## INSTALLATION OF M1ZTS or ZTSR

1. Remove the cover from the base of the Interface.
2. Mount the base using a #6 x 3/4" sheet metal screw though hole in center of circuit board.
   **NOTE: The Interface is not weatherproof. If mounted outdoors, place under a roof or deck overhang or in a weather resistant box. For freezer monitoring or extreme conditions the model with 7 ft. Probe model (M1ZTSR) is best as it allows the interface to be mounted away from the sensor (indoors) in a more suitable environment.**
3. Turn the Control Panel power OFF.
4. Run a four conductor cable (max. of 1000 ft.) from the Interface to the Control. Connect the wires per and diagram steps below:
   - Connect a Green wire from terminal ZN on the interface to any unused Zone input terminal on the main M1 board (Z1-Z16) or M1EZ8 (Z1-Z8). No EOL resistor is needed.
   - Connect a Red wire from terminal +12V on the Interface to Aux. +12 Volt DC terminal on control.
   - Connect a Black wire from terminal NEG on the interface to NEG terminal on control.
5. After all connections are complete, place the cover on the interface and turn the Control Panel power ON.
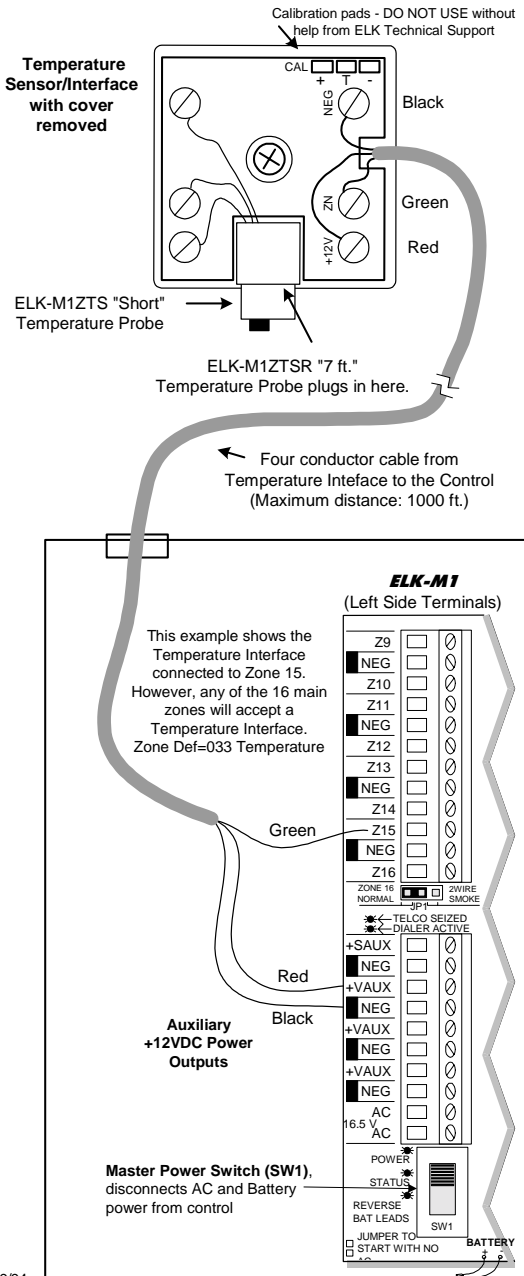
# Zone Temperature Sensor/Interface

☐ **ELK-M1ZTS** (Short Probe)

☐ **ELK-M1ZTSR** (7 ft. Probe)

### APPLICATION:

Allows the M1 or M1EZ8 to monitor remote temperatures. Rules are used to activate outputs, dial phone numbers, deliver voice alerts, etc. A sensor can be interfaced to zones 1-16 of the M1 or zones 1-8 of the M1EZ8. Unit available with short or long (7 ft.) Probe.

**ELK**
PRODUCTS, INC.

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## Zone Temperature Sensor/Interface

☐ **ELK-M1ZTS** (Short Probe)  ‖‖‖‖‖‖‖ 7 62158 55031 7

☐ **ELK-M1ZTSR** (7 ft Probe)  ‖‖‖‖‖‖‖ 7 62158 55032 4



**Temperature Sensor/Interface with cover removed**

Calibration pads - DO NOT USE without help from ELK Technical Support

CAL · + T -  NEG · Black

Green

Red

ELK-M1ZTS "Short" Temperature Probe

ELK-M1ZTSR "7 ft." Temperature Probe plugs in here.

Four conductor cable from Temperature Inteface to the Control (Maximum distance: 1000 ft.)

**ELK-M1**
(Left Side Terminals)

This example shows the Temperature Interface connected to Zone 15. However, any of the 16 main zones will accept a Temperature Interface. Zone Def=033 Temperature

Z9 / NEG / Z10 / Z11 / NEG / Z12 / Z13 / NEG / Z14 / Z15 / NEG / Z16

ZONE 16 NORMAL — JP1 — 2WIRE SMOKE

TELCO SEIZED — DIALER ACTIVE

+SAUX / NEG / +VAUX / NEG / +VAUX / NEG / +VAUX / NEG / AC / 16.5 V / AC

Green

Red

Black

**Auxiliary +12VDC Power Outputs**

POWER / STATUS

REVERSE BAT LEADS

JUMPER TO START WITH NO AC

SW1

BATTERY

**Master Power Switch (SW1)**, disconnects AC and Battery power from control

### FEATURES:
- Measures Temperature From: -50 to +140 F
- Communicates to Control Over 3 Wires
- Operates On Any Main Board Zone, M1 zones 1-16, M1EZ8 zones 1-8
- Up to 16 Interfaces May Be Connected To An M1, Up to 8 Interfaces To An M1EZ8
- Interface May be Placed Up To 1000 ft Away
- Suitable for Indoor/Outdoor Use in a Covered Environment
- Available with Short Probe (M1ZTS) or with 7 ft. Probe (ELK-M1ZTSR)

### SPECIFICATIONS:
- Operating Voltage: 12 Volts D.C.
- Current Draw: 10mA
- Housing Dimensions: 2.375" x 1.25" x 1"

### * * IMPORTANT NOTE * *

For full compatibility with the ELK-M1ZTS or ELK-M1ZTSR the M1 or M1EZ8 Control must have firmware version 4.2.5 or higher and the Elk-RP Software must be version 1.4.1 or higher. Earlier version firmware/software may appear to work but will not produce accurate readings.

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**Instructions Printed On Inside**
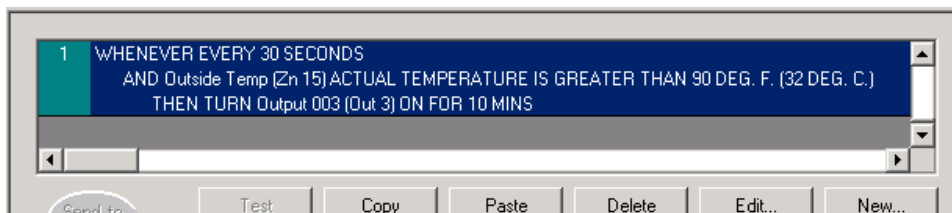
10/04

**Temperature Zone Definition:**
1. Select the zone that is to be connected to the Interface. ONLY ZONES 1 THRU 16 ON THE M1 OR ZONES 1 THRU 8 ON THE M1EZ8 MAY BE USED WITH THE ZONE TEMPERATURE SENSORS.
2. Program the definition of this zone to: 33 -Temperature Zone.
3. Under the Zone Definitions menu enable the "Fast Loop Response" option ONLY. Disable all other options. **VERY IMPORTANT: A zone defined as Temperature MUST also be enabled for Fast Loop Response with the response time set to 200ms or less.**
4. Under the Global Definitions menu and go to the "Zones" tab and verify the "Fast Loop Response" option to be 200ms or less. The factory default is 040 ms., requiring no change.

**View Temperature:** It takes ~30 seconds after power up for the Temperature Interface to stabilize and transmit a reading to the Control. Updates are transmitted every 17 seconds. *The Control stores each temperature reading but discards rapidly changing readings as follows: If a reading is more than 20 degrees higher or 9 degrees lower than the last reading, it will be regarded as a possible error and discarded.* If the control is turned off or reset it takes ~30 seconds to display the temperature.
1. To view temperature from the keypad, press the ELK key (enter code if prompted), then press the RIGHT arrow key to select the View/Control Automation menu.
2. Press the 4 key (or scroll up) to display: 4-Temperature Sensor, then press the RIGHT arrow key.
3. The first temperature zone will be displayed with its Name, Zone Number, and reading.
4. Additional Temperature zones (if any) may be displayed by entering their 3 digit number OR by scrolling with the UP or DOWN arrow keys. To exit from this menu press the * key.
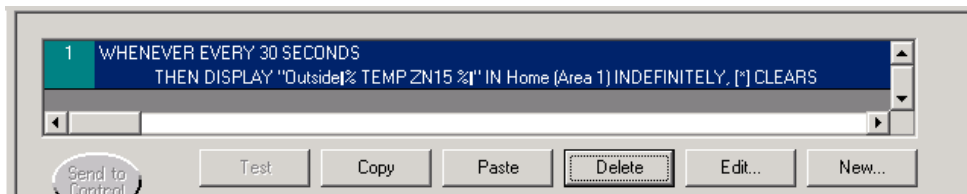
**Using a Temperature Sensor in a Rule:** This ELK-RP Whenever/And/Then Rule example turns on Output 3 for 10 minutes whenever the temperature exceeds 90 degrees.
1. Open the account in ELK-RP. Click on the Automation tab, the Rules tab, and then on New.
2. Click Whenever, then point to Time Occurrence, then Every X Seconds, and then click done. **
3. In the block beside the words Fixed Value, type in 30 and click OK.
4. Click And, followed by Temperature which is located near the bottom of the drop down list.
5. Highlight the temperature sensor zone (by name), click the Greater than button, and change the temperature selection number to 90. Make sure the button beside F is selected, and click OK.
6. Click Then, followed by Turn Output On/Off. Highlight Output 3 (use the scroll down arrow), make sure the button beside Turn on is selected, then select the box labeled For. Highlight the hrs:mins:secs window and enter 00:10:00 (10 minutes). Click OK. Double check everything and click Done. The Rule should resemble the example below.



```
1   WHENEVER EVERY 30 SECONDS
    AND Outside Temp (Zn 15) ACTUAL TEMPERATURE IS GREATER THAN 90 DEG. F. (32 DEG. C.)
    THEN TURN Output 003 (Out 3) ON FOR 10 MINS
```

| Send to | Test | Copy | Paste | Delete | Edit... | New... |

**Temperature Text String Displayed on a Keypad**
1. From the Automation tab click Texts, then click New. In the text string box type the word **Outside**.
2. Click the down arrow on the Insert box. Select Temperature Sensor Reading from the list, then click the down arrow on the next box. Select the temperature sensor zone by name. Click OK. The text block should resemble: **Outside|% TEMP ZN15 %|** This causes the current temperature to display.
3. Click the Rules tab followed by New to write a rule for sending this text string to a keypad.
4. Click Trigger, followed by Time Occurrence, and Every X Seconds. Enter a value of 30 In the block beside the words Fixed Value, then click OK. **
5. Click Then, followed by Send Text to Keypad. Make sure the button Display the following message is selected, then choose the text **Outside|% TEMP ZN15 %|** using the drop down box and arrow.
6. Select Area must match where the keypad is located. Three (3) other options determine whether the text message: may be Cleared with the * key, will Display for a time period, or will Beep Keypad when the message displays. Select any options and click OK. Double check everything and click Done.



```
1   WHENEVER EVERY 30 SECONDS
    THEN DISPLAY "Outside|% TEMP ZN15 %|" IN Home (Area 1) INDEFINITELY, [*] CLEARS
```

| Send to Control | Test | Copy | Paste | Delete | Edit... | New... |

** Numerous triggers may be used for a temperature type rule, i.e., time occurence, arming of the security system, opening of a zone, etc. However, the Control does not allow a temperature reading to be used as a trigger. This helps prevent a false activation "runaway" that could occur simple because the temperature has fluctuated by a degree or fraction of a degree. Instead, the AND command is used to compare or "test" a temperature sensor reading against a target value, each time the trigger occurs. The target value is programmable and the compare options are "Equal to, Not equal to, Less than, and Greater than". The "Equal to" is not recommended as a compare opton because it may be impossible for a temperature reading to be exactly at the target value when the trigger occurs.