

PATROL – 801

PROFESSIONAL COMBINED DIGITAL PIR & GLASS BREAK DETECTOR

INSTALLATION INSTRUCTIONS



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GSN Electronic Company Ltd.

FEATURES.

- Digital mathematical algorithm of signal processing.
- High light immunity – no less than 10000 Lux.
- High RFI & EMI immunity
- Two optoelectronic switch relays for glass break and PIR detectors.
- Test mode for two acoustic channels.
- Self diagnostics – the microcontroller controls the detector's basic circuits.
- Hermetically insulated pyrosensor.
- Automatic pulse counter.
- Automatic temperature compensation.

DESCRIPTION.

The PATROL-801 is a combination of PIR and acoustic glass break detectors.

The PIR detector analyzes the environment and detects the person's motion crossing the infrared beam.

The acoustic glass break detector identifies the sounds of glass impact and breakage.

Due to unique program for processing incoming signals from PIR and GLASS BREAK detectors the PATROL-801 enables an exceptionally reliable detection and stable "false alarms free" operation in extremely harsh environments.

Two independent optoelectronic relays allow the detector to be connected to two independent zones in the control panel.

ALGORITHM.

Unique algorithm is based on recognition of sequence of low-frequency and high-frequency signals of framed pane glass breakage. Low-frequency signal is emitted upon the impact of glass. High-frequency signal occurs upon the glass breakage.

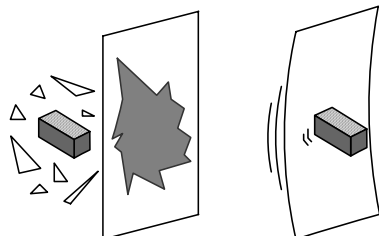
For creating an alarm, both a low-frequency sound of the glass impact and a high-frequency glass breakage sound must be registered within a predetermined time frame.

Since both detector channels must register the actual glass breakage, false alarms are practically excluded.

The program of microcontroller, based on the mathematical algorithm, analyzes signals and detects only the actual breakage of all standard framed glass types.

HIGH FREQUENCY SIGNAL

LOW FREQUENCY SIGNAL



PROTECTED GLASS TYPES.

Glass type	Min. Thickness	Max. Thickness
Plate	2 mm	10 mm
Tempered	3 mm	8.4 mm
Patterned	3 mm	10 mm
Laminated ¹	3.2 mm	14.3 mm
Wired	5 mm	6.4 mm
Coated ² (Triplex)	2.5 mm	8.4 mm
Sealed Insulating ¹	3.2 mm	6.4 mm

¹ Laminated and sealed insulating glass types are protected only if both glass plates are broken.

² For glass coated with plastic film on the inner surface, effective range is reduced to 6m.

SELECTING MOUNTING LOCATION.

Choose a location most likely to intercept an intruder.

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

For protecting several windows mount the detector at optimal distance from them. If heavy blinds of curtains cover the glass, locate the detector so the blinds will not block the sound.

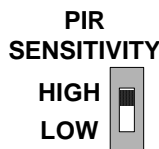
ATTENTION!

Avoid the following locations:

- Near sources of loud noises or vibrations (heating/air conditioning units, bells, fans, compressors, etc.)
- On the same wall as protected glass.

PIR SENSITIVITY ADJUSTMENT.

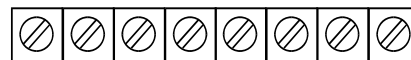
Set the jumper to the "HIGH" position for premises with stable environment.



Set the jumper to the "LOW" position for locations with unstable environment - thermal or other streams of air, vibration, etc.

TERMINAL BLOCK CONNECTION.

+ 12V - TAMPER RELAY 1 RELAY 2



Terminals "+12V" – for connection to the power supply of the control unit.

Terminals "Tamper" – for connection to a 24-hour normally closed protective zone in the control unit.

Terminals "Relay 1" – relay output of the PIR detector.

Terminals "Relay 2" – relay output of the glass break detector.

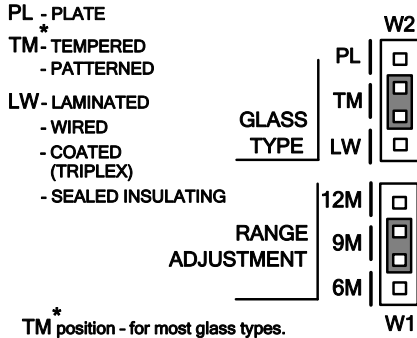
AUTOMATIC PULSE COUNTER.

The PATROL-801PET automatically selects and counts incoming pulses, according to the strength of the signals coming to the detector.

SELECTING GLASS TYPE AND COVERAGE RANGE.

Set the jumper W1 according to the distance to the protected glass.

Set the jumper W2 according to the protected glass type (see the figure).

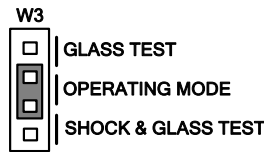


GLASS BREAK TEST.

ATTENTION!

Testing should be conducted when the front cover of the detector is closed.

1. Set jumper W3 to "GLASS TEST" position. The PIR detector is off; the RELAY 1 and RELAY 2 are opened.
2. Replace the cover.
3. Use glass break simulator to simulate the high frequency signal of the glass breakage. The red LED will flash with each simulator activation.

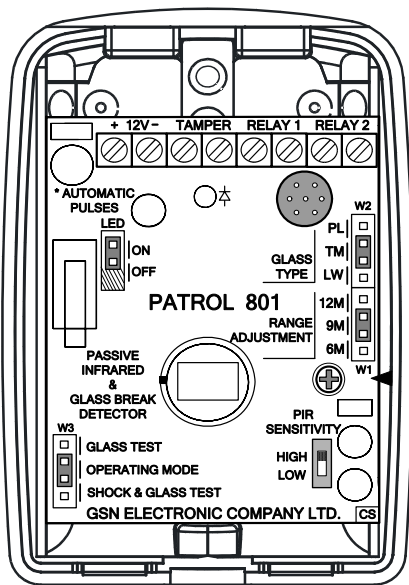


SHOCK & GLASS BREAK TEST.

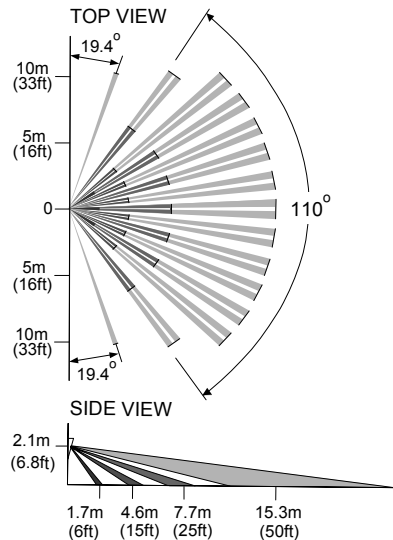
1. Set the jumper W3 to "SHOCK & GLASS TEST" position. The PIR detector is off; the RELAY 1 is opened, the RELAY 2 is closed.
2. Replace the cover.
3. Tap gently the protected glass and activate the glass break simulator at the same time. The red LED will be ON for 3 sec, the RELAY 2 will open.

ATTENTION!

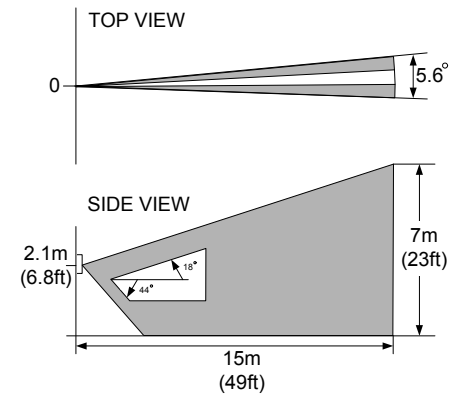
After testing, set the jumper W3 to "OPERATING MODE" position. The PIR and Glass Break detectors are operating; the RELAY 1 and RELAY 2 are closed.



WIDE ANGLE LENS.



CURTAIN LENS.



TECHNICAL SPECIFICATIONS.

Detection speed range:...0.3 – 3.0m/sec
 Power input:.....8.5 – 16VDC
 Current consumption
 in stand-by mode:.....18.4mA
 In alarm mode
 with LED on:.....19.1mA
 In alarm mode
 with LED off:.....14.4mA
 Pulse mode:.....automatic
 Alarm period:.....3 sec
 Warm up period:.....40 ± 2 sec
 Reset time:.....5 ± 1 sec
 Relay output:.....NC; 60V;120mA;16Ω

PIR detection
 range:.....15m x 110°
 Glass break detection
 range:.....12m x 160°
 Light immunity no less than:.....
10000 LUX
 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:.....97gr.

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.

