Senstar LM100™

SIX STEPS TO AFFORDABLE PERIMETER PROTECTION AND LIGHTING

EASY TO INSTALL

LOW TOTAL COST OF OWNERSHIP

HASSLE-FREE OPERATION & MAINTENANCE

SENSTAR

Let intruders know they are detected <u>BEFORE</u> they get in

The Senstar LM100 is an affordable, easy-to-install system that enhances your existing security fence by turning it into an illuminated **smart fence**.

The Senstar LM100 **detects and locates** any attempt to cut, climb or otherwise break through your fence.

The luminaires provide **high quality, direct illumination along the fence line** — deterring intruders and providing targeted illumination for video surveillance systems. Fully programmable, the luminaires provide general security lighting and can inform intruders that you know where they are by flashing the light directly overhead or by triggering other behaviors.

Energy efficient LEDs **dramatically reduce electricity usage** when compared to traditional security lighting products while the downward focused coverage pattern and programmable intensity levels reduce light pollution.

The Senstar LM100 **enhances your existing security system** and **reduces operational costs** related to theft, vandalism and electricity usage, all while **minimizing light pollution**.

Above all, the LM100 provides peace of mind for those who need to protect their property and assets.

The operations of small businesses are highly sensitive to the disruptive and financial impacts of property theft, tampering and vandalism.

SIX STEPS TO AFFORDABLE PERIMETER PROTECTION

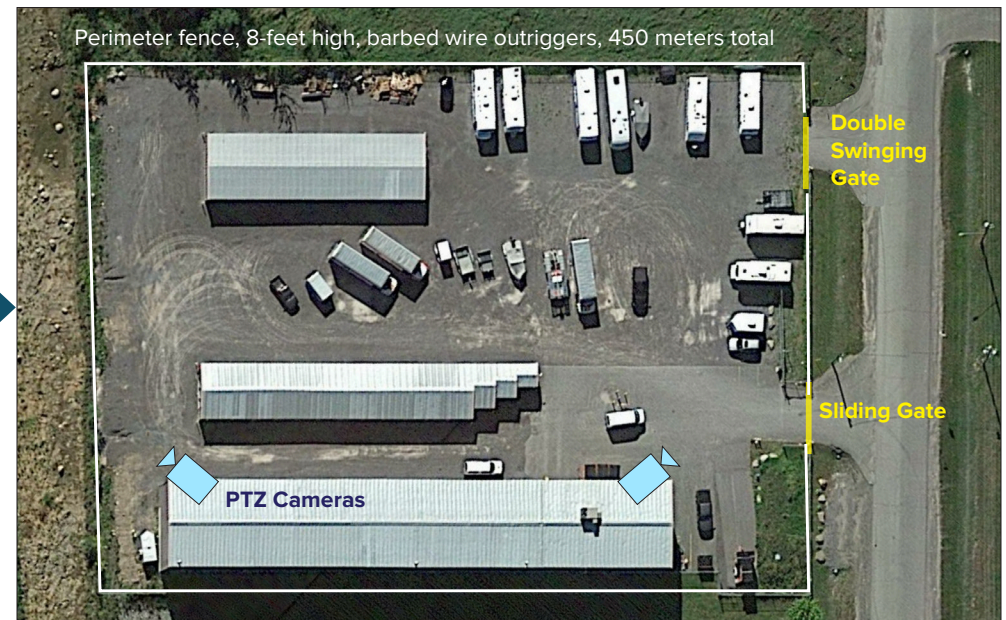## Step 1: Collect basic site requirements

Survey your site and collect its basic security requirements:

- What is the total distance of the fenced perimeter?
- What is the type and height of the fence? Does it have any outriggers (e.g. barbed wire)?
- How many gates need to be protected? Are they swinging or sliding?
- How many detection zones do you require?
- Are there any existing security sensors or devices (e.g. cameras, motion detectors, other security lighting) that you want to integrate?

- Are there other points of interest that require monitoring (e.g. door or gate contacts)?
- Is there an existing power supply (12–48V DC) for the Gateway and individual luminaires? If so, is it connected to an Uninterruptible Power Supply (UPS) device?
- Is there a security equipment room or locker?
- Do you have an existing alarm system? If yes, can it monitor third-party equipment via dry-contact inputs or a networked software interface?

Internet-based site surveys

Senstar can look at your security requirements remotely by using Internet-based mapping tools like Google Earth.

Email your physical address to **info@senstar.com** and we will quickly quote a perimeter security solution specific to your site.

Perimeter fence, 8-feet high, barbed wire outriggers, 450 meters total

Double Swinging Gate

Sliding Gate

PTZ Cameras

An example of remote site survey performed with Internet-based mapping tools and some basic information provided via email.

Step 2: Identify security issues and risks

Walk along your perimeter and identify potential security issues and risks:

What is the condition of your fence? Loose, cut, or unsecured fabric will reduce the ability of the Senstar LM100 to detect intrusions as well as increase the number of nuisance alarms.

Are there any loose signs, objects or vegetation on or striking the fence that may generate nuisance alarms, especially during high-wind conditions?

Are there any objects (trees, structures, etc.) that an intruder could use to climb over the fence? Is an intruder able to crawl under the fence because of gaps between the ground and the fabric?

If cameras are used, do they provide complete coverage? Do they need to be directed to focus on or record specific areas?

If your site has outdoor equipment, network cables, or power cables along the perimeter, are they protected against vandalism or tampering? Is armored cable required at specific areas to protect against vandalism?

Step 3: Determine your equipment requirements

Contact Senstar if you need help with your equipment requirements.

Luminaires
Senstar LM100 luminaires are typically installed at the top of every other fence post. They communicate over an encrypted wireless link. Here are the key numbers:

- Spaced 3 to 6 m (10 to 20 ft) apart.
- Works with all common fence types and heights.
- Each luminaire requires power provided via 2-wire low-voltage cable (14–16 AWG).
- The Luminaire AP includes 3 m (10 ft) of pre-attached cable (communications + power).
- Luminaires are sold individually or in packs of 20.

Luminaire AP
A special luminaire, the Luminaire AP, is connected directly to the LM100 Gateway via a communications and power cable. One Luminaire AP is required per Gateway.

Gateways
- Each Gateway supports up to 100 luminaires.
- Each Gateway supports up to four Senstar Wireless Gate Sensors.
- Gateways can be networked together for sites with more than 100 luminaires.

Gate protection
There are several gate options available:

- Luminaires can be installed directly on or near swinging gates. Power cable can be routed in conduit underneath to the other side.
- The Senstar Wireless Gate Sensor protects any type of gate. Powered by a D battery and/or embedded solar panel, it is attached directly onto the gate and communicates with the LM100 Gateway over an encrypted wireless link. It can also monitor the state of the gate's contact/latch.

Security system integration
Each Senstar LM100 Gateway includes 10 programmable I/O ports. They can connect to any security system with available dry-contact input points.

If you need more inputs or outputs, a Senstar I/O expander board can be used.

Power options
The luminaires and Gateway require 12 to 48V DC power (2.5W per luminaire, 1.0W per gateway).

To provide continued protection in the case of a power failure, a UPS device is recommended.

Step 4: Install Senstar LM100 equipment

Installation requires one person. Most perimeters can be done in a day.

Required tools
Step ladder, cordless drill or socket set, wire strippers, utility knife, and a wire crimper or pliers.

1. Install the Gateway in a secure location. The Gateway includes mounting flanges for pole (stainless steel clamps included) or wall mounting.

2. Install the Luminaire AP at the top of the fence near the Gateway. It connects to the fence post using stainless steel clamps (included). Connect the Luminaire AP to the Gateway using the attached cable (communications + power).

3. Attach the luminaires to the fence along the perimeter. They also connect to the fence post using stainless steel clamps (included).

4. Run 2-wire low-voltage cable along the fence line to power each luminaire. Temporarily power on each luminaire as you go to ensure the wiring is correct.


Step 5: Configure and test for optimal performance

Configuration is easy! Attach a laptop computer to the Gateway with a standard USB cable and run the included software.

- To add each luminaire with the Gateway, click the Sequence button. The Gateway will automatically discover the luminaires and you can assign a custom order and number.
- To set the alarm threshold level, click the Profile button and walk the length of the perimeter while "buzzing" the fence by running a screwdriver along it. Move the threshold level up or down to match your specific fence.
- Specific areas, including gates, can be configured with their own alarm threshold levels.
- Group luminaires into detection zones to assist in monitoring. For example, each side of your perimeter could be linked to a specific camera (and even trigger pre-programmed actions if a PTZ camera is used). If supported by your site's security system, zones could be enabled/disabled based on time of day or employee activity.
- The behavior of the luminaire LEDs is configurable. For example, individual luminaires or zones can light up or strobe when intrusion attempts are detected, default and active alarm LED intensity (brightness) can be set, and the luminaires can turn on or off based on a pre-programmed schedule.

"Buzz" the fence by running a screwdriver along the fabric. This lets you fine-tune the alarm threshold levels specific to your fence.
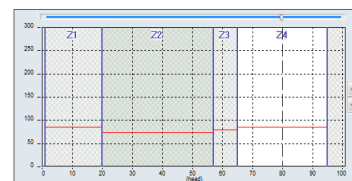
The LM100 software lets you divide the luminaires into zones. Simply click and drag the zone lines to resize them.
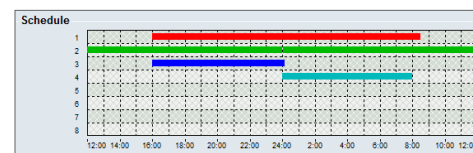

Luminaires can turn on or off based on a pre-programmed schedule.

Step 6: Configure alarm outputs

The Senstar LM100 Gateway's 10 built-in programmable I/O ports can be connected directly to the general purpose inputs found on most alarm systems. The function of each I/O port is software-configurable. A typical system might use the following configuration:

- A dedicated port for each zone alarm
- One for Wireless Gate Sensor alarms
- One for supervision (luminaire tampering) alarms
- One for gateway tampering (e.g. door open)
- One for equipment issues (power fail, hardware faults, fail safe, etc.)

In addition to assigning functions, you can also configure their activation behavior (e.g. activation high, activation low, latching, pulse, etc.)
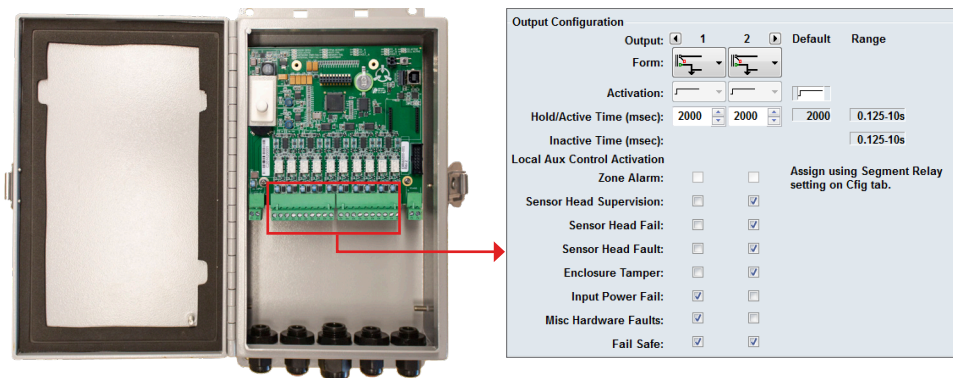
To configure the Senstar LM100 I/O ports, select the functions you want to assign.

NEED HELP?

If you have any questions or run into issues, Senstar is happy to help. We have user guides, instructional videos, and trained experts available to help you.

- Website: **senstar.com**
- General inquiries: **info@senstar.com**
- Technical support:
  - Email: **support@senstar.com**
  - Telephone: **1-800-390-5796**
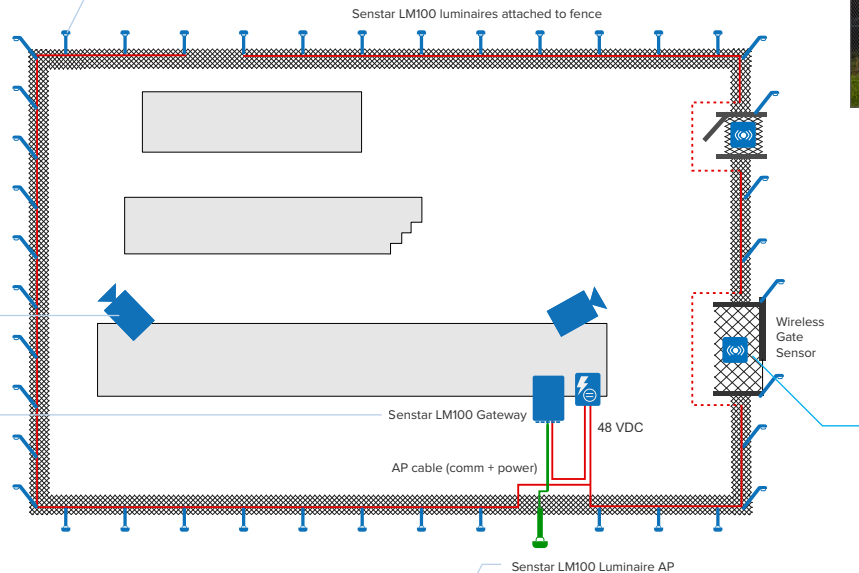
Did you know?

Senstar has been safeguarding people, places and property with the world's largest portfolio of perimeter intrusion detection sensors for over 35 years. If placed end-to-end, our installed perimeter intrusion detection products would stretch over 45,000 km (28,000 mi). That's longer than the cirumference of the Earth!

Now combined with world-class video management systems and analytics (formerly Aimetis), Senstar offers a comprehensive suite of proven technologies that work together to reduce complexity, improve performance and unify support.

SAMPLE SITE DESIGN

Senstar LM100 luminaires attached to fence

Senstar LM100 Gateway

48 VDC

AP cable (comm + power)

Senstar LM100 Luminaire AP

Wireless Gate Sensor

The Senstar LM100 illuminates the perimeter and detects any attempt to cut, climb, or lift the fence fabric.

When properly installed, the luminaires are guaranteed to work in all weather conditions. The LEDs have a minimum service life of 15 years[†].

I/O ports on the Gateway can be used to interface with your existing security system as well as to control or direct on-site security devices like PTZ cameras, sirens, or lights.

The Wireless Gate Sensor protects sliding and swinging gates. No power or communications wiring is required.

Its vibration sensor detects any movement or vibration of the gate. An on-board input can be connected to a gate-mounted contact to determine if the gate is open or closed.

The Senstar LM100 Gateway can be installed on the fence itself near the Luminaire AP or inside a building.

The luminaires are attached to the top of the fence posts, 3 to 6 m (10 to 20 ft) apart. The Luminaire AP is the same as the regular luminaires, except that it uses a communications cable to connect directly to the Gateway.

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