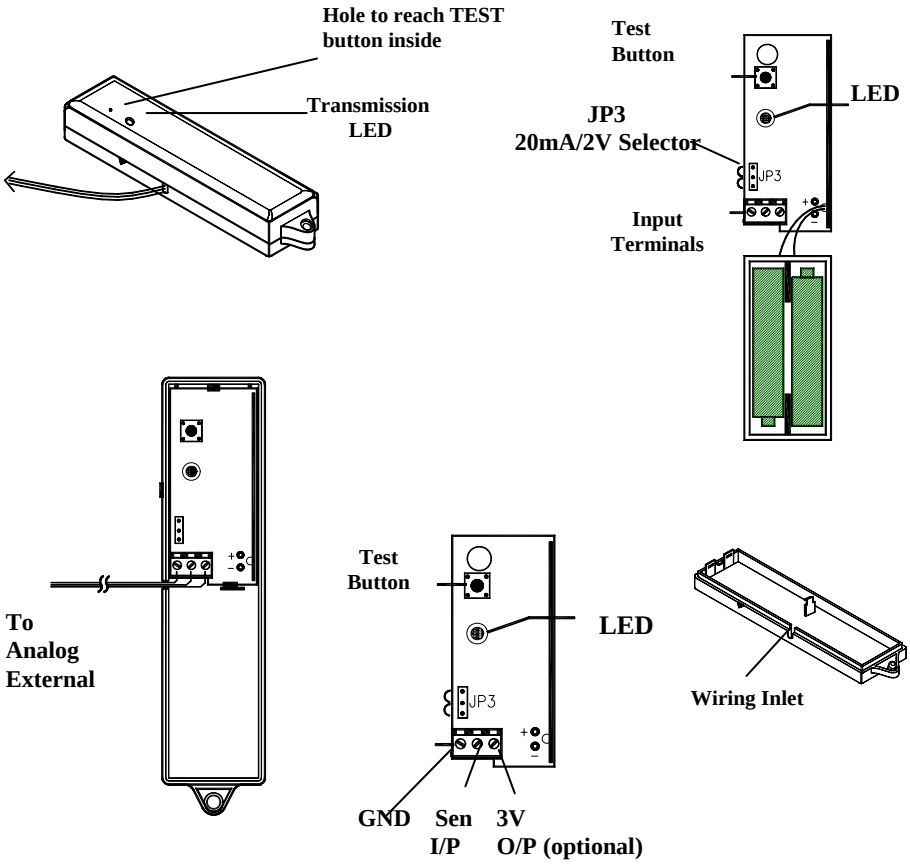
TX-3AS Analog/Temperature Two-in-One Sensor

INTRODUCTION

The TX-3AS is a battery operated wireless Analog/Temperature sensor specially designed for the LS-30 Security System. Any Analog external sensor with 0-20mA (or 0-2V*) output can be connected to the terminals and TX-3AS will translate it into 0-200 readings and transmit the result to the Base Unit by RF signal.

With built-in temperature sensor and wireless operation, the sensor can be put anywhere to monitor/record the data from an Analog external sensor and the temperature in a room, a chamber or even a freezer and the reading will be remotely shown/store in the Base Unit.

(* 0-2V actually is 0-1.952V, please refer to the Specifications.)



INSTALLATION

A. Enrolling Code

1. Loosen the screw of the TX-3AS, open the upper case and connect the Analog external sensor output to the terminals (make sure the output of the Analog external sensor is in the operation range of 0-20mA or 0-2V, if the output is over this range please see the Appendix to adjust the output level before connecting to the terminals).
   Insert two AAA alkaline batteries then put back the cover..

Important Notice: The sensor will issue battery low signal to the Base Unit if the battery voltages are too low for normal operation. In order to reset the microprocessor properly, please press TEST button for 5 seconds after removing the old batteries to discharge the energy that remains in the capacitors of TX-3AS then insert new batteries. Otherwise, it may not restart after changing batteries

2. Select "Installer Mode" on the Base Unit and enroll both sensors to the zone numbers according to your system configuration.
   (This Enrollment also can be done through the HyperSecureLink software from PC)
   Enter Installer Password to gain access authority then select \Set Device\Enroll Device\Special Sensor\Enter Zone No. to enroll the ID of the TX-3AS by pressing its TEST button.
   If the Base Unit receives correct RF code from TX-3AS, the Base Unit will issue "Ding Dong" and show "Enroll OK!" on the LCD display.
   Now the Base Unit has learnt one type of the two sensors (Temperature or Analog external sensor), next step is to enroll another type sensor.

Each time when you press the TEST button on the sensor it will send the current temperature (one flash) or Analog reading from external sensor (two flashes) alternatively.

3. Press YES, enter the Zone number and press the TEST button on the sensor again to enroll another type sensor.
   Note: If LCD shows "Duplicate" it means the received signal type of the reading (Temperature or Analog external Sensor) is the same as the last reading. You have to go to step 2 to enroll another type sensor again.
4. After the Device Enroll is completed, you can go to "Device Check" to check the sensors.
   Select "Master Mode" on the Base Unit and press YES for "System Check? Or Hot Key" then select "Device Check"
   (There should be two new sensors in the device list, one is Temperature sensor and the other one is Analog sensor.)
5. You may change its various attributes under \Set Device\Change Device Setting\Special Sensor to fulfill different requirements.
   The sensor can be set as an **Alarm Device** or a **Control Device**. (Refer to the blocks below)

B. Mounting

It is recommended to attach the sensor on a flat surface by the Velcro supplied.

Note: Do not mount the sensor on a metal surface, the RF transmission range will be shrunk due to radio signal attenuation.

If the sensor is put in a closed freezer, there maybe a large reduction in radio range. The user should move the Base Unit closer to the sensor or using a repeater to relay the RF signal.

C. Testing

Each time when you press the TEST button on the sensor it will send the current temperature (LED flashes once) or Analog reading (LED flashes twice) alternatively.

D. Analog /Temperature Limit Setting (also can be done by HyperSecurLink software)

Select "Installer Mode" on the Base Unit, and enter Installer Password to gain access authority. Then select \Set Device\Special Sensor Limit Set\Enter Zone Number and then set High Limit or Low Limit.

If the Analog/temperature reading is over these limits, the LS-30 will issue Special Sensor alarm and inform the user (Special telephone number should be set).

If both high/low limits are set, the high limit should be greater than the low limit at least for 1 reading.

Note: If the sensor works in the temperature range over +50℃ to -20℃ for a long time, the device's life will be reduced and the performance maybe degraded.

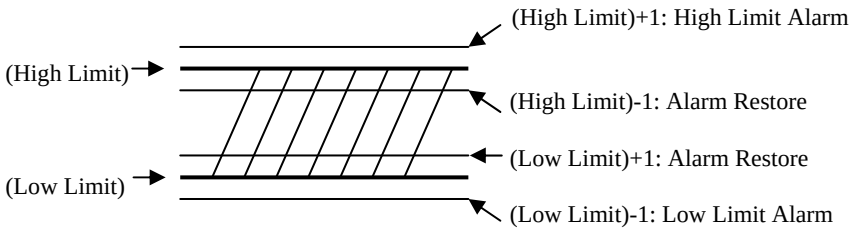
E. Operation and Display

To save battery power, the device sends reading automatically only when the temperature change is over 1℃ or Analog Reading change is over 2 readings.

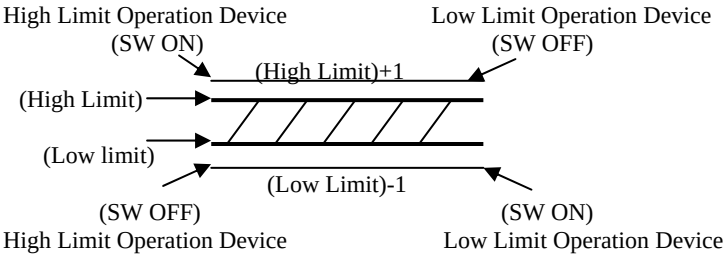
If there is no change for a long time, the device will send the reading hourly to refresh the display.

If there is any new reading transmitted from the device, the Base Unit will keep the last reading on the display alternatively with the time display each for 5 seconds. You can clear the reading by Hot Key C.

Alarm Device: The system issues alarm when the reading is over the limits and issues restore signal when the reading returns to the limits.



Control Device: The reading from this device will not issue any alarm but control the operation of the switches those have been assigned by this device.
High Limit Operation: Turn on at high limit reading and turn off at low limit reading.
Low Limit Operation: Turn on at low limit reading and turn off at high limit reading.

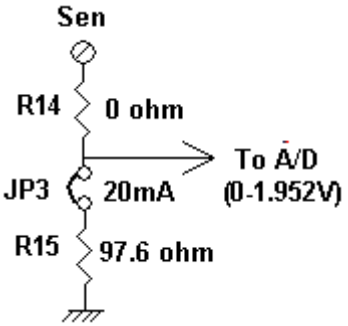


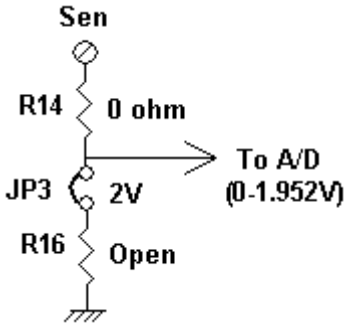
F. SPECIFICATIONS

Supervision: sends temperature/ analog reading at 30-minute interval alternatively.
Power Source: two AAA alkaline batteries.
Working Temperature Range: -20℃ to 50℃ (over this range the working of the device is not guaranteed)
Reading Update Speed: 30-seconds/ Reading.
Temperature Sensor Operation Range: -40℃/85℃.
Temperature Accuracy: 10℃ to 40℃ +/- 1℃ max.
-40℃ to 85℃ +/- 3℃ max.
Analog Reading (MA=02): 0-200 for 0~20mA or 0~1.952V (9.76mV/step) +/-0.5%.
Max. Input Current/Voltage: 100mA or 10V (0-2V input impedance=100KΩ)
Low Battery Detection: 2.6V+/- 0.1V.
Current Drain: 5uA @ standby, 20mA @ RF operation
Estimated Battery Life: Sending 60,000 readings or 3 years (Temperature/Analog readings vary 25 times/day each)
Dimension/weight: 20 x 29 x 123.5 mm, about 34g (w/o battery):

Appendix:

Interface circuits for 0-20mA and 0-2V.
User can change the value of R14, R15 and R16 to meet their specific sensor output.





WARRANTY

The Manufacturer warrants its products (hereinafter referred to as the Product) to be in conformance with its own plans and specifications and to be free of defects in materials and workmanship under normal use and service for a period of twelve months from the date of shipment by the Manufacturer. The Manufacturer's obligations shall be limited within the warranty period. At its option, to repair or replace the Product or and part thereof. To exercise the warranty the Product must be returned to the Manufacturer freight prepaid and insured.

This warranty does not apply in the following cases: improper installation, misuse, failure to follow installation and operating instructions, alteration, abuse, accident or tampering, and repair by anyone other than the manufacturer.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express or implied, including any warranty of merchantability or fitness for a particular purpose, or otherwise. In no case shall the Manufacturer be liable to anyone for any consequential of incidental damages for breach of this warranty or any other warranties whatsoever, as aforesaid.

This warranty shall apply to the Product only. All Products, accessories or attachments of others used in conjunction with the Products, including batteries, shall be covered solely by their own warranty, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, caused by the malfunction of the Product due to Products, accessories, or attachments of others, including batteries, used in conjunction with the Products.

The Manufacturer shall have no liability for any death, personal and/or bodily injury and/or damage to property or other loss whether direct, indirect, incidental, consequential or otherwise, based on a claim that the Product failed to function.

NOTE: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating to conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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