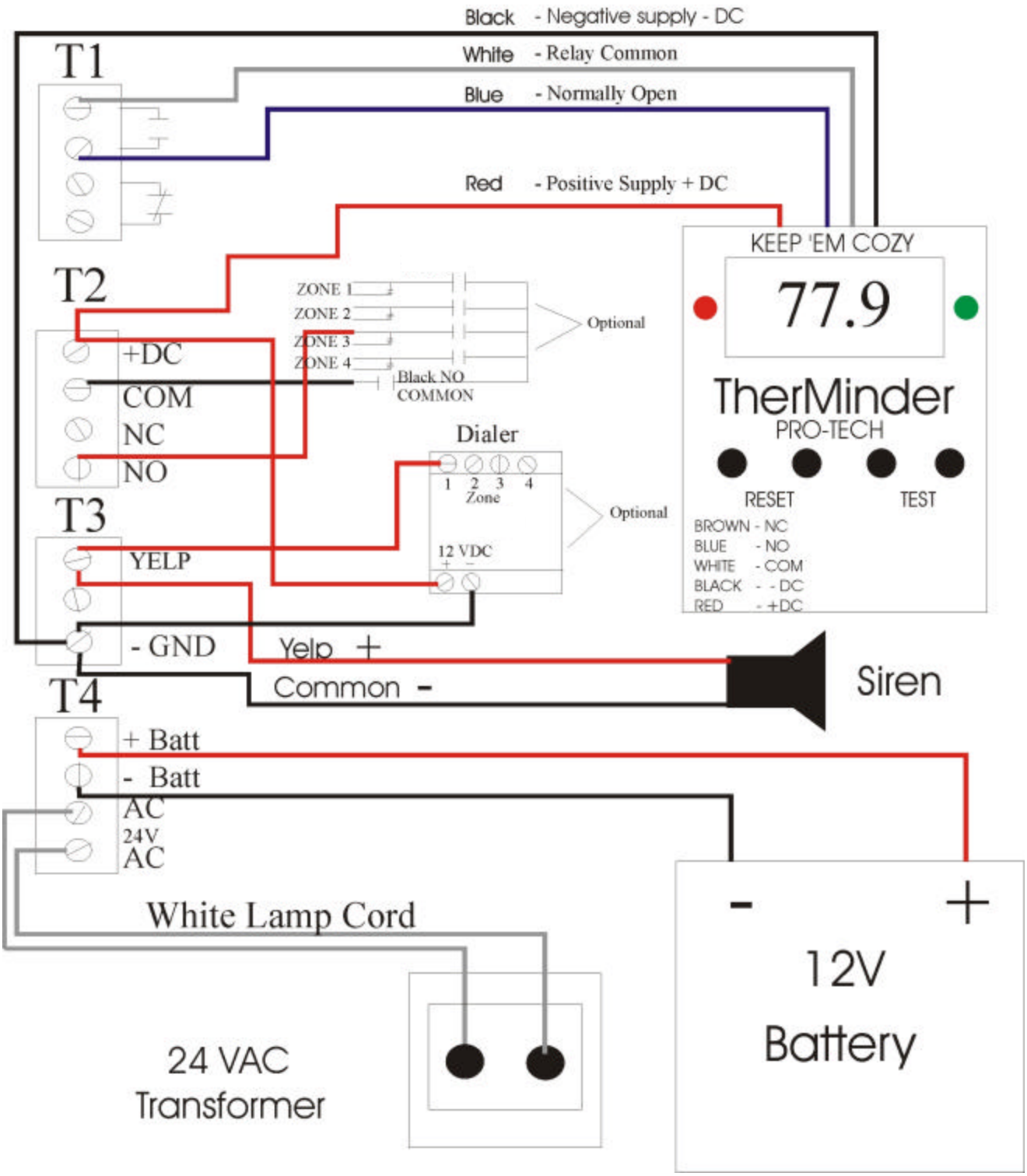
Wiring Diagram
Mark 220 Alarm

Mark
220



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