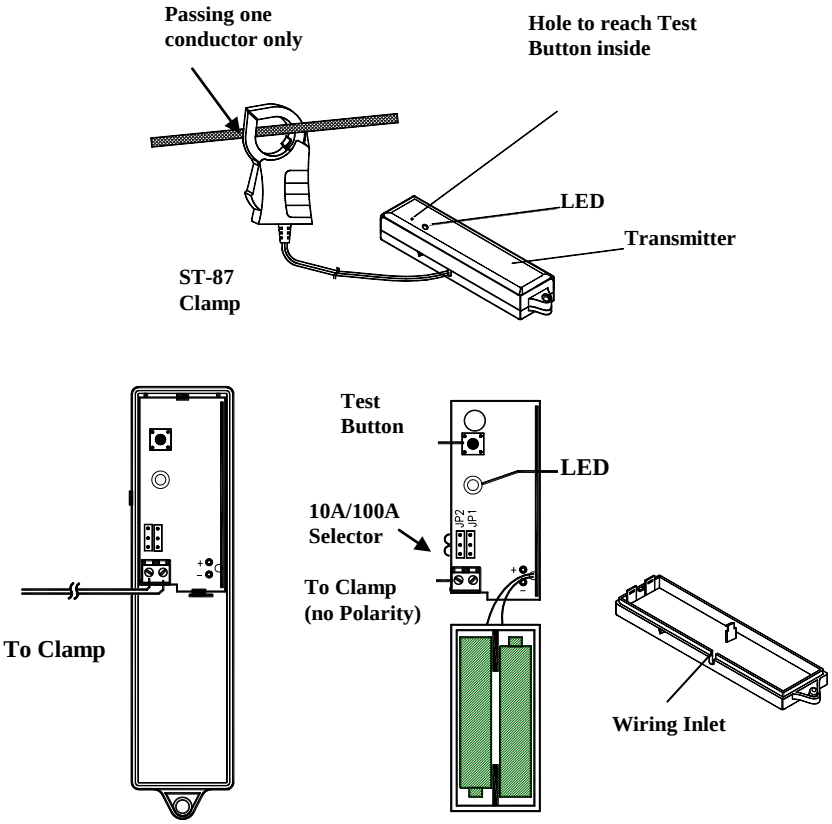
AC Meter & Temperature Two-In-One Sensor, i4H-TX-3AC

Warning: This device must be working in the environment under 600VAC and handled by professional user or electric technician who has the knowledge of AC main power supply.
If user has to open the power distribution box then he must have the permission from the local power company and wear insulating dielectric gloves for safety reason. Mishandling of this device may cause lethal harm to human body.

INTRODUCTION

The i4H-TX-3AC is a battery operated wireless True RMS AC Meter/Temperature two-in-one sensor specially designed for the i4Home System. With the AC clamp probe KT-87, it can measure the AC current up to 100A in 50 or 60 Hz. The measured data will be translated into 0-100 readings and transmit to the Base Unit by RF signal.
With wireless operation, the sensor can be put anywhere to monitor/record the AC current consumption and temperature in a room, a chamber or a power distribution box. The system will issue a real time alarm if the reading is over the high/low limits.



INSTALLATION

A. Enrolling code

1. Loosen the screw of the i4H-TX-3AC, open the upper case, select right position of JP1 and JP2 (default at 100A, both jumpers have to be set for full scale of 10A or 100A) and connect the wires of AC Clamp probe (no polarity) to the terminals. And then insert two AAA alkaline batteries..
2. Keep pressing the Clear/Enroll Button on i4H-LS-20 for over 3 seconds and then release it, the i4H-LS-20 would keep beeping and all LEDs blink. This means the system is ready for enrolling device.
3. Within 30 seconds press the TEST button on i4H-TX-3AC PCB. If you hear 3 short beeps soon later then enrolling successes, otherwise you will hear one long beep after 30 seconds that means enrolling fails, you have to repeat enrolling action.
4. **Now the Base Unit has learnt one type of the two sensors (AC Meter or Temperature sensor), you need to repeat the steps 2 &b 3 to enroll the other type sensor.**

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

Note: Avoid activating any other sensors during the 30 seconds Device Enroll period.

Remarks: 1) In case you have to change the device's attribute, please do it on the cloud web directly, or refer to HyperSecureLink software user guide to change it by computer.

2) The sensor can be set as an **Alarm Device** or a **Control Device**. (Refer to the last page)

3) The settings of the AC Meter & Temperature Limits can be done by the i4H app or HyperSecurLink software.

4) If the AC Meter or temperature reading is over their limits, the base unit would send control command to control the switches or activate Special Sensor alarm.

If both high/low limits are set, the high limit should be greater than the low limit at least for 3 readings.

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.

B. Mounting & operation

It is recommended to attach the sensor on a flat surface of the wall by the Velcro supplied. Do not mount the transmitter on the metal surface of the power distribution panel, since the RF transmission range will be seriously shrunk due to radio signal attenuation.

If the transmitter is put in a closed metal box, there will be a large reduction in radio range. The user should move the Base Unit close to the sensor or use a repeater to extend radio distance.

To measure the AC current the clamp probe can only pass ONE conductor. Normally there are two or three conductors in a power cord, you have to separate the wires and identify the conductor that carries the current (not grounding wire).

C. Testing

Each time when you press the TEST button on the sensor it will send the AC Meter reading (LED flashes twice) or temperature (LED flashes once) alternatively. Check these on the cloud or HyperSecureLink.

E. Measuring data and display

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

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

Note: For the selection of 10A as full scale.

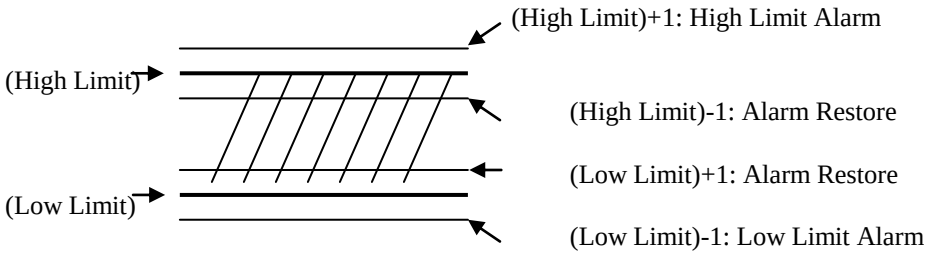
1, Both JP1 and JP2 must be set to 10A position.

2, The reading has to be divided by 10. Ex. Reading=76 means 7.6 A.

If the full scale selector is at 10A position. The “MA” field of “Device Status” in the HyperSecureLink software will be assigned as “01” to indicate the reading needs to be divided by 10 to get the real value.

Set the sensor as Alarm Device and its operation:

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

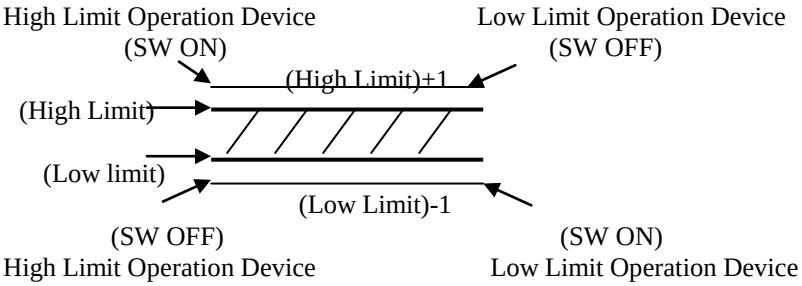


Set the sensor as control device and its operation:

The reading from this device will not issue any alarm but control the operation of the switches those were associated with this device (refer to the HyperSecureLink software).

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 AC Meter/Temperature 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)
Data Sampling Rate: 30-second/ Sampling, (15-second/Sampling available).
Temperature Sensor Operation Range: -40℃/85℃.
Temperature Accuracy: 10℃ to 40℃ +/- 1℃ max.
-40℃ to 85℃ +/- 3℃ max.
AC Meter Reading: 0-100 for 0~10A or 0~100A selectable.
AC Meter Accuracy: +/- 10% +/- 3 readings (for reading above 10).
Measuring method: Using AC clamp probe KT-87 with true RMS reading (50/60Hz).
Low Battery Detection: 2.6V+/- 0.1V.
Current Drain: 5uA @ standby, 20mA @ RF operation
Estimated Battery Life: Sending 250 readings/day for 1 year or 75 readings/day for 2 years.
Transmitter Size/Weight: 20 x 29 x 123.5 mm, about 34g (w/o battery).
KT-87 AC Clamp probe Size/Weight: 96 x 60 x 20 mm, about 85g (not including cable).
Jaw Opening: 25mm in diameter.