

# Laser Fence Sensor (LFS)

The Laser Fence Sensor (LFS) typical structure. >>>

Details differences from type to type

Its main components are:

- \* LRF
- \* Motor
- \* Encoder
- \* Mirror unit
- \* Signal processing unit

The LRF is fixed to the basis.

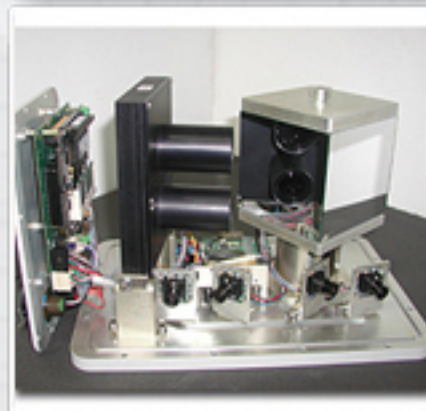
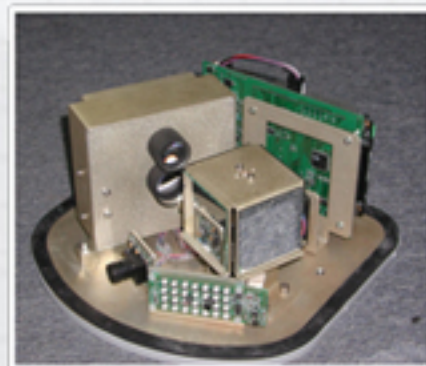
The Mirror unit consists of 4 equal mirrors.

The motor rotates this unit at about 1.3 Hz. Consequently, the laser beam of the LRF is moved along a circular path whilst the LRF reflected beam is continuously detected by the LRF receiver.

In this way LFS creates a detection surface which can not be crossed without being detected. Any point within this surface can be scanned every 0.2 second. It uses improved ALS algorithms and therefore its performance is similar to ALS. However it scans only 105 degrees.

It can be used with fixed or tracking cameras.

It can be used in both horizontal and vertical planes.



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The LFS Family includes: \*1) LFS A \*2) LFS B \*3) LFS B



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## The LFS's Family:

### LFS A

Creates a virtual curtain with ranges, horizontal or vertical. It can slave any PTZ or fixed camera.

There are 2 types of LFS - A:

#### LFS A 50

Detection Range up to 50m.

#### LFS A 160

Detection Range up to 160m.

### LFS B

Creates a virtual (horizontal or vertical) curtain. Includes 1, 2 or 4 embedded cameras which automatically track the intruder.

There are 4 types of LFS - B:

#### LFS B 30

Detection Range up to 30m. 1 embedded camera

#### LFS B 50

Detection Range up to 50m.  
Includes 2 internal embedded cameras.

#### LFS BH 120

Detection Range up to 120m.  
Includes 4 internal embedded cameras.

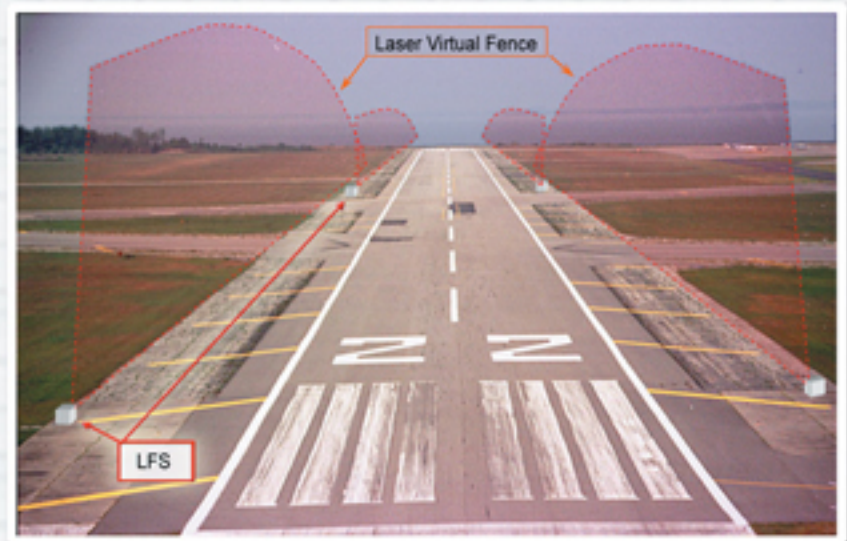
#### LFS BV 160

Detection Range up to 160m.  
Includes 4 internal embedded cameras.

The LRF is fixed to the basis. The mirrors unit consists of 4 equal mirrors attached to a box faces. The motor rotates the box at about 1.3Hz. Consequently the LRF line of sight scans a circular sector four times in each revolution of the box. The angle of the scanned sector is 105°. Every point within the sector is scanned every 0.2 seconds. The LRF measures the distance to all surrounding objects including the ground up to the maximal range. During this process the LFS adjusts adaptively the detection thresholds. Once an intruder will enter (walk, run or crawl) the protected area the algorithm recognize that meaningful changes as intruder detection. The LFS calculates the range and angle of the intruder and transmits a message (range and direction) via the RS485 line and activates the internal camera, according to detection angle.

## Applications of LFS:

Along Runway



Security Fence



Building Protection



Security Fence Train Station Safety

