

Radio Smoke Detector Pattress Installation Instructions (869MHz)

This pattress enables BRK smoke detectors to interface to Tunstall Social Alarm equipment and raise an alarm call upon detection of smoke. The Radio Pattress will connect to both battery-powered and mains-powered smoke detectors as defined below:

Type	Tunstall Part Number	Model Number
Mains Smoke	9000/73A	BRK 7010LBE
Battery Smoke	9000/76A	BRK 710ILE

It is important that the installation instructions provided with the Radio Smoke Detector Pattress are followed in respect of installation, operation and test. This literature provided with the detectors and radio pattress should be left with the user.

Functionality

The smoke detector initiates a radio signal upon detection of smoke. In the case of mains-powered detectors, this signal will be present under both mains present and mains-fail conditions (given that the back-up battery is healthy). The radio signalling equipment utilises an integral battery which should last at least 5 years in normal use. If mains should fail, the smoke detector and transmitter will utilise their internal batteries and continue to function. A smoke detector low battery condition will be indicated via short beeps which will not cause a radio transmission. Battery replacement is then advised as soon as possible. A low battery condition on the transmitter will be signalled to the control centre as part of a normal radio transmission. The transmitter also checks its own battery periodically and reports to the control centre if a low battery condition is detected.

Installation

For optimum radio performance it is recommended that the detector is installed away from metallic surfaces. The installation should follow appropriate (IEE) wiring regulation guidelines and practises. Fit the pattress to the ceiling, taking note of the siting instructions in the smoke detector Users Manual. Mount the smoke detector using suitable screws and rawlplugs, being careful not to damage the electronics contained within the pattress. Connect the incoming mains wiring as overleaf to the pattress interface PCB.

Fit the fixing plate supplied with the smoke detector to the pattress using the supplied screws.

Connect the smoke detector to the wiring (mains smoke detector uses a push-on connector, battery-powered smoke detector fit fork terminals to underside of detector – black to GROUND, orange to SIGNAL).

Fit the smoke detector onto the pattress.

Programming

Refer to the installation guide for the appropriate Social Alarm equipment. The smoke detector test button should be used to initiate a radio transmission for programming.

Test the smoke detector via the test button to ensure an alarm call is raised.

Battery Powered Smoke Detector Connection

Do not connect any leads to SK2. This is required for the mains smoke detector option ONLY.

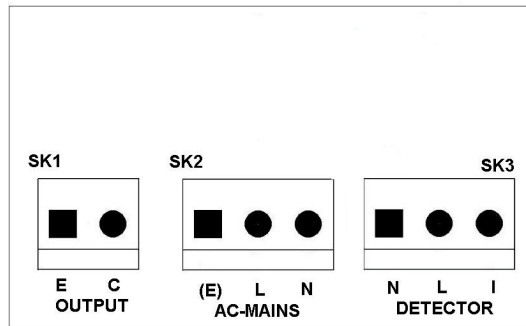
Two leads are supplied with the pattress with fork crimps fitted. Black lead should connect from SK3 terminal **N** to the smoke detector GROUND connection. Orange lead should connect from SK3 terminal **I** to the smoke detector SIGNAL connection.

Mains Smoke Detector Connection

Connect incoming mains power to connector SK2. Connect Brown to **L** and Blue to **N**. Earth is optional and if required can be connected to **(E)**. Ensure that the mains cable is kept away from the radio transmitter by routing the cable around the right-hand plastic pillar. If the mains cable enters the pattress through a side-wall-knockout, ensure that only the knockout furthest away from the radio transmitter is used.

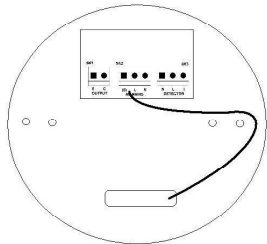
Two leads are supplied with the pattress with fork crimps fitted. These are required only when using the pattress with a battery-powered smoke detector and in this case can be discarded.

Smoke detector lead should be connected to SK3. Connect Brown to **L**, Blue to **N** and Orange/Black to **I**.



BRK Opto-Interface PCB Connector Layout

NOTE: CONNECTOR SK1 IS FOR CONNECTION TO THE RADIO TRANSMITTER ONLY. UNDER NO CIRCUMSTANCES SHOULD ANY OTHER CONNECTION BE MADE TO SK1.



Incoming Mains Cable Routing

IMPORTANT

WHEN FITTING THE SMOKE DETECTOR TO THE PATTRESS, ENSURE THAT THE INTERCONNECTING CABLE IS AS FAR AS POSSIBLE AWAY FROM THE RADIO TRANSMITTER.

NOTICES

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 **“Highly reliable SRD...serving human life inherent systems.”**

Battery Disposal Policy: The Radio trigger batteries must be disposed of in an approved manner. In the event that the radio product indicates a ‘battery low’ condition, contact your supplier for details of disposal/product replacement.

Smoke detector connection: Installation instructions packaged with the radio pattress list the approved smoke detectors that may be connected. The smoke detector must be sited and installed according to the manufacturers guidelines.

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 100 micro Watts	Frequency error ± 3 kHz maximum
Adjacent channel power <100 nano Watts	
Effective range 25 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 over 5 years

Declaration of Conformity

We, Tunstall Telecom of Whitley Lodge, Whitley Bridge, Yorkshire, England, DN14 0HR Declare that the 869MHz Radio Smoke Detector Pattress conforms with the essential requirements of the RTTE directive 1999/5/EC. Essential radio test suites have been carried out.

Model Numbers: PSA6740, PSA6766.

Applicable standards:

EMC EN 55022:1998
ETSI 300-683:1997 (class 1)
Safety EN 60950:2000
Radio ETSI EN 300 220-3:(2000-09)
Social Alarm EN50130-4:1995 + amendment A1:1998

Signed

Technical Director Date 5th August 2002

Associated Summary Information (02RTTE0012B) The CE mark was first applied in August 2002

