Installation and user guide

Property Exit Sensor

D4107101B

All the reassurance you need Tunstall

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1.0 Introduction

The Tunstall Property Exit Sensor (PES) is an advanced Telecare sensor for use with clients who may be at risk of either leaving the property at inappropriate times or for an inappropriate duration.

The PES is compatible with all Tunstall 869 MHz social alarm systems. The PES is highly configurable allowing optional alarms to be raised if:

- Client leaves the property, by the monitored door, for greater than a configurable length of time. This monitoring can be continuous i.e. all day or over a given time period
- Monitored door of property is left open for longer than a configurable length of time. This monitoring is continuous i.e. all day

It is also possible to automatically switch on a light when the monitored door is opened and switch it off when the monitored door is closed. The PES is configured by a special program that runs on a Palm personal organiser product. Before using the PES it is recommended that this manual be read in its entirety.

2.0 Equipment

PES systems are made up of the following system components: -

Part Number	Description	Notes
41005/14	PES Telecare Interface Module (TIM) unit	Always required
41005/07	PIR	Always required
GS467	Door contacts	Always required
D4105003A	PIR and door contacts cable	2 required
D4105004B	Keyswitch cable	1 required
41005/04	X10 Controller	Optional – required to turn lamp on
D4106002A	X10 Lamp Module	Optional – required to turn lamp on
S4106007	Bluetooth adapter kit	Parani SD200 Bluetooth adapter (requires S4106008 and D4105005B)
S4106008	Battery box	for S4106007
D4105005B	Cable	for S4106007
SA125	Sensor Tool 2 software	Stored on SD memory card
S4106006	Palm personal organiser (PDA)	Tungsten E2 model

For convenience the TIM, PIR, door contacts, keyswitch and cables are available in a packaged kit – 41005/15

3.0 Functionality

The functionality of the PES is detailed in this section.

3.1. Client Absence Alarm

This alarm will be triggered if the person opens the monitored door and subsequently moves out of range of the movement detector for a configurable amount of time, irrespective of whether the door has been left open or not (providing the keyswitch is in the enable position).

The following additional features are connected with this alarm: -

- **Monitoring period** – the client wandering alarm is active between these times. The external keyswitch will disarm and re-arm the device during the monitoring period. If the monitoring period is set as “always active” then the keyswitch will temporarily disable the alarm.
- **Use of Keyswitch** - When the wandering alarm is “armed” by the keyswitch (i.e. in the “on” position) it will emit a series of beeps for the duration of a configurable exit time after which it will begin monitoring (like a burglar alarm). The exit time may be set to 1, 2, or 5 minutes. When the device is disarmed by the keyswitch it will emit a short tone to confirm to the user that the wandering alarm has been disarmed.
- **X10 Operation** – During the time the detector is monitoring for wandering, a signal will be sent to turn on an X10 device when the door opens, and another signal to turn off the device a configurable time (0, 5, 10 or 15 minutes) after the door has been closed.

3.2. Door Left Open Alarm

This optional alarm will occur if the protected door has been left open for a configurable duration, irrespective of whether movement has been detected by the PIR.

- The Door Left Open Alarm is reset when the door is closed
- The Door Left Open alarm is not affected by the position of the keyswitch.

3.3. Automatic Low Battery Alarm

The PES will raise an automatic alarm if a low battery condition is detected. This alarm will be repeated every 7 days until the batteries are changed in the TIM

3.4. Other Functionality

The PES can also emulate the operation of a standard radio PIR (67005/34) and radio door contacts (41005/23) in addition to the PES specific functionality described earlier. These emulated sensors can be used in place of physical sensors which can reduce the amount of equipment required in a telecare installation

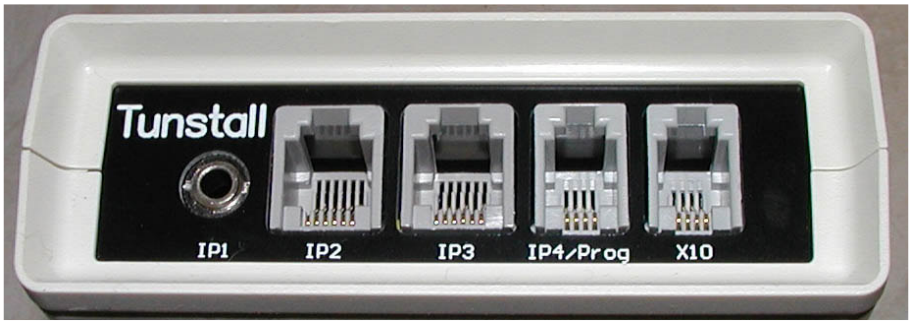
4.0 Installation

Installation of the PES comprises 2 stages:

- Installation of the PES components
- Configuration and testing of the PES installation – this is covered in Section 5 of this document

4.1. PES Component Installation

The following diagram shows the front panel of the PES TIM (41005/14).



IP1 is used to connect the keyswitch (41005/08) using the cable (D4105004B)

The PIR (41005/07) is connected to IP2 using the cable (D4105003A)

The door contacts (GS467) are connected to IP3 using the cable (D4105003A)

IP4 is used for connection of the Bluetooth programming adapter

X10 is used for connection of the optional X10 Controller (41005/04)

To plug a connector into these sockets, simply push the connector in until it clicks, or in the case of IP1, just push it in until it won't go any further. Gently pull on the lead to make sure that it doesn't come loose.

To remove the connectors from all sockets other than IP1, push down on the plastic tab on the top of the connector (shown in the picture) and gently pull the connector out of the socket. If it doesn't pull out, you're not pushing the tab down hard enough.

Positioning of the TIM may require some thought and the following guidelines are recommended:

- Several cables connect to the TIM and it is important that these are appropriately located and secured. The cables should not be extended.
- If an X10 Controller is fitted, then the sensor control unit must be within range of a suitable mains power socket.
- If necessary the TIM can be wall mounted using the plastic feet supplied with the TIM. To ensure good 869 MHz radio performance, ensure that the TIM is not mounted onto a metal surface or close to metallic items.

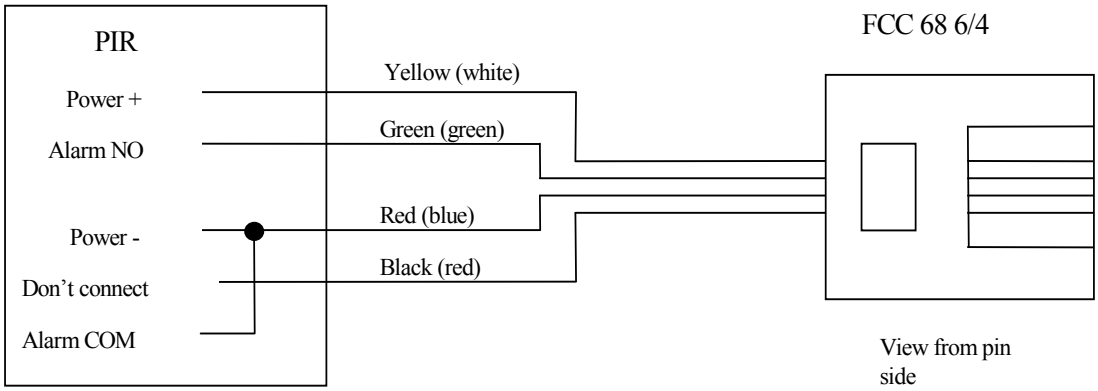
4.2. PIR Installation

A PIR (Passive Infra Red) detector is used to detect person movement.

The PIR should be sited above the door that is being monitored in accordance with the instructions supplied with the PIR. The objective is to ensure that movement immediately to the inside of the door is detected.

Under the cover of the PIR, jumper links can be found. The Pulse Count jumper should be set to 2 and the Walk Test jumper MUST be fitted. Note that the walk test LED will not illuminate. The back box supplied with the PIR is not needed in this application and can be removed if required.

The PIR should be connected to IP2 on the sensor control unit using the supplied lead. The required wiring connections are shown below:

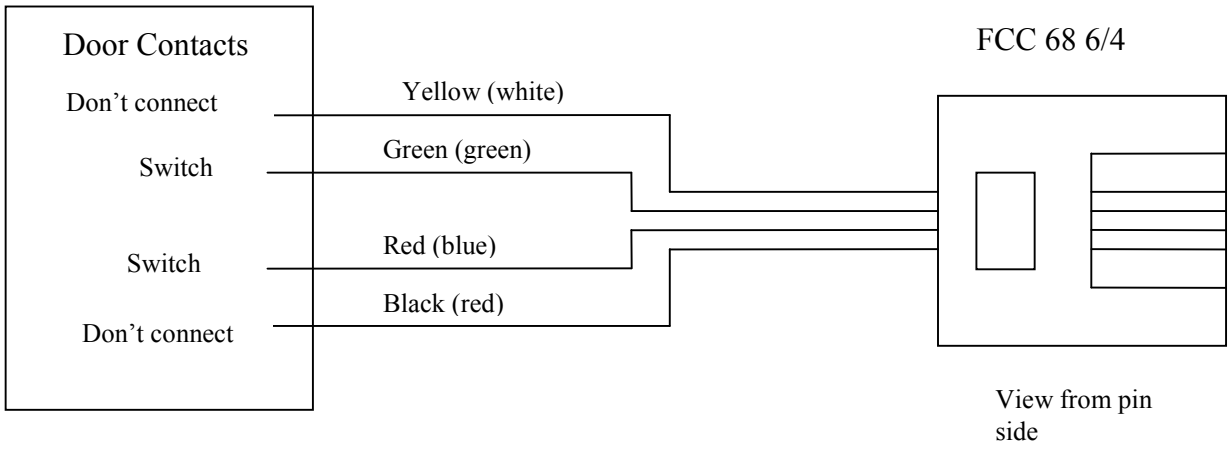


Alternate colours in brackets

4.3. Door Contacts Installation

The door contact pair (magnet and switch) should be mounted on the door that is being monitored. The only limitation for mounting the magnet and switch is that they are not near other magnetic sources, and that they don't physically touch when the door is opening or closing, as this can cause the door to not open or shut properly. If the door or frames are metallic, the pair should be mounted as close as possible to each other.

The door sensor should be connected to IP3 on the sensor control unit using the supplied lead. The required wiring connections are shown below:



Alternate colours in brackets

4.4. Keyswitch Installation

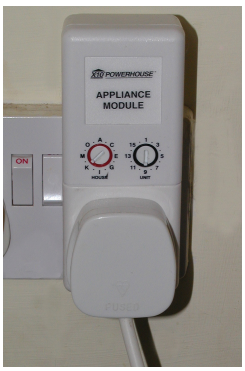
The keyswitch is used to enable or disable the system when a carer attends the person. It is normally sited near the door that is being monitored. This positioning is not vitally important, but should be convenient for the carer.

The keyswitch should be connected to IP1 on the sensor control unit, (a 3.5mm jack plug) using the provided lead. Connect to closed connections when the switch is off. These are the L1 and L3 terminations at the rear of the switch. The polarity is not important.

It is important to check that the cable clamp holds the cable correctly. This may be achieved by folding the cable back on itself such that it is sufficiently thick to be clamped.

4.5. X10 Equipment

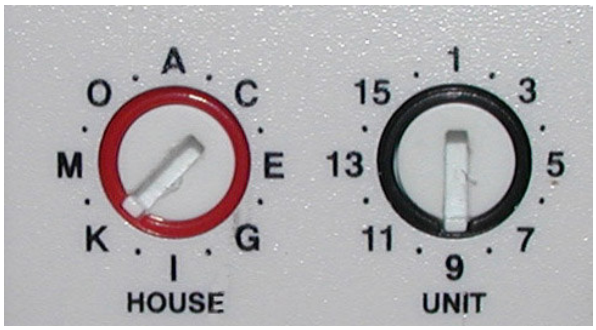
An X10 Main Controller (41005/04) is on the left and an X10 Appliance/Lamp Module Controller (D4106002A) on the right. The X10 Main Controller connects to the X10 input on the TIM using the supplied lead



The manufacturer's instructions supplied with the X10 equipment should be followed. As mains appliances are being controlled, consult a suitably qualified person if in any doubt.

The X10 Main Controller should be plugged into a convenient mains socket reasonably close to the sensor. The X10 Appliance/Lamp Module Controller should be connected to the required appliance e.g. light. Note that in order for the X10 to be able to control the connected appliance e.g. lamp, any switch on the lamp must be in the 'on' position. Also standard bulbs i.e. not florescent or energy saving lamps must be used if the dimming function is required

Each X10 Appliance/Lamp Module Controller has a House and Unit address and it is important that these match the information programmed into the TIM. The X10 Module address is set using two rotary switches on the front of every module. In the following picture, the address of the module is "K9".



To set the address, simply insert a broad bladed screwdriver into the slot on the rotary switch, until the switch points to the desired address.

Within a single house, the unit address should be used to distinguish different X10 Appliance/Lamp Module Controllers. If X10 equipment is installed in different houses that are close to each other, then a different house address should be used.

5.0 Configuration and Testing

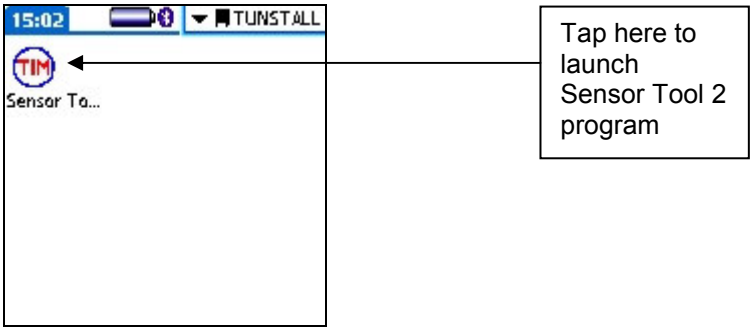
Before the PES can be used, it must be configured using Tunstall Sensor Tool 2 software running on a Palm personal organiser. The Sensor Tool 2 software allows full configuration of the unit and also incorporates some test functions to help ensure that the equipment has been installed correctly. To ensure you have the latest software version, please visit www.tunstall.co.uk/downloadcentre.

Before attempting to configure PES please check that

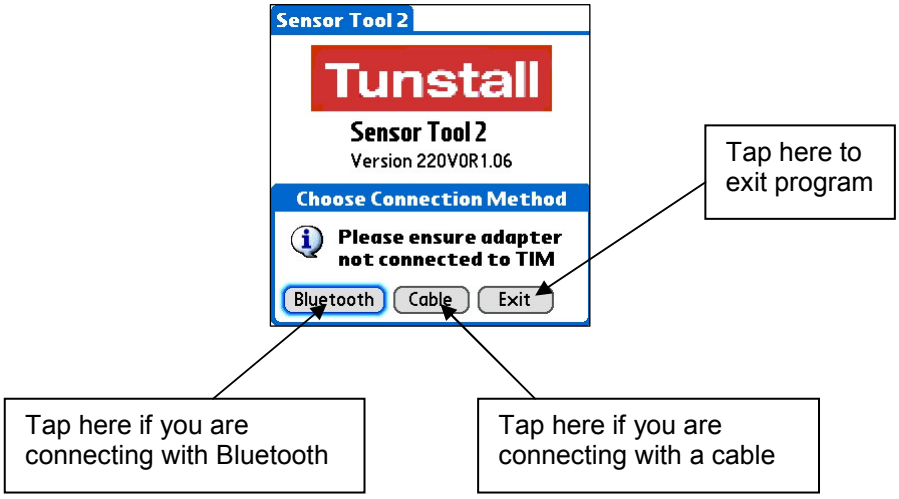
- Batteries are fitted in the PES TIM. Refer to Section 6.1 for further details.
- The memory card with the Tunstall Sensor Tool 2 software is fitted in the Palm.
- Batteries are fitted in the Bluetooth adapter if it is being used and it is switched on. Refer to section 7.0 for further details.

5.1. Running the Sensor Tool Software

Insert the memory card into the Palm – the following screen should appear

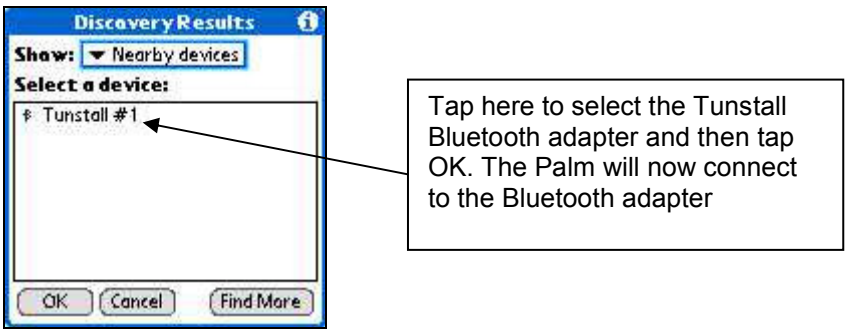


The following screen will appear. Ensure the programming lead is not plugged into IP4 of the Palm.

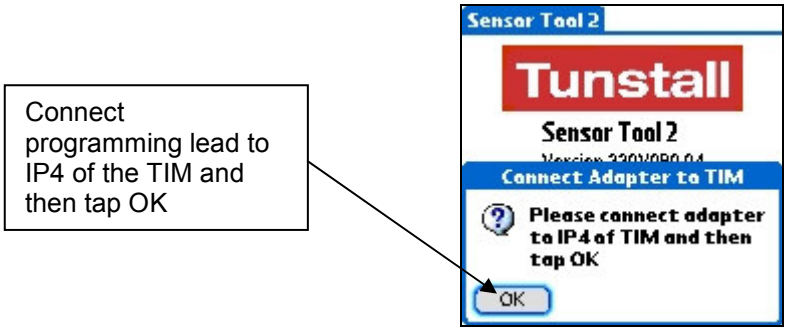


If you are connecting with Bluetooth, the Palm will look for nearby Bluetooth devices. A list of devices will appear.

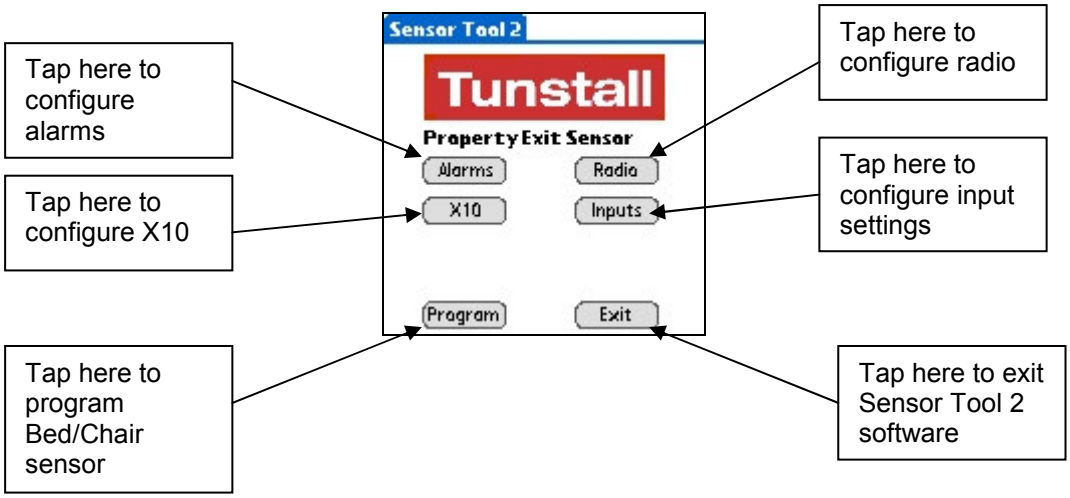
The Tunstall device will be identified as Tunstall #x where x is a number. If you are connecting with a direct cable connection then this section does not apply.



The Palm will now prompt you to connect the programming lead to IP4 of the TIM.



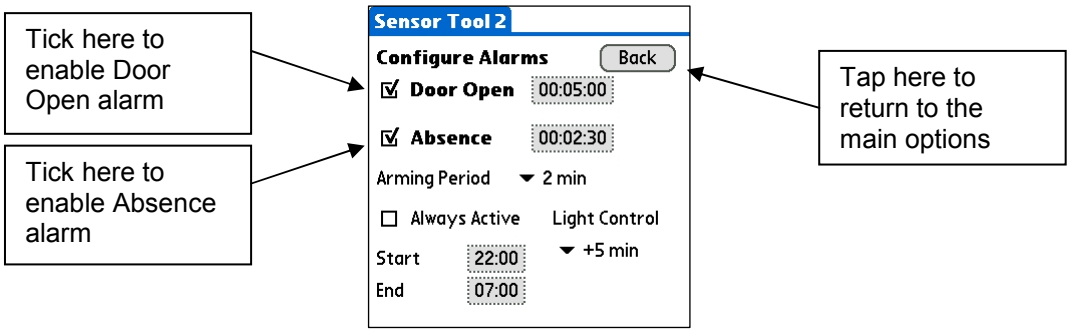
The Palm will now download the current settings from the PES and present the main options screen.



Tapping the Alarms, X10, Radio and Inputs buttons will move to the relevant configuration screen for that part of the PES functionality. Each of these screens has a Back button that will move back to the main options screen. Tapping the 'Program' button will write the new settings to the PES. Tapping the Exit button will exit the Sensor Tool 2 software.

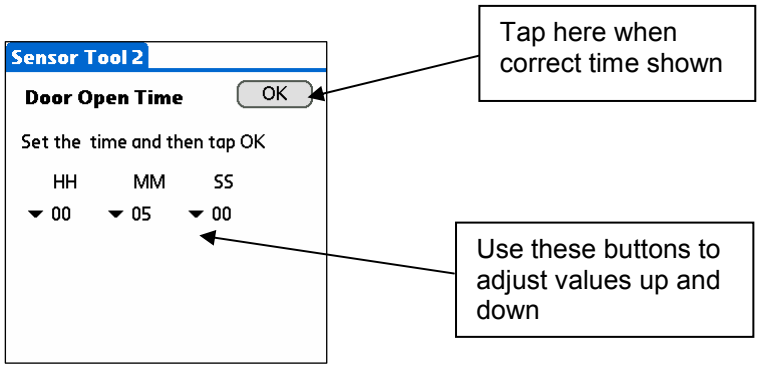
5.2. Configuring PES Alarms

The Configure Alarms screen provides a means to configure the alarm functionality of the PES. Each alarm can be individually enabled or disabled by tapping the checkbox. If the checkbox is ticked then the alarm is enabled and further configuration options appear.



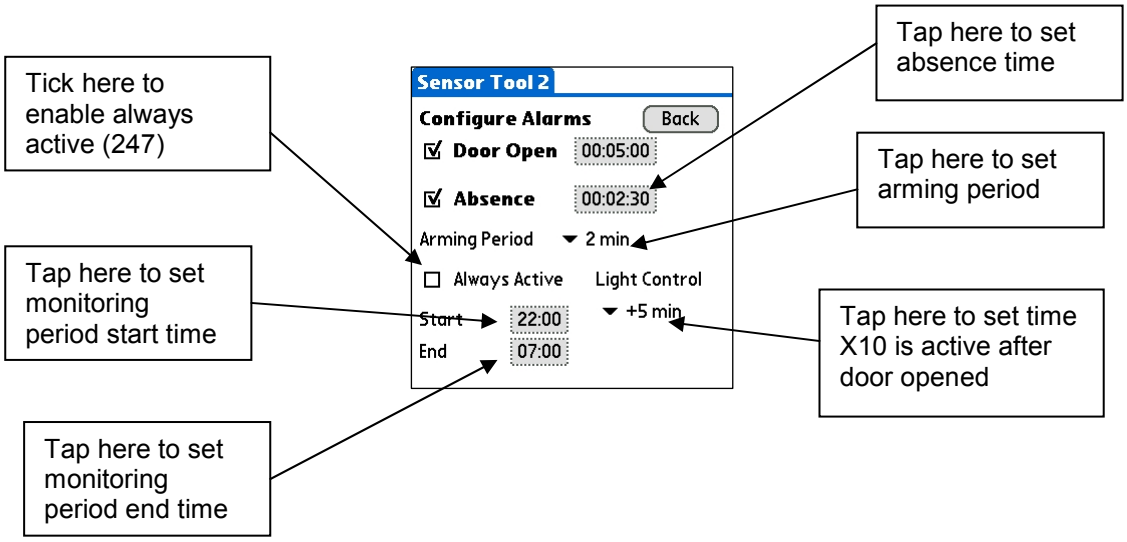
5.2.1. Configuring the Door Left Open Alarm

If the Door Open checkbox is ticked, then a time value will be shown which is the length of time the door can be left open before an alarm is raised. Tapping the time value will result in a message box popping up allowing the time to be altered. Tap on the required field and then use the arrow keys to set the required value. When the correct value is displayed then tap the OK button.



5.2.2. Configuring the Absence Alarm

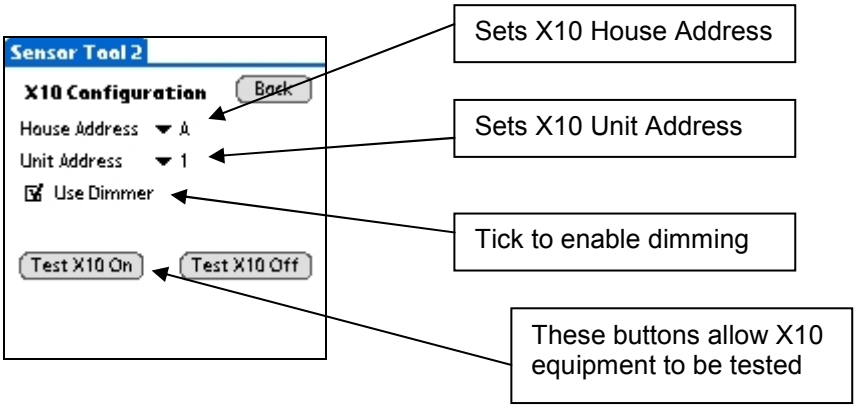
Ticking the Absence checkbox will reveal the following configuration options.



Note that if the Always Active checkbox is ticked then the monitoring period and light control settings are hidden. The Absence time is the time a client can be absent from the property. The Arming Period is the length of time, the PES waits before restarting monitoring after the keyswitch is moved to the enable position e.g. after a carer has left the property. The Light Control value is the length of time, an X10 controlled appliance remains on after the door has been closed.

5.3. Configuring the X10 Settings

The X10 Configuration screen is used to configure the Bed/Chair sensor to operate the optional X10 equipment in order to switch a lamp on and off when the client gets in and out of the bed or chair. The House address and Unit address settings must match the settings on the X10 equipment described in Section 4.5. Once the settings are configured, then the equipment can be tested using the Test X10 On and Test X10 Off buttons.

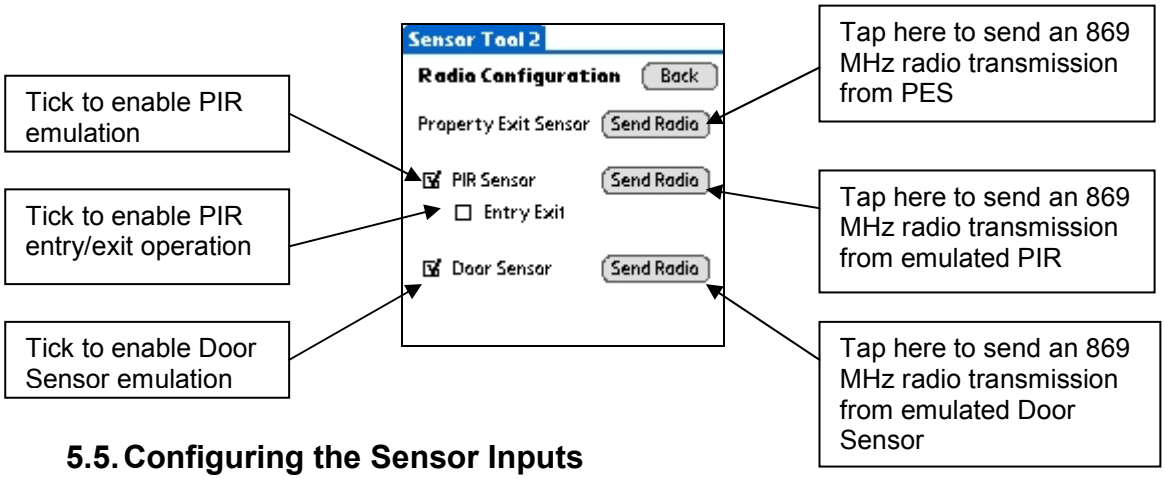


5.4. Configuring the Radio

The Radio Configuration settings provide a means of sending an 869 MHz radio transmission from the PES so that it can be programmed into a Tunstall social alarm system. Additionally the PES can be configured to emulate radio PIR and door contacts by ticking the respective checkboxes.

When the PIR checkbox is ticked, another checkbox will appear allowing entry/exit mode PIR operation and also a button to send an 869 MHz radio transmission from the emulated PIR so that it can be programmed into a Tunstall social alarm system.

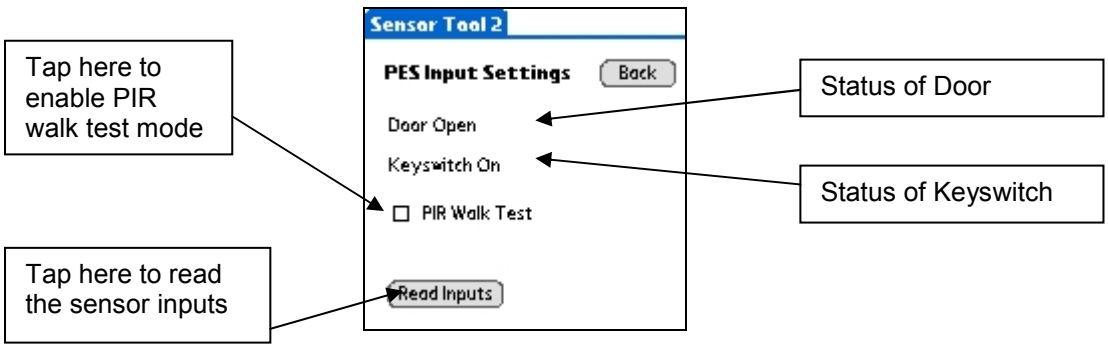
When the Door Sensor checkbox is ticked, a button will appear to send an 869 MHz radio transmission from the emulated Door Sensor so that it can be programmed into a Tunstall social alarm system



5.5. Configuring the Sensor Inputs

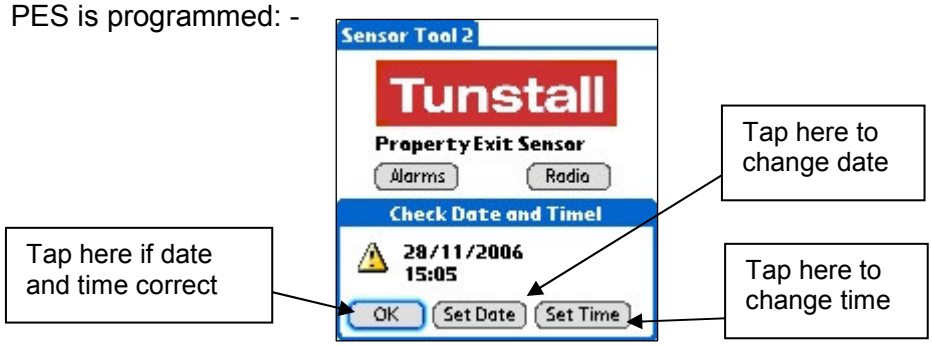
This screen is used to test that the PIR, door sensors and keyswitch connected to the PES TIM are working correctly. The status of the door sensors and keyswitch can be obtained by tapping the Read Inputs button.

A checkbox is provided to place the TIM into PIR walk test mode. When this box is ticked, the TIM will beep each time the PIR detects movement. This mode is exited by un-ticking the checkbox. Note that to exit this mode it is necessary to temporarily disconnect the PIR cable from IP2.



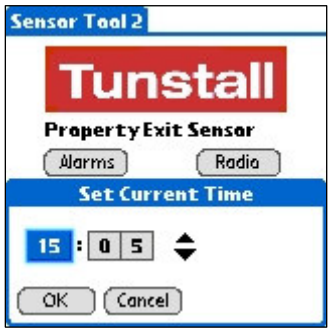
5.6. Programming the PES

Once the required PES settings have been configured, then the settings must be programmed into the PES using the Program button on the main options screen. It is important that the correct date and time are programmed into the PES and these are obtained from the Palm. A prompt is given to check these before the PES is programmed: -



If the Set Date or Set Time buttons are tapped, then the date or time can be changed using the following screens: -

Once the correct date and time settings are displayed, the OK button should be tapped and the settings will be programmed into the unit. When programming is complete, the user is prompted to disconnect the adapter from IP4 of the TIM and the program exits.



6.0 Service Considerations

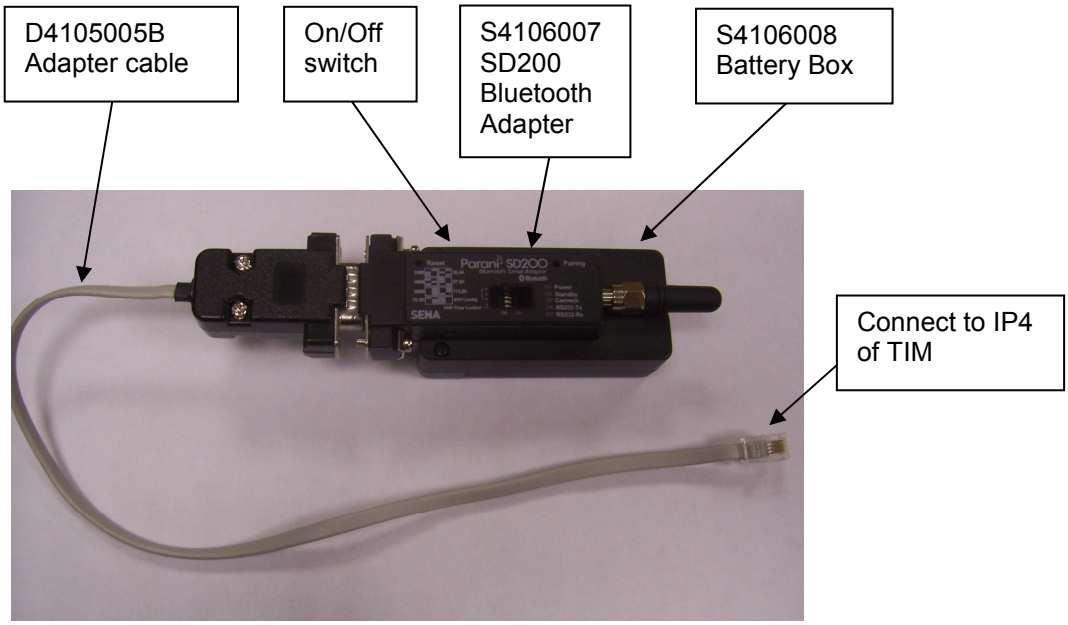
6.1. TIM Batteries

The PES will raise an automatic call to the monitoring centre when the TIM batteries need replacing. This battery replacement should occur within 2 weeks of receiving the automatic battery low call.

The batteries should be replaced with 4 ‘AA’ alkaline batteries e.g. Duracell or equivalent. The correct orientation for the batteries is moulded into the plastic of the battery compartment.

The PES should beep briefly when the batteries have all been changed. If the PES beeps continuously, then it is likely that the batteries have been inserted incorrectly.

7.0 Bluetooth Programming Adapter



The above picture shows the Parani SD200, battery box and cable assembly that is used to allow the TIM to connect to the Palm personal organiser using Bluetooth.

The unit should only be switched on (using the on/off switch) when it is being used. Leaving the unit switched on will result in the batteries quickly becoming discharged.

Low battery state will be indicated by either the red low battery LED (on the battery box) being illuminated or the green ‘power’ LED (on the front of the unit) not being illuminated when the unit is switched on. The batteries should be replaced by Duracell or equivalent alkaline AA batteries.

Tunstall

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