Outdoor High-Security Digital Motion Detector

Installation

At the recommend height of 2.1m(7ft) to 2.7m(9ft)±10%,Digigard DG85 provides full coverage from 1.5m(5ft)to 11m(35ft)as shown in Figure 1.The Digigard DG85 includes a weatherproof casing so it can be install outside.

Avoid placing the detector within proximity of the following sources of interference such as direct sunlight, reflective surfaces and moving cars.

Notice: Do not touch the sensor surface as this could result in a detector malfunction. If necessary, clean the sensor surface using a soft cloth with pure alcohol.

After selecting the detector's location, drill or punch out holes for the screws(Figure 4).

PCB Height Adjustment

The DG85 is designed for optimal performance at a height of 2.1m(7ft),but can be installed lower or higher. After you have installed the detector, ensure that the adjustable height markings on the upper right of the PCB's cover inside the unit match the installation height.

For example, if the detector is installed at a height of 2.1m (7ft),the PCB should then be adjusted to 2.1m(7ft).Align the desired marking(height) with the back cover's plastic tab.

If another installation height is called for, readjust the PCB accordingly. Any PCB adjustments should be followed by a walk-test of the protected area. Walk-testing verifies that the required coverage is in place.

Notice: Ensure that the unit's front and back cover are tightly joined together without any spacing(around the rim of the unit) before tightening the screw,otherwise the weatherproof casing maybe compromised and moisture may enter the unit.

Operational Modes

Digigard DG85 can function in tow different operational modes: DGP2 Mode or Relay mode. This option can only be configured using the DIP switches.

Relay Mode:(DIP Switch 1 =OFF)

When set to Relay Mode, the Digigard DG85 functions as would any standard motion detector by communicating its alarm and tamper signals via relays. Apply power by connecting the AUX- and AUX+ of the control panel to the RED and BLK terminals of the detector as shown in Figure 3. The GRN and YEL terminals are not used.

In Relay Mode the detector's settings can only be modified using the DIP switches and trim pot.

DGP2 Mode(DIP Switch 1=ON)

When set to DGP2 Mode, the Digigard DG85 functions like a DGP2 motion detector module by communicating alarm signals, tamper signals, data and detector setting via the combus.

The Digigard DG85 connects directly to a Digiplex or DigiplexNE control panel's 4-wire combus. Connect the four terminals labeled RED, BLK, GRN and YEL to the corresponding terminals on the control panel (Figure 3). The detector's relay output always remains active even when set to DGP2 Mode and can be used to activate other devices.

In DGP2 mode, the motion detector can be modified using the DIP switches and trim pot or by entering Module Programming Mode via an LCD keypad: For section numbers refer to the detector setting on the back cover.
1.Press and hold [0] key.
2.Enter your [INSTALLER CODE].
3.Enter section [953] (Digiplex)/[4003] (DigiplexNE).
4.Enter the detector's 8-digit [SERIAL NUMBER] (located on PCB cover).
5.Enter the 3-digit [SECTION] you wish to program.
6.Turn the desired option on/off or key in the required data.

Note: The detector keeps the last setting in memory even after it has been powered down, regardless of whether its settings were modified via Module Programming Mode or the DIP switches and trim Pot.

Single or Dual Edge Processing

This option determines the DSP (Digital Signal Processing) of the detector. Single Edge Processing should be used in normal environments with minimal sources of interference. Dual Edge Processing provides better false alarm rejection if the detector is placed near sources of interference that can adversely affect it. Refer to the table on the back cover.

LED Setting

This option enables or disables the LED. The LED illuminates for 5 seconds when the unit detects a movement signal that reaches the required energy levels for an alarm and flashes if it detects a signal that does not match the characteristics of an alarm (non-movement signals). Refer to the table on the back cover.

Movement Signal Indication

When this option is enabled and the detector detects a signal that matches the characteristics of movement signal, but does not reach the required energy levels for an alarm, the LED flashes once, indicating the signal was kept in memory. Refer to the table on the back cover.

Tamper Recognition

When this option is enabled and the anti-tamper switch is open (cover removed), the detector sends a tamper message to the control panel via the combus. Refer to the table on the back cover.
Note: Tamper Recognition is always active in relay mode.

Sensitivity Settings

Digigard DG85 features adjustable sensitivity. Adjust from 0 to 10 where 0 is the lowest setting and 10 the highest. Depending on the sensitivity setting, on alarm condition can be generated between 0.25sec(Highest) and 2sec(Lowest), after the actual movement.

Adjusting Via Relay Mode

Remove the front cover and with a screwdriver, turn the trim pot clockwise to increase the detectors sensitivity or counter-clockwise to decrease it. You can turn the trim pot 360° in both directions.

Adjusting Via DGP2 Mode

In module programming mode, enter section [002] and use the arrow keys to scroll a 3-digit value between 000 and 010.

Viewing Sensitivity Settings

Remove the cover to view how many times the LED flashes, then adjust the setting accordingly. The LED flashes a consecutive a mount of times to show the setting. thus if the sensitivity is set to 6, the LED flashes 6 times. Refer to the table on the back cover.

Walk-testing

At 20℃ (68℉), at lowest sensitivity setting and in Single Edge Processing mode, you should not be able to cross more than one complete zone (consisting of 2 beams, left and right sensor detecting elements) in the coverage area with any kind of movement; slow/fast walking or running.

At the highest sensitivity setting, the amount of movement required to generate an alarm is doubled. The approximate width of a full beam at 11m(35ft) from the detector is 1.8m(6ft).To walk-test, move across the detection path, not toward the detector.

Technical Specifications

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Sensor type:	Dual Element Infrared*2
Sensor geometry:	Rectangular
Coverage:	11m*11m(35ft*35ft) 90° viewing angle
Installation height:	2m to 2.7m (7ft to 9ft)
Operating temperature:	-35℃ to +50℃(-31℉ to +122℉)
Voltage input:	9 to 16Vdc
Lens:	2nd generation Fresnel lens segments
Alarm output:	Form A relay 100mA/28Vdc, N.C. or optional form C relay 5A/28Vdc, N.C./N.O.
Anti-tamper switch:	Form A relay 100mA/28Vdc, N.C. or optional form C relay 5A/28Vdc, N.C./N.O.
RFI/EMI rejection:	10V/m
Detection speed:	0.2m/s to 3.5m/s (0.6ft/s to 11.5ft/s)
Ingress Protection Level:	IP45

Figure 1
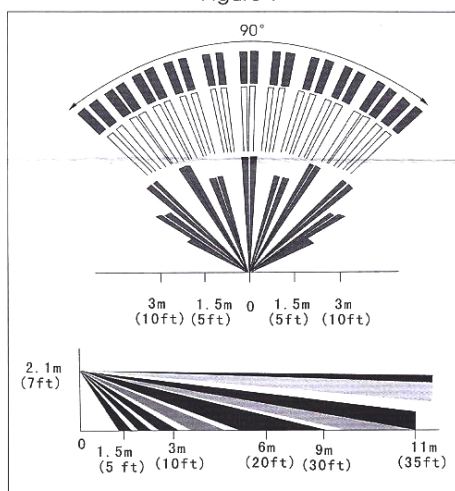
Figure 2
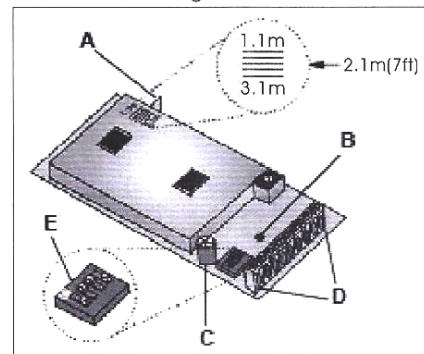
A Align height with tab   C Trimpot
B Detect LED   D Electrical connectors
E DIP switch

Figure 3
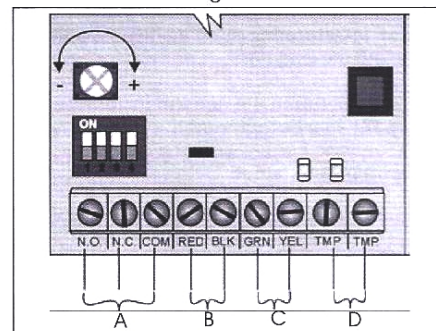
A Alarm relay   C To combus
B Power input (+12Vdc) D Anti-tamper switch

Figure 4
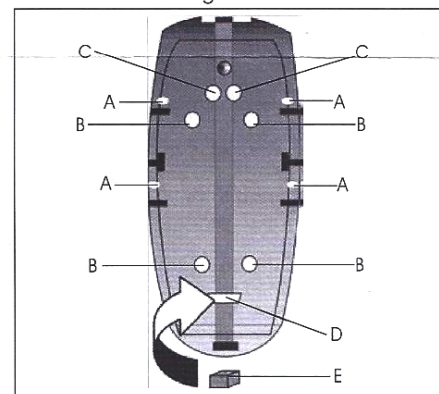
A Corner mount   D Wire entry
B Flat surface mount   E Insert foam protection
C Swivel mount bracket   in wire entry

Detector Settings

Feature	Setting	Section Programming *	Manual Settings T
Operational mode	Relay △	N/A	DIP switch 1=OFF
	DGP2	N/A	DIP switch 1=ON
Signal processing mode	Dual	[001] [1]=OFF	DIP swtich 2=OFF
	Single △	[001] [1]=ON	DIP switch 2=ON
LED	Disabled	[001] [2]=OFF	DIP switch 3=OFF
	Enabled △	[001] [2]=ON	DIP switch 3=ON
Movement Signal Indication	Disabled	[001] [3]=OFF	Enabled if DIP Switch 3=ON
	Enabled △	[001] [3]=ON	
Tamper recognition	Disabled △	[001] [5]=OFF	N/A
	Enabled	[001] [5]=ON	N/A
Sensitivity	△=10sec	[002] 001-010	Trimpot 0-10

△=Default
*=DGP2 Mode only
T =DGP2 Mode and Relay Mode