ᴟᴟᴟ | FORTEZA®

Perimeter - first line of protection

- Microwave bistatic sensors

- Fence protection systems

We are ⌇W⌇ | FORTEZA® a Lithuania-based manufacturer and developer of modern and high-performance outdoor perimeter security systems. Forteza JSC was founded in 2005. The company regularly participates in international exhibitions. Presented its product in more than 45 exhibitions in various countries *(Lithuania, Poland, Germany, Spain, Romania, United Kingdom, France, etc.)*.

Our technical solutions provide perimeter protection for everything: from private property or small offices to big estate and commercial objects.

With fully-certified systems, manufactured here in Europe, we've created a distributor network for our products around the world driven by competitive price levels.

Backed by years of experience in developing innovative technical and specialized security solutions, we bring you the Microwave Bistatic Sensors from Forteza FMC Series and the Forteza TRIBO-S Fence Protection System.

With an amazing quality-price ratio and a high level of integration, these systems are precisely crafted to prevent intruder entry by setting off a proximity alarm to facilitate swift response from the security personnel.

We use high quality up-to-date electronic components, having a lifetime of up to 8 years. Each manufactured products is thoroughly inspected before it is put on the market.

WHAT IS IT?

The sensors are intended for the protection of direct perimeter sectors, the surrounding territory of the object. An intruder will be detected before the entering in to the important object territory. Security personnel can respond immediately to violations and stop the intruder before he committed a crime.

HOW DOES IT WORKS?

The principle of operation is based on generation of an invisible volumetric detection zone between the transmitter and the receiver. When the intruder is crossing the detection zone, the receiver registers its alteration and generates the alarm.

WHERE IS IT USED?

The sensors can be used to protect industrial facilities, airports, sites of force structure, power plants, private premises, etc.

WHY TO CHOOSE IT?

✓ Sensors lifetime up to 8 years
✓ The quality and price ratio
✓ System technologies are constantly being improved
✓ High level of integration.

The FMC series sensors are easy to combine with many modern security systems and control panels

Models: FMC 24 Pro and FMC 10

NO FALSE ALARM ON:

MADE IN EUROPE MADE IN

THE PRINCIPLE OF OPERATION

PERIMETER PROTECTION OF THE OBJECT

INSTALLATION VARIANTS

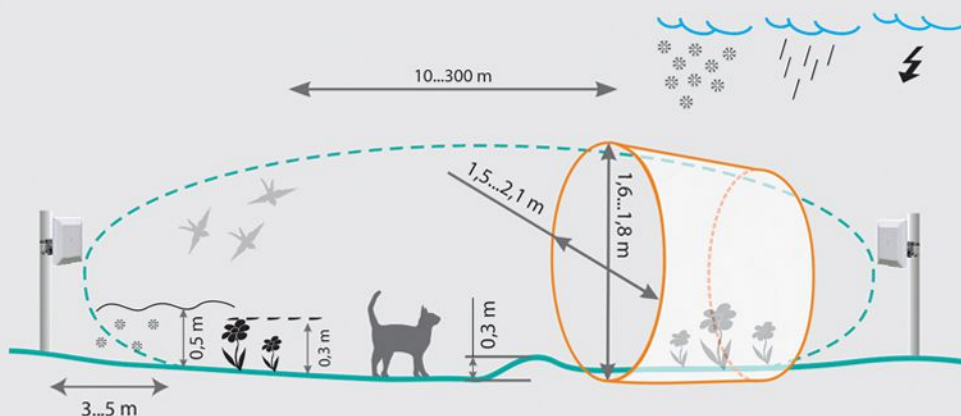# Microwave Bistatic Sensors
Forteza FMC 24 Pro Series
FMC 24 Pro (100m), FMC 24 Pro (200m), FMC 24 Pro (300m)

TECHNICAL SPECIFICATIONS
is available on our website
www.forteza.com or www.forteza.eu

MADE IN LITHUANIA

CE

DISTINCTIVE FEATURES:
- Built-in Bluetooth (up to 50 m.)
- Built-in USB
- Built-in RS-485

GHz Operation on 24.050-24.250 GHz provide narrow detection zone and make it possible to use the sensors on different sites.

For detectors adjustment android and windows devices can be used.

8 independent channels, which allows to avoid the nearby zones affect each other; This makes it possible to install several sensors side by side. Improved channel switch.

The ergonomic and modern design and improved signal processing algorithms ensure reliable intruder detection resistance to interference.

Universal mounting.
Functional sensor holder, provides possibility to move the holder from one side to the other.

You need not a convertor to connection to the sensor

THE PRINCIPLE OF OPERATION

DIMENSIONS OF THE DETECTION ZONES OF THE SENSORS FMC 24 Pro

FMC 24 Pro (300 m)   zone length 300 m

FMC 24 Pro (200 m)   zone length 200 m

FMC 24 Pro (100 m)   zone length 100 m
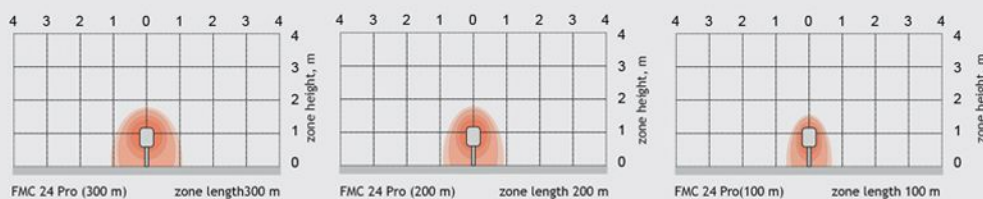
MAIN SENSORS SPECIFICATIONS

Specification	FMC 24 Pro (100m)	FMC 24 Pro (200m)	FMC 24 Pro (300m)
Operational frequency	24.050-24.250 GHz		
Range	10…100 m	10…200 m	10…300m
Width of the detection zone	< 1,5 m	< 1,9 m	< 2,1 m
Height of the detection zone	< 1,6 m	< 1,8 m	< 1,8 m
Supply voltage	9…30 V DC		
Current consumption	≤190 mA (Tx 79 mA, Rx 111 mA) (12 VDC)		
Detection probably	not less than 0,98		
Operational temperature	- 40…+65°C		
Housing protection level	IP-55		
Alarm output	NO/NC relay contacts (100 Ohm)		
Interfaces	RS-485/USB, RS-485/Bluetooth		
Dimensions	165x97x65 mm		
Channels	8 independent channels		

MADE IN EUROPE MADE IN

TECHNICAL SPECIFICATIONS
is available on our website
www.forteza.com or www.forteza.eu

Microwave Bistatic Sensors
Forteza FMC 10 Series
FMC 10 (50m), FMC 10° (100m), FMC 10 (200m)

DISTINCTIVE FEATURES:

✔ Available and effective sensor for the protection of different sites with maximum number of positive testimonials.

✔ 4 channels of sensors eliminate the influence of adjacent sensors. Like this it is possible to put several sensors near each other.

✔ Possible adjustment of sensors without additional tools;

✔ Sensor settings can be used to carry Android and Windows devices;

GHz Operation on 10.425 - 10.625 GHz allows to increase the width of the detection zone. Like this we make it difficult for the intruder to cross it.

More accurate configuration of sensors using special software (under Windows or Android) via USB or wirelessly via bluetooth allows to set the optimal operation mode, also remotely from the guard room via RS-485 interface.

Improved design and signal processing algorithms used to provide the reliable detection of the intruder and high interference immunity.
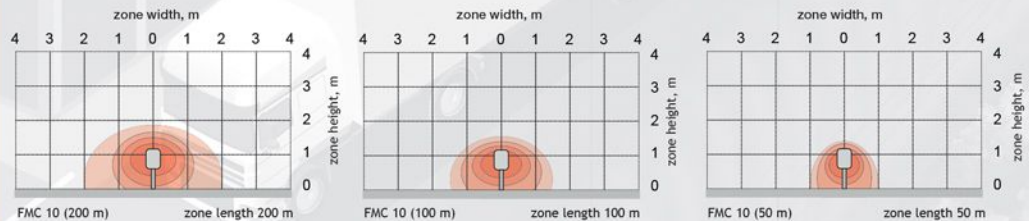
Universal mounting. Functional sensor holder, provides possibility to move the holder from one side to the other.

MADE IN LITHUANIA

CE

THE PRINCIPLE OF OPERATION

5...200 m
2...4 m
1,4...1,8 m
0,5 m
0,3 m
0,3 m
0,3 m
Tx
1...3 m
Rx

DIMENSIONS OF THE DETECTION ZONES OF THE SENSORS FMC 10

FMC 10 (200 m)   zone length 200 m

FMC 10 (100 m)   zone length 100 m

FMC 10 (50 m)   zone length 50 m
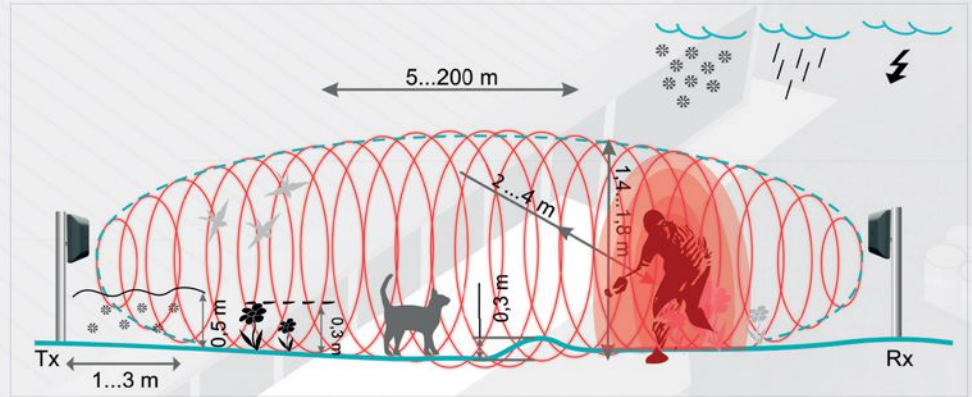
MAIN SENSORS SPECIFICATIONS

Specification	FMC 10 (50m)	FMC 10 (100m)	FMC 10 (200m)
Operational frequency	10.425-10.625 GHz		
Range	5...50 m	10...100 m	10...200m
Width of the detection zone	< 2 m	< 3 m	< 4 m
Height of the detection zone	< 1,4 m	< 1,6 m	< 1,8 m
Supply voltage	9...30 V DC		
Current consumption	≤ 16 mA (RX 11 mA, TX 5 mA) (12 VDC)		
Detection probably	not less than 0,98		
Operational temperature	- 40...+65°C		
Housing protection level	IP-55		
Alarm output	NO/NC relay contacts (100 Ohm)		
Interfaces	RS-485/USB, RS-485/Bluetooth		
Dimensions	165x97x65 mm		
Channels	4 independent channels		

MADE IN EUROPE MADE IN

Fence Protection System
Forteza TRIBO-S

MADE IN LITHUANIA

TECHNICAL SPECIFICATIONS
is available on our website
www.forteza.com or www.forteza.eu

■ THE PRINCIPLE OF OPERATION

■ PERIMETER PROTECTION OF THE OBJECT
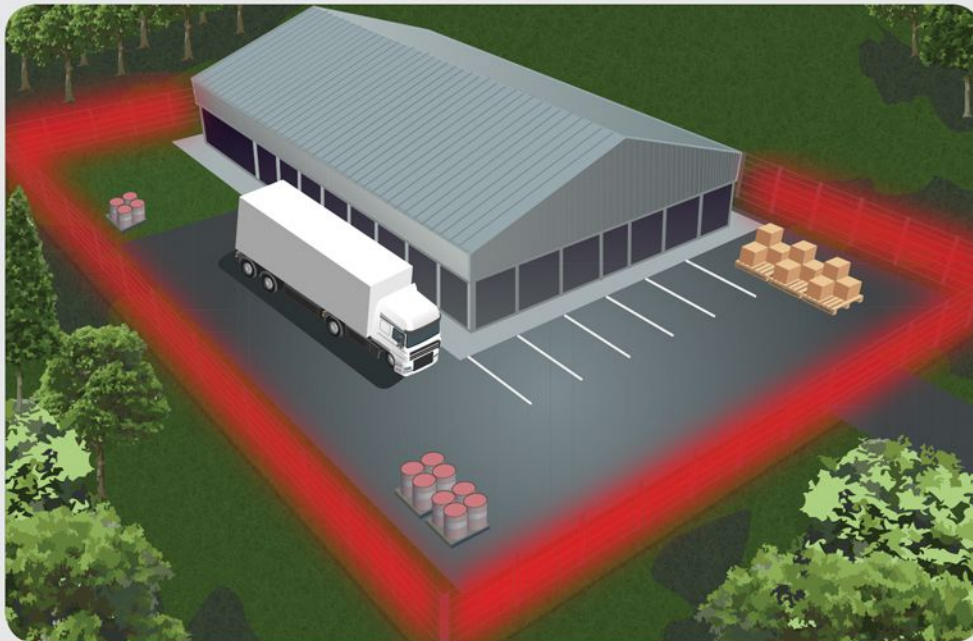
■ INSTALLATION VARIANTS

■ WHAT IS IT?

The system is intended for the protection of any type of fences from climbing over or destruction. An intruder will be detected before the entering in to the important object territory. Security personnel can respond immediately to violations and to stop the intruder before he committed a crime.

WHERE IS IT USED?

The system is used on sites with irregular perimeter shape, i.e. when it is not reasonable from the economic point of view to use microwave sensors or it is impossible to provide the exclusion zone for microwave sensors. The sites include industrial facilities, airports, sites of force structure, power plants, private premises, etc.

Fence types: light welded mesh; razor wire; wrought iron; bar; NYLOFOR; barbed wire; corrugate metal; wooden; brick; concertina coil; concrete fence; and other.

■ HOW DOES IT WORKS?

The system has four wings. Every wing contains sensitive elements fixed to the fence. The Signal Processing Unit registers the electrical charges generated in the sensitive element as a result of intrusion attempt. The detector activates the alarm, if the amount of received electri-cal charges exceeds the threshold level.

■ WHY TO CHOOSE IT?

USER FRIENDLY - The system are easy to mount and adjust and do not require significant expences on seasonal maintaining.

HIGH QUALITY - We use up-to-date electronic components, which has mean lifetime up to 8 years. Each piece of products is subjected to 100% final inspection.

HIGH EFFECTIVE ALGORITHMS - We use up-to-date effective algorithms for digital signal processing. As a result, we achieved the maximal interference immunity and reliability of the signal processing. The system are immune to the influence of rain, snow, fog, lightning, icing, solar radiantion, electromagnetic field up to 500 kV, vegetation, birds and animals.

HIGH LEVEL OF INTEGRATION - We make it easy to combine our sensors with many modern integrated security systems and popular control panel. We use traditional dry relay contacts as well as RS-485 and USB interfaces to control the sensors and to transmit the alarm signal.

MADE IN EUROPE

TECHNICAL SPECIFICATIONS
is available on our website
www.forteza.com or www.forteza.eu

MADE IN LITHUANIA

DISTINCTIVE FEATURES:

◎ **Quick and easy installation,** early detection of intruder, simple and convenient adjustment, adaptation of the system depending on the type of fence, precise replication of perimeter of any shape.

◎ **Two models Tribo-S (2) and Tribo-S (4)** presence allows the customer to optimize the cost of organizing the shorter optimize the cost of organizing the shorter perimeter protection, where it is sufficient to safeguard zones 2 - selecting a cheaper model Tribo-S (2).

◎ **Sensor does not radiate anything** if compared with other active sensors. So it is considered passive.

▦ **Itended for the protection** of any types of fences from an intrusion by means of climbing over or destroying them. Has three set up methods: AUTO, MANUAL, SPECIAL.

💻 **More accurate configuration** of sensors using special software (ANDROID, WINDOWS OS), allows to set the optimal operation mode, also remotely via BLUETOOTH.

⊙ **The sensor (depending on model)has two or four zones.** Every zone contains sensitive elements fixed to the fence. The sensitive elements are connected to the processing unit. Every zone is configured separately using the software. Like this we increase significantly the interference immunity.

🛡 **Improved design and signal processing algorithms** used to provide the reliable detection of the intruder. Trees and movement of people and transport near the protected boundary do not affect the sensor performance.

NO FALSE ALARM ON:

MADE IN EUROPE

▦ **Intended** for the protection of any types of fences from an intrusion by means of climbing over or destroying them

LEGEND

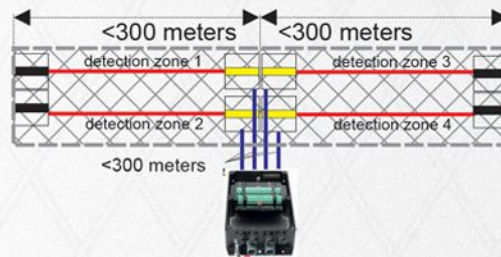TRIBO-S processing unit — Sensitive element — Non sensitive element — Connection sleeve — End sleeve — Fixing points — Fence
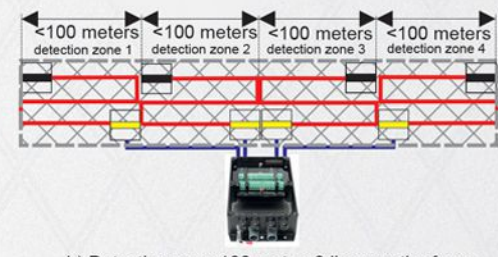
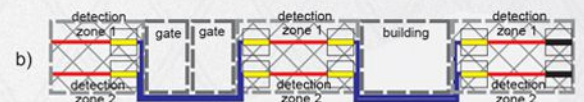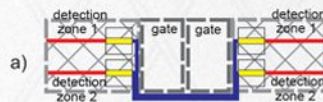### USE SENSITIVE ELEMENT FOR DETECTION ZONES

a) Detection zone 300 meter, 2 lines on the fence, total protection lenght 600 meters

b) Detection zone 100 meter, 3 lines on the fence, total protection lenght 400 meters
easy integration with CCTV system
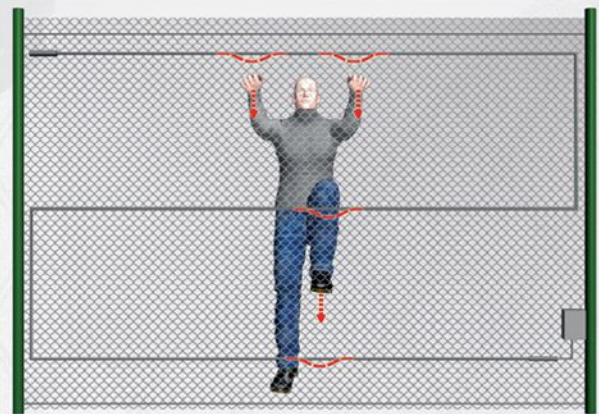
USE NON SENSITIVE ELEMENT

MAIN SYSTEM SPECIFICATIONS

Specification	TRIBO-S system
Detection zones	2 or 4 independent wings
Sensitive element	<300 m each wing
Non sensitive element	<300 m each wing
Height of the protected fence	is not regulated
Supply voltage	10...28 V DC
Current consumption	<25 mA
Detection probability	not less than 0,98
Operational temperature	- 40...+50°C
Housing protection level	IP-55
Alarm outputs	NO/NC relay contacts (100 Ohm)
Interfaces	RS-485/USB, RS-485 Bluetooth
Dimensions	216x120x55mm

PRINCIPLE OF OPERATION:

1. Sensitive cable is installed on the fence and connected to the processing unit;
2. Intruder tries to climb over the fence and deforms it in several places;
3. Deformation is transferred to a sensitive cable fixing points;
4. Sensitive cable receives deformation from the fence;
5. Processing unit detects deformation of cable;
6. Alarm signal is generated by opening relay contacts.

Fence Protection System
Forteza TRIBO-S
INSTALLATION VARIANTS

TECHNICAL SPECIFICATIONS
is available on our website
www.forteza.com or **www.forteza.eu**

LEGEND

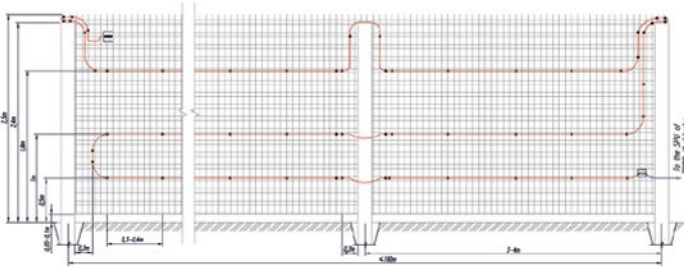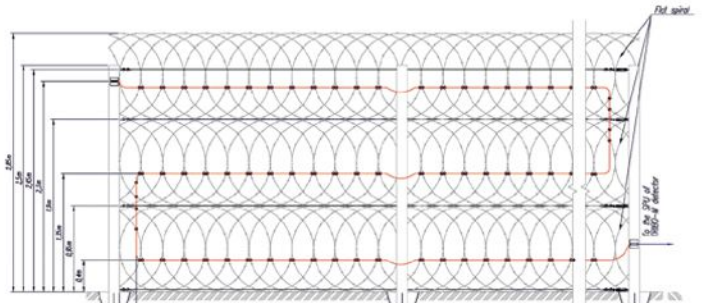Tribo S processing unit — Sensitive element — Non sensitive element — Connection sleeve — End sleeve — Fixing points — Fence
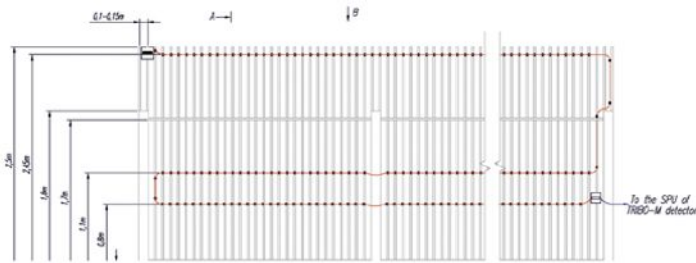
SENSITIVE ELEMENT LAYOUT ON LIGHT WELDED MESH FENCE

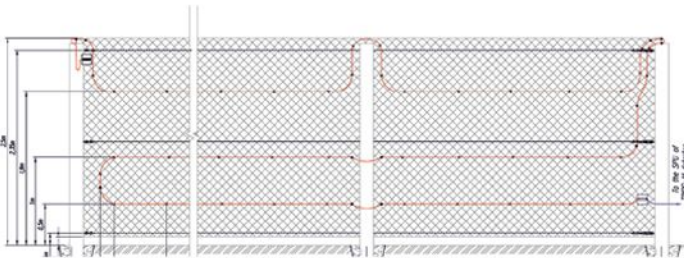## SENSITIVE ELEMENT LAYOUT ON RAZOR WIRE FLAT SPIRAL FENCE
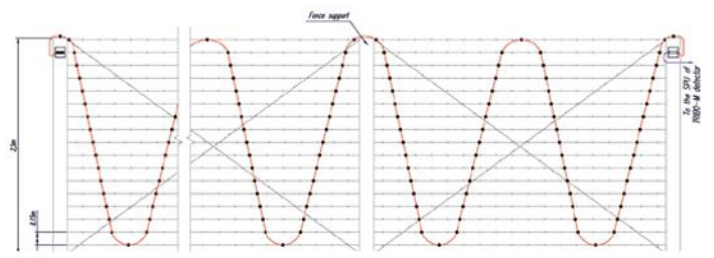

SENSITIVE ELEMENT LAYOUT ON BAR FENCE

SENSITIVE ELEMENT LAYOUT ON NYLOFOR MESH FENCE
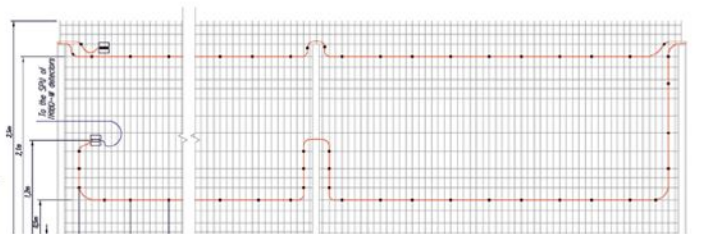
SENSITIVE ELEMENT LAYOUT ON FRAMELESS CHAIN-LINK FENCE

SENSITIVE ELEMENT LAYOUT ON BARBED WIRE FENCE
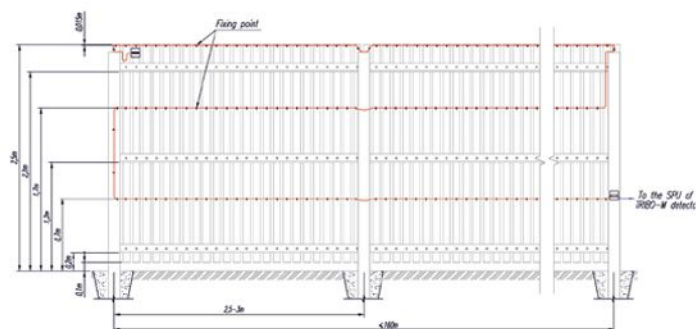

LAYOUT OF SENSITIVE ELEMENT ON CORRUGATED METAL FENCE
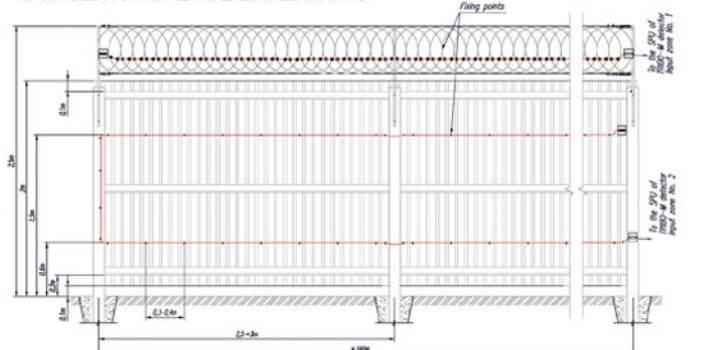

SENSITIVE ELEMENT LAYOUT ON CORRUGATED METAL FENCE (WITH THE USE OF PUSH-TOP CANOPY)
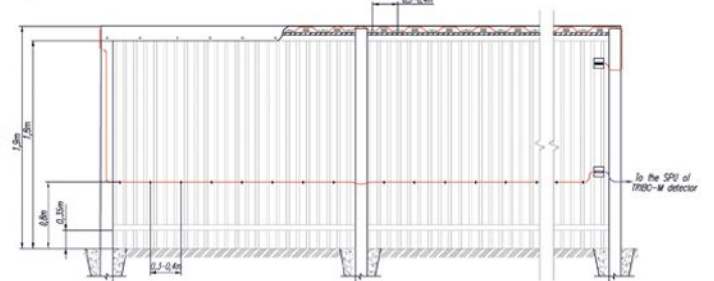
SENSITIVE ELEMENT LAYOUT ON WOODEN FENCE

SENSITIVE ELEMENT LAYOUT ON CHAIN LINK FENCE WITH CONCERTINA FENCE EXTENSIONS

TECHNICAL SPECIFICATIONS
is available on our website
www.forteza.com or www.forteza.eu

■ HOW DOES IT WORKS?

The converter RS-BL (light) is intended for tuning the communication interfaces of the detector and control panel when adjusting and testing the detector's operability.

The converter is designed for interoperability with the FMC series detectors devices and Tribo-S fence protection system.

Forteza RS-BL (light) converter

✓ Data transmission distance within the line-of-sight is up to 10 metres. It simplifies detector adjustment process considerably and allows all operations to be carried out by one installer (previously two persons were needed).

✓ The RS-BL (light) power supply is being provided by AA-type batteries or by external AC power source (8… 30V).

✓ The RS-BL (light) converts RS-485 signal into "Bluetooth" signal, assuring the connection with "Android" device wirelessly.

Converter RS-485 to USB (RS)

✓ Converter is using to connect TRIBO-S processing unit or FMC series bistatic microwave detectors with computer to set up system parameters.
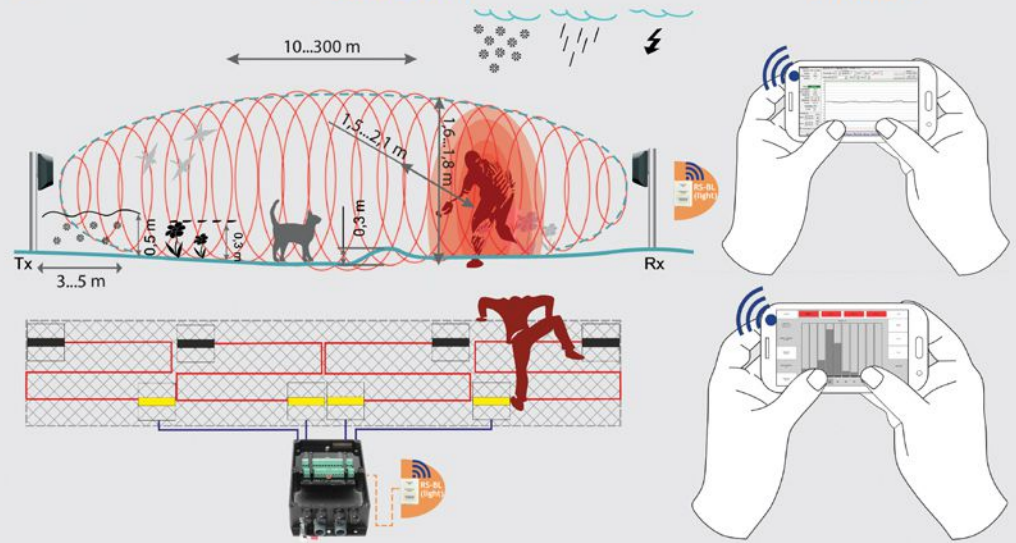
✓ Connection can be done directly to TRIBO-S signal processing unit using "jack" connector or through RS-485 bus using the terminal block contacts.
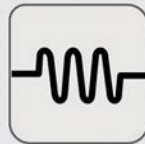
RS-BL(light)

■ CONVERTER CONNECTION BLUETOOTH COMMUNICATION LINE USING ANDROID

■ FMC 10 ANDROID SOFTWARE

Forteza FMC 10 and 24 (old modification)
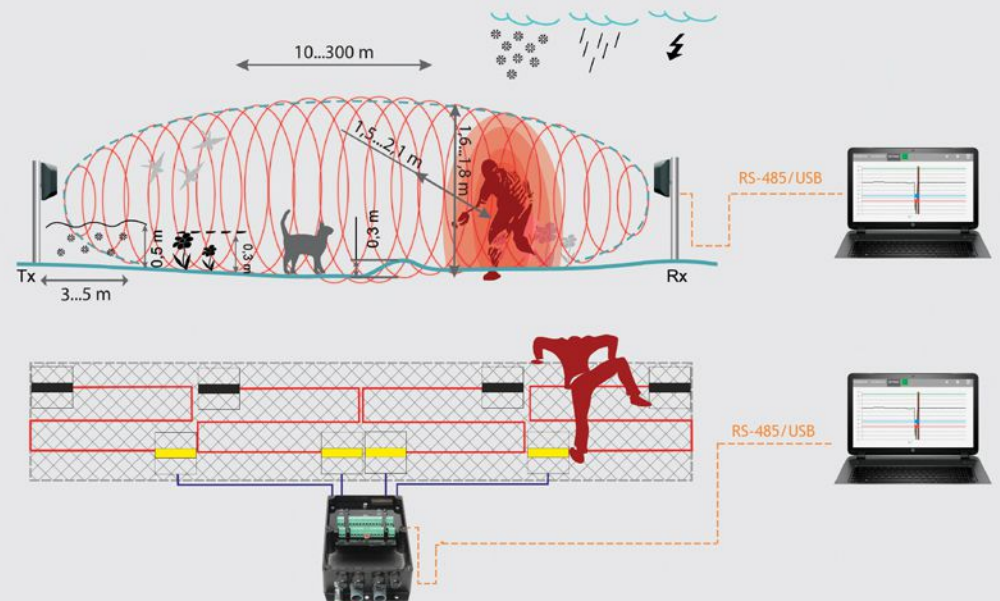Google Play

TRIBO-S IR FMC24 ANDROID SOFTWARE

FORTEZA SOFT
Google Play

RS-485/USB

■ CONVERTER CONNECTION OVER WIRE COMMUNICATION LINE USING WINDOWS

■ FMC 10 WINDOWS SOFTWARE

F FMC Windows Setup 2016-51

TRIBO-S IR FMC 24 WINDOWS SOFTWARE

FORTEZA SOFTWARE

„you can find software on our web page www.forteza.com"

MADE IN EUROPE MADE IN

⎯⋀⋁⋀⎯ | FORTEZA®

Manufacturer and developer of the modern and high-performance outdoor perimeter security systems