

SensyCity®



Sensing ecosystem for outdoor lighting

Maximising energy savings while maintaining safety & the nighttime environment

SENSYCITY,
A COMMUNICATING SENSING
AND DIMMING ECOSYSTEM
FOR OUTDOOR LIGHTING

Smart and **standalone**, it enables the main **street lighting issues** of communities to be addressed.



CONTROL ENERGY CONSUMPTION

Outdoor lighting represents up to **40%** of city electricity expenses.



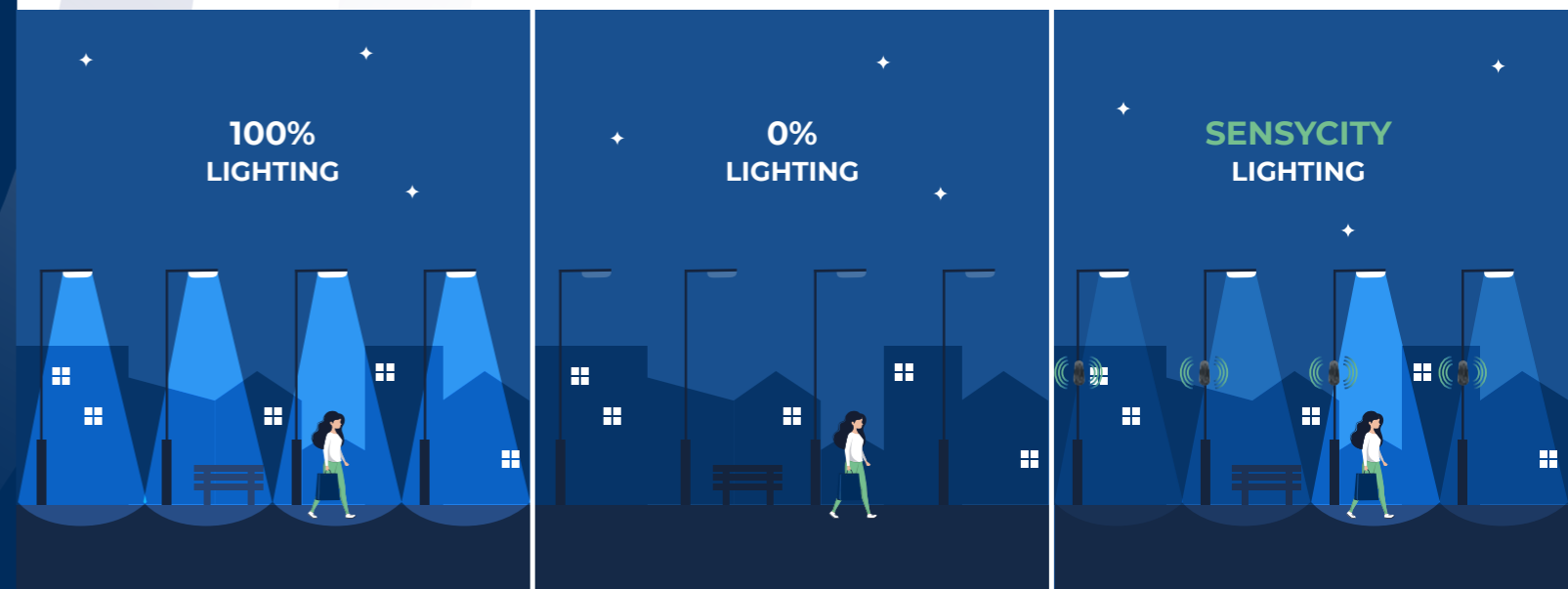
BIODIVERSITY AND SUSTAINABLE DEVELOPMENT

Reducing carbon impact and protecting nocturnal fauna and flora by combatting light pollution.



COMFORT & WELL-BEING

Guaranteeing service quality and safety.



Savings	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Safety	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Light pollution	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

SensyCity adapts lighting levels to activity and user needs

Savings

Energy savings at night (mainly during low activity periods).

Safety

For people and goods in the street at night.

Light pollution

Citizens, plants and animals that could be disturbed by light pollution.

SensyCity, an answer to the new needs of towns and cities

LIMITING
light
pollution

PROMOTING
active modes
of mobility
at night

IMPROVING
the well-being
of users

PROVIDING
PROTECTION
for pedestrian
crossings

BETTER
visibility at night

PROVIDING
PROTECTION
on cycle lanes

PROVIDING
PROTECTION
for public
transport users

CREATION
of unlit areas

DYNAMIC
STANDALONE
lighting

BETTER
monitoring of
isolated
locations

SensyCity helps cities and territories to:

- Ensure the **SAFETY** of users of soft and active mobilities
- Ensure **ATTRACTIVENESS** of the cities and territories
- Optimise **BUDGETS** of investments and operations
- Reduce **CONGESTION** and its environmental **IMPACTS**



20 years
OF EXPERIENCE
in smart lighting



25,000
DEVICES
installed since 2015



In more than
800
CITIES AND
PRIVATE SITES



In
France
AND IN EUROPE

...

SensyCity, an answer to the environmental challenges of outdoor lighting

In addition to energy savings, SensyCity makes it possible to **significantly limit the environmental impacts** of lighting installations equipped with its devices.



THE RIGHT AMOUNT OF LIGHTING

Adapts lighting to activity and user needs



LIMITING LIGHT POLLUTION

Enables unlit areas to be created



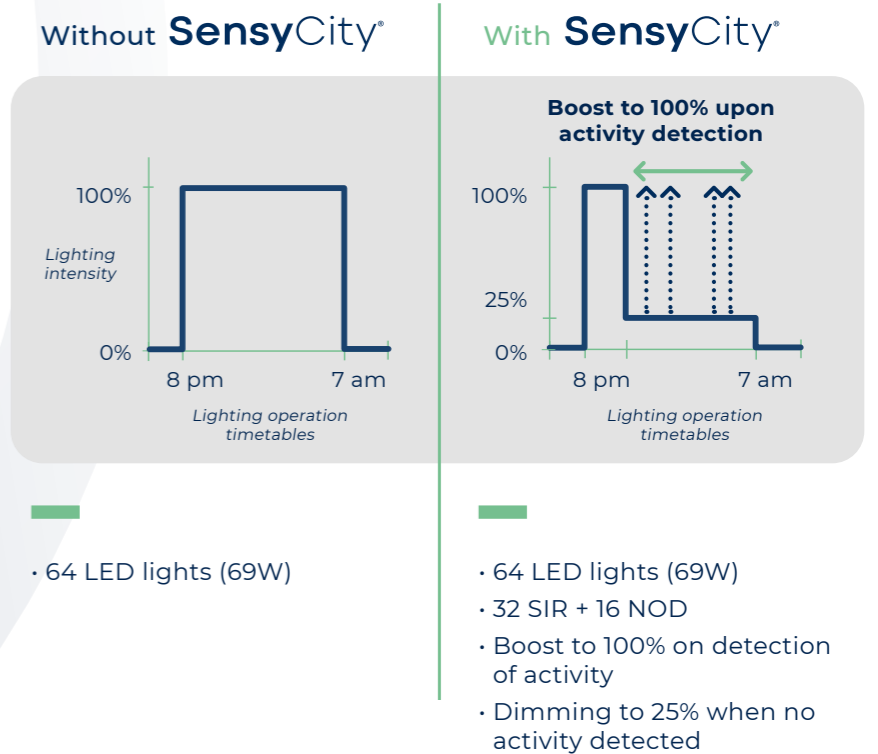
ENERGY SAVINGS

Permits the RES-EC-03 Energy Saving Certificate to be obtained



* Measurements carried out on 4 pilot sites in the Agen conurbation, equipped with LEDs vs. previous FB installations (fluorescent bulb)/dimming scenario of reduction to 20% + 100% boost on detection with SensyCity.

Environmental benefits, Contamines-Montjoie example*



ENVIRONMENTAL ASSESSMENT OVER 15-YEAR LIFE CYCLE

	Without SensyCity*	With SensyCity* 1 hour cumulative boost per night
Power consumption	265,781kWh	138,694kWh -48%
Annual average per French household = 4,944kWh	= 54 years of average consumption by a French household	= 28 years of average consumption of a French household (i.e. 127,088kWh saved)
Water consumption	685,000m ³	362,000m ³ -47%
1 Olympic-size pool = 2,500m ³	= 274 Olympic-size pools	= 145 Olympic-size pools (i.e. 323,000m ³ saved)
Equivalent CO₂	28,900kg CO ₂ eq.	15,800kg CO ₂ eq. -45%
1 flight from Paris to New York = 717kg CO ₂ eq.	= 40 Paris – New York flights	= 22 Paris – New York flights (i.e. 13,100kg CO ₂ eq. saved)

* Methodology available on request

SensyCity, a communicating ecosystem for outdoor lighting adjustment

Innovative solution

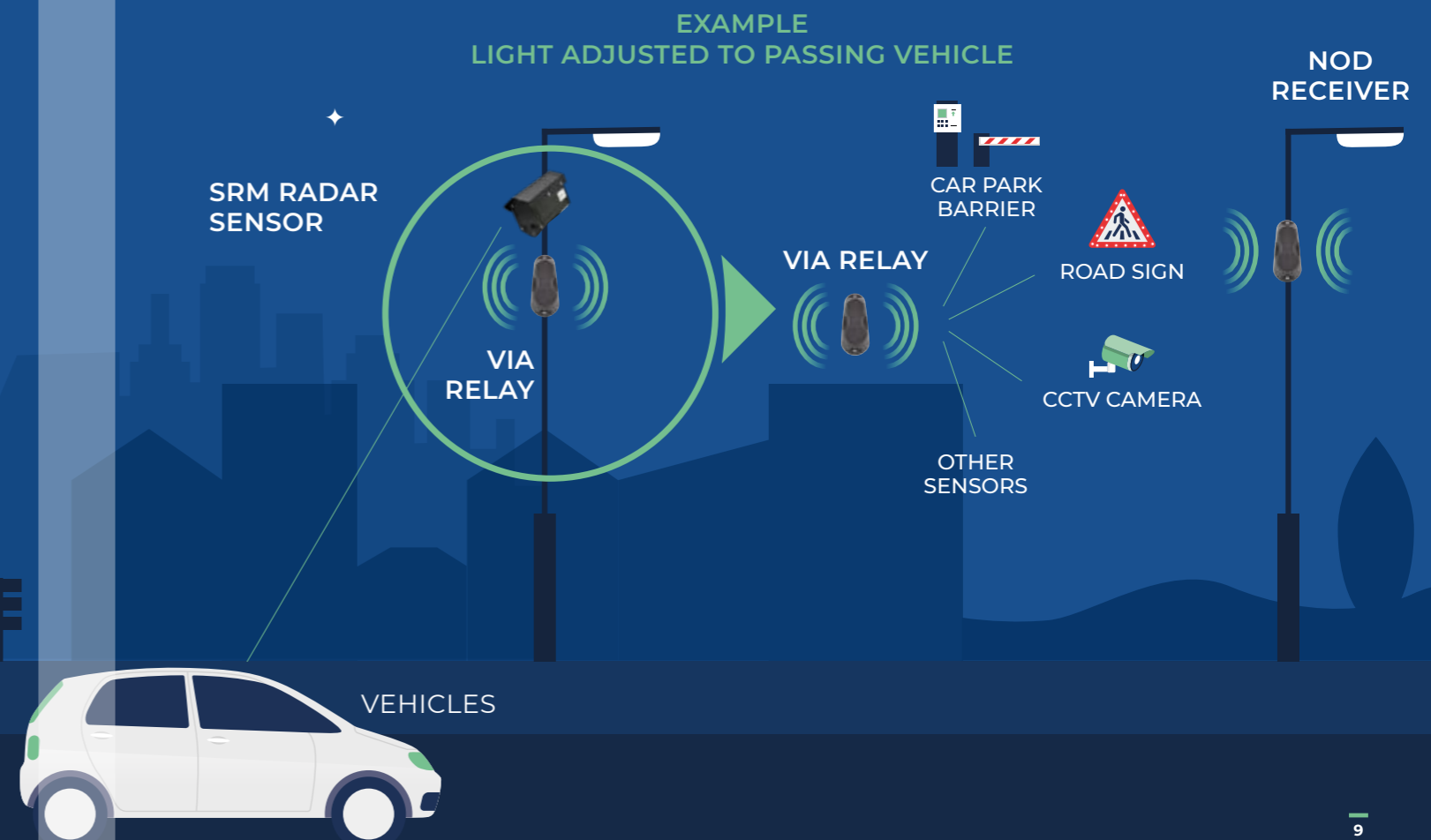
SensyCity allows light to be adjusted using **local, real-time wireless communication** between lighting points. Able to accommodate the various sensors of the city, SensyCity is highly **interoperable**.



DETECTION OF PEDESTRIANS AND BICYCLES



DETECTION THROUGH VARIOUS SENSORS



SensyCity, a scalable ecosystem for the Smart City

VIA: the key to the smart city

The VIA relay enables **the city's various professions** to connect with the SensyCity detection ecosystem so that street lighting can be adjusted and optimised using the information received from different sensors.

WORKS BOTH NIGHT AND DAY!

Making use of City Activity know-how, VIA is also **interoperable with LACROIX road safety and traffic management equipment.**



Lx3 Link
ILLUMINATED SIGN



EcoCam
SMART AND
STANDALONE
CAMERA



RADAR
for vehicle
detection



RADAR
for other types
of detection



**CCTV
CAMERA**



**FIREFIGHTER
KEY**



**PUSH
BUTTON**



**CAR PARK
BARRIER, ETC.**



SensyCity, a local ecosystem for smart control of lighting points



Local intelligence, simple to program and easy to deploy

The SensyCity app can be used to prepare different lighting scenarios and programme up to 5 dimming levels per night, offering a simple solution for smart control of light points.

Tegis[®]
compatible
for connected lighting management.

SensyCity, dedicated sensing system for outdoor lighting

EASY to install

Easy to implement: wireless long-range communication avoids complex wiring on all existing installations.

Mounting on any shape of pole, any diameter $\geq 60\text{mm}$, or on facade.

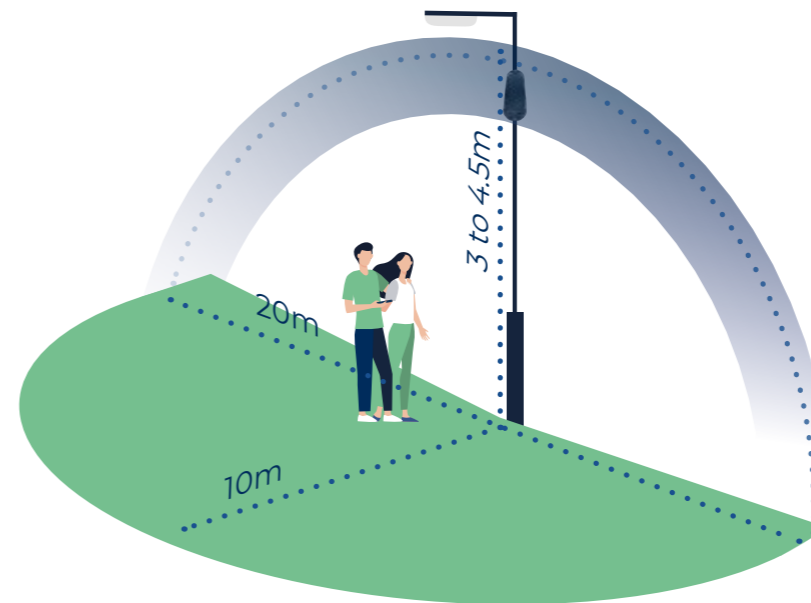
Simple connection at the bottom of the pole, pre-cabled (5 metres).

Integrated **230V mains or 9-30V** power supply for standalone solar pole.



“PLUG AND PLAY” PACK

with complete modules or junction boxes for even **greater simplicity**.



DESIGNED for urban environments

Efficient: detection area perfectly adapted for street lighting with its 2 PIR sensors.

Standards: compliant with lighting standard EN 61 347-2-11.

Robust: IK08 housing and protective flange for the 2 sensors.

Discreet: compact, it integrates perfectly into the urban landscape.



EASY to program

SensyCity intuitive client interface: group light points and configure them in just a few clicks.

Wireless setup of the entire installation.

Quick and easy implementation of dynamic detection.

Web backup: shared and secure access to every SensyCity installation setup.



FUTURE-PROOFED for tomorrow's city

Interoperable with any new or existing LED lights, on grid or standalone, as it can be installed on poles or on facade.

Future-proof: installations can be reconfigured and extended to meet your needs.

SensyCity: the offer



SIR WIRELESS: communicating motion sensor

Intelligent system based on motion sensors for pedestrians and cyclists.

When no activity is detected in the area, light is dimmed down to a minimum level, offering only guidance.

The slightest movement:

- immediately restores brightness thanks to priority instructions to the LED driver (level and time adjustable).
- sends wireless information to surrounding lighting points equipped with S.I.R. Wireless sensors, NOD receivers or VIA relays.

Dimming scenarios configurable in the S.I.R. Wireless with the SensyCity application.



NOD: receiver

Device receiving the radio information coming from a S.I.R. Wireless sensor or a VIA relay.

The NOD immediately restores the light level when receiving the radio information through a priority instruction sent to the LED driver (level and time adjustable).

Dimming scenarios configurable in the NOD using the SensyCity application.



VIA: relay

Device allowing the city's various professions to link with the SensyCity ecosystem to adjust and optimise light based on a variety of information.

The VIA relay receives the information as soon as a sensor is activated (vehicle radar sensor, traffic sensor, weather sensor, etc.) and sends it immediately via radio to the light points equipped with NOD receivers or S.I.R. Wireless.



SRM RADAR

For vehicle detection and with a range of 150m for light vehicles, the radar uses the Fizeau Doppler effect principle at a 24.125GHz frequency. Its mounting system, specially designed for street lighting posts, allows for easy mounting and multi-axial radar orientation.

To be used with the VIA relay to interface with the SensyCity ecosystem.



Configuration DONGLE

Plugged into the USB port of a laptop or a tablet, it allows the ecosystem' devices (S.I.R., NOD, VIA) installed on the lighting points to be localised and registered.

The dongle enables configuration or wireless re-configuration of all your SensyCity installations.

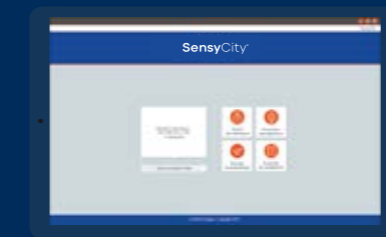
Configuration APP

The SensyCity configuration application enables highly intuitive use of the sensing ecosystem and allows you to upgrade your installations easily.

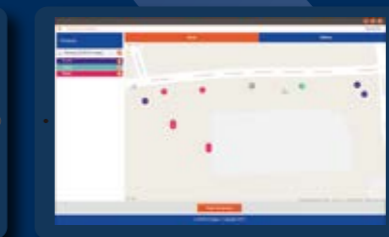
Examples of features:

- Automatic update when application is launched
- Creation of groups on Google Maps in just a few clicks
- Configuration of levels, durations and night profiles
- Duplication of group settings
- Locking of lighting scenarios

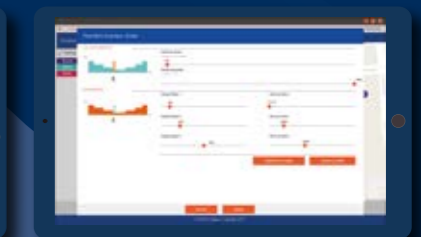
HOME MENU



CREATION OF GROUPS ON GOOGLE MAPS



CONFIGURATION OF SCENARIOS

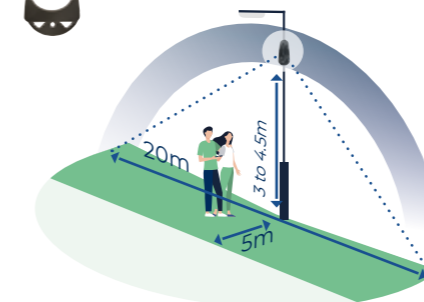


Accessories: detection zones

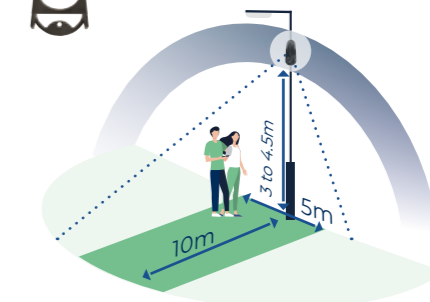
Positioned directly on the SIR sensors, the accessories make it possible to adjust the detection area of the PIR sensors to best meet the desired detection needs.



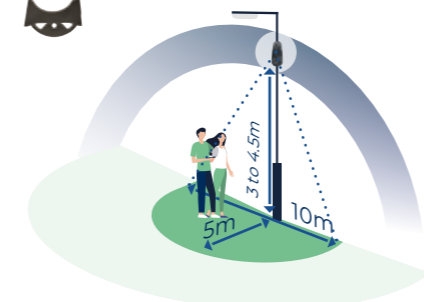
ZONE 1: for applications requiring a reduction at the front of the detection zone.



ZONE 2: for applications requiring a reduction at the sides of the detection zone.



ZONE 3: for applications requiring a reduction of the entire detection zone.



ZONE 4: for applications requiring a greater reduction of the entire detection zone (e.g. cycle path).



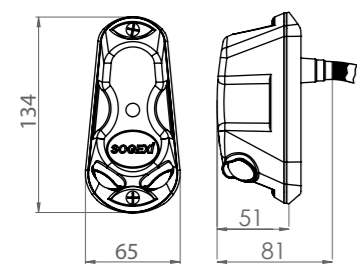
Example distances, may vary depending on site configuration

Technical specifications

SIR Wireless



Communication		
Communication between lighting points	Secure LoRa wireless	
Output (driver control)	DALI output Dry contact output	
Input	n/a	
Electrical specifications		
Mains (integrated)	220-240 VAc/50-60 Hz	
9-30 VDC battery version	Yes	
Power consumption	<1 W	
Electrical class	Class 2	
Overvoltage resistance	4 kV	
Mechanical specifications		
Mechanical resistance	IK08 casing	
IP level	IP54	
Material	Housing: polypropylene Protective skirt: thermoplastic elastomer	
Colour	Black	
Installation		
Operating temperature	-20°C to +60°C	
Min. temperature difference with the target	+/- 4°C	
Cabling	5 m cable included (4 conductors)	
	Power: 2 conductors Power: 2 conductors DALI output: 2 conductors Dry contact output: 2 conductors	
Mounting	3 holes/2 M4 self-tapping screws	
Advised mounting height	from 3 m to 4.5 m	
Detection area	On the ground: 180° with a radius of 10 m around the sensor	
On-site configuration		
On-site configuration interface	SensyCity App	
On-site configuration tools	Wireless dongle	
Settings that can be adjusted on-site	Light point groups	
	Light level when sensing activity (≤100%)	n/a
	Boost duration (≥3 sec.)	
	Light level when no activity (≥ 10%)	n/a
	Dimming scenario (1 to 5 levels)	n/a
Standards and certifications		
Product standards	NF EN 60529 NF EN 61347-2-11 (street lighting)	
Certifications	EC	



DONGLE

- Dimensions**
 - 63 × 50 × 25mm
- Connection specifications**
 - Connection on PC or tablet: USB plug
 - Communication with S.I.R., NOD & VIA: Wireless
- Configuration interface**
 - 'SensyCity' App
 - Hard drive space required: 200MB
 - Operating systems: Windows (10 and higher)
 - App and user guide can be downloaded from LACROIX City website

NOD



NOD		VIA	
Secure LoRa wireless		Secure LoRa wireless	
DALI output	Dry contact output	n/a	DALI output
n/a		Dry contact input	
220-240 VAc/50-60 Hz		220-240 VAc/50-60 Hz	
Yes		Yes	
<1 W		<1 W	
Class 2		Class 2	
4 kV		4 kV	
IK08 casing		IK08 casing	
IP54		IP54	
Housing: polypropylene Protective skirt: thermoplastic elastomer		Housing: polypropylene Protective skirt: thermoplastic elastomer	
Black		Black	
-20°C to +60°C		-20°C to +60°C	
n/a		n/a	
5 m cable included (4 conductors)		5 m cable included (4 conductors)	5 m cable included (5 conductors)
Power: 2 conductors	Power: 2 conductors	Power: 2 conductors	Power: 2 conductors
DALI output: 2 conductors	Dry contact output: 2 conductors	Dry contact input: 2 conductors	Dry contact input and DALI output: 3 cond.
3 holes/2 M4 self-tapping screws		3 holes/2 M4 self-tapping screws	
from 3 m to 4.5 m		from 3 m to 4.5 m	
n/a		n/a	
SensyCity application		SensyCity application	
USB radio dongle		USB radio dongle	
Light point groups		Light point groups	
Level when activity detected (≤100%)	n/a	n/a	Level when activity detected (≤100%)
Boost duration (≥3 sec.)		n/a	Boost duration (≥3 sec.)
Level when no activity detected (≥10%)	n/a	n/a	Level when no activity detected (≥10%)
Dimming scenario (1 to 5 levels)	n/a	n/a	Dimming scenario (1 to 5 levels)
NF EN 60529		NF EN 60529	
NF EN 61347-2-11 (outdoor lighting)		NF EN 61347-2-11 (outdoor lighting)	
CE		CE	

SRM RADAR



- Technology**
 - Ultra high frequency 24.125Ghz
- Mechanical characteristics**
 - Dimensions: 180 × 100 × 70mm
 - Weight: 1.2kg
 - Housing: IP65 with thermal protection/Painting & anodising
- Electrical characteristics**
 - Switched power
 - Resistive load: 110 VAc 0.3A - 24 Vdc 0.3A
 - Inductive load: 110 VAc 0.2A - 24 Vdc 0.3A
 - Supply voltage: 220 VAc +/- 10%
 - 48/62 Hz - fuse protection
 - Consumption < 1.5 VA
- Installation**
 - Radar range: 150 m for light vehicles
 - Operating temperature: - 40°C to +75°C
 - Connecting: 1 IP68 7-pin connector pre-wired 5m
- Settings:**
 - Mode: One-way/two-way incoming flow
 - Configured using the switch on the front panel
 - Display: high-performance red LED on front panel
- Standards**
 - Compliant with CE standards
 - Fulfils the requirements of directive R/TTE 1999/5/EG



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CONNECTED
TECHNOLOGIES
FOR **SMARTER**
MOBILITY



Paper from sustainably
managed forests.

