Perimeter Intrusion Detection System

Higher level of Surveillance for
Military and Sensitive Civilian Projects

Global Innovation

1. Outline

GI-PIDS is a fence monitoring and control system which detects breaches in order to safely protect facilities. The system consists of enterprise management program, detecting device, surveillance device and warning device.

Enterprise management system comprehensively manages all systems such as perimeter breach detection/surveillance/monitoring and notifications regarding the current status of equipment and an analysis of detection data.

Detecting device is 1. A device that detects vibrations when a perimeter fence is breached or when the fence is cut using a piezo electric sensor. 2. A device that detects if someone jumps over the fence using a FMCW Radar.

Enterprise management program

Detecting device

- Detecting sensor

- Microwave sensor

Surveillance device

Surveillance device is a device that monitors the situation by automatically operating a camera which follows any intruder detection data and is installed in various locations based on users security needs.

Warning device

Warning device is a device that remotely broadcasts and/or using a warning light based on detected security breaches and is installed in various locations based on users security needs.

Surveillance device

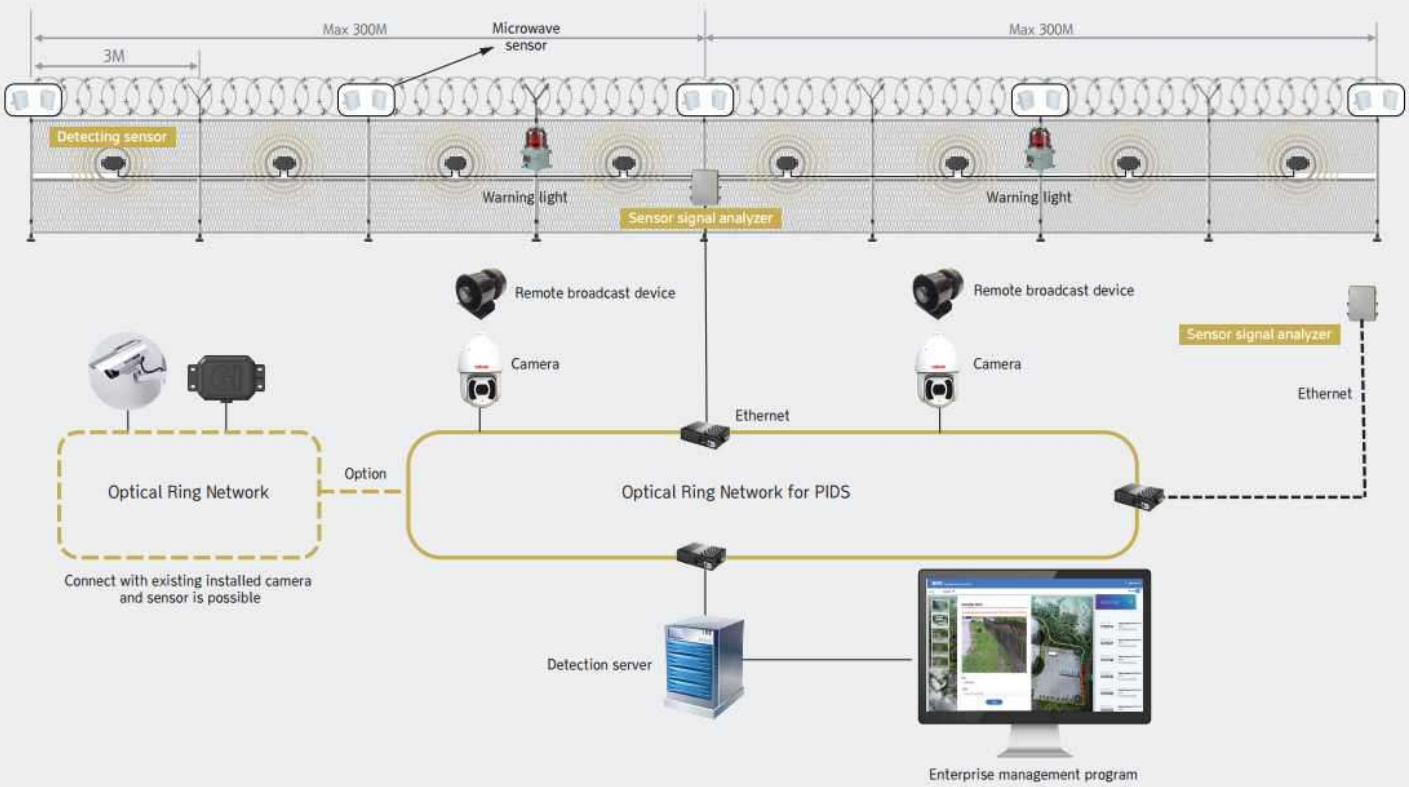
- Camera

Warning device

- Warning light

- Remote broadcast device

2. System Configuration



2-1. System Components

Installation device

Enterprise management program	Detecting sensor (GI-PM)	Sensor signal analyzer(GI-NC)	Detection server
			
■ Real-Time Detection Situation Monitoring	■ 3m Unit Installation ■ Install up to 200 piezoelectric sensors	■ Max 300m Unit Installation ■ 200 sensors can be interlocked	■ Detect a fence breach/ fence cutting from the detecting sensor

Optional device

Microwave sensor	Camera	Warning light	Remote broadcast device
			
■ Existing cameras and sensors can work together ■ Additional installation interworking possible			

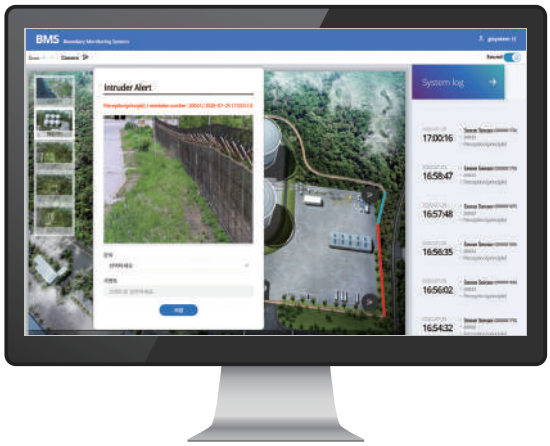
Device composition

- Configuring the detection zone
- Flexible installation at intervals of 3 to 3.2 meters depending on the fence environment
- Sensor Signal Analyzer (GI-NC) allows for power and data communication without limitation
- Up to 200 sensors (GI-PM) can be linked per sensor-signal analyzer (GI-NC)
- Existing cameras and sensors can work together

3. Enterprise management program

》》 Enterprise management program is a SW that performs real time monitoring, system integration management, facilities surveillance, and analysis of security abnormalities.

Enterprise management program	Real time monitoring, surveillance of device setup and management of detected events



Category	Operation SW
Account Management	Manage the accounts of operator and manager
Maintenance management	Administrative control of installed devices
– Setting up equipment	Each network and information setup of devices
– Set sensitivity	Sensitivity setup of detecting device
– Zone Manager	Zone and Zone sensitivity setup of detecting device
– Error module	Trouble shooting device errors
– Map Settings	Check a facility installed Zone setup and management status
– Data Back up	Setup Data back up of installed device
System statistics	System managing Data statistics
– a numerical statement	System event statistic information
– Log	System event Log information

4. Detecting Device (Detecting Vibration)

Device which detects vibrations resulting from attempted intrusions such as breaching the fence or cutting the fence using a piezoelectric sensor. Also, its cutting edge perimeter breach equipment uses its own AI algorithm which can minimize false alarms due to environmental conditions such as rain or wind and its installation is easy and convenient.

In the border system of major military bases, installed sensing device	Cutting fences at critical security facilities/ breaching fences sensing device	Applying artificial intelligence algorithms Minimize the Oh Alarm	Obtain various certifications

Minimize false alarms through pattern analysis algorithms

Sensitivity control considering environmental conditions

Minimize false alarms

False alams

Natrural Phenomenon

Heavy snow, Rainfall, Rainstorm, A strong wind, Hail, Earthquake, Squall, Gale, Thunderbolt, Snowfall, Rainfall, Rainstorm, A strong wind, Hail, Earthquake, Squall, Gale, Thunderbolt

Geomagnetic Phenomenon

Magnetic field effects from aircraft take-off, landing, etc

Control system

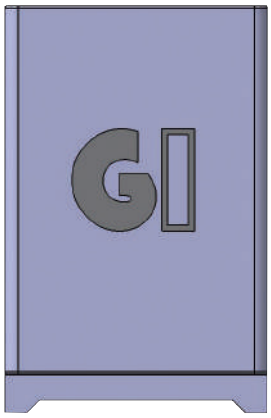
4-1. Detecting Sensor(GI-PM)

Detecting sensor (GI-PM)	Collect the vibration data of contact/ cut/ fence-over by installing it in the middle of the fence

Category	GI-PM
Communication	RS-485/CAN
Maximum number of connections	200EA/NC
Supply Power	DC 48V/24V
Recommended Installation Distance	~ 3m
Maximum consumption power	〈 1W
detection performance	not more than 400 times per second
detection method	piezoelectric sensor
Protection against dust/waterproof	IP-66
Operating temperature	-40℃ ~ +85℃
Certification specification	KC KS C IEC 600332-3-24 KS C IEC 60068-2-52
Size(WHD)	140 x 110 x 62

4-2. Detecting Vibration-Sensor Signal Analyzer(GI-NC)

Sensor signal analyzer (GI-NC)	Deliver collected vibration data from detecting sensor to detecting server and supply power and communicate to a detecting sensor



Category	GI-NC
Communication	RS-485/CAN, Ethernet
Supply Power	AC 220V
Recommended Installation Distance	600m
Maximum consumption power	〈 6W
Max Coverage	600m
Protection against dust/waterproof	IP-66
Operating temperature	-40℃ ~ +85℃
Certification specification	KC KS C IEC 600332-3-24 KS C IEC 60068-2-52
Size (WHD)	190 x 380 x 130

4-3. Detecting Device (Microwave sensor)

》》 It's a sensor which detects a perimeter breach by unauthorized persons using a carrier microwave sensor and is easily installed.

MWS (Fence-over Detector)	Communicate with detecting server by collecting perimeter breach data

Category	Microwave sensor
Communication	RS-485
Supply Power	9 ~ 30Vdc
Recommended Installation Distance	Max 200m
Maximum consumption power	〈 6W
Max Coverage	600m
Protection against dust/waterproof	IP-66
Operating temperature	-40℃ ~ +65℃
Certification specification	KC compliance certification
Size (WHD)	

5. Surveillance device

》》 This fence surveillance device detects the attempts to breach the fence and operates a camera with a camera Preset information in enterprise management program.

Camera	Real-time fence monitoring of detected fence breaches

Category	Camera
Communication	TCP/IP, UDP, FTP etc
Supply Power	AC 24V
Resolution	1920 X 1080, 2 Megapixels
Minimum illumination	Color 0.005 lux@F1.6
a focal distance	optical 30x zoom
angle of picture	67.8(W) ~ 2.4(T)
Protection against dust/waterproof	IP-67
Operating temperature	-40℃ ~ +70℃
Size(WHD)	200 x 337 x 154

※ Specifications may vary depending on the camera model.

6. Warning Device

》》 A device that warns about fence breaches by operating warning light or with a remote broadcast.

Warning light	Operate a warning light and a siren that warns of a possible intruder

Category	Warning light
Number of rotations	120 ~ 140RPM
Supply Power	DC 24V
Pseudo-anxial consonant	Max 105dB
Protection against dust/waterproof	IP-66
Operating temperature	-40℃ ~ +60℃
Technical certification	IECEx, ATEX, NEPSI, KCs, CCS, CCC
Size(WHD)	182 x 236 x 152

※ Specifications may change depending on the warning light model.

Remote broadcast device

Broadcast a warning of possible intruder

Category	Remote broadcast device
Communication	CAN, Ethernet
Power Rating	75W
Impedance	8 Ohms
Operating temperature	-40℃ ~ +85℃
Size(WHD)	124 x 94, 2.7kg

※ Specifications may change depending on the remote speaker model.

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