Impaq

Shock Sensors

Impaq Plus

Impaq E

INSTALLATION INSTRUCTIONS

Texecom

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INS 139-5

1 INTRODUCTION

The new *Impaq™ Series* of shock sensors combine the superb design that Texecom is renowned for with state-of-the-art signal processing, ensuring fast and reliable set-up with unparalleled false alarm immunity. Ideal for use in almost any environment, the high performance *Impaq Plus* and the cost-effective *Impaq E* provide peace of mind for installer and customer alike. All new surface mount designs permit easier cable access and improved RF immunity.

Outstanding features of the *Impaq Plus* and *Impaq E*:

- ✓ Improved Sensitivity
- ✓ Easy Set-up Procedure
- ✓ Fully Adjustable Detection
- ✓ Dual Range Select
- ✓ Ultra High False Alarm Immunity
- ✓ Conformally Coated Electronics
- ✓ Selectable LED Indication
- ✓ Surface Mount Technology (SMT)
- ✓ Available in White or Brown

2 INTRODUCTION (continued)

Additional features of the *Impaq Plus* only:

- ✓ Tri-coloured LED Indication
- ✓ Latching and First To Alarm Input
- ✓ Gross Attack Indication
- ✓ Optical Alarm Relay for Silent and Reliable Operation
- ✓ Comfort and Detection LED Independently Selectable
- ✓ Background Disturbance Indication
- ✓ Digital Signal Processing

3 INTRODUCTION (continued)

Impaq Plus

The high performance *Impaq Plus* offers every feature possibly needed for total reliability and ease of installation. Microprocessor operation provides maximum reliability using Digital Signal Processing (DSP) which continually monitors the environment ensuring that only genuine signals can cause an alarm. An optical relay is used to provide silent operation and resistance to magnetic tampering. The tri-colour LED set-up method indicates to the engineer whether the sensitivity is too high or too low ensuring optimum detection performance and maximum false alarm immunity.

Impaq E

The reliable and cost-effective *Impaq E* offers a host of features usually found in more expensive detectors, combined with the engineer friendly installation you would expect from Texecom.

4 WARRANTY

All Texecom products are designed for reliable, trouble-free operation. Quality is carefully monitored by extensive computerised testing. As a result, the *Impaq Series* is covered by a ten year replacement warranty against defects in materials or workmanship (details on request).

The *Impaq Series* of detectors are designed to detect the vibrations caused by an intruder attempting to force an entry. As the *Impaq Series* is not a complete alarm system, but only a part thereof, Texecom cannot accept responsibility or liability for any damages whatsoever based on a claim that an *Impaq* failed to function correctly.

Due to our policy of continuous improvement Texecom reserves the right to change the specification without prior notice.

5 CONNECTION DETAILS

Terminals

12V: Connect to auxiliary +12VDC on the control panel.

0V: Connect to auxiliary 0V on the control panel.

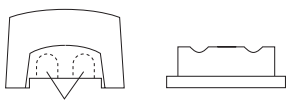
Alarm: Connect to a normally closed alarm zone on the control panel.

Tamper: Connect to a normally closed tamper zone on the control panel.

Latch†: Latch and first to alarm connection. On the control panel, connect to Set Positive (SET+ or SW+) for latch mode or Alarm Positive (AL+, A+ve) for first to alarm mode (see Section 9). **Connect only if latching mode or first to alarm mode is required.**

†Feature only available on *Impaq Plus*.

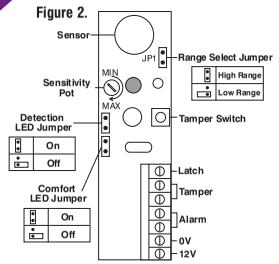
Figure 1.



Lid cable knockouts

6 IMPAQ PLUS PCB

Figure 2.



Impaq Plus Set-up Options

Comfort LED Jumper: Remove the jumper labelled "Comfort LED" to independently disable the flashing Comfort LED.

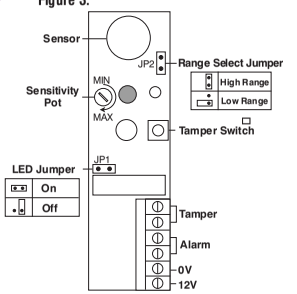
Detection LED Jumper: Remove the jumper labelled "Detection LED" to independently disable the LED from indicating an impact detection or latched mode.

Range Select Jumper: Remove the jumper to select the low sensitivity range (see Section 13).

Sensitivity Pot: Turn the pot clockwise to increase the detection sensitivity (see Section 13).

7 IMPAQ E PCB

Figure 3.



Impaq E Set-up Options

LED Jumper: Remove the jumper labelled "LED" to disable the LED.

Range Select Jumper: Remove the jumper to select the low sensitivity range (see Section 14).

Sensitivity Pot: Turn the pot clockwise to increase the detection sensitivity (see Section 14).

8 LED STATUS INDICATION

Impaq Plus

Flashing Green: Comfort LED. When enabled, the comfort LED will flash green approximately every 3 seconds to indicate correct operation.

Momentary Green: Background disturbance/undersensitive setting. This is used to indicate background disturbances or an undersensitive setting during installation.

Momentary Red: Alarm condition/correct sensitivity. This is used to indicate that an attack has been detected by the shock sensor or a correct sensitivity setting during installation.

Momentary Orange: Gross attack/over-sensitive condition. This is used to indicate that a massive attack has been detected by the shock sensor or an oversensitive setting during installation.

Continuous Red: The *Impaq Plus* is in latched mode (see Section 9).

Flashing Red: The *Impaq Plus* is in latched mode and was first to alarm (see Section 9).

Impaq E

Red: Alarm condition.

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9 IMPAQ PLUS LATCH OPTIONS

Momentary: Latch terminal not connected: the LED will illuminate when an impact is detected and then reset after approximately 3 seconds.

Latching: Latch terminal connected to the Set Positive (Set+, SW+) line from the control panel. When the panel is set the LED will be disabled. When the Set Positive is removed (by unsetting the control panel) any shock sensors which have signalled an alarm will indicate a latched condition with a continuous red LED. Taking the latch line high and then low again will reset the shock sensors.

First to Alarm: Latch terminal connected to the Alarm Positive (AL+, A+ve) line from the control panel. The first shock sensor activated while the system is set will indicate this with a slow flashing red LED (upon unsetting the system). Shock sensors activated subsequently will indicate this with a continuous red LED. Taking the latch line high and then low again will reset the shock sensors.

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10 MOUNTING POSITIONS

Use the examples as a guide to select the most suitable mounting position(s).

Figure 4a.

Note:
Circles denote *Impaq*

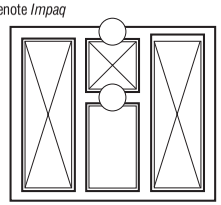
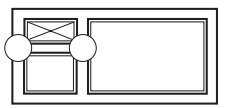
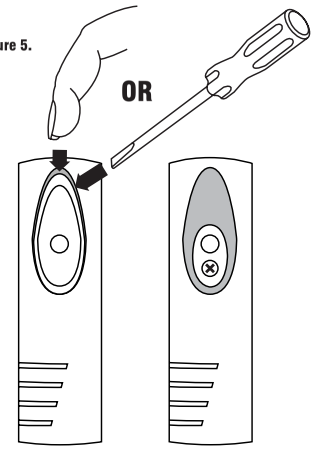


Figure 4b.



11 OPENING THE UNIT

Figure 5.



12 INSTALLATION

1. Select the intended position for mounting the detector, ensuring that the surface is clean and clear of any irregularities.
2. Gently remove the 'tear' shaped cover with your fingernail or a small screwdriver to access the fastening screw. Unscrew the single captive screw and gently remove the cover from the base. (See Figure 5).
3. Unscrew the PCB retaining screw.
4. Carefully ease out the printed circuit board from the base and place in a safe location.
5. Present the base up to the desired mounting position, punch out the required fixing holes in the base using a screwdriver and mark out the fixing points on the surface to be protected.
6. Fix the *Impaq* in position using at least two No. 4 or No. 6 countersunk screws (some hard surfaces may require a pilot hole to be drilled first). Ensure that the base has full and secure contact with the surface to be protected.
7. Carefully replace the printed circuit board and fasten to the base with the mounting screw provided.
8. Connect cable to the *Impaq* ensuring all the wires are safely secured in the terminal block (see Section 5 for connection details).

13 IMPAQ PLUS SENSITIVITY SET-UP

1. When the unit is first powered the LED will light green for approximately 10 seconds while the unit self-calibrates.
2. To set the sensitivity turn the potentiometer VR1 to minimum (anti-clockwise) and firmly tap the middle of the area to be protected. If the LED lights red or orange, remove the "Range Select" jumper to select the "low sensitivity" range. Gradually increase the sensitivity by turning VR1 clockwise. After each adjustment, firmly tap the area and observe the LED colour. A red LED indicates that the sensitivity is correct. If the LED turns green, the sensitivity is too low and needs increasing. If however the LED turns orange, the sensitivity is too high and needs reducing.
3. If required, the Comfort LED jumper can now be removed to independently disable the flashing green Comfort LED (see Section 7).
4. If required, the Detection LED jumper can now be removed to independently disable the LED from indicating an impact detection (see Section 7).
5. Replace the cover and tighten the fixing screw. Press the 'tear' shaped cover into the lid and confirm the desired impact response.

14 IMPAQ E SENSITIVITY SET-UP

1. When the unit is first powered the LED will light red for approximately 10 seconds while the unit self-calibrates.
2. To set the sensitivity turn the potentiometer VR1 to minimum (anti-clockwise) and firmly tap the middle of the area to be protected. If the LED lights, remove the "Range Select" jumper to select the "low sensitivity" range. Gradually increase the sensitivity by turning VR1 clockwise. After each adjustment, firmly tap the area and observe the LED. A red LED indicates that the sensitivity is correct.
3. If required, the LED jumper can now be removed to disable the LED (see Section 6).
4. Replace the cover and tighten the fixing screw. Press the 'tear' shaped cover into the lid and confirm the desired impact response.

Note:
For maximum false alarm immunity always set the sensitivity to the minimum acceptable level.

15 FALSE ALARM PROTECTION

Design: Noise reduction circuits with maximum ground plane.
Digital Signal Processing (*Impaq Plus*).

Electrostatic Discharge: No false alarms up to ±8kV. Conforms to BS EN50130-4: 1996 Clause 9.

Radiated RF Immunity: No false alarms from:
80 - 1000MHz @ 10V/m 80% 1kHz Amplitude Modulation.
80 - 1000MHz @ 10V/m 1Hz Pulse Modulation.
Conforms to BS EN50130-4: 1996 Clause 10.

Conducted RF Immunity: No false alarms from:
0.15 - 100MHz @ 10V/m 80% 1kHz Amplitude Modulation.
0.15 - 100MHz @ 10V/m 1Hz Pulse Modulation.
Conforms to BS EN50130-4: 1996 Clause 11.

Fast Transient Burst: No false alarms up to ±1kV. Conforms to BS EN50130-4: 1996 Clause 12.

Slow/High Energy Voltage Surge: No false alarms up to ±1kV. Conforms to BS EN50130-4: 1996 Clause 13.

Radiated Emissions: Conforms to BS EN55022: 1999 Class B.

16 TECHNICAL SPECIFICATION

Voltage: 9 - 16VDC

Current
Impaq Plus: 20mA typical.
Impaq E: 9mA typical.

Maximum Ripple: 2Vpp 10Hz - 100Hz @ 12VDC.

Alarm Output
Impaq Plus: Normally closed (fail-safe) voltage free contacts. Rated at 350VDC, 100mA. Optical relay, typically 16Ω to 26Ω contact resistance.
Impaq E: Normally closed (fail-safe) voltage free contacts. Rated at 24VDC, 50mA protected by 18Ω series resistor.

Tamper Output: Normally closed voltage free contacts. Rated at 24VDC, 50mA.

Alarm Period: >2 seconds typical.

Detection LED
Impaq Plus: Internal jumper to enable/disable - Comfort LED independently selectable.
Impaq E: Internal jumper to enable/disable.

Detection Method: Proprietary piezo electric transducer.

17 ENVIRONMENTAL

Operating Temperature: 0°C (+32°F) to +55°C (+131°F).

Storage Temperature: -20°C (-4°F) to +60°C (+140°F).

Maximum Humidity: 95% non-condensing.

EMC Environment: Residential, Commercial and Light Industrial.

18 PHYSICAL

Mounting: Window frames, doors, walls and roofs.

Casing: Flame retardant ABS.

Dimensions: 86mm x 25mm x 21mm.

Packed Weight: 40g approx.

19 QUALITY ASSURANCE

All Texecom products are designed and manufactured for reliable, trouble-free operation. Quality is carefully monitored by extensive computerised testing.

A member of both the British Security Industry Association (BSIA) and the European Association of Security Equipment Manufacturers (EASEM), Texecom is also a quality assured company to ISO 9002.

European standards: conforms to European Union (EU) Electro-Magnetic Compatibility (EMC) Directive 89/336/EEC.

Impaq is a trademark of Texecom Ltd.

Registered Design No: 2073220

Certificate Number: FM 35285

British Security Industry Association