Tunstall

English

Motion Sensor 869

Installation Guide

62505/035 – 2-Way Secure / Classic AP

62405/035 – Classic ALB

Revision 1.0 | Document Part Number: D6257008A

Table of Content

Radio Protocols

Tunstall's new generation (available from August 2025) sensors support three distinct protocols; each designed for specific devices and use cases:

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:

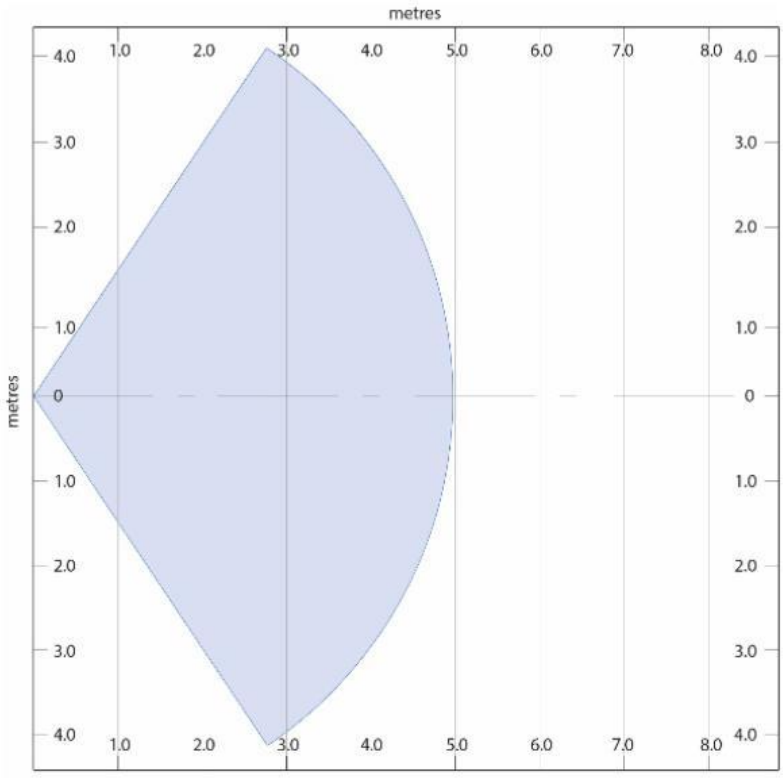
- Older Communicall solutions (excluding Communicall Digital).

Features and Introduction

The Motion Sensor 869 is a passive infrared (PIR) based sensor which is designed to detect movement in a room and transmit a radio signal to a Lifeline home unit or other Tunstall Telecare enabled systems.

The device's features include:

- 'Walk test' mode
- '2-Way Secure' mode (62505/035)
- 'Auto presence' mode (62505/035)
- 'Auto low battery' mode (62405/035)
- Low current consumption
- 'Fall zone' feature as standard
- 5.0m range
- Easily changeable battery

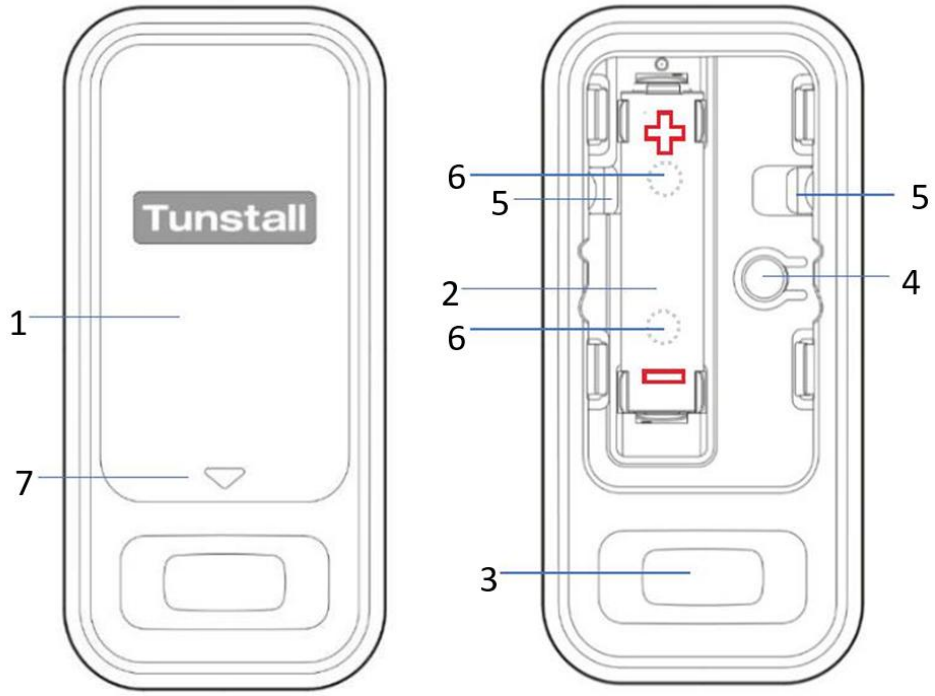


Beam Pattern (Top View)

Your Motion Sensor 869

The Motion Sensor 869 can be used to alert a 24-hour monitoring centre if it detects activity when no activity is expected, or if no activity is detected for a period, when used in conjunction with a Lifeline home unit or other Tunstall Telecare-enabled systems.

Motion Sensor 869 Illustration
to detect movement



Motion Sensor	
1	Front cover
2	Battery (Note; Positive terminal up and negative terminal down
3	IR Lens
4	Function button
5	Screw locations for CORNER mounting
6	Screw locations for WALL mounting
7	Front cover removal screw

Getting Started

What's in the box?

1 x Motion sensor 869

1x Leaflet / Security Instructions

1x 3.6V AA Lithium Battery

2x Hook and loop pads

How to Install

The Motion Sensor 869 can be fixed to one flat wall or into the corner of two adjoining walls at a mounting height of 1.0m to 1.5m (dependent on the height of the user). The sensor should be positioned so that the beam is pointing at the user's chest as shown in Fig.1. Fixing height is important for the 'fall zone' functionality described on page 4, and this should be tested using the 'walk test' function detailed on page 5 to ensure that the user's movement is detected.

The sensor should be positioned to ensure that the beam is not impeded by any furniture in the room as shown in Fig.2. Depending upon the construction of the wall, the sensor can be fitted using either hook and loop pads or screws and wall plugs. For the latter method, take into consideration any pipes that may be installed within the walls (screws and wall plugs are not supplied).

1. Remove the front cover from the motion sensor 869 choose the most appropriate method of installation for the proposed location of the sensor.
2. If mounting in a corner position, screws and wall plugs should be used.
3. Fix the sensor to the wall. If using screws, ensure that the appropriate holes are used.
4. Fit the battery into the sensor, carefully observing the correct polarity.
5. Carry out a walk test (see page 5) to ensure that the sensor has been installed in the optimum position to detect the desired movement whilst minimising false activations.
6. After three minutes have passed, the sensor will exit 'walk test' mode. Once the sensor has returned to normal operation, the red LED will no longer illuminate upon detection of movement.

Tunstall recommends that the sensor is installed in a position which is away from:

- Direct sunlight
- Fans or air conditioning units
- Vapour or high humidity which may cause condensation
- Curtains, blinds or screens
- Fluorescent lights
- Unstable locations prone to vibrations or shocks
- Heat sources such as radiators
- Any furniture which may block the sensor detection beam.

The sensor should be installed in an indoor location and should not be aimed towards equipment or outside areas where frequent movement could be detected.

Fig.1 (Positioning Height)

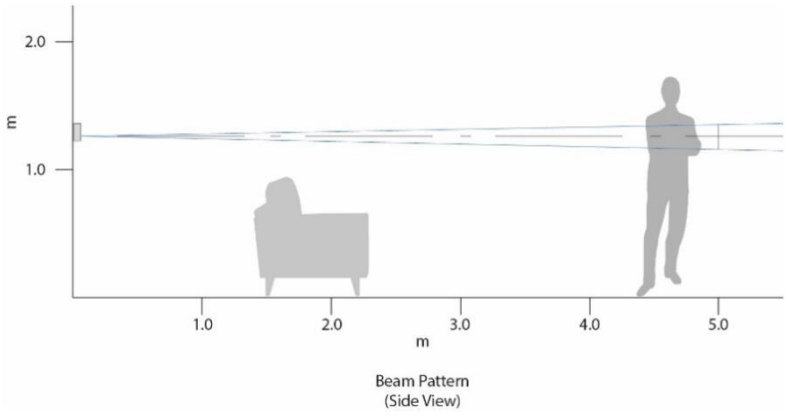
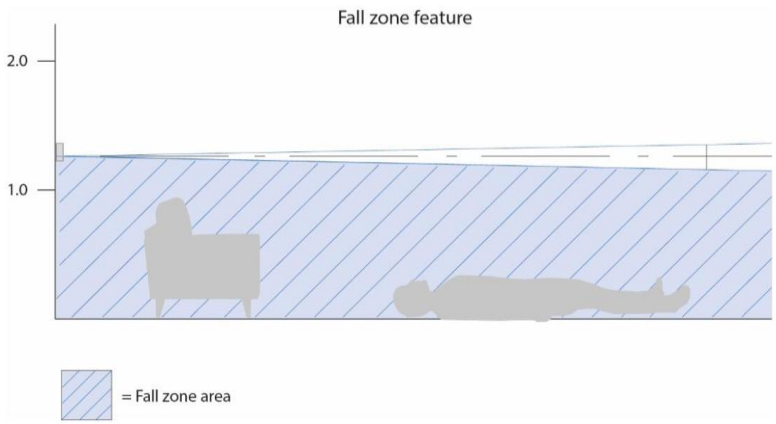


Fig.2 (Fall zone positioning)



Connecting the 869 sensors to Lifeline Care Hub

The Motion Sensor 869 can be assigned using ‘plug & play’ programming. This is achieved by placing the Tunstall home unit in ‘radio trigger assign’ mode and then generating a radio transmission from the Motion Sensor.

1. Press and hold the ‘cancel’ button on the Tunstall home unit until it beeps (some units will announce ‘programming mode’), then release the ‘cancel’ button.
2. Press and hold the ‘cancel’ button again until the Tunstall home unit beeps, then release the ‘cancel’ button.
3. Remove the front cover and press and hold the ‘function’ button on the Motion Sensor until a solid red LED is displayed. Continue to press the ‘function’ button for approximately three seconds until the red LED turns off and then release the button.
4. Activate the Motion Sensor by moving in front of the lens. When in ‘walk test’ mode, the red LED on the sensor will flash to confirm that movement has been detected and a radio transmission has been sent to the Tunstall home unit. The Tunstall home unit should beep to confirm that the Motion Sensor has been programmed to the unit (some units will announce ‘PIR’ verbally to confirm the programming was successful).

The Motion Sensor will remain in ‘walk test’ mode for three minutes after powering up. To restart ‘walk test’ mode, follow the instructions detailed below.

Modes of Use

Walk Test Mode

To ensure that the Motion Sensor 869 has been mounted in the optimum position to detect movement whilst minimising false activations, it is recommended that a walk test is undertaken. This is achieved by placing the sensor in ‘walk test’ mode and then asking the end user to move in front of the lens, to ensure that they are detected. The red LED will illuminate upon detection of movement.

In 2-Way Secure mode, the green LED will illuminate when a response is received from the Tunstall home unit

To activate ‘walk test’ mode:

1. Press and hold the ‘function’ button until a solid red LED is displayed. Continue to press the ‘function’ button for approximately three seconds until the red LED turns off.
2. Release the ‘function’ button. The Motion Sensor 869 is now in ‘walk test’ mode, which will be active for three minutes. The timer will not be reset if the sensor detects movement during this time.
3. Ask the user to walk in front of the sensor. The detection beam should be pointing at the chest area for optimal detection.
4. Once the user’s movement has been detected, they should move away from the sensor for three minutes so that the sensor will revert to its normal operation mode

Fall Zone

The ‘fall zone’ feature is designed to ignore activity if the user has fallen on the floor and is moving around, therefore disregarding any activity that might suggest that all is well in the user’s home and ensuring that alarm calls are raised.

To achieve this, the sensor must be positioned at a minimum of 1.0m high from the floor. The ‘fall zone’ feature also reduces the likelihood of pets generating false alarms when being used in wellbeing scenarios for activity monitoring.

Radio Mode

When integrated with Tunstall systems, the different modes perform checks to confirm that the Motion Sensor 869 is operating correctly.

2-Way Secure Radio Mode (62505/035 Only)

In ‘2-Way Secure’ mode, the Motion Sensor sends a signal to the Tunstall home unit every 22 hours, serving as a heartbeat. If no validation is received in response, the device will resend the alarm until validation is confirmed. Should the Tunstall unit fail to report within the agreed configuration, a notification will be raised to the monitoring centre.

The 2-Way Secure Radio Mode uses AES 128-bit encryption and will be fully certified for full EN18031-1 and EN18031-2 compliance from 1 August 2025.

Classic Radio AP (Auto Presence) Mode (62505/035 Only)

When ‘AP’ mode is active, the Motion Sensor sends a signal to the Tunstall home unit every four hours, effectively acting as a heartbeat. An ‘AP failure’ message will be raised to the monitoring centre if the Tunstall unit has not seen eighteen consecutive ‘AP’ messages. ‘AP failure’ alarms will be continually generated if sensors are removed from the property when in ‘AP’ mode and are not deleted.

Classic Radio ALB (Auto Low Battery) Mode (62405/035 Only)

When the Motion Sensor 869 detects a low battery, it will automatically notify the monitoring centre. Once an ‘ALB’ warning is received, the battery should be replaced within two weeks. The warning will repeat every seven days until the battery is depleted.

For Classic Radio ALB, the low battery alert is the only performance check available. However, the same feature is also supported in 2-Way Secure Radio Mode and Classic Radio AP Mode, where it is combined with the additional checks described earlier.

Mode Switching

62505/035 can switch between 2-Way Secure (CR) and Classic AP mode.
The default mode is 2-Way Secure (CR).

The following steps detail the switching process -

1. Ensure that the Motion Sensor 869 is not in 'walk test' mode.
2. Press and hold the 'function' button until a solid red LED is displayed.
3. Continue to press the 'function' button until the LED flashes to indicate the current mode. A fast red LED flash rate indicates Classic AP mode, and a slow red LED flash rate indicates 2-Way

Notes and Warnings

Service Information

The Motion Sensor 869 contains no user serviceable parts. It contains an ER14505 3.6V battery with up to 2 years' life (typical usage). This battery is user 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 Motion Sensor 869:

1. Remove the front cover.
2. Remove the current battery and dispose of according to local regulations.
3. Wait for twenty seconds before inserting a new 3.6V AA Lithium battery, checking that the polarity is correct.
4. Tunstall recommends using the ER14505. The replacement battery part number is S1004055.
5. Replace the front cover, ensuring that it is securely fitted.
6. When the Motion Sensor powers on, repeat the walk test (see page 5) if required.

Note: After changing the battery, wait 60 seconds for the sensor to initialise before testing.

Technical Details, Standards and Compliance

Technical Details

Weight	72g (without attachments)
Dimensions	49mm x 102mm x 23mm (W x H x D)
Battery	3.6V AA EVE ER14505V Battery
Battery lifetime	Up to 3 years. Also dependent on alarm transmissions and activity.
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/