

# ADEMCO 5821 Temperature Sensor & Flood Detector

## INSTALLATION AND SETUP GUIDE

The ADEMCO 5821 Temperature Sensor & Flood Detector is a wireless transmitter used with ADEMCO alarms systems that support 5800 series devices. The 5821 can be configured to operate as either a Temperature Sensor or Flood Detector. The 5821 in combination with the ADEMCO T280R is ideal for monitoring refrigerators and freezers in restaurants, kitchens and warehouses where food storage is a concern. The 5821 will send an alarm to the control when the set temperature limit is exceeded or when a flood is detected protecting equipment, property, and perishable items via it's rf transmitter.

When the temperature either increases past the high threshold limit and delay (30 minute delay) or below the low temperature threshold limit and delay (30 minutes) an alarm is triggered. This preset delay offers greater reliability against false alarms due to normal usage of refrigeration equipment.

The refrigeration mode of the device can be used to monitor refrigerator or freezer equipment that keep perishables below a set temperature point. The warm temperature mode of the device is used to warn of a high temperature condition, protecting temperature sensitive equipment and operations. When the temperature rises to the set point temperature, an alarm is sent.

When the set temperature limit is exceeded, the appropriate predefined time-delay begins. At the end of the delay, the alarm is sent.

- Report room air temperature has fallen below 45°F.
- Report room air temperature has exceeded either 75°F or 95°F as selected via the positioning of Dip Switch 1 and 2.
- Monitor and report temperatures above 10°F or 42°F using ADEMCO External Sensor Probe T280R as selected via the positioning of DIP Switch 1 and 2.
- Monitor and report the presence of water using ADEMCO External Probe 470PB with supplied resistor as selected via the position of DIP Switch 2.

The 5821 is powered by a 3-volt lithium battery. If the battery voltage gets too low, the 5821 sends a low battery signal to the control panel.

- Use 3-volt lithium battery:
  - Duracell DL 123A or
  - Panasonic/Sanyo/Varta CR123A.
- Observe polarity.
- When replacing the battery, wait at least 30 seconds after removing the old battery, before installing the new one.

1. Remove the transmitter's top cover by inserting the flat blade of a small screwdriver into the pry-off slot at one end of the unit (see Fig. 1 for location), and slightly twisting the blade until the cover disengages.
2. Install a 3-volt lithium battery as shown in Figure 1.

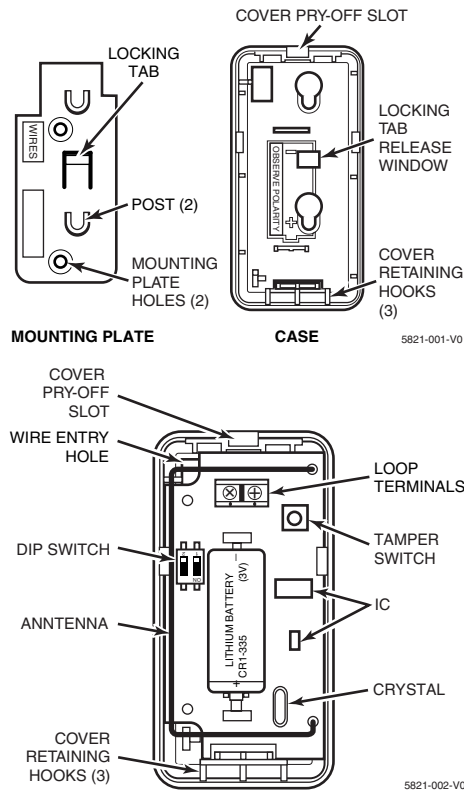
Operating Mode		Cold Temp Mode <45°F	Warm Temp Mode >75°F	Hot Temp Mode >95°F	Refrig Mode >42°F	Freezer Mode >10°F	Flood Mode	TAMPER Mode
Loop Number		Loop 1	Loop 2	Loop 2	Loop 2	Loop 2	Loop 3	Loop 4
Sensor Device		Internal Sensor	Internal Sensor	Internal Sensor	External Probe T280R	External Probe T280R	External Probe 470PB with resistor	PC Board Mounted Tamper Switch
Dip Switch Setting	S1	X	OFF	OFF	ON	OFF	X	X
	S2	X	OFF	ON	ON	On	ON	X

X = Switch position does not matter

## PROGRAMMING THE UNIT

Prior to programming the device you must choose an operating mode. Refer to Table 1 for the applicable operating mode. The transmitter's serial number must be enrolled in the control panel before it will function in the system. When programming this transmitter at the control, note the following:

- Input Type = 3 (Supervised RF)
  - Loop number = 1, 2, 3, or 4
  - Each loop # requires one zone.
1. Install the battery (if not already installed). Observe polarity!
  2. Enter the control's programming mode.
  3. Enter the zone number to be programmed.
  4. Transmit from the detector when prompted by pressing the tamper switch.
  5. When the serial number is displayed transmit from the detector by pressing the tamper switch.  
The current loop number will begin to flash.
  6. Enter the desired loop number manually.
  7. Test the detector after enrolling into the system. Refer to the Testing section.



## MOUNTING THE DETECTOR

You can mount the 5821 on a wall or ceiling within the protection area:

- The 5821 may be installed in any direction.
- When used in-conjunction with the ADEMCO 470PB probe flood sensor, use no more than 12 inches of wire from the 5821 to the flood sensor.
- When used in-conjunction with ADEMCO T280R temperature probe, use the shortest wire possible to improve sensitivity.

- Although the unit can be mounted directly to a surface, we recommend that the mounting plate be used, for ease in removing the unit for servicing should it become necessary.
- Avoid mounting the detector near heat generating devices (e.g. ovens, heat vents, furnaces, boilers) or to a metal cabinet.

**IMPORTANT:** This detector should be used for property protection. Reliance should not be placed on this detector for life safety. When life safety is involved, smoke detectors **MUST** also be used. The detector and its optional probes must not be painted.

## Wireless Transmission Path Test

A good RF transmission path must be established from the proposed mounting location before permanently installing the detector. To determine that there is good signal reception from the proposed location, perform the test procedure described in TESTING THE DETECTOR section. Once a good RF transmission path is confirmed, mount the detector as follows:

1. Remove the battery.
2. Disengage the attached mounting plate from the case by inserting the blade of a small screwdriver into the locking tab release window (see Figure 1) and pressing it against the locking tab (also shown in Figure 1), while sliding the mounting plate upward along the case back until free.
3. Install the mounting plate, with its two case-holding posts pointing up (in this example), in the location selected. Use the flat-head screws supplied.
4. For surface wiring entry, two thin "breakout" areas are provided in the case wall (see Figure 1).
5. Attach the case back to the mounting plate by sliding the keyhole slots in the case back down onto the mounting plate's case holding posts. The locking tab will click as the case back locks in place.

## EXTERNAL PROBE WIRING CONNECTIONS (If used)

6. With the battery still not inserted, connect the wires to the unit's loop terminals (see Figure 2).
7. Install the battery.

## TESTING THE DETECTOR

The test procedure should be performed to determine a good RF transmission path and again after installation is completed.

Activate the control panel's test mode.

Activate the detector:

The system's keypads should beep and the detectors ID should be displayed.

Exit the control's test mode.

## MAINTAINING PROPER OPERATION

To maintain the detector in proper working condition, it is important that you observe the following:

Replace the battery when the system indicates that the 5821 has reported a low battery condition.

Units should never be relocated without the advice or assistance of the alarm service company.

## SPECIFICATIONS

Power: 3V lithium battery  
(Duracell DL123A, Panasonic CR123A, Sanyo CR123A, Varta CR123A)

**CAUTION:** Risk of fire, explosion, and burns. Do not recharge, disassemble, heat above 212°F (100°C) or incinerate. Dispose of used batteries promptly. Keep away from children.

**Operating Temperature:** -10°C to +40°C

**Operating Voltage:** 3.2VDC

**Dimensions:** 3.1" length, 1.6" wide, 1.0" depth

### Sensor Parameters:

Cold Temperature (Freeze) Detector	≤45°F
Warm Temperature Detector	≥75°F
Hot Temperature Detector	≥95°F
Refrigerator Failure Detector	≥42°F
Freezer Failure Detector	≥10°F
Flood Sensor	≤50K Ohms

## TO THE INSTALLER

The mechanism may be subject to reduced sensitivity over time. Annual testing of the operation is recommended.

Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system.

The installer should assume the responsibility of developing and offering a regular maintenance program to the user as well as acquainting the user with the proper operation and limitations of the alarm system and its components parts. Recommendations must be included for a specific program of frequent testing (at least weekly) to ensure the system's proper operation at all times.

## FCC NOTICE

**FCC ID: CFS8DL5821**

This device complies with Part 15 of 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.

**CANADA: 1748A-5821**

REFER TO THE INSTALLATION AND SETUP GUIDE FOR THE CONTROL PANEL WITH WHICH THIS DEVICE IS USED FOR WARRANTY INFORMATION AND LIMITATIONS OF THE ENTIRE ALARM SYSTEM.



**Honeywell**

**165 Eileen Way, Syosset, New York 11791**

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