

## Package Contents

Package Contains:

- 1 x Dual Tech
- 1 x Drilling template for fixing holes
- 1 x Allen Key
- 3 x 31.75mm wall plugs
- 3 x 31.75mm screws
- 2 x Spare Sliding Curtains
- 2 x Tamper Feet
- 1 x Installation manual

## Introduction

The Dual Tech is an outdoor motion detector and alarm trigger that uses two independent passive infra-red detectors plus a microwave sensor module. All three sensors must trigger to cause the detector to signal an alarm. Utilising triple detection technology, the Dual Tech delivers precise, reliable presence detection.

## Quick Installation

1. Mount and connect the detector following the instructions given later in this sheet.
2. Apply supply voltage to the unit. The detection LED (blue) flashes three times.
3. Wait approximately 2 to 3 minutes to allow the detector to settle.
4. Press the programming button once to activate walk test mode. The detection LED is now enabled for five minutes.

**Note: The front cover must be fitted when walk testing.**

The default settings are:

- Range: 30 meters
- Pulse count: 1 (always set to 1 during walk rest)
- Detection LED: off (always enabled during Walk Test)

## Mounting The Unit

During installation, protect the electronics against water, as trapped moisture can affect or damage the unit.

1. Drill the wall to accept the two fixing screws, the cable entry, and the tamper cup (if used). See Figures 1 and 2.  
A hole-drilling template is provided.  
**Note: We recommend using the tamper cup on uneven wall surfaces.**
2. Remove the cover assembly by loosening the locking screw using the allen key provided. The cover hinges from the top and lifts out of the location slot. See Figure 3.
3. Feed standard eight-core alarm cable into the cable entry. Bare the wires and connect 6 wires to the terminal block and optionally connect 2 to the tamper board. See Figures 2, 4, 5, 6 & 7.

4. Screw the unit to the wall ensuring that the tamper pin is correctly located and that the tamper microswitch is closed. See Figure 7.  
To aid installation, two spare tamper feet are provided. One is 1mm longer and the other is 2mm longer than the tamper foot originally fitted. The tamper foot is a push fit and can be removed by carefully pulling it from the pin. See Figure 2.
5. When the detector is aligned, connected, and programmed to suit the installation, replace the front cover and lock as shown. See Figure 8.

## Multibeam Alignment & Masking

The multifunction lens fitted to Dual Tech produces seven long range beams and seven medium to short range curtain PIR beams. The PIR circuitry detects changes in heat and movement in the beam pattern; therefore items such as trees, shrubs, ponds, boiler flues, and animals should be considered when positioning the detector.

**Note:** The PIR sensor is more sensitive to movement across the beams, and less sensitive to movement directly towards or away from the beams.

The detector module is fitted with two sliding shutters to reduce the detection angle.

The curtains are fitted to the pan and tilt module as shown in Figure 9 (shown with primary and additional curtain sliders fitted). Each section of the detector lens gives a coverage pattern of approximately 10 degrees.

An additional set of curtain sliders is provided should the beam pattern need to be narrowed even further, e.g. if the minimum detection angle of 10 degrees is required.

When coverage exceeds the desired detection area, adjust the module as required and mask off any beams, either vertically or horizontally, to avoid unwanted detection.

Use portions of the self-adhesive silver mask applied to the rear, smooth side of the lens as shown in Figures 10 & 11. Always replace the lens the correct way up to ensure exact beam pattern coverage (top of the lens is marked TOP).

When mounted at heights above 3 metres there could be a significant reduction in the range of detection and the target will have to move a greater distance within the field of view before an alarm is generated.

### Masking Configurations For Maximum Range

Configuration	Mounting Height (Metres)	Tilt (°)	Max. Range (Metres)	Reference
Multibeam (Optimum)	3	0	30	Figure 10
Pet Immunity *	1.5	-2	30	Figure 11

\* Black area should be masked for pet alley applications up to 30 meters.

Figure 12 shows the pattern for the maximum range in the optimum position (see Figure 10). Masking the top section of the lens reduces the range to 20m.

Figure 13 shows the pattern for the minimum range (10m). In this case masking the top section of the lens reduces the range to 6 meters.

Figures 14 and 15 illustrates alignment recommendations for when the detector is mounted close to a wall.

The alignment shown in Figure 14 is not recommended. If the detector module is orientated at an angle of 90° to the perimeter, the mounting wall may cut off short and medium range beams. The long range beam will still detect an intruder, however the wall can cause false alarms when heated by sunlight.

Figure 15 shows the recommended alignment. The detector module is orientated at a 55° angle to the perimeter. As a result, short and medium range beams are parallel to the perimeter, but the detection range along the perimeter is reduced to 25 metres.

## Programming

The user can individually programme a number of configurable settings, as illustrated in the programming chart.

Programming Chart

			SETTING		
			1	2	3
O P T I O N S	1	Range (m)	10	20	30
	2	Pulse Count	1	2	
	3	LED	Off	On	
A U X	7	Press 7 times to flash out your selected settings			
	8	Press 8 times to reset to GJD factory settings			

Shaded settings are factory defaults

To change any of the Dual Tech settings:

1. Press the programme button, as shown in figure 16, for the number of the Option to be changed, i.e. once for range, twice for pulse count and three times for LED.
2. Wait until the blue LED indicator goes off (typically four seconds).
3. The indicator will then flash out the existing settings.
4. To change the settings for that option, press the programme button the number of times for the required new setting.
5. The indicator blinks twice and the changes are stored in the Dual Tech's non volatile memory.

Example: To change the LED setting from OFF to ON:

1. Press the programme button twice.
2. Wait until the blue LED indicator goes off (typically four seconds).
3. The indicator will then flash once, indicating the current LED setting is OFF.
4. Press the programme button twice to change the setting to ON.
5. The indicator blinks twice and the changes are stored in the Dual Tech's non volatile memory.

## Programming Options Definitions

### Pulse Count

This is the number of times the unit has to detect on both of its sensors before signalling an output.

### LED

LED Off – LED disabled.

LED On – LED signals a detection.

## Walk Test

In walk test mode, the detection LED option is set to ON, and the pulse count option is set to 1. The detection LED lights each time the Dual Tech detects your presence.

To enter the walk test mode, press the programming button once. The detection LED lights and pulse count 1 is automatically selected. The unit can then be aligned.

The test mode ends automatically five minutes after last detection. Alternatively, press the program button three times, or remove and then reapply power to cancel the walk test mode.

**Note: When you conduct a walk test, make sure that the front cover is in place. Do not conduct walk tests with the cover removed.**

The range of the detector increases without the protective front cover. Therefore the front cover must be fitted to establish the correct beam pattern. Use programming chart to adjust the range as necessary. Pan and tilt the lens module over the field of view to obtain the correct coverage area.


## Accessories

GJD is able to supply the following accessories to aid installation:

<b>GJD304</b>	Conduit cable entry adaptor ring
<b>GJD305</b>	Pole mount clamp
<b>GJD380</b>	D-Tect Walk Tester

## Specifications

<b>Microwave Frequency</b>	
<b>Detection Area</b>	Programmable between 8 & 30 metres.
<b>Coverage</b>	10-70 degrees detection angle, 30m x 30m coverage max.
<b>Adjustment</b>	180 degree pan + 90 degree tilt.
<b>Fresnel Lens</b>	28 zones for each Pyro pair, which can be masked with curtain sliders and special masking tape (supplied).
<b>Customised Optics</b>	Double silicon shielded quad element eliminates 50,000 Lux of white light.
<b>Outputs</b>	Silent solid state magnetically immune.
<b>No. 1</b>	<b>N / OPEN</b> Volt free relay signal contact 24VAC/DC @ 50mA with an integral 25Ω Alarm time 5 seconds
<b>No. 2</b>	<b>N / CLOSED</b> Volt free relay signal contact 24VAC/DC @ 50mA with an integral 25Ω Alarm time 5 seconds

<b>Power Input</b>	9 to 15 VDC.
<b>Current</b>	9mA (12V nominal).
<b>Pulse Count</b>	1 - 3.
<b>Temp. Compensation</b>	Digital sensitivity adjustment.
<b>Control</b>	Digital microprocessor – non volatile memory.
<b>Walk Test</b>	Output test mode with LED indication
<b>Operating Temp.</b>	-20 to +55 Centigrade Conformal coated electronics for increased stability.
<b>Housing</b>	High impact zinc alloy.
<b>Protection Rating</b>	IP 65.
<b>Dimensions</b>	145 x 120 x 115 mm.
<b>Weight</b>	750 grams NET, 880 grams GROSS
<b>Mounting Height</b>	Variable - optimum height 3 metres.
<b>Cable &lt; 200m</b>	Using all five outputs (including tamper) – 12 core 7/0.2mm
<b>Cable &lt; 500m</b>	Using all five outputs (including tamper) – 12 core 16/0.2mm
<b>CE Mark</b>	

GJD reserve the right to amend specifications without prior notice

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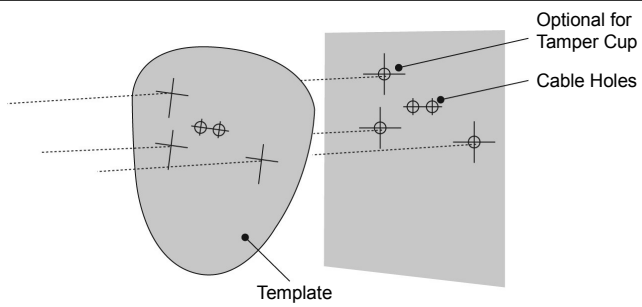


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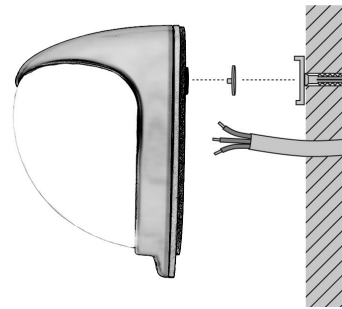
## Engineer Notes

**Dual Tech**  
*GJD360 Triple Technology External Detector*

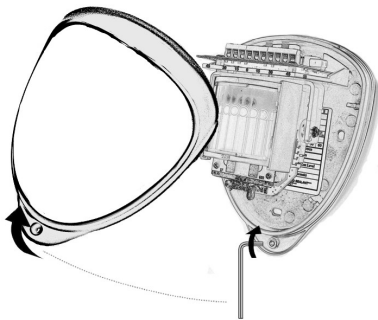
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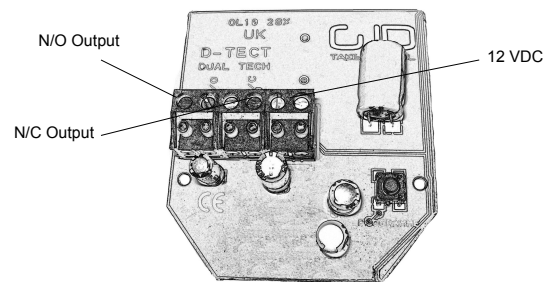
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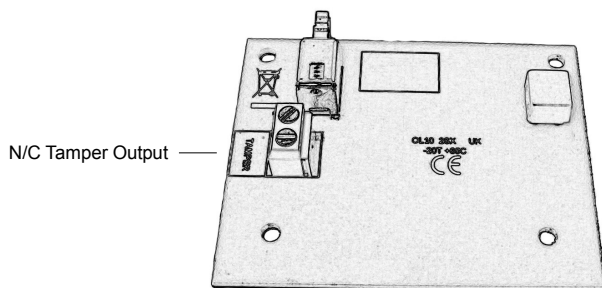
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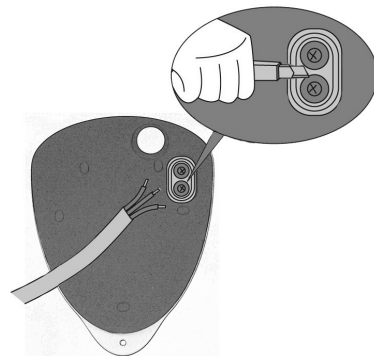
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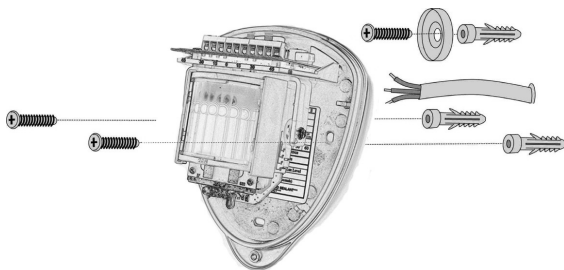
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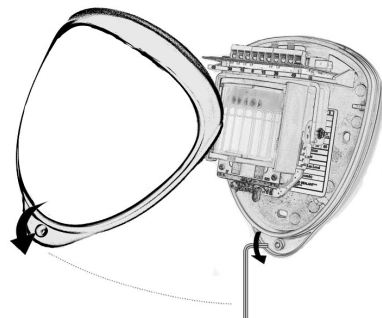
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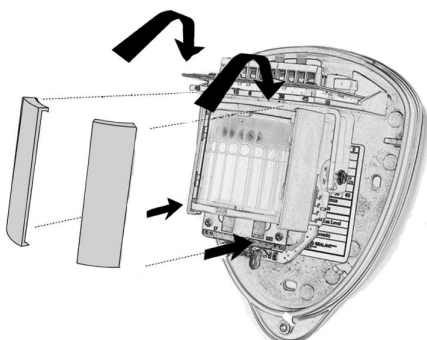
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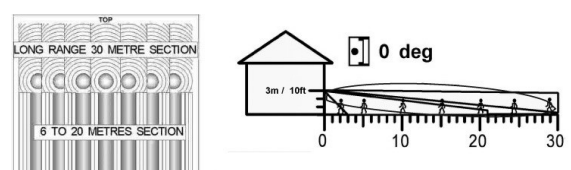
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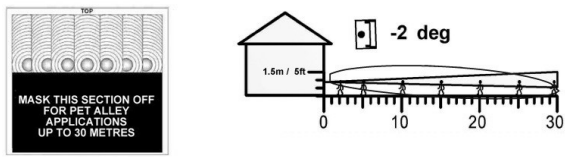
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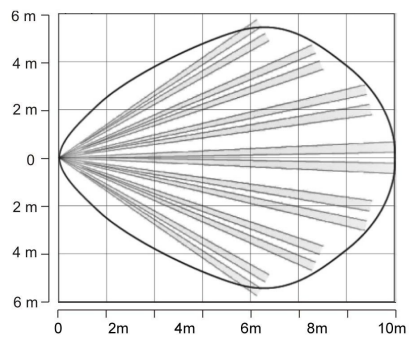
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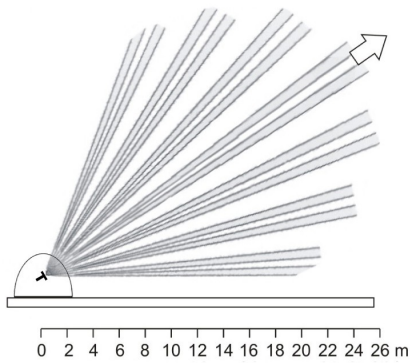
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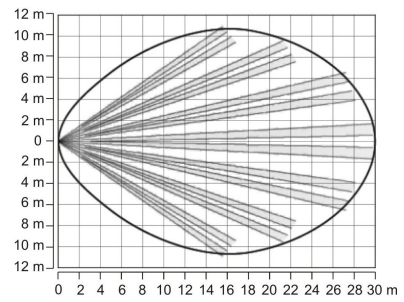


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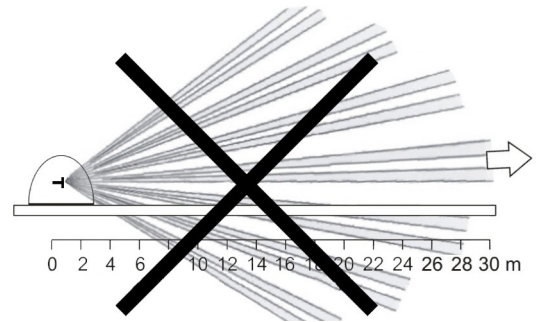


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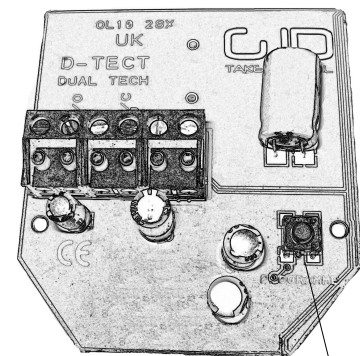
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14



16



Programming Button

# Engineer Notes

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