D-TECT 40

GJD340 40m Quad PIR Detector

Package Contents

Package Contains:
- 1 x D-TECT 40
- 1 x Drilling template for fixing holes
- 3 x 31.75mm wall plugs
- 3 x 31.75mm screws
- 2 x Tamper Feet
- 1 x Tamper Cup
- 1 x Installation manual
- 1 x 4m wide Fresnel Lens

Introduction

The D-TECT 40 is an outdoor motion detector and alarm trigger that uses two independent passive infra-red detectors, both of which must trigger to cause the detector to signal an alarm. Utilising quad PIR technology, the D-TECT 40 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..

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

The default settings are:
- Range: 40 meters
- Pulse count: 1 (always set to 1 during walk rest)
- Detection LED: off (always enabled during Walk Test)
- 'S' Lux Level: 5
- Contacts:
- Alarm 1: Normally Closed
- Alarm 2: Normally Open
- Contacts Timer: 5 (seconds)

Mounting the Unit

WARNING
- **NYLON WASHERS PROVIDED MUST BE USED WITH SCREWS**
- **ENSURE CABLE ENTRY AND SCREW HOLES ARE SEALED WITH WATER BASED SEALANT**
- **DO NOT USE SILICONE BASED SEALANT**

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. 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 to the top PCB terminal block. See Figures 2, 4, 5 & 8.

4. Screw the unit to the wall ensuring that the rear tamper pin is correctly located and that the tamper micro switch is closed. See Figure 6.

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. Seal the cable entry to prevent moisture ingress using acrylic (non-silicone) sealant.

6. When the detector is aligned, connected, and programmed to suit the installation, replace the front cover and lock as shown. See Figure 7.

Connecting the Unit

The D-TECT 40 includes jumpers that allow you to configure the internal end-of-line resistor values, when EOL resistors are required. Values are 1K, 2K2, 3K3, 4K7, 5K6 and 6K8 Ω.

Figures 4 and 8 show:

1. EOL resistor jumpers
2. Wiring points

Alternatively, you can remove the jumpers and connect a discrete resistor directly to the alarm or tamper outputs, as specified by the third-party equipment.

Connections

Terminal	Label	Description
1	A	24 hour -VE Output
2	S	Dark -VE Output
3, 4	ALARM 1	Alarm relay 1
4, 5	EOL	End-of-line resistors
5, 6	TAMPER N/C	Tamper relay, normally closed
7, 8	ALARM 2	Alarm relay 2
9, 10	9 -24V	AC / DC Supply

Beam Alignment

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.

When coverage exceeds the desired detection area, adjust the module as required to avoid unwanted detection.

The optimum mounting height for the detector with wide angle Lens 1, fitted as standard, is 3 metres. The mounting height for the narrow width Lens 2 is 2.6 metres.

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.

Figures 9 and 10 show side and top down views of the 8m wide (Lens 1) beam pattern. Figures 12 and 13 show the 4m wide (Lens 2) beam pattern.

Programming

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

Programming Chart

				SETTING							
				1	2	3	4	5	6	7	8
OPTIONS	1	Range (m)		20	25	30	35	40			
	2	Pulse Count		1	2						
	3	LED		Off	On						
	4	'S' Output Lux Level		2	5	10	20	30	40	50	24 HR
	5	Contacts	ALARM 1	N/O	N/C	N/C					
			ALARM 2	N/O	N/O	N/C					
	6	Timer Seconds		2	5	10	20	30	40	50	60
AUX	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 D-TECT 40 settings:

1. Press the program button, as shown in figure 15, for the number of the Option to be changed, i.e. once for range, twice for pulse count, three times for LED, four times for lux, five times for contacts and six times for timer.
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 program button the number of times for the required new setting.
5. The indicator blinks twice and the changes are stored in the D-TECT 40's non volatile memory.

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

6. Press the program button three times.
7. Wait until the blue LED indicator goes off (typically four seconds).
8. The indicator will then flash once, indicating the current LED setting is OFF.
9. Press the program button twice to change the setting to ON.
10. The indicator blinks twice and the changes are stored in the D-TECT 40'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.

Lux Level
This is the approximate level that the ambient light must reach before the 'S' output will become active when there is an activation.

The 'S' output switches negative for 60 seconds when there is a detection and the light level is below the programmed setting.

The 'S' output is an open collector type rated at maximum 25mA.

Alarm 1 & Alarm 2 Outputs

These are magnetically immune volt free relay contacts used to trigger alarm inputs on connected equipment. They can be set to be both normally open, one normally closed and one normally open or both normally closed.

The contacts are rated at a maximum of 24V AC/DC @ 50mA.

Timer
The timer setting adjusts the time that the relays change state after activation (to reduce repetitive alarms).

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 D-TECT 40 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 the 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

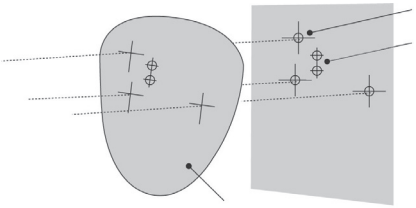
GJD is able to supply the following accessories to aid installation:

GJD304 Conduit cable entry adaptor ring
GJD305 Pole mount clamp
GJD308 'D-Guard' Anti vandal cage
GJD380 D-TECT Walk Tester

Specifications

Detection Area	Programmable between 20 - 40 metres (20 25 30 35 40)
Coverage	Two Fresnel lenses giving up to 40m x 4m or 40m x 8m (Standard)
Adjustment	180° pan + 90° tilt
Customised Optics	Double silicon shielded quad element eliminates 50,000 Lux of white light
Outputs	Silent solid state magnetically immune
Alarm 1 & Alarm 2	Volt free relay signal contact 24V AC/DC @ 50mA with an integral 25Ω series resistor, selectable N/O & N/C Adjustable timer options: 2 to 60 seconds
Output 'A'	Open collector negative switching – 25mA max Alarm period 400ms
Output 'S'	Open collector negative switching – 25mA max Alarm period: detection + 60 seconds Adjustable: Dusk (2 Lux) to 24 hour
Output 'T'	Tamper Volt free, normally closed switch output
Tamper Switches	Front and rear tamper switches; case open and removal from wall
Power Input	9 to 24 V AC/DC
Current	9mA (12V nominal)
Pulse Count	1 - 2
Temp. Compensation	Digital sensitivity adjustment
Control	Digital microprocessor – non volatile memory
Walk Test	Output test mode with LED indication
Operating Temp.	-20 to +55 Centigrade Conformal coated electronics for increased stability
Housing	High impact zinc alloy
Protection Rating	IP 65
Dimensions	145 x 120 x 115 mm
Weight	750 grams NET, 880 grams GROSS
Mounting Height	Variable - optimum height 3 metres for 8m and 2.6m for 4m
Cable < 200m	Using all five outputs (including tamper) – 12 core 7/0.2mm
Cable < 500m	Using all five outputs (including tamper) – 12 core 16/0.2mm
CE Mark	CE

1



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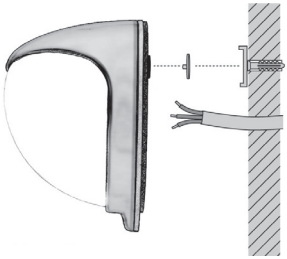

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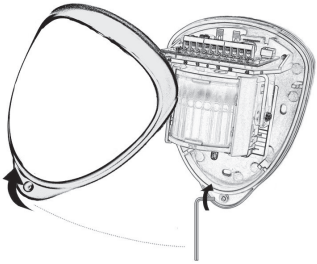

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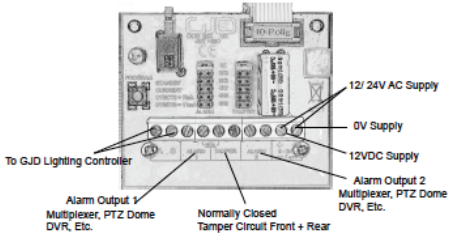
12/ 24V AC Supply
0V Supply
12VDC Supply
Alarm Output 2
Multiplexer, PTZ Dome
DVR, Etc.
To GJD Lighting Controller
Alarm Output 1
Multiplexer, PTZ Dome
DVR, Etc.
Normally Closed
Tamper Circuit Front + Rear

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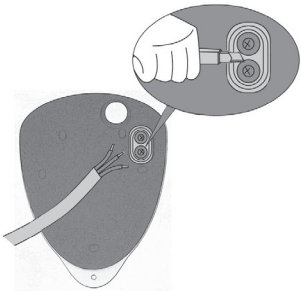

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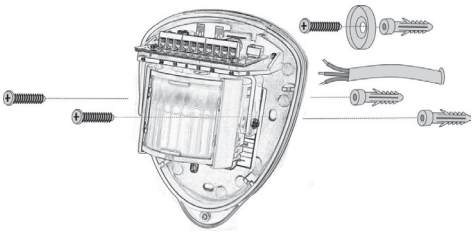

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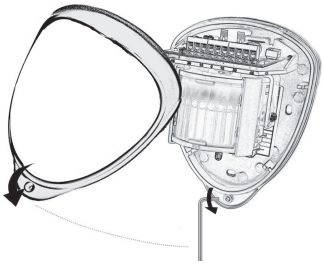

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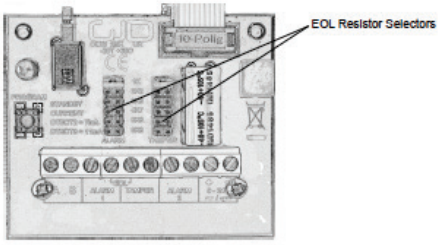
EOL Resistor Selectors

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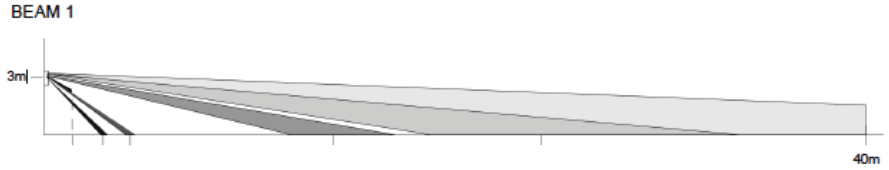

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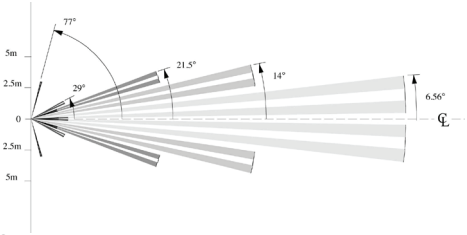

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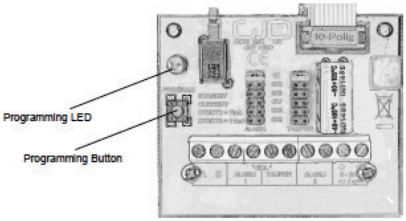

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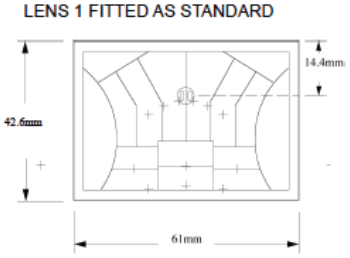

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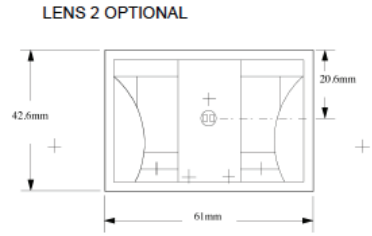

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