

QUICK SPECS OVERVIEW

LiteFENCE operating range: 250m of

fiber installed on the fence

Pre-cabled: no

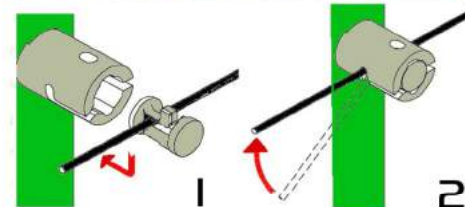
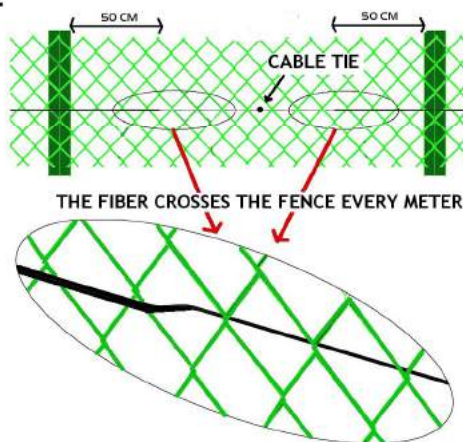
Type of fence: flexible, chain link fence

LiteFENCE

CHAIN LINK, FLEXIBLE FENCES

For any situation, also suitable for sloping and terraced grounds

The plastic fiber is "woven" along the fence with an enter and exit process, as shown below.



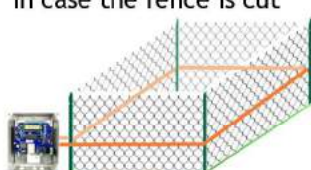
The fiber is then affixed to the posts with tensioning bolts (one every 10m), and to the fence with cable ties (one between the posts).

During an attempt to climb, the flexion of fiber due to climbing over, lifting or breaching is detected by LiteFENCE, which triggers an alarm either via a normally closed (NC) relay contact, which can be connected to any alarm control panel), or via an optical output which can be connected to a specific receiver.

Wind and vibrations caused by weather conditions and moving vehicles do not cause the fence to bend and so it does not trigger any alarm. For this reason, the installation of the perimeter protection system is simple and does not require the learning of any software program, ensuring a 'stop to false alarms'.

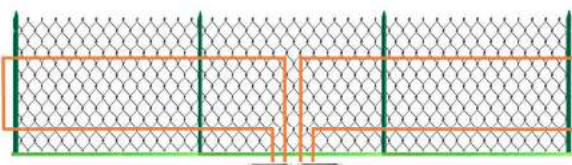
Depending on the required level of security, you can install on the fence:

- 1 fiber to the centre to detect breaking through and, depending on the fence, attempts to climb over;
- 2 fibers (30cm and 150cm from the ground up) to detect climbing over and lifting ;
- 3 fibers(30cm, 90cm 170cm from ground up) to detect climbing over and lifting on 2m high fences;
- 4 fibers (30cm, 60cm, 110cm, 150cm from the ground up) to create a barrier which is difficult to overcome even in case the fence is cut



250m

1 fiber in the center
Anti-breaking through



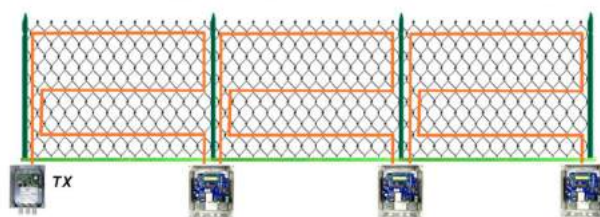
(MOST COMMONLY USED)

125m + 125m = 250m

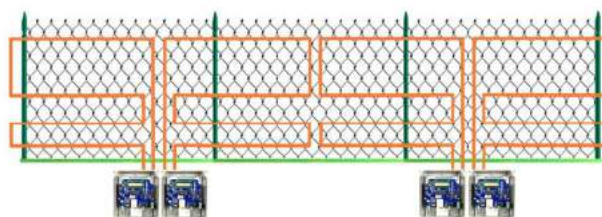
2 fibers (30 and 150cm on a 1.8m fence)
Anti-climbing anti-lifting



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80m + 80m + 80m = 240m
3 fibers (30cm, 90cm, 170cm on a 2m fence)
Anti-climbing, anti-lifting



60m + 60m + 60m + 60m = 240m
4 fibers (30, 60, 110 and 150cm on a 1.8m fence)
ANTI-BREACH



PERIMETER Security

SEMI-RIGID MODULAR FENCES (rigid electro-welded fence and grating)

This system detects climbing over or lifting of a module of grating fences and rigid electro welded fences with a minimum height of 145cm.

The semi-rigid modular fences do not bend under the weight of the intruder, but, rather move back and forth along a single axis in response to the strain caused by the climbing over; such fluctuations are detectable by attaching the SV Lite sensor to the fence.

In fact, in the SV Lite sensor, light passes through two fibers facing each other and is constrained to move only on one axis, the same as that in which the fence sways. In the event of climbing over, swaying causes the misalignment of the fibers, the light beam completely stops and the LiteFENCE Lite analyser, which analyses the light signal, recognizes this variation triggering the alarm.

Simple vibrations resulting from weather conditions or moving vehicles fail to create a swing capable of completely stopping the light beam. Therefore **the system has an excellent resistance to false alarms and does not require adjusting, new learning phases or software.**

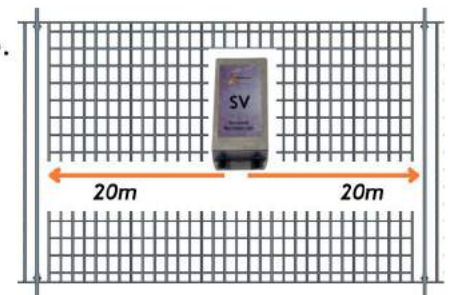
Each SV Lite sensor detects oscillations up to 20m per side (depending on the type of fence) and protects **up to 40m of straight fence**.

The sensor sensitivity to the climbing over can be adjusted by placing the sensor at a higher or lower position on the fence.

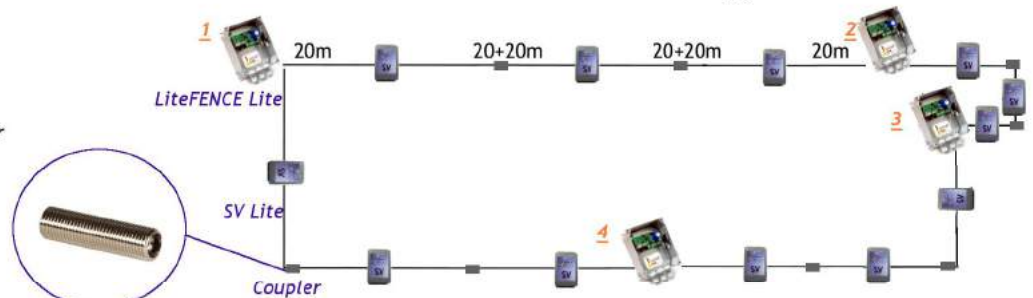
In addition to gates or interruptions along the fence, also corners decrease or block the propagation of oscillations, so the use of more sensors is required.



Grating fence



Example of closed perimeter 380m



In case the perimeter has a "C" shape (i.e. open loop), an additional LiteFENCE Lite (in transmission modality) is placed at the starting point of the fence.



All LiteFENCE Lite analysers and the SV Lite sensors are connected in a bus, and the plastic fiber is "woven" along the fence with an enter and exit process to prevent an entry attempt via the dismounting of a panel. We recommend to cross the fence once every meter.

- Every LiteFENCE Lite manages up to 3 SV Lite sensors
- SV Lite sensors are pre-cabled with 2 x 20m of plastic fiber

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QUICK SPECS OVERVIEW

Height of fence: over 110cm

SV Sensor operating range: up to 50m (straight)

Pre-cabled: 3m+3m of armoured fiber

Type of fence: rigid fences and gratings

LiteFENCE SV

RIGID FENCES AND GRATINGS

This system detects the attempt to climb over a rigid/semi-rigid/ modular fence of minimum height of 110cm.

Rigid fences, as a result of an attempt to climb over, do not oscillate but vibrate: these vibrations are detected by SV sensor and LiteFENCE analyser.

LiteFENCE is able to detect the partial misalignment of the fiber caused by a slight vibration and therefore detects vibrations:

- up to 10/15m per side, for fences with a height between 110 and 145 cm

- up to 15/25m per side, for fences with a height over 145cm

One SV sensor protects up to 30/50m of a straight fence.

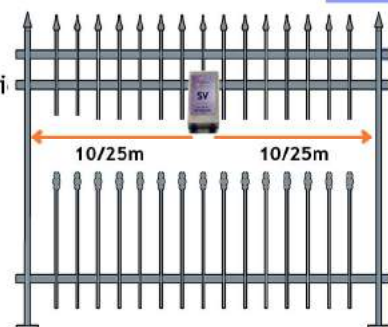
Curves and corners along the fence sensibly decrease the oscillations, so the use of more sensors is required.

Excellent tolerance to false alarms is guaranteed by the high frequency of vibrations caused by weather conditions and moving vehicles on this type of fence, filtered by the inertia of the SV sensor and LiteFENCE firmware.

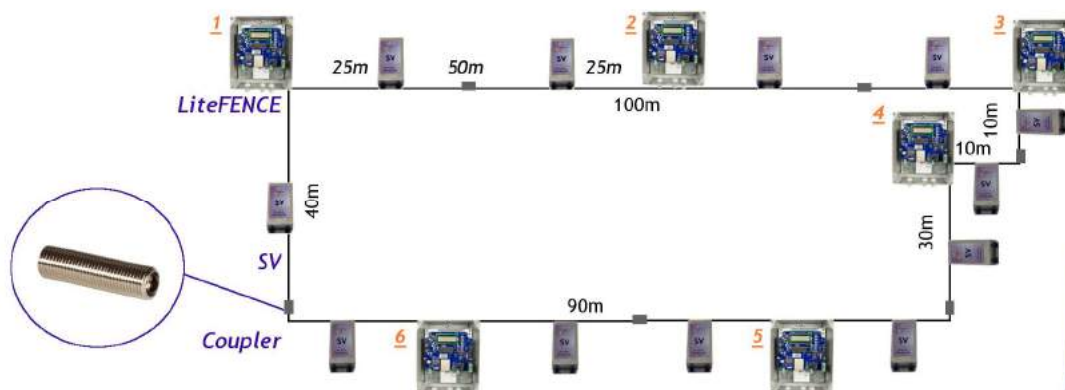
I parametri di LiteFENCE sono pre-impostati in fabbrica in base al tipo di rete da proteggere (selezionabile dal menù); per meglio adattarsi a esigenze specifiche l'operatore può comunque intervenire sulla taratura di:

- sensitivity level (high or low) from the 4 levels available;
- activation/deactivation of filter to high frequencies;
- pre-alarm time (i.e. how long should an oscillation/vibration last before triggering the real alarm).

The plastic fiber is "woven" along the fence with an enter and exit process to prevent an entry attempt via the dismantling of a panel, in case of modular fence.

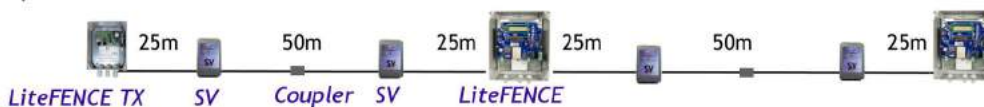


Example of closed perimeter 380m



In case the perimeter has a "C" shape (i.e. open perimeter), a LiteFENCE TX is placed at the starting point of the fence.

Example of open perimeter 200m



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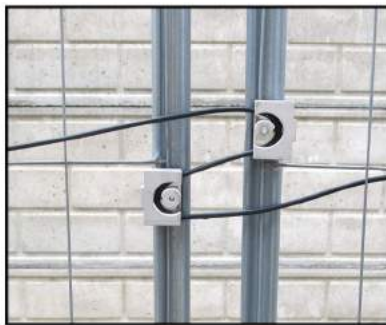


TEMPORARY FENCES

This system detects the climbing, lifting or moving of a panel on a temporary fence for building sites.

This kind of enclosure cannot be protected by any traditional solutions because they oscillate too much while vehicles pass by or when there are gusts of wind. Besides, most alarm systems are not suitable for short-term building sites, which require a flexible solution which can be easily and quickly activated/deactivated by site workers.

It is possible to protect a 100m enclosure in just a few hours, access the building site as easily as opening a padlock and it provides an **ANTI-THEFT SYSTEM WITHOUT FALSE ALARMS**.

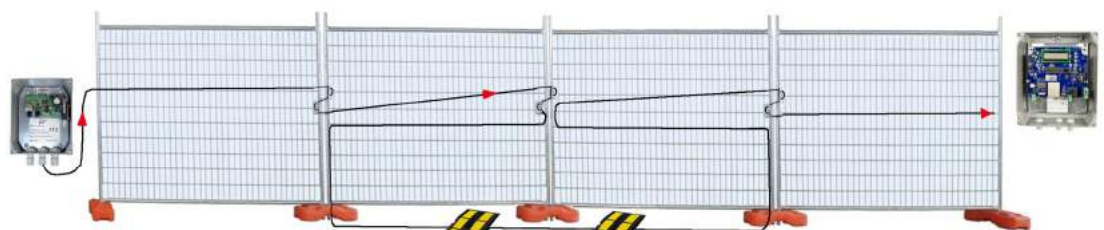


Oscillations of the fence, even strong ones, do not cause any flexing of the fence, but lifting a module or trying to climb over it will wrest the fiber triggering the alarm.

As it is **easy and quick to install**, it is **ideal for building sites**, also if it remains on site for a short period of time, and you can access by just unlocking the bolt with one hand.

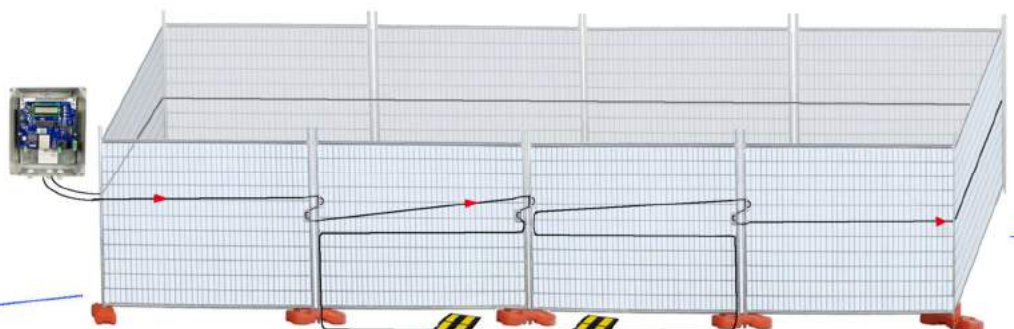
Easy to lock/unlock

Suitable both for straight and closed enclosures



Example of a 100m straight enclosure

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Example of a 100m closed enclosure

QUICK SPECS OVERVIEW

LiteFENCE operating distance: 250m of fiber installed on barbed wire;
160m of fiber installed on a $\varnothing$ 4mm metal rope
Precabled: no
Type of fence: barbed wire, metal rope

LiteFENCE

BARBED WIRE/METAL ROPE

Perimeter walls and barbed wires can be protected with LiteFENCE analyser and LiteWIRE plastic fiber cable. Where barbed wire is not allowed or cannot be used for aesthetic constraints, a metal rope with a diameter of 4mm can be used as an alternative.

Any cut or flexion of the barbed wire (or metal rope) due to an attempt of climb over, is detected by LiteFENCE analyser, which triggers an alarm via the NC alarm output relay (connectable to any alarm control panel).

The plastic fiber LiteWIRE is fastened to the barbed wire (or metal rope) with cable ties and secured to the brackets with special tensioning bolts. Additionally, the fiber is secured to every bracket using special clips which keep the barbed wire (or metal rope) and the fiber together.

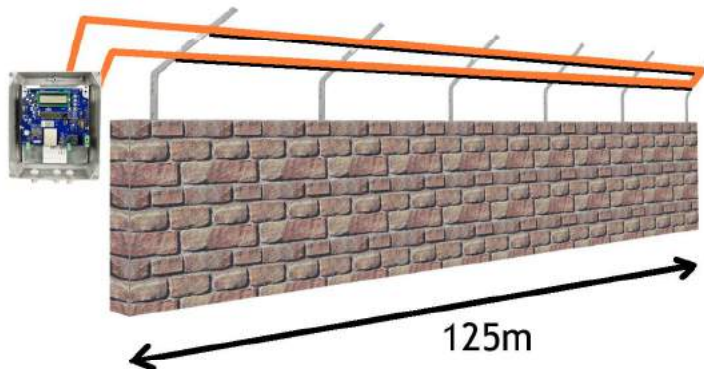


The same connection schemes used for chain link fences can be used for barbed wire/metal rope too, using two passages of fiber.

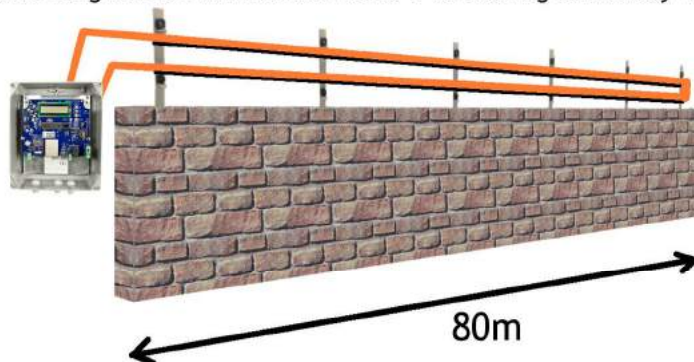
In addition to the clips, the fiber is fasted to the brackets using one tensioning bolt every 10m, when the barbed wire is used, and one every 4m when the metal rope is used. Using a more tensioning bolts with the metal rope, the operating range of LiteFENCE is reduced.

To increase the level of security, we recommend using tow passages of fiber, fastening it to the upper and lower barbed wire.

On request, Naria Security can supply overhang brackets and L-shaped brackets.



Example of overhang bracket with barbed wire. 1 tensioning bolt every 10m.



Example of L-shaped bracket with metal rope. 1 tensioning bolt every 4m.



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PERIMETER Security



COPPER WIRE Security

**LITECOPPER: COPPER WIRE SECURITY
AND ALARM FOR MANHOLE OPENING**

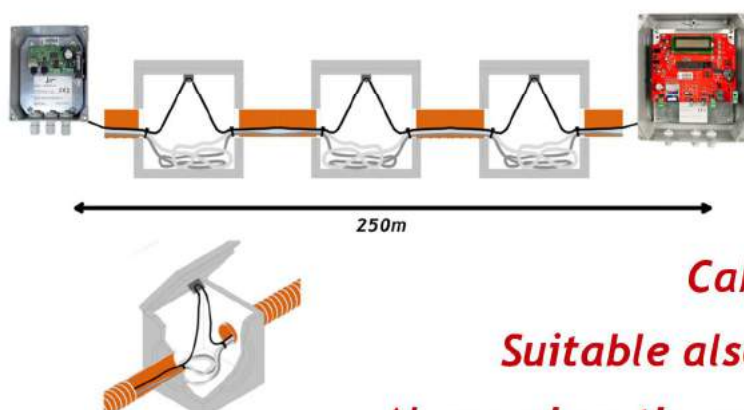
**INVISIBLE PROTECTION
100% RELIABLE**

The operating principle of this system is that plastic optical fiber carries less light when it is bent than it conducts when it is stretched out. This variation is detected by the analyser, which triggers an alarm.

The plastic fiber cable, usually with anti-rodent armouring, is joined to the copper wire inside the corrugated pipes with normal cable ties, and also connects to the manhole cover using a special fast bolt.

The optical analyser LiteCOPPER triggers the alarm when the manhole cover is lifted or when the copper cable is moved, allowing prompt intervention.

This system can also be used for wires in cable trays.



Zero false alarms

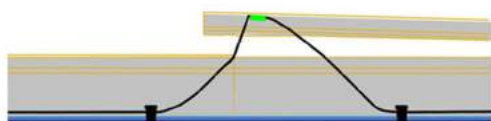
Quick installation

Immune to any EMI noises

Cables and manholes maintainable

Suitable also for fully operational facilities

Alarm when the manhole cover is lifted



Also for wires in cable trays



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SOLAR PANEL Security

800 MW PROTECTED, ZERO FALSE ALARMS

This system operates as a chain: the solar panels are linked together with plastic fiber and, depending on the necessary degree of security, the interface is connected to either the LiteSUN or LiteSUN Plus electronic system, which is able to detect only a cut to the plastic fiber or bends as well as cuts, respectively

ZERO FALSE ALARMS: the plastic fiber must be bent or cut in order for LiteSUN to trigger the alarms. So, weather conditions (like wind, rain or snow), leaves and birds do not trigger any false alarms. Besides, as plastic fiber is an insulating material, so it is not affected by any electromagnetic noise.

SECURE: the optical signal cannot be bypassed.

LiteSUN

This device is sensitive only to the cut of the fiber.

LiteSUN PLUS

This analyser monitors the light variations over the plastic fiber.

If the plastic fiber is bent there is a reduction of the light output compared to when the fiber is stretched out. The sensor detects it and triggers the alarm.



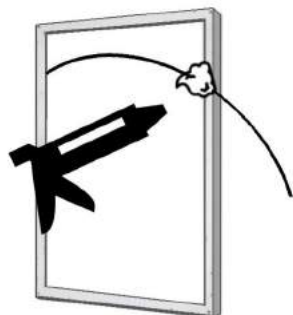
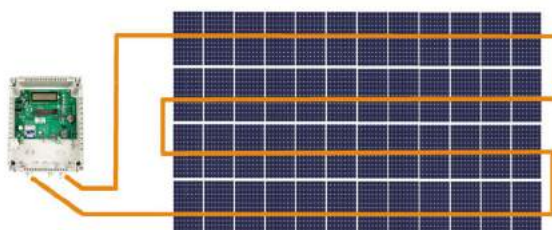
*...the only effective anti-theft system
for rooftop installations*

LiteSUN protects every single panel

Easy installation and zero maintenance

A single device protects up to 200 panels

Zero false alarms



Special sun-resistant glue



NO NEED TO DRILL THE SOLAR PANELS!

For quick and easy installation, we have created special accessories to attach the plastic fiber to your solar panels