PATROL – 901

DIGITAL PASSIVE INFRARED DETECTOR FOR EXTREMELY HARSH ENVIRONMENTS

INSTALLATION INSTRUCTIONS

CE ℞
OC03

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GSN *Electronic Company Ltd.*

SPECIAL FEATURES.

- Digital mathematical algorithm of signal processing
- Bipolar pulses count
- High RFI & EMI immunity
- High light immunity – no less than 10000 Lux
- Self diagnostics – the microcontroller controls the detector's basic circuits.
- Optoelectronic switch relay
- Hermetically sealed pyrosensor
- Low operating temperature
- Automatic temperature compensation
- Hi-tech design

DESCRIPTION.

The PATROL-901 is a digital passive infrared detector, designed to ensure stable operation and reliable security in premises with extremely harsh environments.

The PATROL-901 applies the latest and most effective method of bipolar detection.

The algorithm, based on bipolar detection, includes an analysis of signals and a calculation of bipolar pulses within a certain time intervals and allows the detector to be adapted to various objects with complex operational conditions.

The principle of bipolar detection has led to the detector with high interference immunity, which ignores disturbances, such as light exposure, sudden temperature changes, radio frequency interference (RFI) and electromagnetic interference (EMI).

The PATROL-901, which is based on bipolar pulse detection, detects successfully a person's movement in spite of the various interferences found in large premises.

SELECTING MOUNTING LOCATION.

The recommended installation height to gain maximum protection zone is 2.1-2.3 meters.

MOUNTING THE DETECTOR.

1. To remove the front cover, push the base of the detector with the flat screwdriver.

2. To remove the PCB, unscrew the locking screw.

3. Detector can be placed vertically or at an angle of 10-15°.

- Use the knockouts on the base of the detector for vertical mounting.

- Use a bracket for mounting the detector at an angle (up to 10-15°).

4. Mount and fix the detector base on the wall or onto the bracket.

5. Connect the wires according to the scheme.

+ 12V -   TAMPER   RELAY
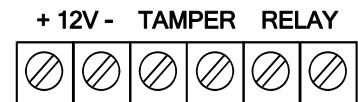
To connect the wires use the specially signed knockouts on the detector base.

6. Place the PCB back and fix it in the desired position with the screw.

➢ For vertical mounting the detector place the PCB in the **"A"** position.

➢ For bracket mounting the detector place the PCB in the **"B"** position.
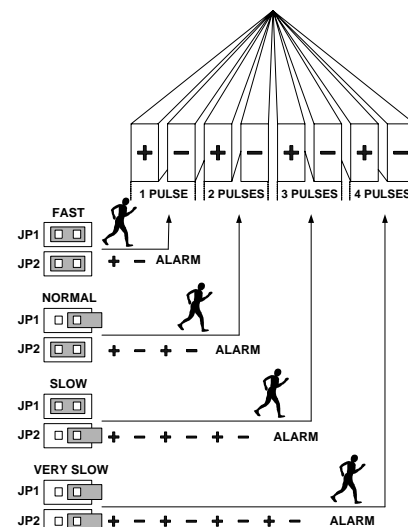
7. Close the detector's cover.

THE BIPOLAR PULSE COUNTER. OPERATING MODE SELECTION.

Select the **"FAST"** or **"NORMAL"** operating modes for premises with stable environment.
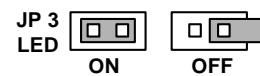
Select the **"SLOW"** or **"VERY SLOW"** operating modes for premises with complex operational conditions, such as: draughts, sudden temperature changes, vibrations, etc.
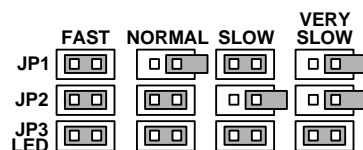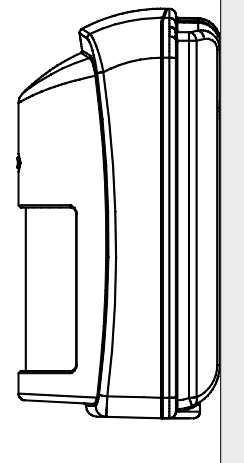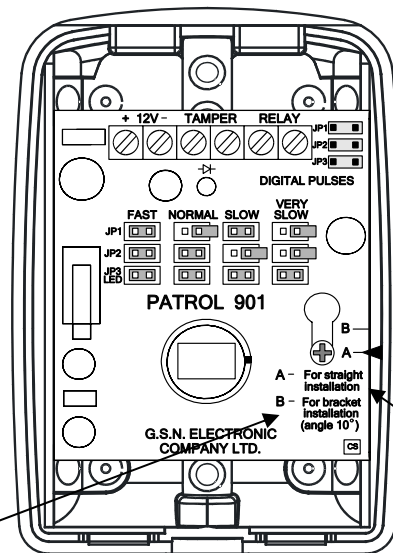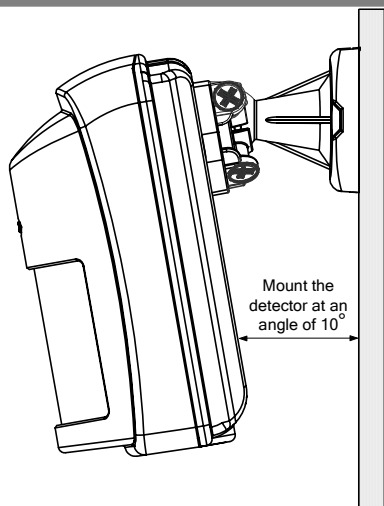

BIPOLAR PULSES' COUNT.

LED INDICATION ON ALARM.

JP 3 LED   ON   OFF

Jumper JP3 will enable/disable the alarm LED.

If JP3 is **ON** – LED will operate on alarm.

If JP3 is **OFF** – LED will not operate on alarm.

Mount the detector at an angle of 10°

+ 12V –   **TAMPER**   **RELAY**   JP1 JP2 JP3

DIGITAL PULSES

      FAST   NORMAL   SLOW   **VERY SLOW**

JP1

JP2

JP3 LED

PATROL 901

B
A

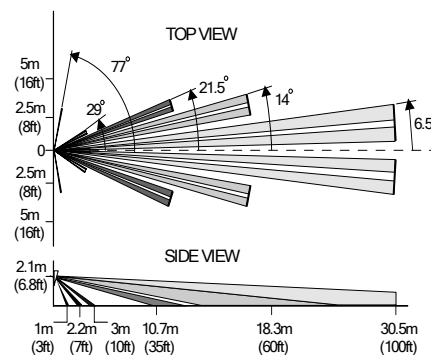A – For straight installation
B – For bracket installation (angle 10°)

G.S.N. ELECTRONIC COMPANY LTD.

Place the PCB in **"B"** position for bracket installation.

Place the PCB in **"A"** position for vertical installation.

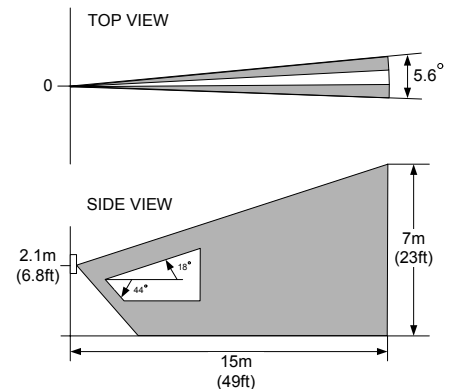## WIDE ANGLE LENS.

TOP VIEW

10m (33ft)
5m (16ft)
0
5m (16ft)
10m (33ft)

90°

SIDE VIEW

2.1m (6.8ft)

1.7m (6ft)   3.7m (12ft)   7m (23ft)   15.6m (51ft)   18m (60ft)

LONG RANGE LENS.

TOP VIEW

5m (16ft)
2.5m (8ft)
0
2.5m (8ft)
5m (16ft)

77°
29°
21.5°
14°
6.5°

SIDE VIEW

2.1m (6.8ft)

1m (3ft)   2.2m (7ft)   3m (10ft)   10.7m (35ft)   18.3m (60ft)   30.5m (100ft)

CURTAIN LENS.

TOP VIEW

0

5.6°

SIDE VIEW

2.1m (6.8ft)

18°
44°

7m (23ft)

15m (49ft)
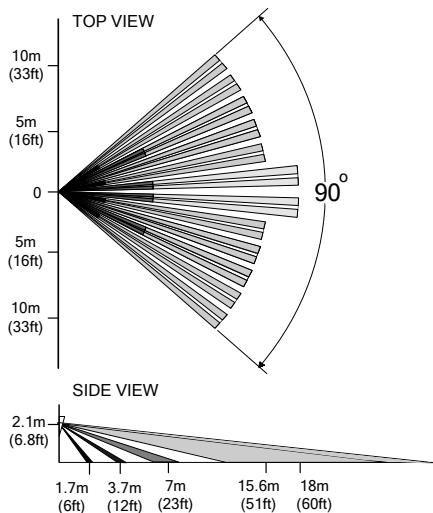
TECHNICAL SPECIFICATION.

Detection
speed range:………..0.3 - 3.0m/sec

Power input:…………..8.5 - 16VDC

Current consumption:
In stand by mode:………….12.3mA

In alarm mode
with LED on:………………..11.7mA

In alarm mode
with LED off:…………………8.5mA

Bipolar pulses count:……..1, 2, 3, 4

Alarm period:……………….…...3sec

Coverage range:…………18meters

Relay output:…...60V; 120mA; 16Ω

Warm up period:……………..40sec

Reset time:………………...5 ± 1sec

Light immunity………...no less than 10000Lux

Operating temperature
range:………………– 30°C + 50°C

Storage temperature
range:………………– 40°C + 80°C

RFI immunity:………….30 V/m at a frequency range 10MHz-1000MHz

EMI immunity:……………..50 000V

Dimensions:………….93x66x46mm

Weight:…………………………94gr.

WARRANTY.

GSN Electronic Company Ltd. warrants the product to be free from defects in materials and workmanship under condition of observance of service regulations and to be repaired or replaced under absence of mechanical damages for a limited period of five years from the date of sale.