Tunstall

English

Universal Sensor 869

Installation Guide

62505/030 – Universal Sensor 869 - 2-Way Secure / Classic AP / Classic ALB

Revision 1.0 | Document Part Number: D6257004A V1

Table of Content

Radio Protocols

Tunstall's new generation of sensors (available from August 2025) supports three distinct protocols; each designed for specific devices and use cases. Not everyone is available in all SKUs so remember to check the product references / naming conventions for explanation

2-Way Secure Radio (Secure)
Available only on 62505/035 – Default protocol in the device. Tunstall's enhanced two-way radio protocol provides secure encryption and is primarily used with Lifeline Digital. It meets the latest RED directive and EN18031-1/EN18031-2 standards, ensuring high communication security. Key features include device standby support, status notifications, low battery alerts, and confirmation that alarms have been received.

Recommended for:

- Lifeline Digital (all versions)
- Careline (4G and earlier Careline models)

Classic Radio AP – Available only on 62505/035 – Secondary protocol in the device. A one-way protocol for legacy Lifeline hubs (pre-Lifeline Digital, e.g., Smart Hub, Vi, and Caresse/GSM). It regularly sends AP notifications (status alerts) to ensure devices are active in the field, along with low battery alerts.

Recommended for:

- Lifeline VI/VI+
- Lifeline Caresse
- Lifeline Smart Hub
- Communicall Digital

Classic Radio ALB – Available only on 62405/035 – Primary protocol in this device Similar to Classic Radio AP but without AP notifications. Designed for older Communicall solutions where the infrastructure does not support AP alerts. Provides low battery alerts only. Not recommended for modern hubs.

Recommended for:

- Older Communicall solutions (excluding Communicall Digital).

Features and Introduction

Your Universal Sensor 869

The Universal Sensor works as a radio interface between sensors / hard-wired devices and Tunstall telecare enabled systems. It has three modes of operation:

1. Alarms from hard wired devices

- Enuresis
- Epilepsy
- Smoke
- CO Detector
- Gas Detector
- Pendant

2. Stand-alone sensors

- Bed Occupancy
- Door Guard

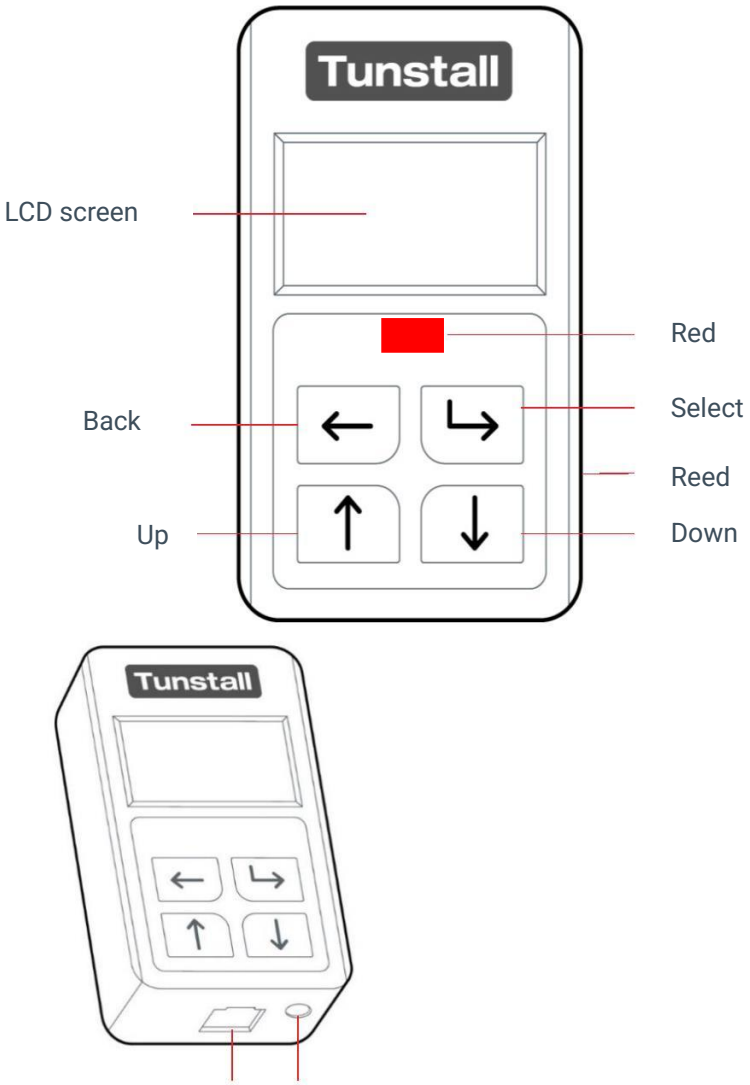
3. Events

- Bed In/Out
- Door open/closed

Programmed using the built-in buttons and LCD screen, the Universal Sensor is easily set to send a message to the Tunstall system identifying which type of device it is linked to. When the attached device is activated, the Universal Sensor sends the appropriate message, providing the operator at the monitoring centre with sufficient information to respond accordingly.

The sensor is capable of being connected to a wide range of third-party devices. The responsibility for suitability and relevant standards compliance of devices connected to the Universal Sensor lies with the Service Provider.

Universal Sensor 869 Illustration



Getting Started

What's in the box?

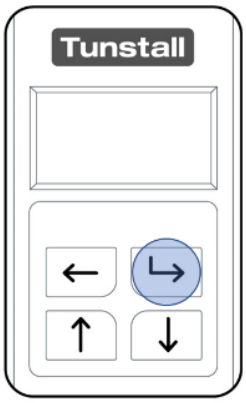
1 x Universal Sensor
1 x ER14505 3.6V battery
2 x Door Contacts
4 x Door Contact screws
2 x Velcro Pads
1 x RJ11 Cable

How to Install

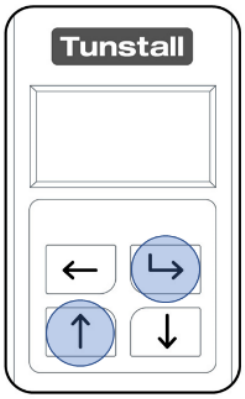
The Universal Sensor should be installed in a clean, dry environment and for optimum radio performance should be mounted away from metallic surfaces.

The Universal Sensor can be fastened to the wall etc. by a variety of methods – integral keyhole slots, sticky pads, Velcro etc. The installer should determine the most appropriate method.

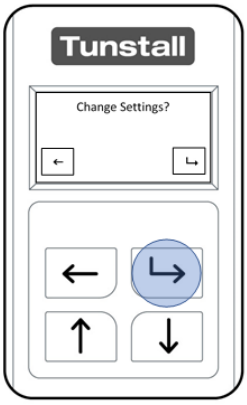
Unlocking the Universal Sensor



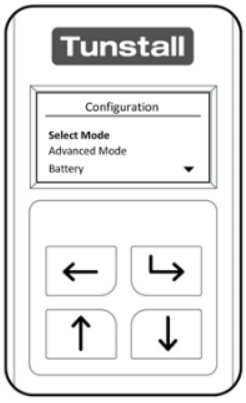
Press the “Select Button” once so the display is showing.



Then press and hold the “Up Button” and the “Select Button” until ‘Change Settings’ appears on the display.



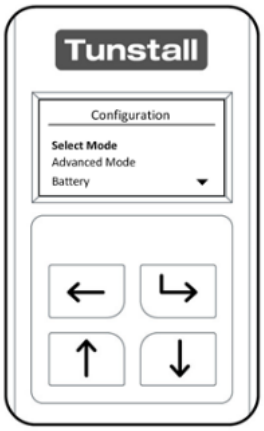
Press the “Select Button” to confirm you want to unlock the sensor.



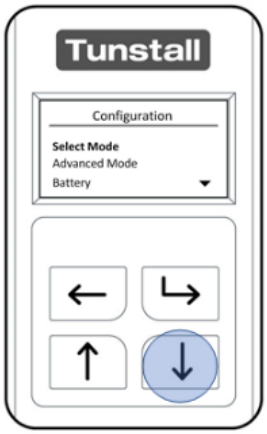
The Universal Sensor is now unlocked and can now be configured.

Language Selection

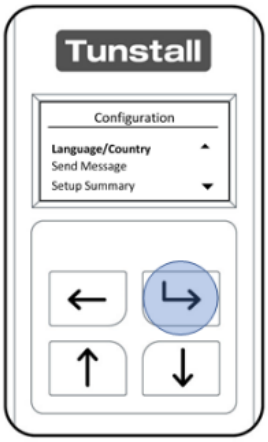
You can change the language setting on the Universal Sensor if it is incorrect or if you have accidentally changed the language.



After unlocking the Universal Sensor, the “Configuration Menu will be displayed.

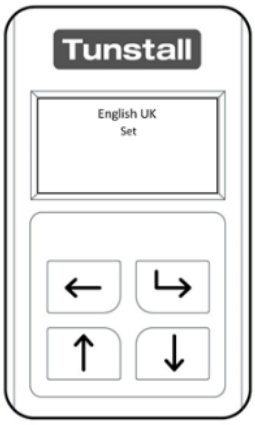


Select ‘Language/Country’ from the ‘Configuration Menu’ by pressing the “Down Button” 3 times, once highlighted press the “Select Button”.



Select this menu by pressing the “Select Button”.

The “Language/Country” Menu displays a list of available languages. Navigate this list using the “Up Button” and the “Down Button” then use the “Select Button” to choose the new language.



The Universal Sensor will confirm on screen that the newly selected language has been set. Once completed, the Universal Sensor will return to “Configuration Menu”.

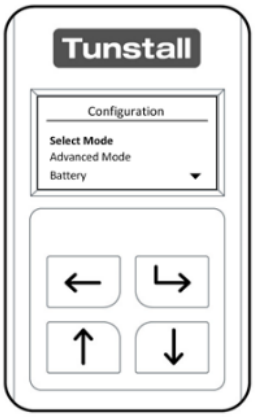
Configuration Menu

The “Configuration Menu” is accessed after unlocking the Universal Sensor and contains a list of the options used to set up the Universal Sensor.

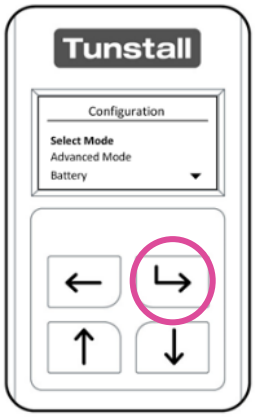
Select Mode	Used to select which predefined sensor type the Universal Sensor should operate as.
Advanced Mode	Changes can be made here depending on the selected type. Options available are: • Contact Type • Input • On/Off Switch • Pad Type • Set Time • Repeat Alarm • Passage Time
Battery	Used to configure 2-Way Secure Radio (2WS), Auto Low Battery (ALB), Auto Presence (AP) and view the status of the replaceable battery.
Language	Displays a list of selectable languages which the Universal Sensor supports.
Send Message	Sends a test radio message from the Universal Sensor. This will generate an alarm on the Tunstall system.
Setup Summary	Displays the current configuration of the Universal Sensor.
About	Displays the current installed firmware.
Exit	Exits the Configuration Menu and puts the Universal Sensor into its configured mode.

Select Mode

“Select Mode” is used to select which sensor type the Universal Sensor should operate as.



After unlocking the Universal Sensor, the “Configuration Menu will be displayed.



The “Select Mode” menu will be highlighted when first opening the “Configuration Menu”, press the “Select Button” to enter “Select Mode”.

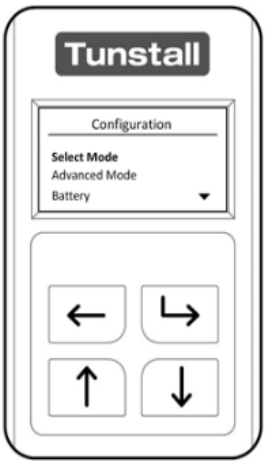
The Universal Sensor can be configured to transmit to a Tunstall System as the following device types:

Mode Type	Description	Radio Message Sent
Bed In/Out	The Virtual Bed sensor sends a radio event message if a user has got in or out of their bed / chair. Primary use: This device type is event based only and generates the 'bed in' and 'bed out' events needed for the virtual bed occupancy sensor. It does not generate alarms. Therefore, it can only be used with Lifeline home units that support the virtual bed occupancy sensor functionality or for wellbeing monitoring to show sleep patterns.	• Bed in • Bed out
Door Open/Closed	Used with the magnetic contacts, and/or built-in Reed Switch; this sends a radio event message when the door is opened and closed but does not raise an alarm. Primary use: This device type is event based only and generates the 'door open' and 'door closed' events needed for the virtual property exit sensor. It does not generate alarms. Therefore, it can only be used with Lifeline home units that support the virtual property exit sensor functionality or for wellbeing monitoring to show door activity.	• Door open • Door closed
Enuresis Sensor	If connected to an appropriate Enuresis Sensor sheet (available separately) and moisture is detected, this sends an Enuresis radio alarm message. Primary use: Used to quickly detect bed-wetting incidents.	• Enuresis sensor
Pendant	If connected to a third-party button or switch, activation of the third-party device it will send the pendant radio alarm message. Primary use: Connecting specialist buttons / switches (e.g. jellybean, grasp switch) to enable people with disabilities to easily generate alarms to the Tunstall systems.	• Personal Trigger Activation
Epilepsy Sensor	If connected to an appropriate Epilepsy Sensor (available separately) and a seizure is detected, this will send an epilepsy radio alarm message. Primary use: Used to connect epilepsy sensors to enable wireless connection via radio to the Tunstall systems.	• Epilepsy sensor
CO Detector	If connected to third-party CO Detectors and Carbon Monoxide is detected. It will send a CO Detector radio alarm message. Primary use: Used to connect CO Detectors to enable wireless connection via radio to the Tunstall systems.	• CO detector

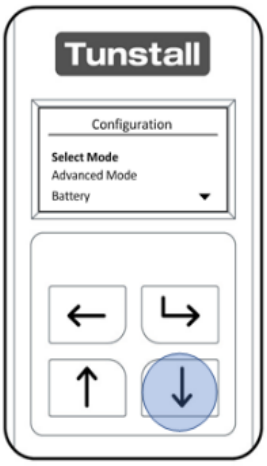
Door Guard	When activated, a Property Exited radio alarm message is generated when the door is opened. Primary use: Grouped living care environments, where onsite staff require immediate alarms when a user opens their door.	• Property exited
Gas Detector	If connected to third-party Gas Detectors and gas is detected. It will send a Natural Gas Detector radio alarm message. Primary use: Used to connect Gas Detectors to enable wireless connection via radio to the Tunstall systems.	• Natural gas detector
Smoke Detector	If connected to third-party Smoke Detectors and smoke is detected. It will send a Smoke Detector radio alarm message. Primary use: Used to connect Smoke Detectors to enable wireless connection via radio to the Tunstall systems.	• Smoke detector
Bed Occupancy Sensor	The bed/chair occupancy sensor generates an alarm if a user has got out of their bed / chair during a monitoring time window (e.g. night) and has not returned within the pre-configured absence time period. It can also generate an alarm if the user is not in or out of bed by pre-configured times. When the user gets out of the bed/chair (during the monitoring period), the timer is started. If the timer expires before the user has got back into the bed/chair then a Bed/Chair Absence radio alarm message is generated. Primary use: Where the Tunstall system does not support virtual bed occupancy sensor to generate alarms for bed absence, not in bed and not out of bed.	• Bed / chair absence • Not in bed / chair • Not out of bed / chair

Advanced Mode

To access the Advanced Mode menu:



After unlocking the Universal Sensor, the “Configuration Menu will be displayed.

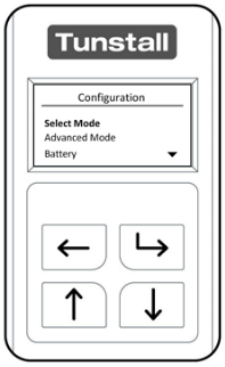


Press the “Down Button” once to navigate to the “Advanced Mode” Menu and press the “Select Button”.

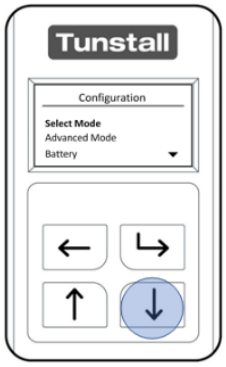
The “Advanced Menu” options depend on which Mode has been configured within the “Select Mode” Menu of the Universal Sensor. For more details on each Mode’s advanced menu see page 18 Operating Modes.

Battery

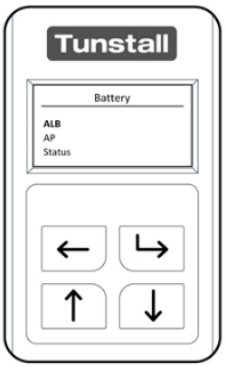
To access the Battery menu:



After unlocking the Universal Sensor, the “Configuration” Menu will be displayed.



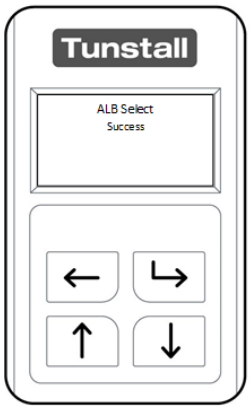
Press the “Down Button” to navigate to the “Battery” Menu and press the “Select Button”.



The “Battery” Menu has 4 options: 2-Way Secure (CR25/2WS), ALB (auto low battery), AP (auto presence), and Status.

The Universal Sensor is supplied in 2WS mode by default.

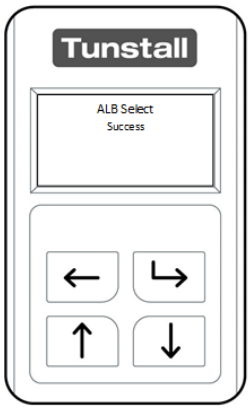
2-Way Secure Radio (CR25/2WS)



2-Way Secure Radio – Keep Alive
The Lifeline Pendant (LLP) and 2-Way Secure Radio (2WS/CR25) use a configurable keep-alive function based on periodic link tests. Its purpose is to ensure that radio communication with the associated hub, such as Lifeline Digital, is maintained.

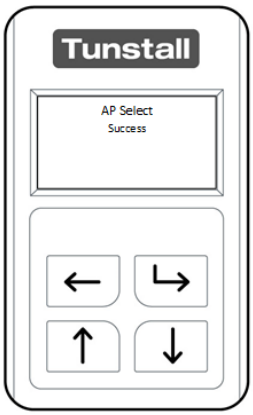
- Default Interval: 22 hours (adjustable via configuration)
- Alarm Type: Link test is sent as a dedicated alarm message
- Acknowledgment: The hub receives and logs the message (bi-directional communication)
- Error Handling: If no link test is received within the specified timeframe, a "link lost" alarm can be generated and forwarded to the monitoring centre.

ALB – Auto Low Battery



When the battery is low the Universal Sensor will automatically notify the monitoring centre. The battery should be replaced within two weeks of receiving an ALB warning. The ALB warning will be generated every seven days or upon generating a radio message until the battery has run out.

AP – Auto Presence

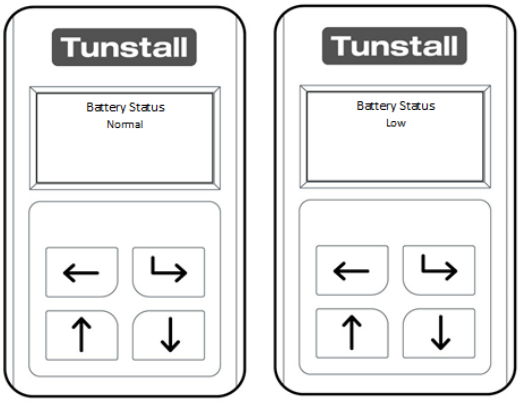


On supporting Tunstall systems, Auto Presence provides additional checks to provide reassurance that the Universal Sensor is functioning. When AP is active the Universal Sensor sends a signal to the home unit every four hours.

If the Tunstall System has not seen 18 consecutive AP messages, it will generate an AP failure message which informs the monitoring centre there is a problem with the Universal Sensor e.g. it has been removed from the property, it has stopped working or the battery has been removed.

If the Universal Sensor is used in AP mode and removed from the property, the device will need to be deleted from the system, otherwise AP failure alarms will continually be generated.

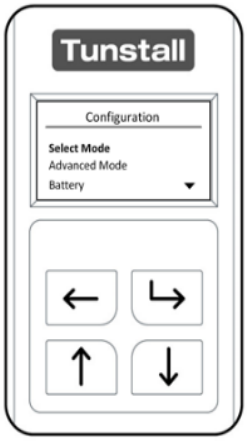
Status



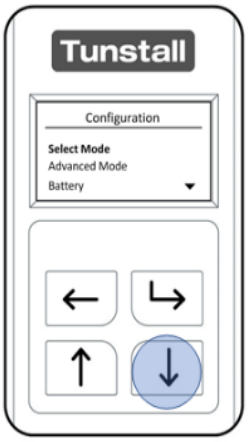
Using the “Status” Menu it is possible to check the current state of the battery. The battery will either report “Normal” or “Low”. When “Low” is displayed the battery should be replaced and at this stage the Universal Sensor will have sent an ALB alarm to the monitoring centre.

Send Message

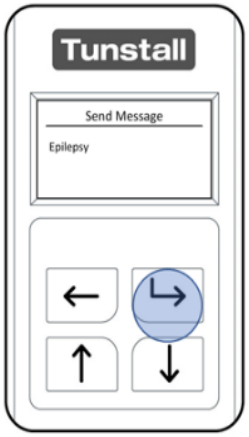
Once configured it is recommended to test the radio connection of the Universal Sensor to the Tunstall System; this can be done using the “Send Message” Menu.



After unlocking the Universal Sensor, the “Configuration” Menu will be displayed.



Press the “Down Button” to navigate to the “Send Message” Menu and press the “Select Button”.



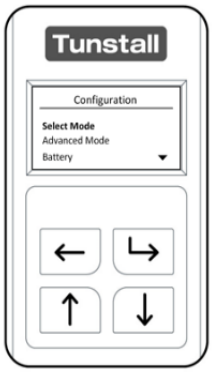
The Universal Sensor will display the available radio message it can transmit; this will depend on the Mode the Universal Sensor is operating in. Press the “Select Button” to send the selected radio message or “Back Button” to exit.

After pressing the “Select Button” the Universal Sensor will send the radio message to the Tunstall System.

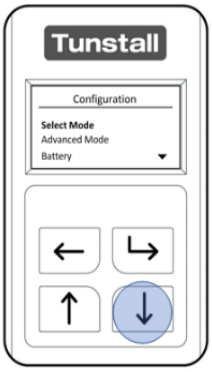
Once the radio message has been sent by the Universal Sensor, it will confirm the status on screen. If configured correctly to the Tunstall System this will now receive the transmitted radio message.

Note: Always make an end to end test call to the monitoring centre by activating the device connected to the Epilepsy Sensor Transmitter.

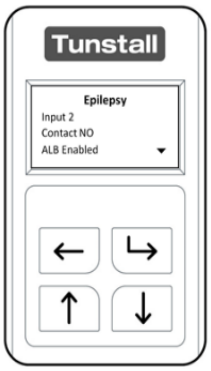
Setup Summary



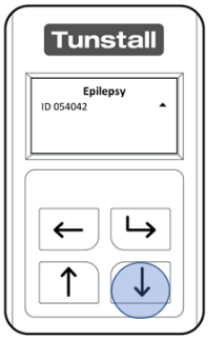
After unlocking the Universal Sensor, the “Configuration” Menu will be displayed.



Press the “Down Button” to navigate to the “Setup Summary” Menu and press the “Select Button”.



The Sensor Type and configuration will be displayed

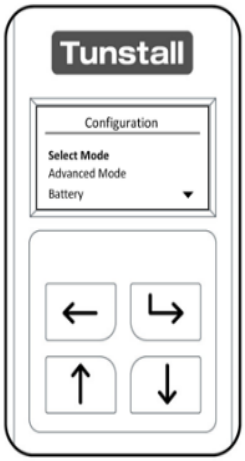


.

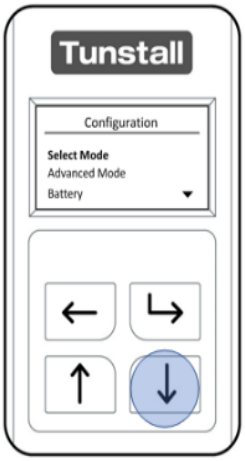
Pressing the “Down Button” will then display the Sensor ID. After 8 seconds the Universal Sensor will revert to the “Configuration” Menu.

About

The “About” Menu displays the installed firmware version.



After unlocking the Universal Sensor, the “Configuration” Menu will be displayed.



Press the “Down Button” to navigate to the “About” Menu and press the “Select Button”.

After displaying the installed firmware version; the Universal Sensor will timeout of the “About” Menu after 5 seconds and will return to the “Configuration” Menu.

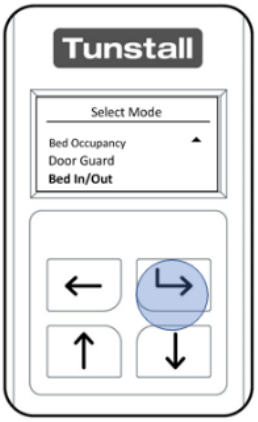
Operating Modes

Bed In/Out

The Bed in/Out sensor sends a radio event message if a user has got in or out of their bed/chair.

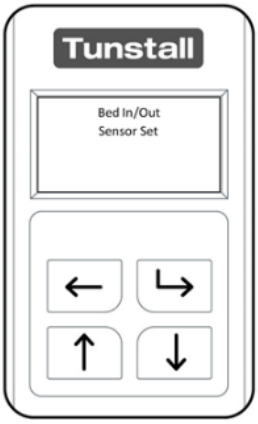
Primary use:

This device type is event based only and generates the ‘bed in’ and ‘bed out’ events needed for the virtual bed occupancy sensor. It does not generate alarms. Therefore, it can only be used with Lifeline home units that support the virtual bed occupancy sensor functionality or for wellbeing monitoring to show sleep patterns.



After unlocking the Universal Sensor and entering “Select Mode” navigate the menu using the “Up Button” and or “Down Button”.

When “Bed In/Out” is highlighted press the “Select Button”



The Universal Sensor will confirm it is now configured as a Bed In/Out Sensor.

Suggested Configuration: this can be changed using “Advanced Mode”.

Contact Type	NO
Input	Input 1

The Universal Sensor can now be connected to a Bed/Chair Pad (sold separately) and the Tunstall System. Tunstall recommends completing a test call before leaving the property.

Virtual Bed – attaching a pad.

Bed Pad Installation

The bed pad should be positioned:

- Across the bed
- At around 1/3 of the distance between the head and foot of the bed.
- On a firm base – if the bed frame is not solid, then the sensor pad should be fitted on a suitable sheet of plywood or similar

For a single bed, a single bed sensing panel should be used. If the person sleeps alone in a double bed, two bed sensing panels should be used. One panel should be placed on either side of the bed, each as described above.

If the person sleeps in a double bed with someone else, then only one bed-sensing panel should be used, on the side of the bed that the person sleeps on. Note that in this case the bed sensor cannot be relied upon to work correctly as correct operation will rely on the other person in the bed not encroaching into the area of the bed monitored by the bed pad.

Chair Pad Installation

The chair sensor is typically fitted between the chair cushion the person sits on and chair frame/base. If the chair does not have a removable cushion / seat (or similar) then the chair sensor may not work reliably.

Door Open/Closed

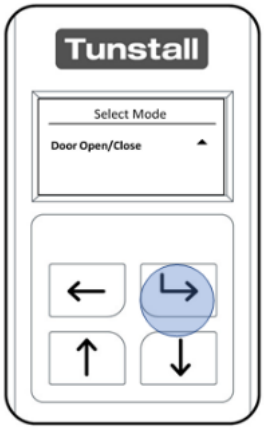
Used with the magnetic contacts, and/or built-in Reed Switch; this sends a radio event message when the door is opened and closed but does not raise an alarm.

Primary use:

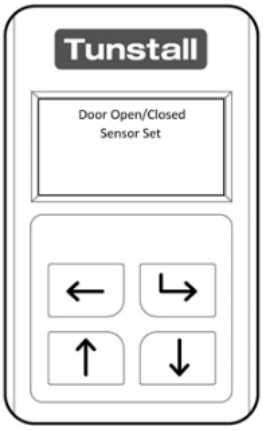
This device type is event based only and generates the ‘door open’ and ‘door closed’ events needed for the virtual property exit sensor. It does not generate alarms.

Therefore, it can only be used with Lifeline home units that support the virtual property exit sensor functionality or for wellbeing monitoring to show door activity.

After **unlocking** the Universal Sensor and entering **“Select Mode”** navigate the menu using the “Up Button” and or “Down Button”.



When “Door Contact” is highlighted press the “Select Button”.

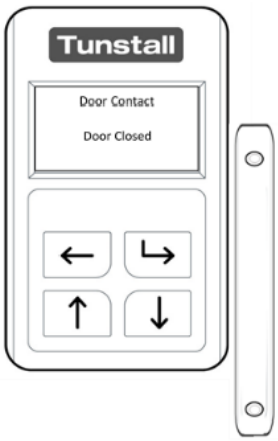


The Universal Sensor will confirm it is now configured as a Door In/Out Sensor.

Suggested Configuration: this can be changed using “Advanced Mode”.

Contact Type	NC
Input	Input 1
Manual On/Off	In this mode, the Sensor can only be activated or deactivated manually.

The Universal Sensor can now be used with the magnetic contacts (included in the box) and the Tunstall Home unit. Tunstall recommends completing a test call before leaving the property.

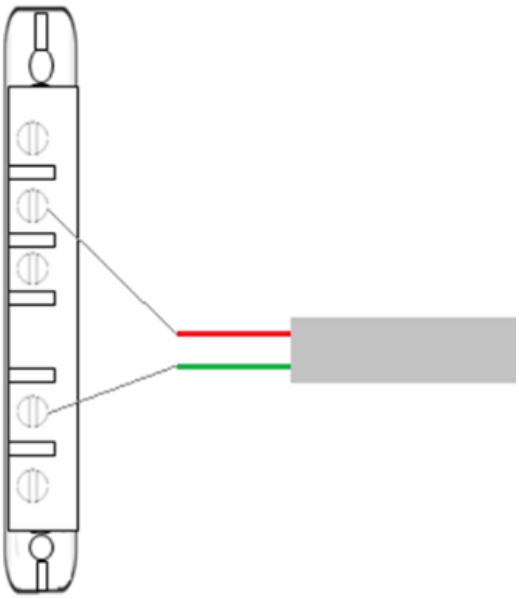


When installed with a magnetic contact, it is important to line the top screw hole with the bottom of the Universal Sensor screen; this ensures that the built-in reed switch and magnetic contact are correctly aligned.

Attaching Door Contact

In certain installations it may not be possible to install the magnetic contact and the Universal Sensor adjacent to each other.

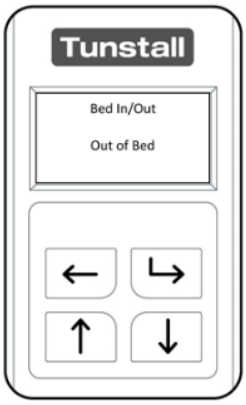
Using the included RJ11 cable connect the red wire to the second screw (silver coloured) and green wire to the fourth screw (silver coloured). The RJ11 plug is used to connect to the universal sensor.



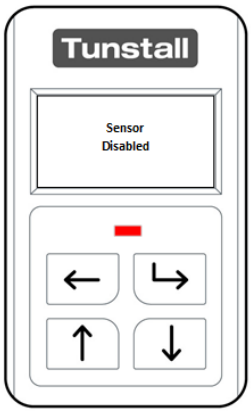
On/Off Switch

When operating in Enuresis, Epilepsy, Bed in/out, Door Guard, Virtual Bed or Door open/closed (it is possible to stop the Universal Sensor from sending events to the Tunstall System, this time is configurable in the "**Advanced Mode**".

The On/Off Switch can be configured in the following modes:	
Always On	In this mode the Sensor is always activated; i.e. it cannot be deactivated. The sensor will always send a radio event.
Manual On/Off	In this mode the Sensor can only be activated or deactivated manually.
Auto On	In this mode the Sensor can be activated or deactivated manually. However, if the sensor is not activated before the timer ends the sensor will return to its active state.



To activate the On/Off Switch, whilst the Universal Sensor is operating in a supported mode press and hold the "Select Button" and the "Back Button" together for three seconds.



The red LED will flash every eight seconds whilst in the disabled state.

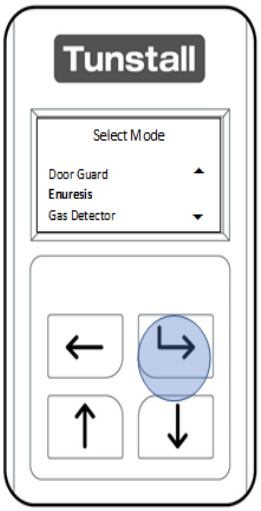
Please note, the On/Off switch will not be available in the following functions: Gas Detector, CO Detector, Smoke Detector and Pendant functions.

Enuresis Sensor

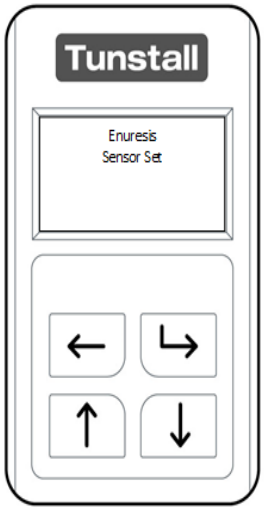
If connected to an appropriate Enuresis Sensor sheet (available separately) and moisture is detected, the Universal Sensor sends an Enuresis radio alarm message.

Primary use: Used to quickly detect bed-wetting incidents.

After unlocking the Universal Sensor and entering “Select Mode” navigate the menu using the “Up Button” and or “Down Button”.



When “Enuresis” is highlighted press the “Select Button”.



The Universal Sensor will confirm it is now configured to be used with a 3rd party device as an Enuresis Sensor.

Suggested Configuration: this can be changed using “Advanced Mode”.

Contact Type	NC
Input	Input 1
On/Off Switch	Manual On/Off
Alarm Threshold	Low/High

The Universal Sensor can now be connected to a 3rd party Enuresis Sensor and the Tunstall System. Tunstall recommends completing a test call before leaving the property.

Attaching the Enuresis Sensor sheets

1. Two Enuresis sensor sheets are available:
   a. Cotton Enuresis Sensor S9001003
   b. Absorbent enuresis Sensor S9001004

2. Deploy your choice of Enuresis Sensor sheet by placing the sheet on the bed where bed wetting is most likely.

3. Connect the sheet to the Universal Sensor using the Universal Sensor lead (S9001006) to the RJ11 socket labelled 1 on the Universal Sensor.

4. The Universal Sensor should be located in a convenient place nearby, ensuring the cable is safely routed. It is important that the Universal Sensor is not placed in a position where it may become wet. For optimum radio performance the Universal Sensor should be mounted away from metallic surfaces.

User Instructions

The Enuresis Sensor will generate an alarm once when a wet bed condition is detected. After a wet bed event has occurred the Enuresis Sensor needs to be cleaned and fully dried before it can be used again.

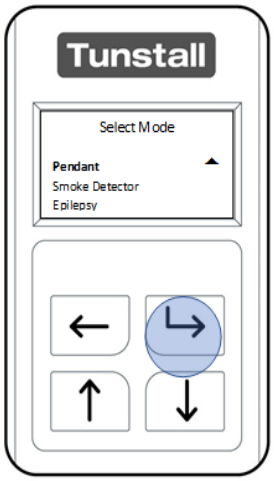
Once the sheet is dry, reconnect it to the Universal Sensor and replace in the dry bed

Note: The Alarm Threshold can be changed to configure the sensitivity of the sensor. Alarm Threshold is found in the advanced menu option of the Enuresis Sensor.

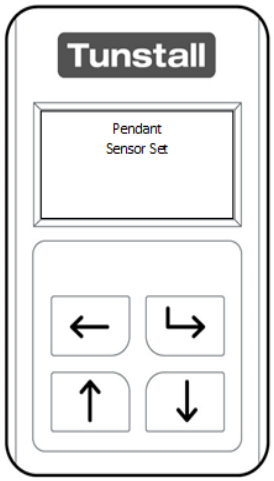
Epilepsy Sensor

If connected to an appropriate Epilepsy Sensor (available separately) and a seizure is detected, this will send an epilepsy radio alarm message. Primary use: Used to connect epilepsy sensors to enable wireless connection via radio to the Tunstall systems.

After **unlocking** the Universal Sensor and entering **"Select Mode"** navigate the menu using the "Up Button" and or "Down Button".



When "Epilepsy" is highlighted press the "Select Button".



The Universal Sensor will confirm it is now configured to be used with a 3rd part device such as an Epilepsy Sensor.

Suggested Configuration: this can be changed using "Advanced Mode".	
Contact Type	NO
Input	Input 1

The Universal Sensor can now be connected to a 3rd party Epilepsy Sensors and the Tunstall System. Tunstall recommends completing a test call before leaving the property.

The Universal Sensor has a specific interface to ensure compatibility with Abilia Epilepsy Control Units (and their associated sensing pads). It is therefore only compatible with this item (69005/11).

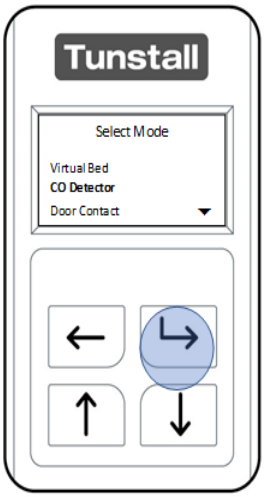
CO Detector

If connected to third-party CO Detectors and Carbon Monoxide is detected. It will send a CO Detector radio alarm message.

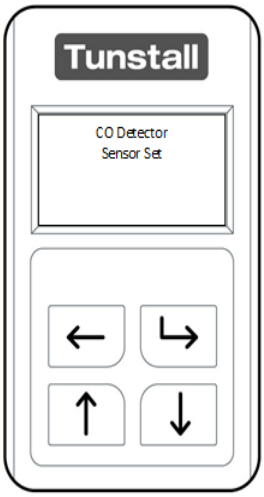
Primary use:

Used to connect CO Detectors to enable wireless connection via radio to the Tunstall systems.

After **unlocking** the Universal Sensor and entering **"Select Mode"** navigate the menu using the "Up Button" and or "Down Button".



When "CO Detector" is highlighted press the "Select Button".



The Universal Sensor will confirm it is now configured to be used with a 3rd party device such as a CO Detector.

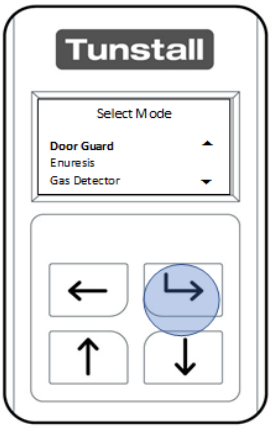
Suggested Configuration: this can be changed using "Advanced Mode".	
Contact Type	NC
Input	Input 1

The Universal Sensor can now be connected to a CO Detector with a normally closed relay (sold separately) and to the Tunstall System. Tunstall recommends completing a test call before leaving the property.

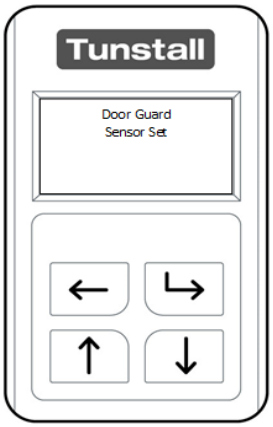
Door Guard

When activated, a Property Exited radio alarm message is generated when the door is opened. Primary use: Grouped living care environments, where onsite staff require immediate alarms when a user opens their door.

After unlocking the Universal Sensor and entering **“Select Mode”** navigate the menu using the “Up Button” and or “Down Button”.



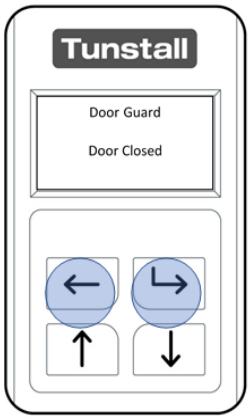
When “Door Guard” is highlighted press the “Select Button”.



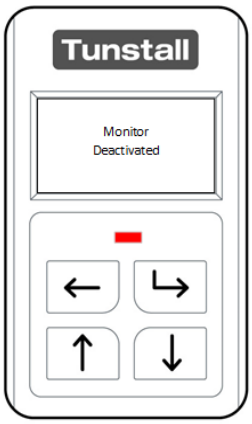
The Universal Sensor will confirm it is now configured as a Door Guard Sensor.

Suggested Configuration: this can be changed using “Advanced Mode”.	
Contact Type	NC
Input	Input 1
On/Off Switch	Manual On/Off

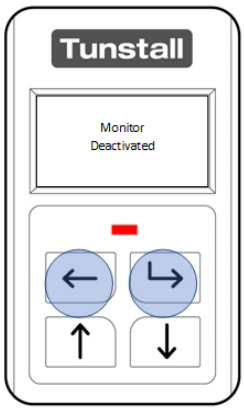
Monitoring Deactivated



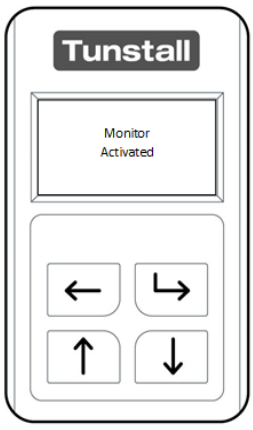
In **Door Guard** Mode it is possible to stop the Universal Sensor from sending alarms to the Tunstall Home Unit by deactivating it for a pre-determined period.



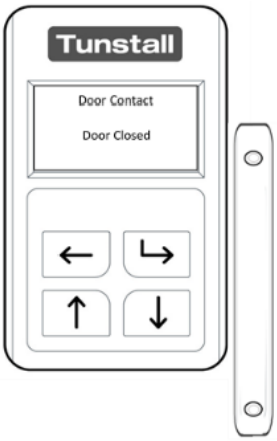
To deactivate press and the hold the “Select Button” and the “Back Button” together for three seconds. The Universal Sensor will confirm that monitoring has been deactivated. The red LED will flash every 30 seconds. After the chosen time out the Universal Sensor will begin monitoring again.



To activate monitoring press and hold the “Select Button” and the “Back Button” together for three seconds. The Universal Sensor will confirm that monitoring is activated and will raise an alarm via the Tunstall Home Unit.



The Universal Sensor can now be used with the magnetic contacts (included in the box) and the Tunstall System. Tunstall recommends completing a test call before leaving the property.



When installed with a magnetic contact it is important to line the top screw hole with the bottom of the Universal Sensor screen; this ensures that the built-in reed switch and magnetic contact are correctly aligned.

Gas Detector

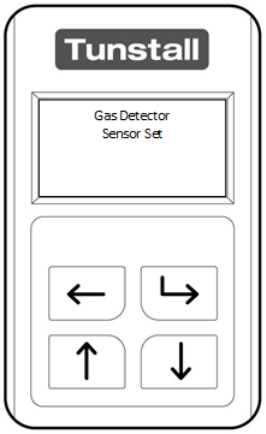
If connected to third-party Gas Detectors and gas is detected. It will send a Natural Gas Detector radio alarm message.

Primary use:

Used to connect Gas Detectors to enable wireless connection via radio to the Tunstall systems.

After unlocking the Universal Sensor and entering “Select Mode” navigate the menu using the “Up Button” and or “Down Button”.

When “Gas Detector” is highlighted press the “Select Button”.



The Universal Sensor will confirm it is now configured to be used with a 3rd party device such as a Gas Detector.

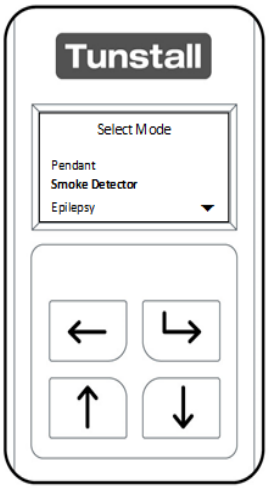
Suggested Configuration: this can be changed using “Advanced Mode”.	
Contact Type	NC
Input	Input 1

The Universal Sensor can now be connected to a Gas Detector with a normally open relay (sold separately) and to the Tunstall System. Tunstall recommends completing a test call before leaving the property.

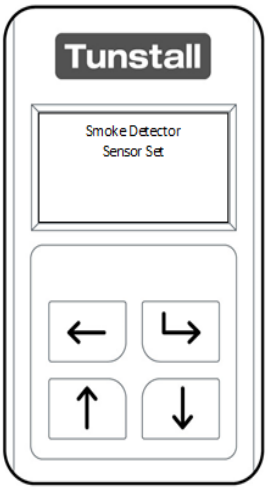
Smoke Detector
If connected to third-party Smoke Detectors and smoke is detected. It will send a Smoke Detector radio alarm message.

Primary use: Used to connect Smoke Detectors to enable wireless connection via radio to the Tunstall systems.

After unlocking the Universal Sensor and entering “Select Mode” navigate the menu using the “Up Button” and or “Down Button”.



When “Smoke Detector” is highlighted press the “Select Button”.



The Universal Sensor will confirm it is now configured to be used with a 3rd party device such as a Smoke Detector Sensor.

Suggested Configuration: this can be changed using “Advanced Mode”.	
Contact Type	NC
Input	Input 1

The Universal Sensor can now be connected to a Smoke Detector with a normally closed relay (sold separately) and to the Tunstall System. Tunstall recommends completing a test call before leaving the property.

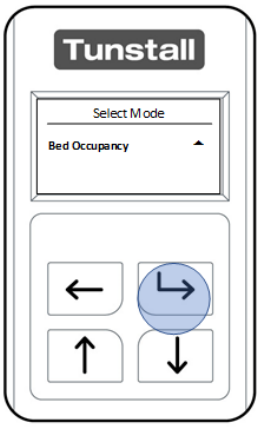
Bed Occupancy Sensor

The bed/chair occupancy sensor generates an alarm if a user has got out of their bed / chair during a monitoring time window (e.g. night) and has not returned within the pre-configured absence time period.

It can also generate an alarm if the user is not in or out of bed by pre-configured times.

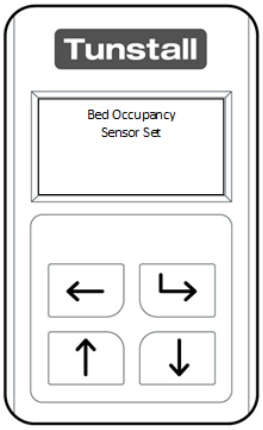
When the user gets out of the bed/chair (during the monitoring period), the timer is started. If the timer expires before the user has got back into the bed/chair then a Bed/Chair Absence radio alarm message is generated.

Primary use: Where the Tunstall system does not support virtual bed occupancy sensor to generate alarms for bed absence, not in bed and not out of bed.

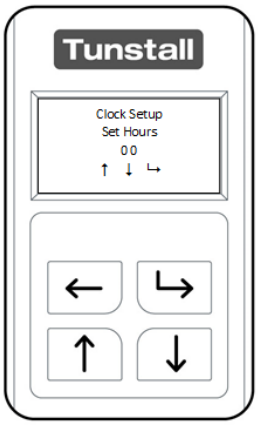


After unlocking the Universal Sensor and entering “Select Mode” navigate the menu using the “Up Button” and or “Down Button”.

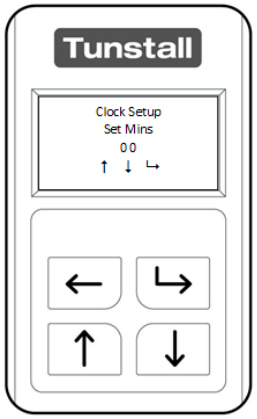
When “Bed Occupancy” is highlighted press the “Select Button”.



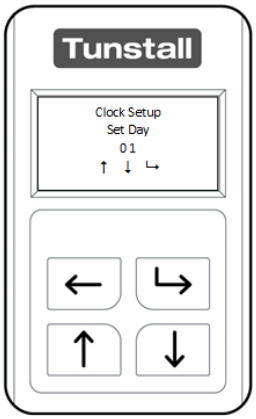
The Universal Sensor will confirm it is now configured as a Bed Occupancy Sensor. The Universal Sensor will now prompt you to set the current time and date.



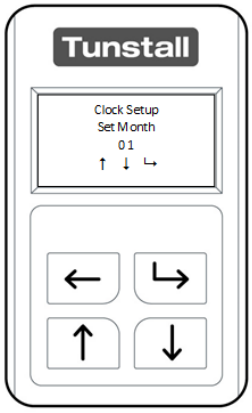
Using the “Up Button” and “Down Button” set the time starting with hours. This is a 24-hour clock. (00-23) and press the “Select Button” to confirm.



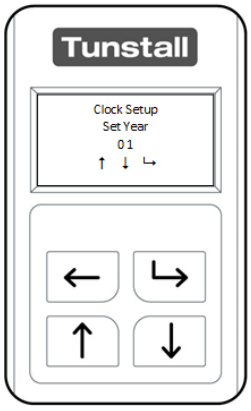
Using the “Up Button” and “Down Button” set the minutes of the current time. (00-59) and press the “Select Button” to confirm.



Using the “Up Button” and “Down Button” set the current date. (day 00-31) and press the “Select Button” to confirm.



Using the “Up Button” and “Down Button” set the current month. (months 01-12) and press the “Select Button” to confirm.



Using the “Up Button” and “Down Button” set the current year and press the “Select Button” to confirm and the back button to exit.

Suggested Configuration: this can be changed using "Advanced Mode".

Contact Type	NO
Input	Input 1
Pad Type	Bed or Chair (depending on application)
Set Times	**Absence Period** – How long the user needs to be out of bed (e.g. 20mins for a bathroom visit) before an alarm is generated. Alarms will only be generated between the absence start and stop times, or 24-hours day if continuous monitoring has been selected. **Start time** – The time at which the Sensor activates, and monitoring should start e.g. 21.00 (set both absence start and stop time to 00:00 for 24-hour monitoring). **End Time** – The time at which the Sensor is deactivated, and monitoring should end e.g. 09.00 (set both absence start and stop time to 00:00 for 24-hour monitoring). **Not in Bed** – If required, the latest time a user should be in bed by e.g. 01.00 (leave as 00:00 to disable this function) **Not Out Bed** – If required, the latest time when a user should be out of bed by e.g. 11.30 (leave as 00:00 to disable this function) **Daylight Saving** – On (this enables the automatic switch between BST and GMT)
Repeat Alarm	If selected, the number of times the alarm repeats is configurable: 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10 times. It will stop repeating after either the number of pre-configured repeats, or at the end of the monitoring period.
On/Off Switch	Monitoring can be disabled for a configurable amount of time (see page for more information)

The Universal Sensor can now be connected to a Bed Pad with a normally closed relay (sold separately) and to the Tunstall System. Tunstall recommends completing a test call before leaving the property.

Note: To enable 24-hour continuous monitoring program the Absence Start and Absence Stop times to be the same.

E.g. Start Time: 00:00, Stop Time: 00:00

ote: Whilst operating in 24-hour continuous monitoring, the Universal Sensor will raise an alarm only once per absence period (if the user does not go back to bed). If operating in non-24-hour monitoring, the Universal Sensor will raise an alarm every time the absence period is reached (if the user does not go back to bed). For example, if the absence period is set to 10 minutes, an alarm will be raised every 10 minutes until the user returns to bed.

This function is designed to make sure that the user has returned to bed following a bed absence alarm call. E.g. if the user falls on the way back to bed after speaking to the monitoring centre from the first bed absence call.

Bed Occupancy Sensor – Attaching the Pad

The bed pad should be positioned:

- Across the bed
- At around 1/3 of the distance between the head and foot of the bed.
- On a firm base – if the bed frame is not solid, then the sensor pad should be fitted on a suitable sheet of plywood or similar

For a single bed, a single bed sensing panel should be used. If the person sleeps alone in a double bed, two bed sensing panels should be used. One panel should be placed on either side of the bed, each as described above.

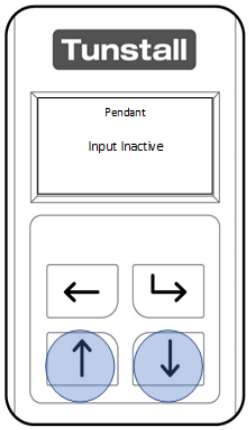
If the person sleeps in a double bed with someone else, then only one bed-sensing panel should be used, on the side of the bed that the person sleeps on. Note that in this case the bed sensor cannot be relied upon to work correctly as correct operation will rely on the other person in the bed not encroaching into the area of the bed monitored by the bed pad.

Chair Pad Installation

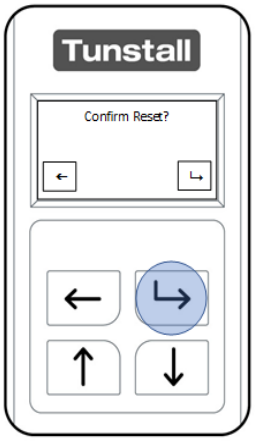
The chair sensor is typically fitted between the chair cushion the person sits on and chair frame/base. If the chair does not have a removable cushion / seat (or similar) then the chair sensor may not work reliably.

Factory Reset

A reset sets all the settings on the Universal Sensor back to factory default. The Universal Sensor will then need to be programmed before it can be deployed.



With the LCD activated press and hold the “Up Button” and “Down Button” for 30 seconds.



After holding for 30 seconds the LCD will display “Confirm Reset”. Press the “Back Button” to cancel and the “Select Button” to confirm.

After a reset the unit will go to the “Language Selection” menu. The Universal Sensor will need to be configured before it can be installed.

How to program the Tunstall System

Lifeline home units

The Universal Sensor enables Plug and Play programming. This is achieved by putting the Tunstall home unit into radio trigger assign mode and then generating a radio transmission from the Universal Sensor by activating the device to which it is connected (e.g. door contacts, bed sensor mat).

1. Press and hold the cancel button on the Tunstall home unit until it beeps (some units will announce ‘programming mode’).
2. Press the cancel button again until the Tunstall home unit beeps
3. Then activate the Universal Sensor by activating the device to which it is connected (e.g. switch contacts, bed sensor mat). The LED on the Universal Sensor should flash to confirm a radio transmission has been sent.
4. The Tunstall home unit should beep to confirm the Universal Sensor has been programmed to the unit (some units will announce the name of the sensor that the Universal Sensor is configured to e.g. ‘door sensor programmed’).

Other Tunstall Systems

Please consult the relevant installation manuals.

Notes and warnings

Service Information

The Universal Sensor contains no user serviceable parts. It contains an ER14505 3.6V battery with up to five years (typical usage). This battery is replaceable and when it has expired it should be disposed of according to current local regulations.

Changing the battery

To change the battery of the Universal Sensor:

- Place the sensor face down on the desk.
- Remove the battery cover, lifting the cover up from the centre of the Sensor.

Eject the current battery and dispose of according to local regulations.

- Insert a new 3.6V AA Battery. Tunstall recommends using ER14505
- Replace the battery cover; re-placing the outside prongs first, ensuring that it is securely fitted.

The Universal Sensor will power on retaining its previous operational mode

Note: Following a battery change remember to check the configuration is still relevant to the user.

Note: Remember to wake the screen using the “Select Button” before beginning programming.

Warning: During battery replacement and configuration the Universal Sensor will not be able to generate a help call.

Label Information

Label Picture

The Universal Sensor label is located on the back of the unit.

Label Contents

The contents of the label are summarized below:

- Tunstall logo
- CE mark
- QR Code
- Part Number: 62505/030
- Revision: A1
- Serial: S250289999
- 2WS ID: 190.003.255.255
- Classic ID: 262143
- Tunstall Address

Note that contents such as Serial, Classic ID and CR ID will differ between products

Technical Details, Standards and Compliance

Technical Details

Weight	70g (without attachments)
Dimensions	50mm, 74mm, 25mm (W x H x D) without attachments
Battery	3.6V AA EVE ER14505V Battery
Battery lifetime	Up to 5 years depending on usage**
Radio frequencies	869.2125 MHz
Range	At least 30 meters indoors
Environmental Group	Group 2 - Indoor in general
Radio protocol(s)	Tunstall 2-Way Secure Radio, Tunstall Classic Radio.
Radio Encryption	AES 128-bit (NIST-level)
Region	Europe & United Kingdom

Standards

Directive Compliance	RED, EMC, RoHS3, REACH
Safety	EN 62368-1:2024 + A11:2024
EMC	EN 301 489-3 V2.2.1: 2019 EN 55032:2015 + A1:2020 EN 50130-4:2011 + A1:2014
Social alarms	EN50134-2:2017
EMC	EN 300 220-3-1 V2.1.1:2016 EN 300 220-2 V3.2.1:2018 EN 62311:2020 EN 18031-1:2024 EN 18031-2:2024
Design, manufacture, installation & service	ISO9001:2015
CE, UKCA, UKNI compliant	Yes

Declaration of Conformity

Tunstall declares that the radio equipment is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following address

www.tunstall.com/declaration-of-conformity/