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## Varya Perimeter® wireless

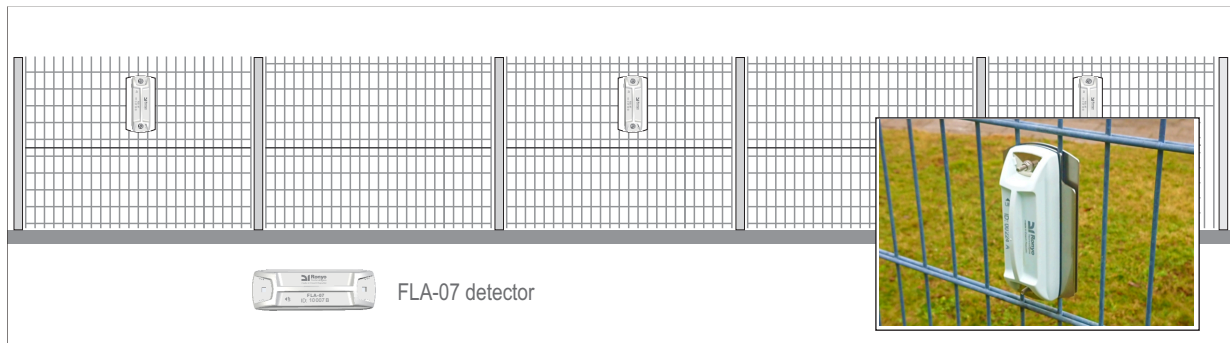
- RFID **wireless** perimeter fence guarding system
- Certification for the highest **4th level** of object security
- Direct guidance of PTZ cameras to the place of perimeter breach
- Minimal installation and subsequent maintenance costs
- Lifetime of special batteries up to 8 years in standard operation

### Description of the Varya Perimeter system

The Varya Perimeter system enables fence guarding using wireless acceleration RFID detectors that are attached to the fence mesh. Varya Perimeter is suitable for all types of fences or barriers. The detectors communicate with each other by radio (868 MHz) with a regular period of 3 seconds based on the principle of gradual wireless retransmission.

The advantage of the system is the ability to recognize the effect of strong wind or shocks acting on the fence and thus

prevent false alarms. Installation of the system is very easy and fast, the system does not require maintenance if regular revisions are observed. The batteries in the detectors are replaceable and their capacity is about 8 years. Varya Perimeter enables communication with EMS systems and with rotating PTZ cameras or drones, which precisely guide them to the location of the breach. The outputs of the Varya system can be integrated into additional monitoring systems, e.g. using the SNMP-2 protocol.



### FLA-07 detector

Intelligent wireless detectors FLA-07 are used for installation on the fence mesh. Using a 3-axis acceleration sensor, the detectors detect all fence vibrations and dynamic changes that are caused by an intruder when climbing, cutting or tilting the fence, and also detect the uninstallation of the detector or the malfunction of a neighboring detector.



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manufacturer:

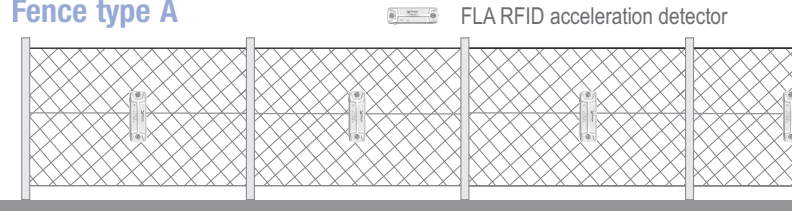


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## Placement of FLA detectors on different types of fence

### Fence type A

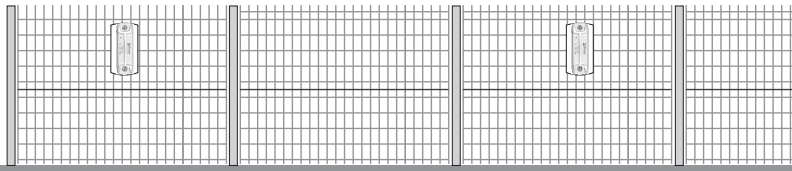


FLA RFID acceleration detector



For this type of fence, FLA detectors are installed on each fence section using two **T30** plate mounting plates. The detectors are installed vertically in the central part of the fence element on the central tension wire.

### Fence type B



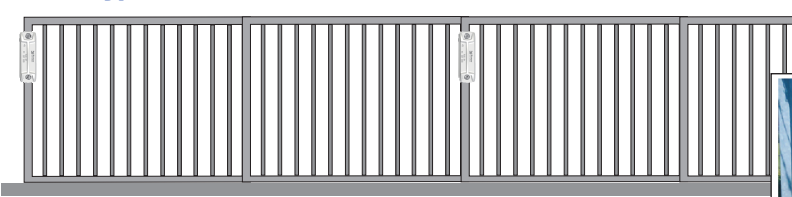
FLA RFID acceleration detector



For this type of fence, FLA-07 detectors are installed on every second (or third) fence section using two **T27** plate mounting plates. The detectors are installed vertically in the central part of the fence section.

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### Fence type C

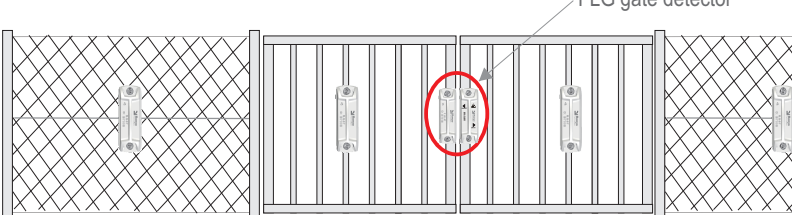


FLA RFID acceleration detector

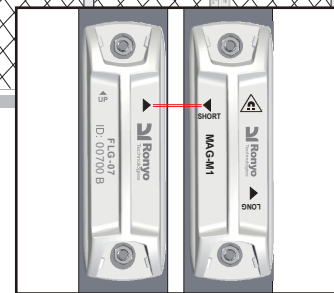


No installation parts are required for the type C fence.

### Gate



FLG gate detector



Both parts of the FLG pair detector are installed vertically by screwing them into the gate's frame. Thanks to the Hall probe, the FLG detector detects the opening of the gate even if the gate is opened very gently (without shaking). The FLG detector can detect both mechanical and magnetic sensor tampering.

All detectors have a unique ID number. This makes it possible to accurately locate perimeter breaches. The detectors are installed using two gate screws. The detectors are placed on the fence on the inside of the guarded object. Their special design does not enable access to the mounting nuts. Though the detector can detect uninstallation (even in unguarded mode), security nuts with a special key can be ordered for the installation.



### System architecture

The basis of the Varya Perimeter system is the FLU-05 central unit, FLM-05 monitoring units and FLA-07 or FLG-07 detectors (for gate opening detection). The standard perimeter system has 2 FLM units. FLM monitoring units communicate with the first two, possibly with the last two FLA detectors. Max. the number of detectors between two FLM units is 600 pcs. Max. the number of detectors in one central unit is 1000 pcs. The central unit and FLE expanders have fully programmable inputs.

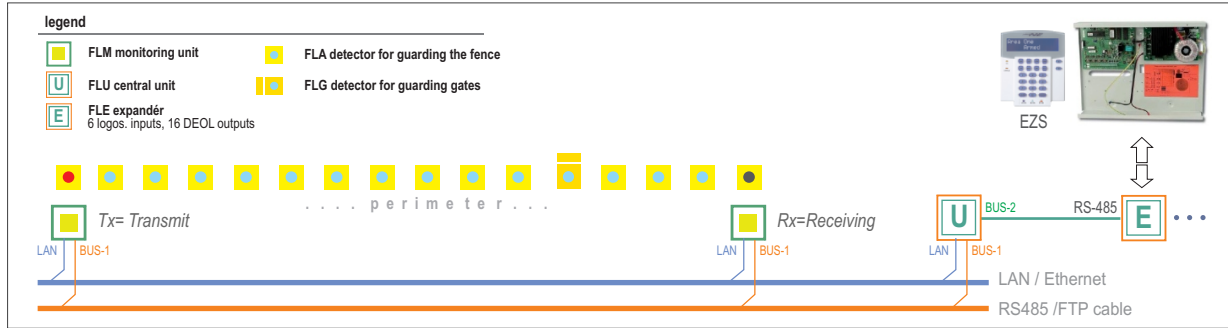


Fig. - Standard architecture of the Varya Perimeter system

### Types of perimeters

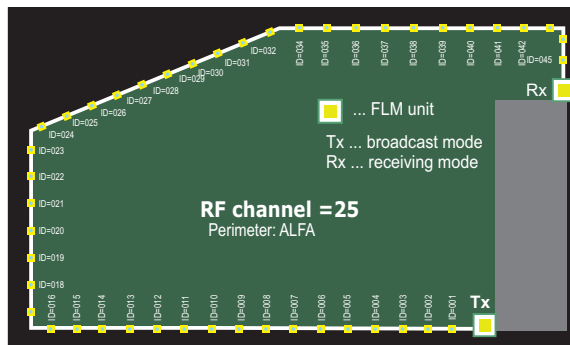


Fig. A - standard perimeter

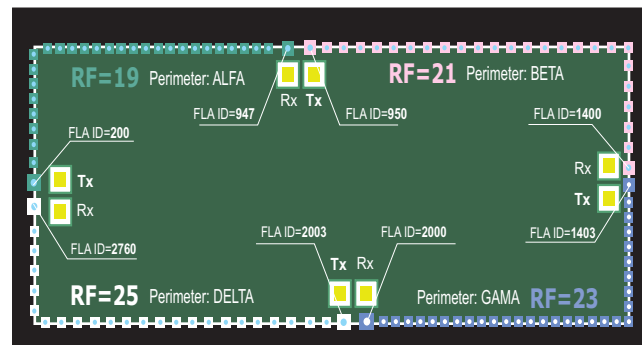


Fig. B- Series-ordered perimeter

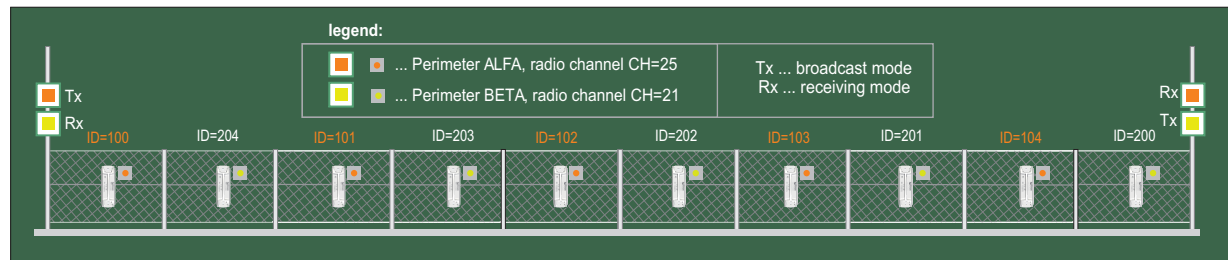


Fig. C- Parallel arranged perimeter



### Layout of automatic control of analogue PTZ cameras

In the event of a perimeter breach, the Varya Perimeter system automatically guides the PTZ cameras to the incident site by direct control. It uses the so-called presets, where each preset of the respective camera is logically linked to a specific detector (or set of FLA detectors). Varya Perimeter can control several PTZ cameras simultaneously. If the intruder climbs over the fence in one place only, then all PTZ cameras are directed to the site of the incident. If intruders climb over the fence e.g. at two locations, then one PTZ camera is turned to one location and other PTZ camera to the other location of the incident, to avoid loss of information.

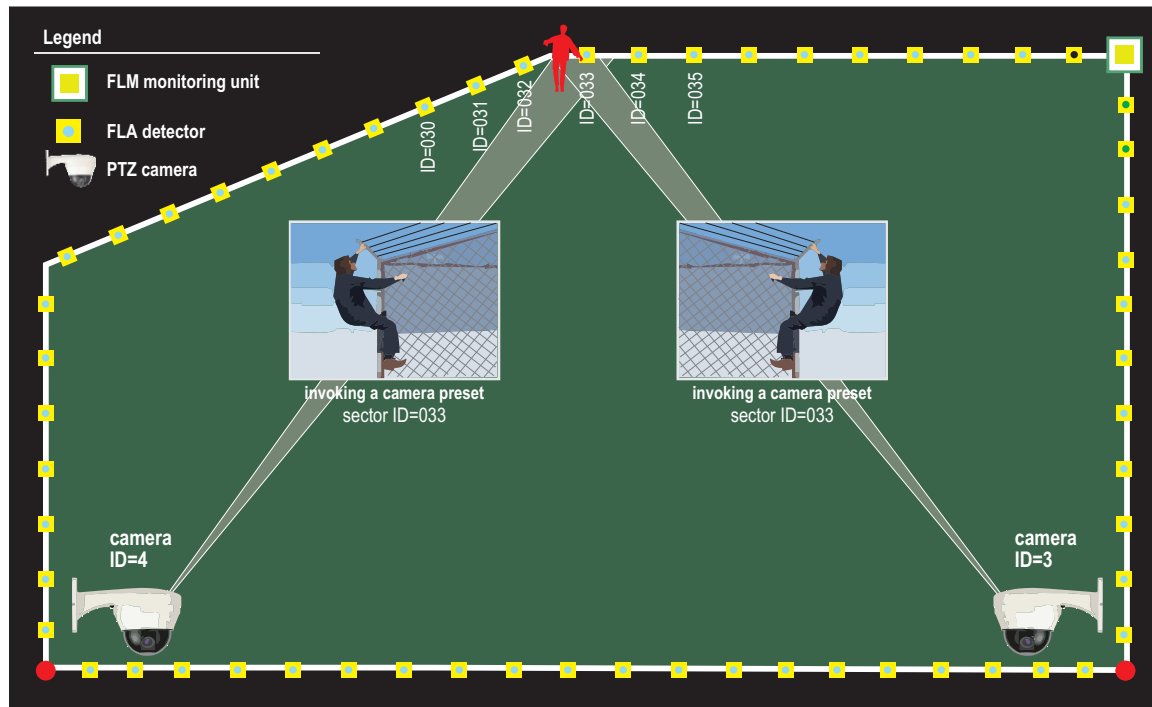


Fig. 10 - Layout of the Varya Perimeter system - PTZ cameras

### Architecture of automatic control of PTZ cameras

The Varya Perimeter system can control all analog PTZ cameras with Pelco-D control protocol or implemented cameras directly from the FLU unit. Other types of IP cameras can be implemented into the Varya Perimeter system as well, upon agreement with the manufacturer.

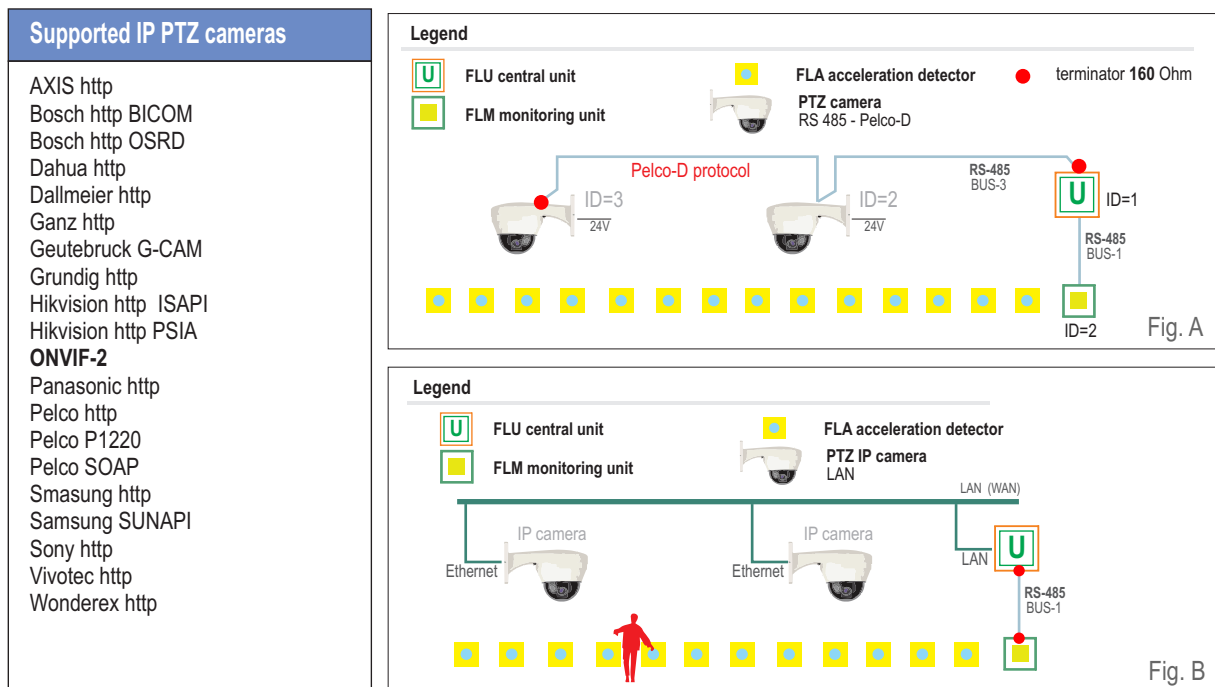


Fig. 12 - Architecture of the IP - PTZ camera system



## Surveillance software of the Varya perimeter

The Varya Perimeter system software is user-friendly and displays all the necessary information on both operation and technical status.

ID	Name	Input EZS	Output EZS	Arm status	Alarm status	detectors	Sabotage	detectors	Wind	detectors
1	area A	FLE id=3 in 1	FLE id=2 out 1	armed	quiet	ok	ok	ok	ok	ok
2	area B	FLE id=3 in 1	FLE id=2 out 2	armed	violation	12 550	ok	ok	ok	ok
3	area C	FLE id=3 in 1	FLE id=2 out 3	armed	quiet	ok	ok	ok	ok	ok
4	area D	FLE id=3 in 1	FLE id=2 out 4	armed	quiet	ok	ok	ok	ok	ok
5	area E	FLE id=3 in 1	FLE id=2 out 5	armed	quiet	ok	ok	ok	ok	ok
6	area F	FLE id=3 in 1	FLE id=2 out 6	off	quiet	ok	magnet sabotage	12 533	ok	ok
7	area Gate	FLE id=3 in 1	FLE id=2 out 7	off	quiet	ok	ok	ok	wind	801, 802, 803, 804, 805 ..

Fig. 13 - Operation screen for PCO dispatchers (Areas on-line agenda)

ID	Type	Sector	Area	Object type	Channel	Levels	Inclination sens.	Arm status	Wind	Movement	Sabotage	Failure	Mag. sensor bypass
12 501	FLA-06	sector 07	area B	fence type A	25	15-30	medium (cca 60°)	armed	-	quiet	ok	ok	no
12 502	FLA-06	sector 07	area B	fence type A	25	15-30	medium (cca 60°)	armed	-	violation	ok	ok	no
12 503	FLA-06	sector 07	area B	fence type A	25	15-30	medium (cca 60°)	armed	-	quiet	ok	ok	no
12 504	FLA-06	sector 07	area B	fence type A	25	15-30	medium (cca 60°)	armed	-	quiet	inclined	ok	no
12 505	FLA-06	sector 07	area B	fence type A	25	15-30	medium (cca 60°)	armed	-	quiet	ok	ok	no
12 506	FLA-06	sector 07	area C	fence type A	25	15-30	medium (cca 60°)	off	wind	quiet	ok	tag ACC sensor not working	no
12 507	FLA-06	sector 07	area C	fence type A	25	15-30	medium (cca 60°)	off	wind	quiet	ok	tag jumps >70%	no
12 508	FLG-06	sector 07	area C	fence type A	25	15-30	medium (cca 60°)	off	wind	door open	ok	ok	no
12 509	FLA-06	sector 07	area C	fence type A	25	15-30	medium (cca 60°)	off	wind	quiet	ok	ok	no

Fig. 14 - Operating screen for users (Detectors on-line agenda)

ID	Type	Sector	Area	Object type	Channel	ACC	δ ACC	Samples	RSSI-1	RSSI-2	Jumps count	Jumps /40min	Power	Ucc bat	Temp.	SW version	Verified	Synch.	Time
12 501	FLA-06	Sector 07	Area B	fence type A	25	-	19	520	-51 dBm	-72 dBm	0	0%	10 dBm	3.55V	20°C	v.27	yes	yes	18 s
12 502	FLA-06	Sector 07	Area B	fence type A	25	-	21	490	-52 dBm	-74 dBm	0	0%	10 dBm	3.54V	20°C	v.27	yes	yes	15 s
12 503	FLA-06	Sector 07	Area B	fence type A	25	+15%	18	518	-54 dBm	-68 dBm	125	0%	10 dBm	3.55V	20°C	v.27	yes	yes	12 s
12 504	FLA-06	Sector 07	Area B	fence type A	25	-	25	502	-49 dBm	-63 dBm	0	0%	10 dBm	3.56V	21°C	v.27	yes	yes	9 s
12 505	FLA-06	Sector 07	Area B	fence type A	25	-30%	22	605	-48 dBm	-69 dBm	0	0%	10 dBm	3.56V	20°C	v.27	yes	yes	6 s
12 506	FLA-06	Sector 07	Area C	fence type A	25	-	23	499	-51 dBm	-70 dBm	3	0%	10 dBm	3.55V	20°C	v.27	yes	yes	3 s
12 507	FLA-06	Sector 07	Area C	fence type A	25	-	19	558	-72 dBm	-69 dBm	0	0%	10 dBm	3.54V	21°C	v.27	yes	yes	0 s
12 508	FLG-06	Sector 07	Area C	fence type A	25	-	20	623	-50 dBm	-62 dBm	0	0%	10 dBm	2.51V	20°C	v.27	yes	yes	226 s
12 509	FLA-06	Sector 07	Area C	fence type A	25	-	21	585	-49 dBm	-65 dBm	0	0%	10 dBm	3.55V	20°C	v.27	yes	yes	223 s

Fig. 15 - Operating screen for technicians (Detectors on-line agenda)







### 3D view - visualization

The Varya Perimeter's interface allows to display 3D visualization of an object online. The basis for a land visualization can be imported in PNG format.

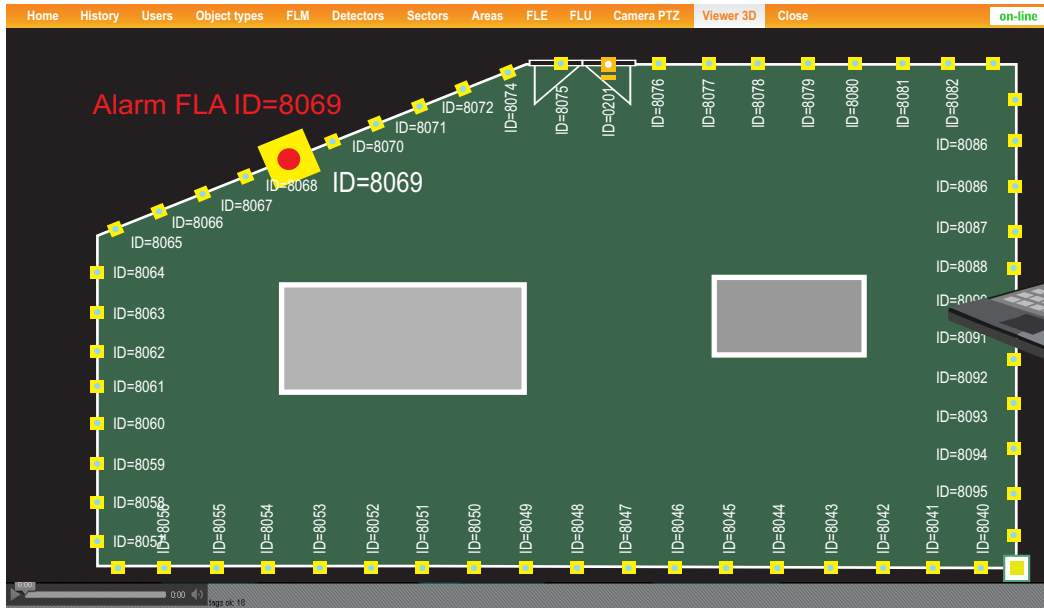


Fig. 16 - PC screen view - Varya Perimeter - 3D view

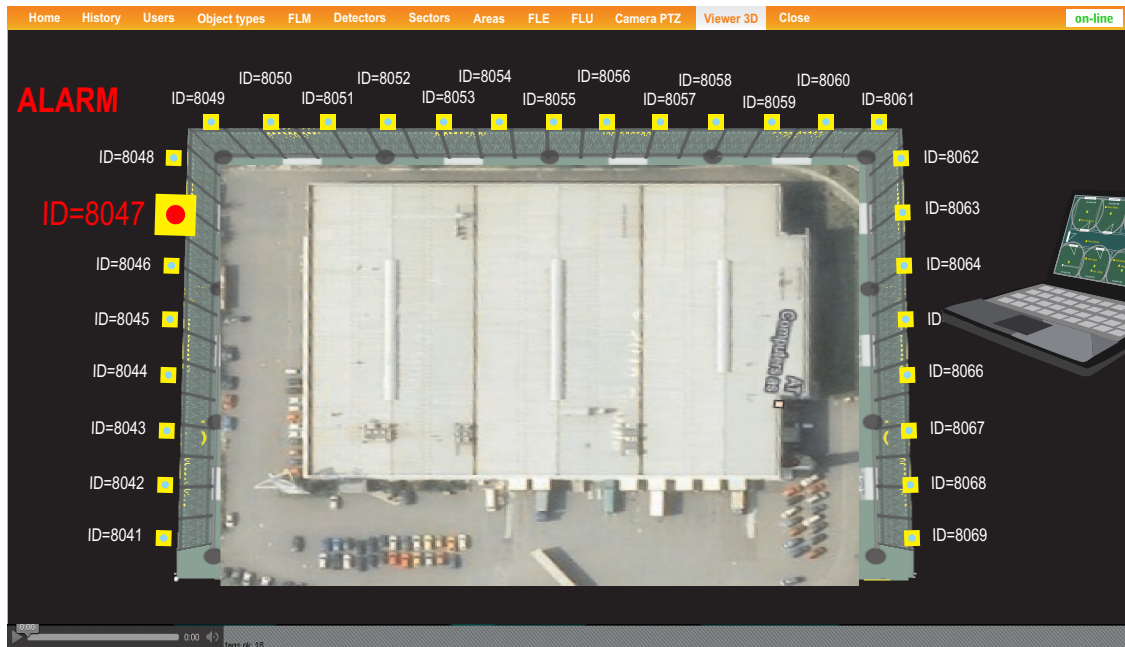


Fig. 17 - PC screen view - Varya Perimeter - 3D view

### USB RFID FLR receiver for measurement and configuration of RFID detectors

The FLR receiver is mandatory equipment for every trained installation technician. It is used to measure and diagnose the system, to measure RSSI radio signals, to change the detector ID or other parameters. Details are described in the Varya Perimeter configuration manual. Perimon software is an integral part of the FLR.

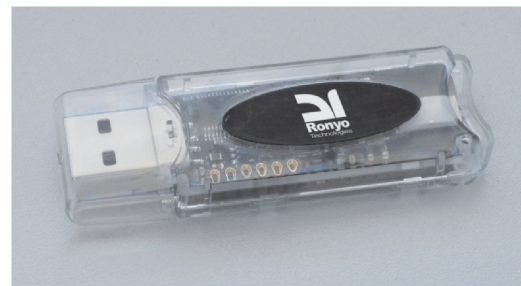


Fig. 18 - RFID receiver FLR-03

