

# SV LITE SENSOR

FOR FENCING OF MIN. 145 CM HEIGHT

## QUICK INSTRUCTION MANUAL



Power source: completely passive  
 Attenuation: 15dB with 2x40m plastic fiber  
 (equal to 150m fiber)  
 Protection Grade: IP68 in metal box  
 Dimensions: 60x80x150mm

### ATTENTION!

**HANDLE SV SENSOR WITH CARE**  
*(it contains precision machinery)*

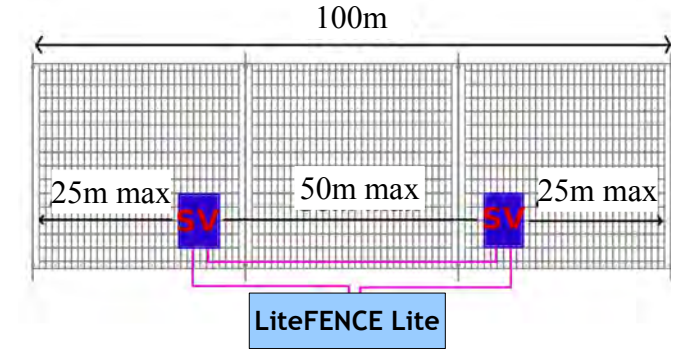
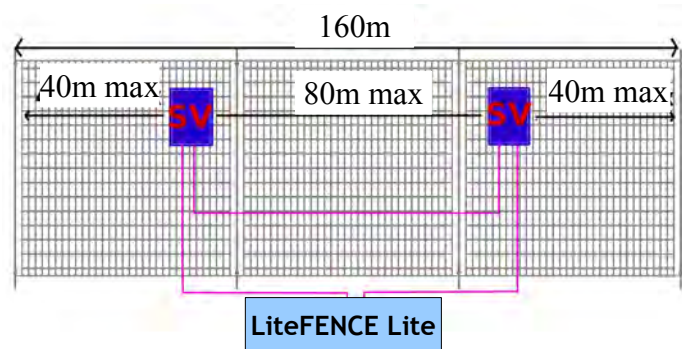
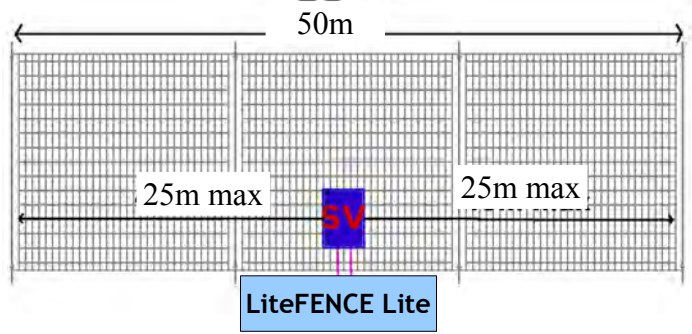
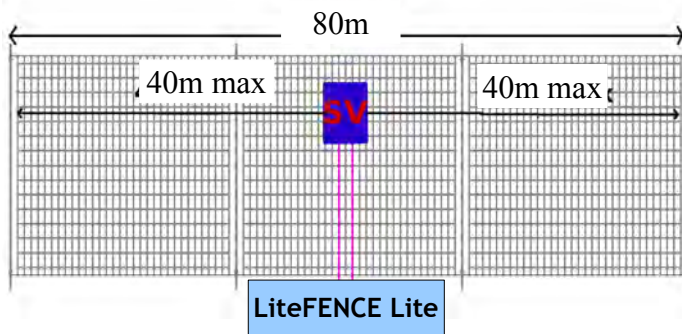
### INSTALLATION EXAMPLES

#### Grilled Fence (e.g. Orsogril/Keller)

#### Electro-welded Fence (e.g. Betafence)

The fence must be higher >145cm. Attach the SV Lite sensor to the upper part of the fence

The fence must be higher >145cm. Attach the SV Lite sensor to the lower part of the fence or to the fence post

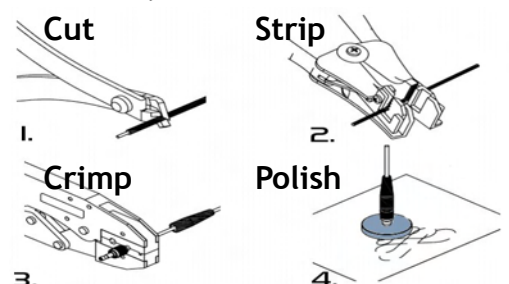


The position of the SV Lite sensor (on the fence) influences the sensitivity: installing the SV Lite sensor to the upper part of the fence will increase sensitivity

Pass the fiber (sewing) into the fence to avoid intrusion by panel removal

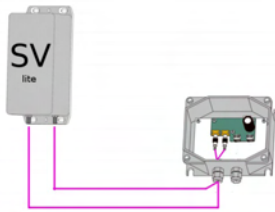
**DO NOT TIGHTEN CABLE TIES!**  
 Intensive use of tight cable ties increases fiber attenuation reducing the maximum distance

#### Plastic fiber connectorization

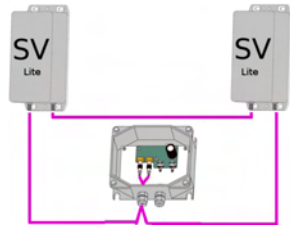


# INSTALLATION

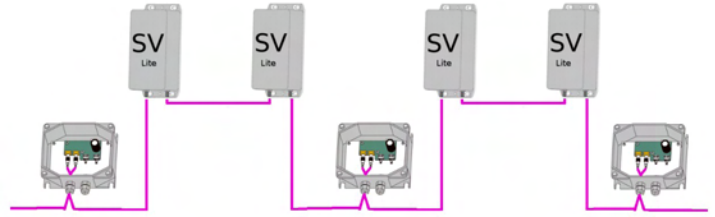
1- Attach the SV Lite sensor to the fence by using the brackets supplied and connect plastic fiber to the LiteFENCE Lite analyser



2 SV Lite Sensorie  
1 LiteFENCE Lite



2 SV Lite Sensors  
1 LiteFENCE Lite



Daisy-chain

Each LiteFENCE Lite tolerates a maximum attenuation of 30dB equal to 2 SV Lite sensors (equal to 15dB each)

Sharp curves, cable ties or mechanical stress while placing the fiber can reduce the distance

## THE PLASTIC OPTICAL FIBER ATTENUATION

Plastic optical fiber is made of a polymeric material realized in such a way that it can lead the light inside and guarantee the total reflection of the input signal to transfer all the entering light to the exit. However physical and technical phenomenons occur (ties, tension bolts, eye bolts) and cause power losses along the fiber. That power loss is called attenuation.

**Attenuation = optical power loss**

Every meter of the installed plastic fiber introduces an attenuation resulting in power loss: the more fiber you install, the more attenuation you introduce, and the less optical power you will get at the end of the fiber. Optical power is measured in dBm.

**FIBER ENTRANCE**  
0 dBm = 0 meters

Example:

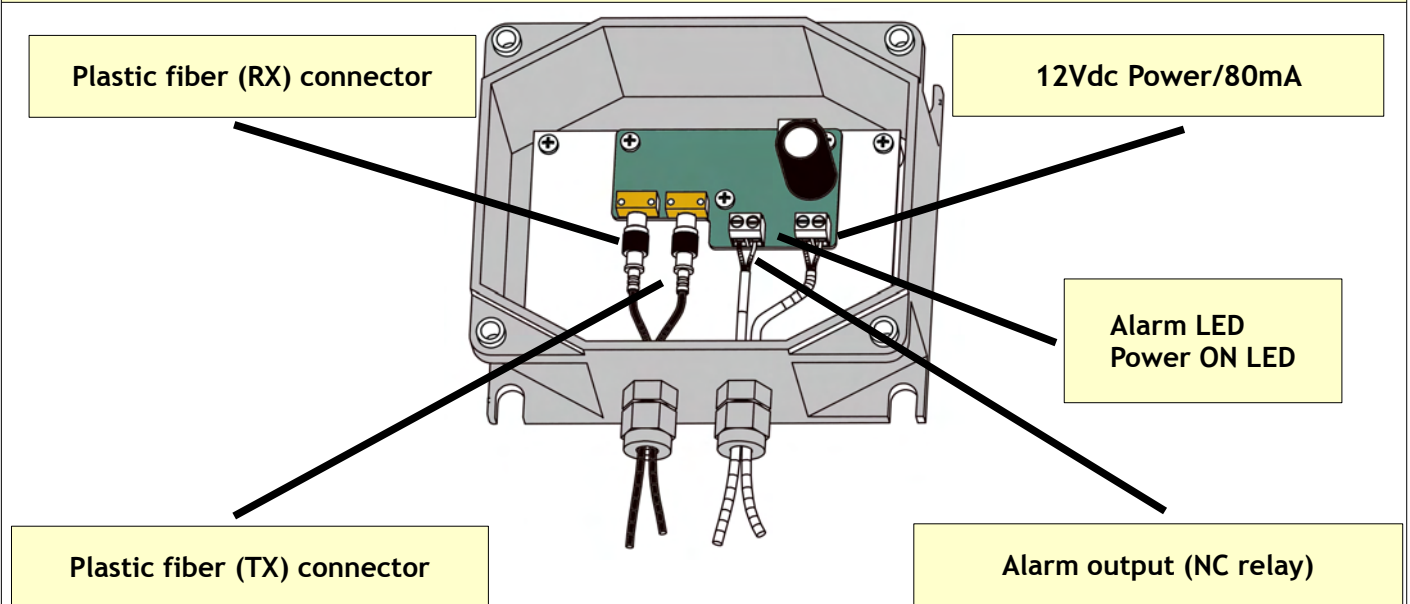


**FIBER EXIT**  
-10dBm = 100 meters

***Maximum sensitivity of Luceat systems is 30dB.***

***The distances mentioned take into account all common source of attenuation (15dB every SV Lite sensor)***

## 2-Supply the power to LiteFENCE Lite analyser



Certification	EMC2004/108/CE FCC verification level part15
IP protection rate	IP55
Optical power budget	30dBm
Optical output (relay)	0,2A/230vac 1a/24vdc
Power supply	+9/12vdc
Operating temperature	-20°c+50°c
Humidity	from 5 to 95%
Power consumption	80mA
Power consumption	1W
EMI/RFI Immunity	Total
Dimensions	116x62x160 (with cable glands)

## 3-Connect the two SV Lite sensor (with a coupler) and connect them to LiteFENCE Lite



## 4-Check that the system is working correctly

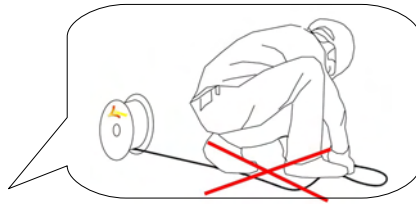
- check that the NC relay is closed
- check the the Alarm LED is green

### **WARNING**

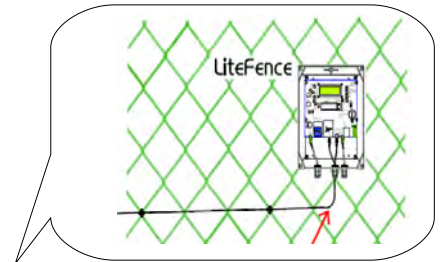
*LiteFENCE Lite has NO internal adjustment because only high swaying causes the misalignment of the fibers.  
In case of incorrect alarms, change the position of the sensor (UP/DOWN) to increase/decrease sensitivity*

**What NOT to do**  
**(these actions increase fiber attenuation)**

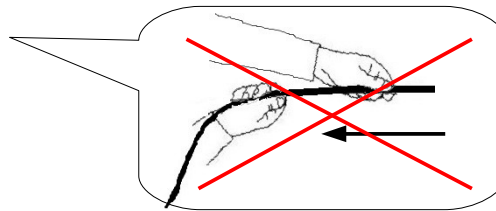
1. do not walk on the fiber



2. do not make angles or sharp bendings (min. bending radius: 25mm)



3. do not pull hard on the fiber



**You can splice the cable mechanically**

Each coupler reduces the max. distance of the system by about 20m (2dB)



Coupler

