# Impaq Shock Sensors
## INSTALLATION INSTRUCTIONS

Impaq Plus

Impaq Plus
with Magnetic Contact

Impaq E

Texecom
Designed to Perform

INS 324

## 1 INTRODUCTION

***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. 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 Plus with Magnetic Contact***

The Impaq Plus with Magnetic Contact is ideal for increased protection of doors and windows. It includes an independent normally closed magnetic contact circuit accessible via separate terminals. This gives the option to wire in series with the shock sensor relay or to use as separate zones e.g. for DD243 compliance.

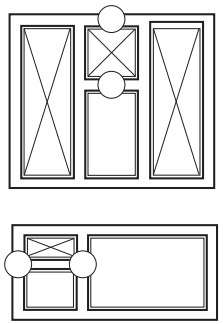
***Impaq E***

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.

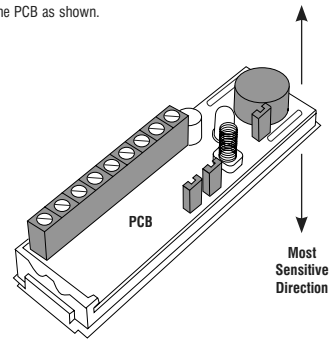
## 2 MOUNTING POSITIONS

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

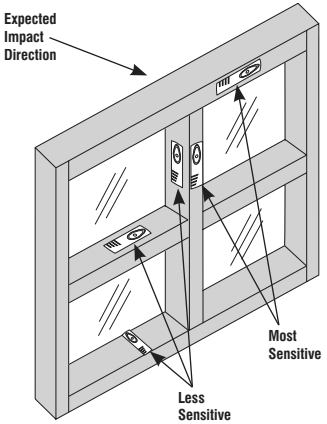
**Note:** Circles denote *Impaq*



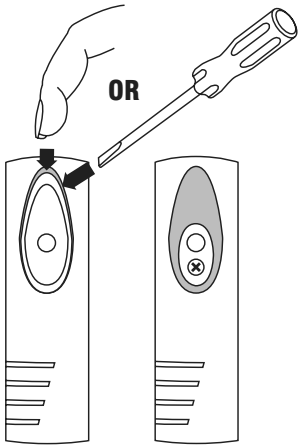
The Impaq is designed to detect shock signals from any direction. The unit however is most sensitive to shocks passing through the PCB as shown.




The Impaq can be installed in any orientation but for maximum sensitivity position as shown. Once mounted the sensitivity should be carefully calibrated using range jumper and sensitivity pot.




## 3 OPENING THE UNIT




## 4 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.

**3.**Unscrew the PCB retaining screw.

**4.**Carefully ease out the printed circuit board from the base and place in a safe location.

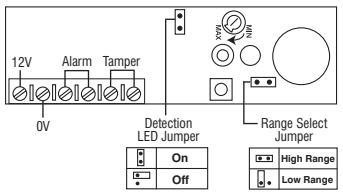
**5.**Present the base up to the desired mounting position, punch out the required fixing holes in the base using a screwdriver and mark out the fixing points on the surface to be protected.

**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.

## 5 IMPAQ E PCB



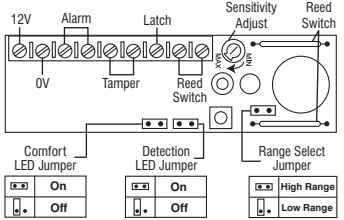

### *Impaq E* Set-up Options

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

**Range Select Jumper:** Remove the jumper to select the low sensitivity range.

**Sensitivity Pot:** Turn the pot clockwise to increase the detection sensitivity.

## 6 IMPAQ PLUS PCB




### *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 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.

**Sensitivity Pot:** Turn the pot clockwise to increase the detection sensitivity.

## 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.

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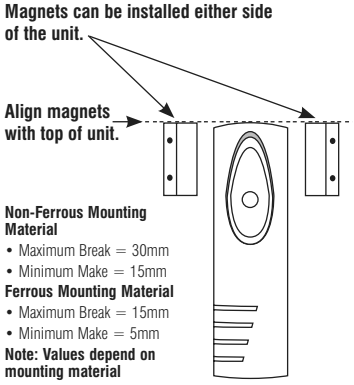
## 7 IMPAQ PLUS WITH MAGNETIC CONTACT

The Impaq Plus with Magnetic Contact is ideal for increased protection of doors and windows. It includes an independent normally closed magnetic contact circuit accessible via separate terminals. This gives the option to wire in series with the shock sensor relay or to use as separate zones e.g. for DD243 compliance.

The new magnetic contact circuit is accessible via the 'Reed' terminals with the other terminals retaining their previous functions.

The reed switches are in parallel so the magnet can be installed on either side of the product, and must be aligned with the top of the unit as shown.




**Non-Ferrous Mounting Material**
- Maximum Break = 30mm
- Minimum Make = 15mm

**Ferrous Mounting Material**
- Maximum Break = 15mm
- Minimum Make = 5mm

**Note: Values depend on mounting material**

## 8 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.

**4.**If required, the Detection LED jumper can now be removed to independently disable the LED from indicating an impact detection.

**5.**Replace the cover and tighten the fixing screw. Press the 'tear' shaped cover into the lid and confirm the desired impact response.

## 9 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.

**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.

## 10 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/under-sensitive setting. This is used to indicate background disturbances or an under-sensitive 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.

**Flashing Red:** The *Impaq Plus* is in latched mode and was first to alarm.

### *Impaq E*

**Red:** Alarm condition.

## 11 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.

## 12 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 - 2000MHz @ 10V/m 80% 1kHz Amplitude Modulation.
80 - 2000MHz @ 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.

## 13 TECHNICAL SPECIFICATION

**Voltage:** 9 - 16VDC

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

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

**Alarm Output**
*Shock Sensor*: Normally closed (fail-safe) voltage free contacts. Rated at 350VDC, 100mA. Optical relay, typically 16Ω to 26Ω contact resistance.
*Mag. Contact*: Normally closed voltage free reed switch. Rated at 100VDC, 500mA.

**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.

## 14 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.

## 15 PHYSICAL

**Mounting:** Window frames, doors, walls and roofs.

**Casing:** Flame retardant ABS.

**Dimensions:** 86mm x 25mm x 21mm.

**Packed Weight:** 40g approx.

## 16 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.

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Certificate Number: FM 35285

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