Senstar LM100
Intelligent Perimeter Lighting and Sensing Solution

SENSTAR

FEATURES AND BENEFITS

- Detects and illuminates perimeter intrusions at the fence line
- Instant-on or strobe lighting at intrusion attempt location provides psychological deterrent to potential intruders
- High performance luminaire:
  - 53 lux per luminaire
  - Uniform, full-spectrum lighting (CRI value greater than 70)
  - Instant-on (no warm-up time)
  - Focused illumination pattern minimizes light pollution
  - Low power consumption (2.5W per luminaire)
  - 15+ year LED life expectancy[†]
- Wireless self-healing mesh network (2.4 GHz, 128-bit AES encrypted) eliminates need for inter-luminaire communication wiring
- Rugged metal mounting arms attach to most fence types and walls
- Designed and tested for harsh environments
- Interfaces with most alarm panels and Security Management Systems (SMS)
- Seamless integration with other Senstar perimeter intrusion detection sensors

The Senstar LM100 is the world's first intelligent perimeter lighting and sensing solution.

Combining high performance LED lighting with accelerometer-based sensors, the LM100 deters potential intruders by detecting and illuminating them at the fence line.

Optimized for the perimeter

Optimized for use with CCTV camera systems, the Senstar LM100 provides localized, uniform lighting along the fence line. Uniform coverage lets cameras operate with a higher dynamic range, ensuring objects and people are illuminated while avoiding the generation of dark silhouettes in front of bright backgrounds.

The LM100 has a Color Rendering Index (CRI) of 70+. Its full-spectrum illumination accurately renders color, bringing out critical details that enhance identification and pattern recognition (in comparison, the high pressure sodium lamps commonly used in other security lighting products have a CRI value ranging from 20 to 50, resulting in flat, washed-out colors).

Built-in intrusion detection

Each Senstar LM100 luminaire includes a built-in accelerometer to detect attempts to cut, climb or lift the fence fabric. When networked, the LM100 reports intrusion attempt locations to the site's security system to enable a directed response.
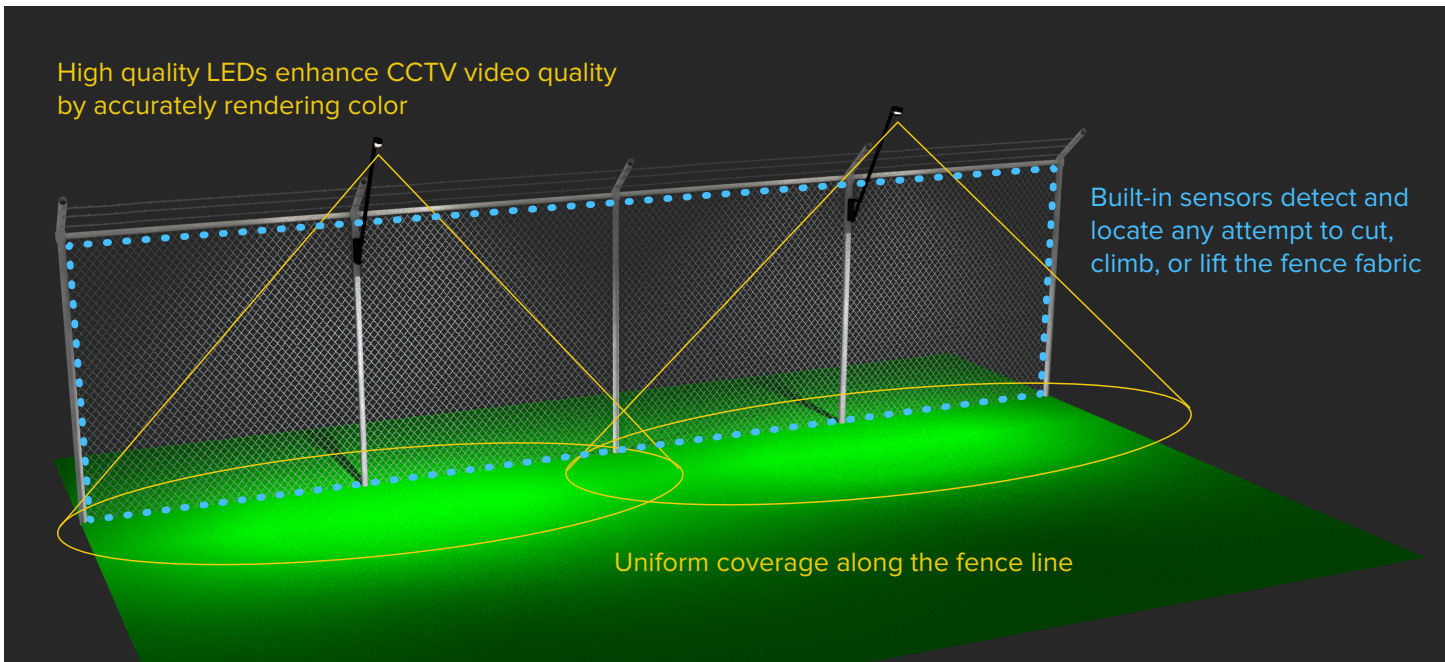
Early detection at the perimeter means the LM100 can trigger warnings and alarms, cue up camera systems, and even provide an instant, visible deterrence like enabling or strobing the fence lights within the immediate area — all while the intruder remains outside the building or protected area.

REDUCE COSTS WHILE ENHANCING SECURITY

- Only 2.5W used per luminaire
- **95% reduction** in electrical consumption for perimeter illumination[††]
- LED lights turn on and off instantly, with no warm-up or cool-down time
- Programmable to follow schedule or remain off until an intrusion attempt is detected
- Downward-directed coverage pattern minimizes light pollution

DATASHEET

High quality LEDs enhance CCTV video quality by accurately rendering color

Built-in sensors detect and locate any attempt to cut, climb, or lift the fence fabric

Uniform coverage along the fence line

The Senstar LM100 detects and deters potential intruders while enhancing CCTV video quality

Easy to install and maintain

The Senstar LM100 is easy to install and requires virtually no maintenance. The luminaires use worm gear clamps to attach to existing fence posts. Built-in mounting flanges also enable installation on walls and other structures.

The Senstar LM100 works with any fence. The luminaires can be installed at different heights so as to not interfere with existing outrigging on the fence.

Using energy efficient LEDs and wireless mesh network communication, the luminaires only require a single low-voltage wire along the fence line for power. The mesh network itself is self-healing – if a luminaire goes offline, overall communication is unaffected.

The LEDs used in the luminaires have a 50,000 hour minimum life expectancy and are designed for outdoor use in all environments.

Configurable input/output ports

The Senstar LM100 gateway provides 10 individually configured input-output (I/O) ports that enable integration with a wide range of site security devices and alarm systems.

For example, lighting behavior can be controlled by external devices, including access controls, light sensors, and other security devices. The LM100 can also activate additional deterrent devices such as sirens or additional lights, trigger on-site security cameras, as well as interface directly with most alarm panels.

In a networked system, the I/O ports may be monitored or controlled by the SMS.

The number of I/O ports can be increased by adding a relay output or input card, each of which provides four additional ports.
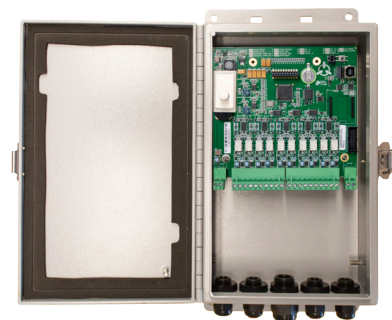
Networking and integration

Alarms can be reported locally at the Senstar LM100 gateway via its I/O ports or communicated over a network.

The LM100 gateway connects to the security network via EIA-422, single- or multi-mode fiber, or Ethernet links and can use the same network as other Senstar devices, including FlexZone®, OmniTrax®, UltraLink™, and UltraWave™.

Senstar's Network Manager software conveys alarm and status information to a Senstar or third-party SMS.
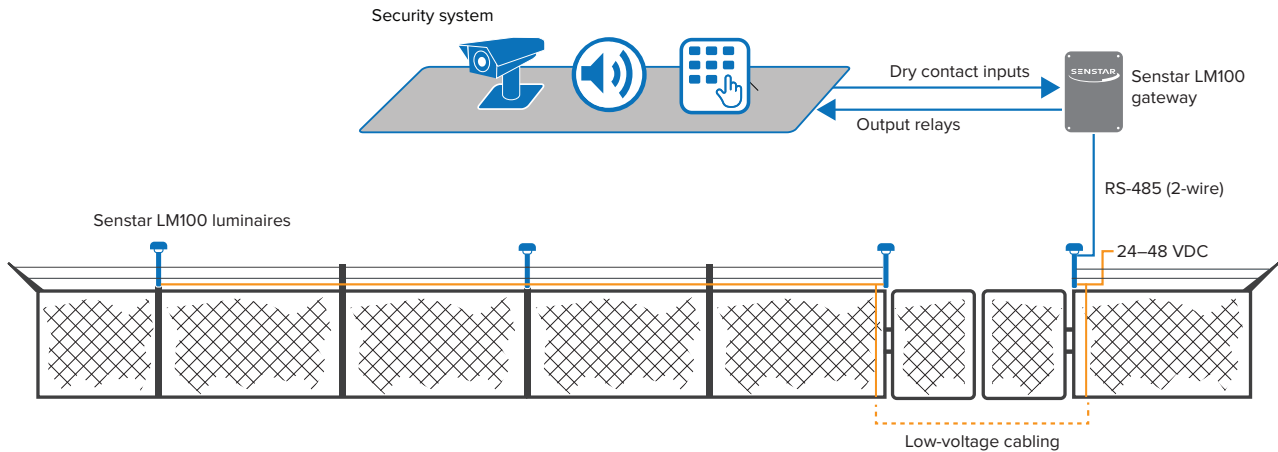
For information about integrating Senstar sensors within a security network, see the *Senstar Sensor Integration* datasheet.
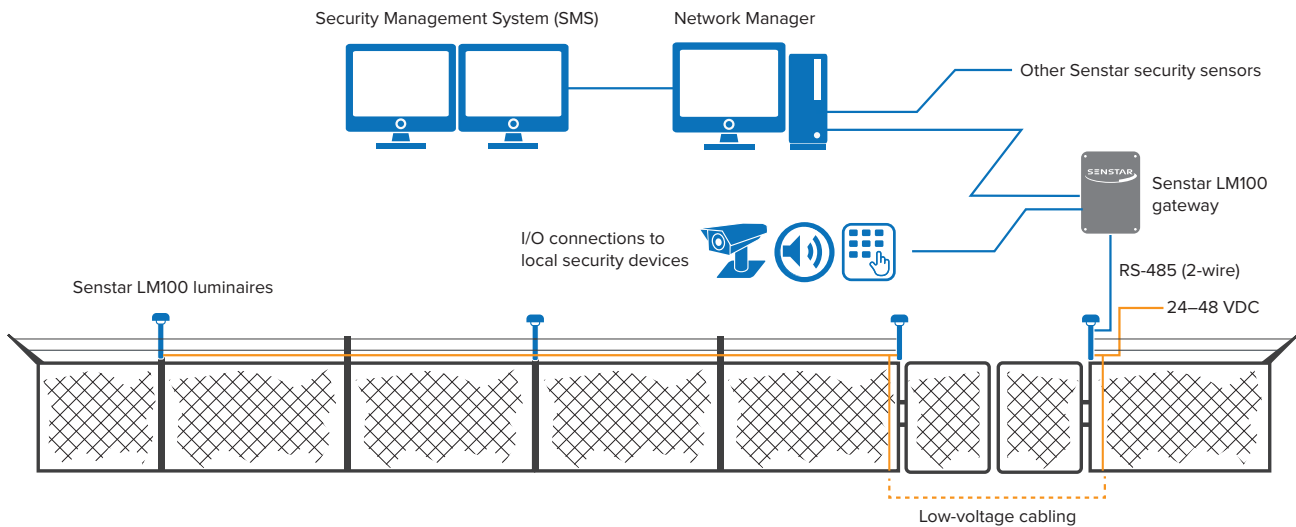

Senstar LM100 gateway

Non-networked site

The Senstar LM100 gateway uses its I/O ports to notify the on-site alarm system of attempted intrusions. The lights are enabled or disabled via the alarm panel's keypad control.

Security system

Dry contact inputs

Output relays

Senstar LM100 gateway

RS-485 (2-wire)

24–48 VDC

Senstar LM100 luminaires

Low-voltage cabling

Networked site

The Senstar LM100 gateway connects to the Senstar Silver Network™. A centralized SMS monitors the site and manages on-site cameras and third-party security devices.

Security Management System (SMS)

Network Manager

Other Senstar security sensors

Senstar LM100 gateway

I/O connections to local security devices

RS-485 (2-wire)

24–48 VDC

Senstar LM100 luminaires

Low-voltage cabling

SENSTAR LM100 CONFIGURATION OPTIONS

- On/off schedule
- Detection and lighting zones
- Enable or strobe lights/zones when intrusion attempt detected
- Detection sensitivity settings with real-time graphical plot
- Light intensity levels
- Dry contact input light control

Technical specifications

LUMINAIRE

Main features
- Brightness: 53 lux/luminaire
- Coverage pattern: 120 degrees
- 50,000+ hours LED life expectancy
- Supports any fence height
- Spaced 3 to 6 m (10 to 20 ft) apart for optimal coverage
- Locate intrusions to the nearest luminaire

Environmental specifications
- Temperature: –40 to 70 °C (–40 to 158 °F)
- Humidity: 100% (condensing)

Electrical specifications
- Input power: 12 to 48 VDC (24 VDC or higher required for multiple luminaires)
- Consumption: 2.5W per luminaire
- Wiring: 14 or 16 AWG (depending on luminaire number and distance), 2-wire
- Integrated surge protection

Physical specifications
- Dimensions (L/W/D): 98.4 x 14.3 x 5.1 cm (38 3/4 x 5 5/8 x 2 in)
- Weight: 740 g (1.6 lbs)
- Rugged UV-rated ASA and polycarbonate luminaire housing (NEMA Type 3S)
- Welded aluminum mounting arm with polyester powder black finish for durability

Network specifications
- Inter-luminaire wireless mesh network: 2.4 GHz, 128-bit AES encrypted
- Luminaire AP-Gateway connectivity: RS-485

GATEWAY

Main features
- Up to 100 luminaires per gateway
- USB configuration port
- Network connectivity: Ethernet, RS-422, or fiber (single-mode or multi-mode)
- Alarm queuing in the event of network interruption

Programmable I/O ports
- 10 programmable I/O ports (controlled locally or via network)
- Input mode:
  - Light control
  - Programmable supervision type, resistor value(s) and filtering
- Output mode:
  - Function of each relay can be assigned based on requirements
  - Assignable functions under local control include: alarm, supervision, door tamper, power fail and fail-safe
  - Provides power for external devices (100 mA)
- Add-on relay output and dry-contact input cards provide an additional 4 output or input points per gateway

Environmental specifications
- Temperature: –40 to 70 °C (–40 to 158 °F)
- Humidity: 100% (condensing)

Electrical specifications
- Input power: 12 to 48 VDC
- Consumption: 0.5W (base processor), 1.0W with communications card
- Lightning protection: Transient voltage protection on all inputs and outputs, including power

Physical specifications
- Dimensions (L/W/D): 31.6 x 19.0 x 9.0 cm (12.5 x 7.5 x 3.5 in), including cable glands and mounting brackets
- Weight: 1.2 kg (2.6 lbs)
- 5 cable entry points with compression glands (includes filler plugs)
- External ground lug
- Rugged all-weather aluminum UL, NEMA Type 4X enclosure with hinged, locking cover and a gray polyester powder paint finish

OPTIONAL COMMUNICATION CARDS
- 10/100BASE-TX Ethernet card with PoE (powers gateway)
- RS-422 network card
- Multi-mode fiber optic (MMFO) communications card with ST connectors (820 nm). Supports distances up to 2.2 km (1.4 mi)
- Single-mode fiber optic (SMFO) communications card with ST connectors (9/125 single-mode fiber, 1310 nm). Supports distances up to 10 km (6.1 mi)

UNIVERSAL CONFIGURATION MODULE (UCM) SOFTWARE
- Windows®-based, point-and-click interface
- Communication via USB or network
- View and save real-time sensor data
- Configurable parameters:
  - Illumination: Schedule, intensity, zones, duration, and strobe
  - Detection: Fence type, gain, filter, and disturbance count parameters
  - Luminaire/gateway supervision and tamper alarm

REGULATORY COMPLIANCE
- CE (including RoHS 2), FCC, REACH

Part	Description
E8FG0210	Senstar LM100 Luminaire 1PK
E8FG0250	Senstar LM100 Luminaire 5PK
E8FG0110	Senstar LM100 Luminaire AP
E8EM0300	Senstar LM100 Gateway
E8FG0300	Senstar LM100 Gateway/Luminaire AP Set
00SW0100	UCM software on CD
GE0444	USB cable, 3 m (9.84 ft) length
E8DA0120	Documentation CD-ROM
00BA1901	MMFO comm card
00BA2000	EIA-422 comm card
00BA2101	SMFO comm card
00BA2200	Ethernet comm card
00BA2400	Relay input card
00BA2500	Dry-contact output card

† 15+ year LED lifespan based on 9 hour/day usage while retaining over 70% of original LED brightness
†† Power consumption comparions based on similar coverage provided by conventional lights

info@senstar.com • senstar.com

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