Installation and User Guide

Temperature Extremes Sensor

Tunstall

Introduction

The Temperature Extremes Sensor has been designed to detect three specific temperature situations, 'high' and 'low' and rapid rate of temperature rise.

The 'high' temperature threshold and temperature rise detection are primarily used to indicate the occurrence of excessive temperatures, for example, within the kitchen.

Depending upon the version of Temperature Extremes Sensor being used, the 'low' temperature threshold will alarm:

- To warn of possible water pipe bursts due to the freezing temperatures or
- To warn of low room temperatures that are associated with risks to an individuals health

The following Temperature Extremes Sensors are available:

Tunstall part number	Low temperature	Main use	High temperature	Main use	Working Frequency
69005/03	2˚C	Freezing pipes	35˚C	Excessive temperature in kitchen	869MHz
69005/04	12˚C	Low room temperatures	42˚C	Excessive temperature in kitchen	869MHz
69005/05	2˚C	Freezing pipes	42˚C	Excessive temperature in kitchen	869MHz
69005/06	16˚C	Low room temperatures	42˚C	Excessive temperature in kitchen	869MHz
64604/08	2˚C	Freezing pipes	35˚C	Excessive temperature in kitchen	312MHz

How does it work?

If the Temperature Extremes Sensor detects a high or low temperature or a set rate of rise in temperature then an alarm call will automatically be made by the Tunstall home unit to a monitoring centre. An alarm call will also be made if the Temperature Extremes Sensor detects that its battery is getting low.

- The high temperature alarm will be generated if the temperature goes above the high temperature level for more than 2 minutes.
- The low temperature alarm will be generated if the temperature goes below the low temperature level for more then 20 minutes
- The rapid rate of rise alarm will be generated if the temperature rises by 1˚C per minute over a 30 minute period or 3˚C per minute over a 5 minute period.

The Temperature Extremes Sensor will only generate one alarm call for each high/low/rate of rise occurrence.
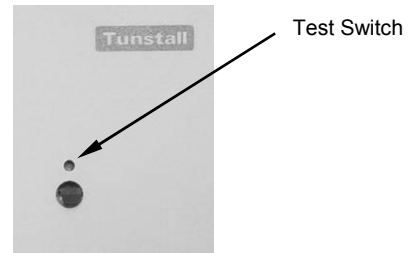
Careful consideration should be taken to the positioning of the sensor to ensure it is in the best position to sense the appropriate temperatures.

How to program

This section covers the programming of the Temperature Extremes Sensor and is provided for the Tunstall Engineer or, suitably trained, representative. It covers how to program the sensor to the Tunstall home unit or other compatible receiving equipment.

Programming to the home unit

1. Fit the batteries into the sensor – see 'How to install' section.

2. Follow the instructions for your home unit to enter programming and registration mode, then activate the Temperature Extremes Sensor.

Test Switch

3. The Temperature Extremes Sensor can be activated by depressing the Test Switch (refer see diagram – use a paper clip or wire of less than 2mm diameter) for less than two seconds.

4. The home unit will acknowledge the receipt of the test signal.

5. Exit from programming mode.

6. Test the sensor, by activating the test switch and ensure the home unit generates a call to the monitoring centre.

7. Now choose the correct location for the sensor

Notes
For the 'TES Auto Low Batt' message to be brought to the operator's attention the PNC3 Vision software release must be 5.60 or greater and the Line Interface Module (LIM) Firmware must be 052V1R5.61 or greater.

TT92 protocol **MUST** be enabled.

Where to position

Careful consideration should be taken to the positioning of the sensor to ensure it is in the best position to sense the appropriate temperatures.

Important
The Temperature Extremes Sensor is intended for indoor use only.

The Temperature Extremes Sensor will operate only between -10°C and +55°C.

The Temperature Extremes Sensor can be positioned on a ceiling (maximum recommended height 8'6"/2.6m) or a wall.

It is recommended that the Temperature Extremes Sensor be fitted to the ceiling when monitoring temperature rates of rise and the high temperatures.

The Temperature Extremes Sensor must be positioned at an approximate central point on the ceiling, away from any door or window and at least 1800mm from the wall that the back of the cooker is fitted to. It should also be clear of any light fitting. The Temperature Extremes Sensor, must always be mounted at least 30cm away from a wall or corner.

If the ceiling is not practical or, the mounting surface may become considerably warmer or cooler than the room, such as a poorly insulated ceiling, the Temperature Extremes Sensor

may be mounted on the wall. It should be mounted away from a window or door and between 15 and 30 centimetres down from the ceiling / wall intersections.

It is recommended that the Temperature Extremes Sensor be fitted to the wall when monitoring cold conditions. For monitoring cold conditions the Temperature Extremes Sensor must be located in close proximity (for example within 50cms) to the area or item being protected, preferably away from any draught and avoiding locations that could expose it to accidental damage, i.e. being knocked or kicked.

Ensure that the Sensor location offers a good radio transmission path to the receiving equipment. This is not normally a problem; however ensure that the Temperature Extremes Sensor is not mounted on or next to a metallic surface or structure (cabinet).

The radio transmission path must be verified by holding the Sensor in the desired position and pressing the test switch. An alarm call will be sent to the receiving equipment. Receipt of this call will confirm adequate placement of the Temperature Extremes Sensor.

Important
The Temperature Alarm Sensor must first be programmed into the Tunstall home unit or other compatible equipment prior to this test. Refer to the 'How to program' section.

If the receiving equipment is relocated within the room at any subsequent time, then the radio transmission path from the Temperature Extremes Sensor must always be verified.

How to install

Prior to installation ensure that the Temperature Extremes Sensor has been programmed to the Tunstall home unit or other compatible receiving equipment. Refer to 'How to program' section.

Fit the three AAA Alkaline supplied batteries to the Temperature Extremes Sensor in the **correct orientation**. Depiction of the correct battery orientation is moulded into the battery holder (this must be undertaken prior to programming the receiving equipment). The Temperature Extremes Sensor is fixed to a flat surface (wall or ceiling) using the two screws provided. Two wall fixings (rawl plugs) are also provided, if required.

The boxed Temperature Extremes Sensor contains four enclosure screws, four corner caps, four mounting feet, two rawl plugs and two wood screws. Two enclosure screws directly screw the base to the top. The other two enclosure screws fix the mounting feet to the enclosure. Two corner caps fit on the corners where there are no mounting feet.

Ensure that the base is fixed securely to the mounting surface using the screws provided.

Whenever the unit is opened, ensure that the rubber pad in the base locates over the batteries.
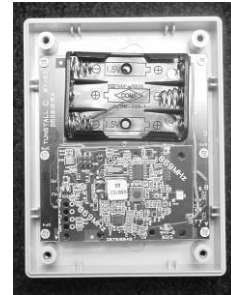
Batteries

Three AAA size alkaline batteries are used to supply power to the temperature sensor sub-assembly. These batteries should be replaced every 18 months.

The AAA size batteries within the Temperature Extremes Sensor must be replaced within 21 days of a 'TES Auto Low Batt' alarm being received by the Monitoring Centre. The batteries should not be replaced by the user.

All three AAA batteries must be replaced at the same time. Battery replacements must be of the same type i.e. alkaline type, size AAA, IEC identification LR03.

Varta LR03, Duracell MN2400 or Panasonic AM-4PI are acceptable batteries. Re-chargeable batteries **must not** be used.

To replace the batteries:

1. Remove the Temperature Extremes Sensor from the wall or ceiling. Remember the correct orientation for refitting.

2. Lever off the two corner screw covers and remove the four enclosure fixing screws holding the base to the enclosure lid and remove the base. Remember which corners have the mounting feet fitted.

3. Replace all three batteries with the replacements as listed, taking care to observe the correct battery polarity.

4. Replace the four enclosure screws (two have mounting feet), refit the screw covers and fit the Temperature Extremes Sensor back in its original position.

5. Ensure the Temperature Extremes Sensor is operating correctly by making a test call, utilising the Test Switch, through to the Monitoring Centre.

How to maintain

The Temperature Extremes Sensor should be cleaned approximately every six months to ensure that the enclosure remains free of dust, cobwebs and grease. The Temperature Extremes Sensor can be dusted with a dry cloth or vacuumed. A test alarm should be made following cleaning by activating the test switch.

It is recommended that a test call is made at regular intervals.

DO NOT USE WATER OR A DAMP CLOTH

IMPORTANT NOTICE

The product is NOT a Fire Detector.

The product must not be used as a Fire Alarm
The product must not be used as a Smoke Detector.
The Temperature Extremes Sensor can only activate its alarm when it detects low or high temperatures. Please see the following page for these temperature settings. This alarm will not detect smoke, flame or gas.
Reliance should not be placed on the Temperature Extremes Sensor product for life safety or property protection.

FCC approvals

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Temperature Extreme Sensor (Part Number 64604/08)
FCC ID: G2X-6460408A

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.

Warning
Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

New Zealand and Australia Approvals

The Temperature extreme sensor model 64604/08 has been approved to the following applicable standards.

AS/NZ4268:2003

N72 ☯

European Approvals

Approval: This product is marked with a CE mark and constitutes a Class 2.7 device. The radio system has been designed to comply with EN50134 series of European Norm standards specific to Social Alarms.

The product exceeds the requirement for Electromagnetic Compatibility (EMC) standard BS EN 50130 part 4; which sets criteria for EMC Immunity for components of fire, intruder and social alarm systems.

The radio triggers (and receiver) are in accordance with the specific European Social Alarm radio frequency band allocation (from 869.20 to 869.25MHz). They operate at 869.2125 MHz.

The radio transmitters comply with mandatory radio standards for Short Range Devices (SRD) ETSI EN 300-220: The radio receiver also conforms and exceeds the mandatory class 1 criteria necessary for "Safety Critical SRD…where failure may result in a physical risk to a person."

Transmitter parameters

The transmitter follows a pre programmed cycle leading to a typical duty cycle class of 1 (<0.1%):	A class 2.7 device
Effective radiated power 200 micro Watts	Frequency error $\pm$ 3 kHz maximum
Adjacent channel power <100 nano Watts	
Effective range of up to 50m (into standard alarm telephone)	Intended area for use is Europe
Intended environment is group II - indoor in general with intended operating temperature between –10 to +55 Celsius	Expected battery life 20000 operations

---

<u>Declaration of Conformity</u>

We, Tunstall of Whitley Lodge, Whitley Bridge, Yorkshire, England, DN14 0HR declare that the 869 T.E.S. conforms with the essential requirements of the RTTE directive 1999/5/EC. Essential radio test suites have been carried out.
Model Number: 69005/03, 69005/04, 69005/05, 69005/06 and 64604/08
Applicable standards:

EMC	EN 55022:1998
	ETSI EN301-489-1:(2000-08) Class 1
Safety	EN 60950:2000
Radio	ETSI EN 300 220-2 (2007)
Social Alarm	EN50130-4:1995 + amendment A1:1998

Signed

Technical Director   Date   May 2003

C E   (!)

Associated Summary Information (03RTTE004A)   The CE mark was first applied in May 2003

Tunstall