Eagle PIR-150 / 250 Series Outdoor Passive Infrared Detectors

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Description

The Eagle PIR-Series Outdoor Passive Infrared Detector is designed for detection of intruders at distances up to 100 or 150 metres. The devices can for example be used for perimeter protection and securing of long buildings. The Eagle PIR's can also be used in conjunction with a CCTV system and they useful in combination with a Video Movement Detector (VMD).

The Ernitec Eagle PIR's are truly passive devices which detect objects entering or crossing its field of view. The detectors are designed to detect any intruder by his movement and infrared contrast against the background. The detectors do not emit any signal, nor do they require a transmitter to be located nearby. This eliminates interference between detectors and prevents potential intruders from detecting the coverage area. Multiple detectors can be combined in order to increase the coverage area.

The detectors have a nominal range of 100 or 150 m with a curtain shaped field of view. The curtain shape is ideal for the protection of perimeters and long buildings as it has a fairly narrow and long range.

The Eagle PIR-150 has an array of differential sensors which - in combination with the Adaptive Threshold Decoding - minimize the probability of nuisance alarms. Any change in the background temperature will be detected by both parts of the differential sensors and will not give an alarm, whereas an intruder will provoke a sequential change of infrared radiation in the two parts of the differential sensors, hence generating an alarm.

The Eagle PIR-250 has three independent detection zones and digital signal processing. The digital signal processing analyses the shape of the signals generated by an intruder or other target. This in turn leads to fewer nuisance alarms. An added feature of this function is that it allows the Eagle PIR-250 to detect objects at a very short range, typically down to 1 m from the sensor.

All types feature a tamper switch which is activated whenever the device is opened. This allows the security guards to identify any attempt to disable the Eagle PIR detector or alerts them if the unit is out of service due to maintenance work.

Since the Eagle PIR's only react to infrared radiation, they can be used during day and night as well as under changing climatic conditions such as fog, rain and snow.

For installing, optional brackets are available for all types.

The Eagle PIR-150 and Eagle PIR-250 features an integral heater extending the operating temperature range down to -40°C. The Eagle PIR-150 and Eagle PIR-250 are furthermore equipped with automatic temperature compensation circuits which adapt the units to the actual infrared contrast between the target and the background. This ensures a high detection probability combined with a low nuisance alarm rate at most environmental conditions.

For installation and servicing purposes the detectors are equipped with a test socket for the Installation Tester IT-44, with which the signal amplitudes generated by a target can be monitored. A PC-program, the "PirScope", is supplied free of charge with the IT-44 upon request for even more detailed analysis. In addition, the ZAP-03 Telescopic Sight can be used to obtain a precise alignment of the detector. Alignment and sensitivity setting as well as elimination of unwanted infrared sources become an easy task even for the unskilled installer.

Eagle PIR-150

Field of View
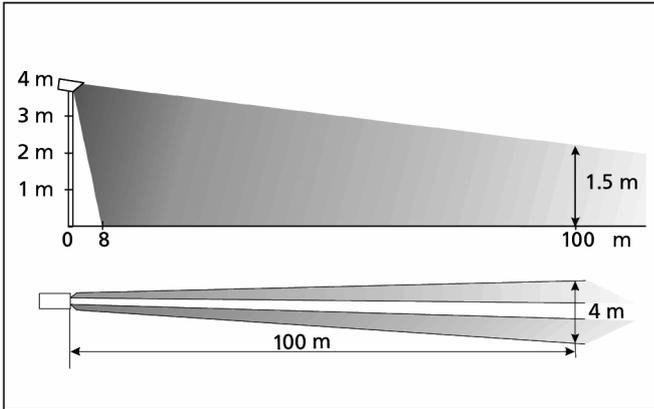
Eagle PIR-250
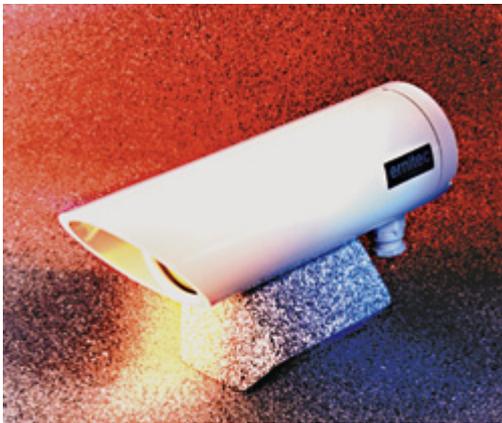
Field of View
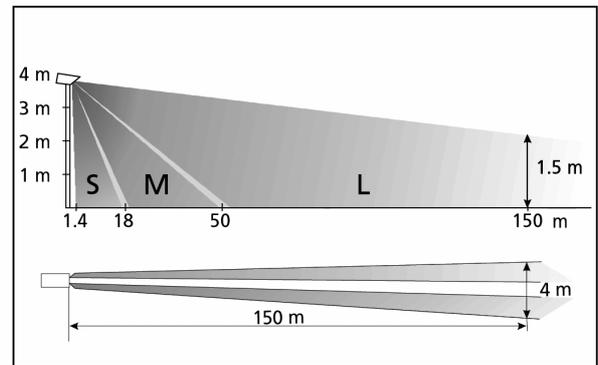
Applications

The Eagle PIR is set up along perimeters and long buildings. The alarm output can trigger a CCTV system so that e.g. a PTZ camera is automatically requested to focus on the area covered by the Eagle PIR.

At the same time, the security staff is alerted and can follow the intruder on a monitor. The alarm output can also be used to initiate a call sequence on a PSTN or ISDN based video transmission system.

Application diagram of the outdoor passive infrared sensors
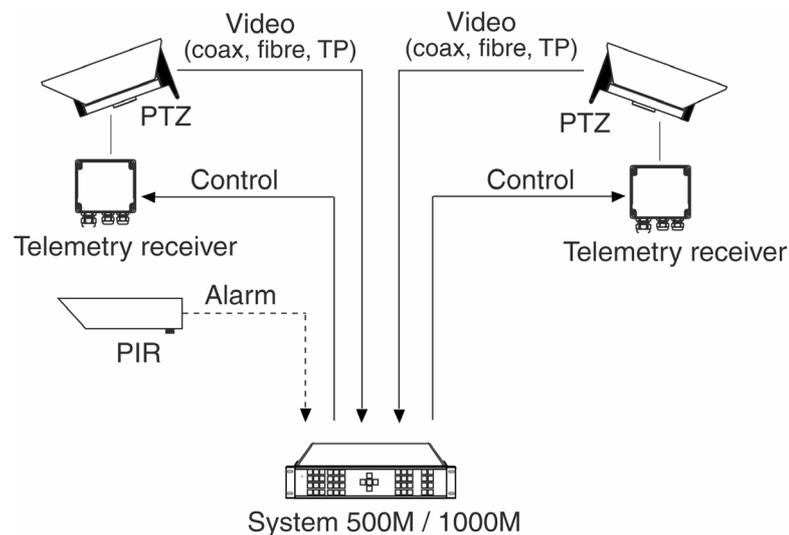
Specifications

Optical Specifications	Eagle PIR-150	Eagle PIR-250
Nominal range:	100 m	150 m
Spectral response:	8 – 14 µm	
Sensor type:	Differential pyroelectric array	Differential pyroelectric array (3 channels)
Vertical field of view:	+ 1.2° to - 24°	+ 1.2° to - 70°
Min. speed of object for detection:	0.2 m/ sec.	
Max. speed of object for detection:	5 m/sec.	
Alarm Output		
Output types:	SPST Relay and Open Collector Transistor, NPN	
Maximum voltage, relay:	28 V DC / 20 VAC	
Maximum current, relay:	250 mA	
Maximum voltage, transistor:	30 V	
Maximum current, transistor:	20 mA	
Other alarm indications:	Internal LED	
Electrical Specifications		
Supply voltage:	10.5 to 28.0 V DC	
Current consumption:	Typ. 20 mA @ 12 V DC**	Typ. 25 mA @ 12 V DC**
Warm-up time:	Approx. 30 min.	
Environmental Specifications		
Operating temperature range:	- 40° C to + 60° C	
Temperature compensation circuit:	Yes	
Sealing:	IP53 / IP64*	
Mechanical Specifications		
Weight:	Approx. 1.2 kg	Approx. 1.4 kg
Cable feed-through:	PG16 (8 - 14 mm)	
Dimensions (Length x Diameter):	314 x 90 mm	273 x 100 mm
Recommended installation height:	2.5 to 4.0 m	
Mounting:	Bracket (optional)	
Optional Accessories		
Bracket:	UBP-150	UBP-250
Installation tester:	IT-44	
Telescopic sight:	ZAP-03	

*The housing itself is IP64. The cable gland is IP53. The cable entry may not be modified as this may cause condensation within the unit.
** Without heater. Heater power approx. 1 w.

Due to Ernitec's continuous improvement of products, the specifications are liable to change without notice.

Please note! For a reliable operation of the detector, an accurate alignment and a stable installation are required

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