MX 20

GJD103 Quad PIR Movement Detector

Package Contents

- 1 x MX20
- 2 x Shutters
- 3 x 27mm wall plugs
- 3 x 27mm screws
- 3 x Tamper Feet
- 1 x Tamper Cup
- 1 x Installation manual
- 1 x Opening Tool
- 1 x Lens Mask

INTRODUCTION

The MX20 is an attractively styled, 20 metre Passive Infrared (PIR) detector, with advanced features such as dual tamper switches for case and wall-mount tamper detection, sensor mounted white-light filter and zone blanking using vertical curtain shutters and horizontal masking for precise area coverage.

QUICK INSTALLATION

1. Mount and connect the detector following the instructions given later in this manual.
2. Configure programming switches as required referring to instructions given later in this manual.
3. Apply supply voltage to the unit. The detection LED flashes once.
4. Wait approximately 2 to 3 minutes to allow the detector to settle

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

The default settings are:
- Range: 20 metres
- Pulse Count: 1 (always set to 1 during walk rest)
- Detection LED: On (recommend for set up process)

MOUNTING THE UNIT

During the 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)
Note: We recommend using the tamper cup on uneven wall surfaces.

2. Remove the cover assembly by loosening the locking screw and using the opening tool provided. The cover hinges from the top and lifts out of the location slot.

3. Feed the cables into the cable entry and Screw the unit to the wall ensuring that the tamper pin is correctly located and that the tamper microswitch is closed.

Three spare tamper feet of different lengths are provided to aid installation, The tamper foot is a push fit and can be removed by carefully pulling it from the pin.

4. Connect the cables to the screw-terminal block on the back of the detectors PCB (see figure 1)

5. When the detector is aligned, connected and programmed to suit the installation, replace the front cover and lock in place.

MULTI BEAM ALIGNMENT & MASKING

The multifunction lens fitted to MX20 produces 5 long range beams and 5 medium to short range curtain PIR beams (see Figure 2). 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.

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 Figure 2. Always replace the lens the correct way up to ensure exact beam pattern coverage.

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	10	20	Figure 3
Pet Immunity*	1.5	5	20	Figure 4&5

(see figure 5)
Black area should be masked for pet alley applications up to 20 metres

Figure 6 shows the pattern for the maximum range in the optimum position (see Figure 4).

Figures 7 and 8 illustrates alignment recommendations for when the detector is mounted close to a wall.

The alignment shown in Figure 7 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 8 shows the recommend 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.

PROGRAMMING

To change any of the MX20 settings, change the configuration of the programming switches (see Figure 9) as required, switch 4 controls LED state, switch 3 controls Pulse Count and switches 1 and 2 control range.

Example: To change the range to 10 metres:

1. Set switch 1 to OFF (down position)
2. Set switch 2 to ON (up position)

PROGRAMMING CHART

Option	Switch Configuration	Reference
LED ON	Switch 4: On (up)	Figure 10
LED OFF	Switch 4: Off (Down)	Figure 11
Pulse Count 1	Switch 3: Off (Down)	Figure 12
Pulse Count 2	Switch 3: On (Up)	Figure 13
5 Metre Range	Switch 2: Off (Down) Switch 1: Off (Down)	Figure 14
10 Metre Range	Switch 2: On (Up) Switch 1: Off (Down)	Figure 15
15 Metre Range	Switch 2: Off (Down) Switch 1: On (Up)	Figure 16
20 Metre Range	Switch 2: On (Up) Switch 1: On (Up)	Figure 17

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

Note: It is recommended that the detection LED be enabled during walk test to aid in set up. The detection LED lights each time the MX20 detects your presence.
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.

Detection Area	Programmable between 5 & 20 metres
Coverage	90° detection angle, 20m x 20m coverage max
Adjustment	180° pan + 90° tilt
Fresnel Lens	10 zones for each Pyro pair, which can be masked with curtain sliders ans special masking tape (supplied)
Customised optics	Double silicon shielded quad elements eliminates 50,000 lux of white light
Outputs	Silent solid state magnetically immune
No.1	**N/OPEN** Volt free relay signal contact 24V AC/DC @50mA with an integral 25'Ω resistor
No.2	**N/CLOSED** Volt free relay signal contact 24V AC/DC @ 50mA with an integral 25'Ω resistor Alarm 5 seconds
T	**Tamper** Volt free, normally closed switch output 12VDc @ 25mA
Tamper Switches	Front and rear tamper switches; case open and removal from wall
Pulse Count	1 -2
Power Input	9 - 15V dc
Current	8mA (12V nominal)
Operating Temp.	-20°C to +55°C Conformal coated electronics for increased stability
Housing	High Impact ABS
Protection Rating	IP55
Dimensions	84 x 106 x 72mm
Mounting Height	Variable - optimum height 3 metres
CE Mark	CE

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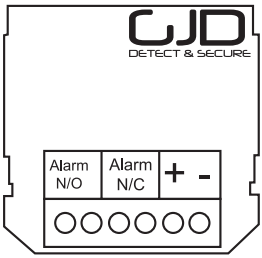

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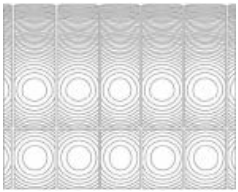

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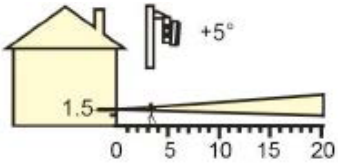

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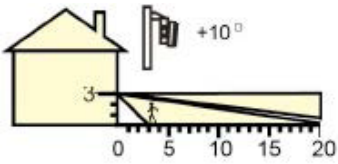

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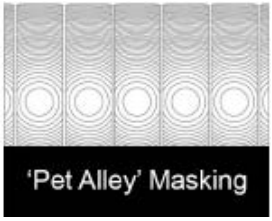

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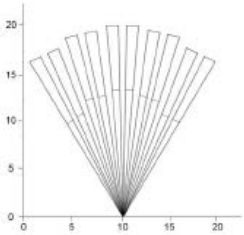

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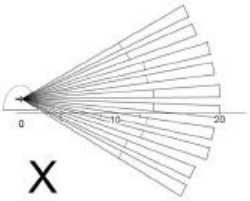

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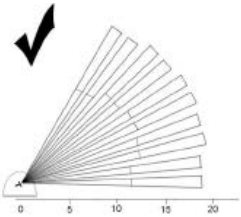

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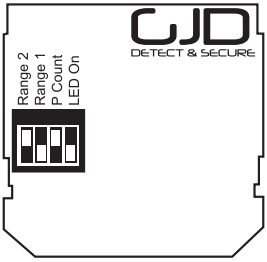

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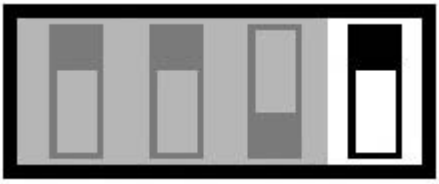

Led On

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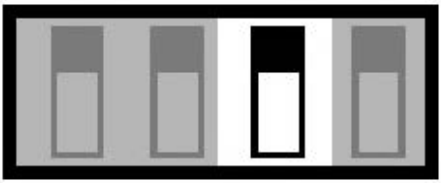
Led Off

12

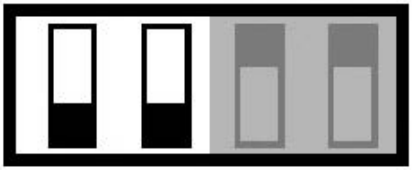
Pulse Count 1

13



Pulse Count 2

14



Range 5 Metres

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Range 10 Metres

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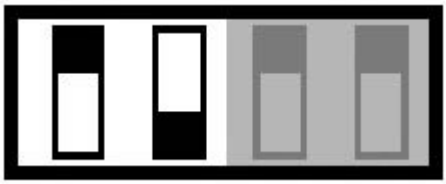

Range 15 Metres

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Range 20 Metres

ENGINEER NOTES

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