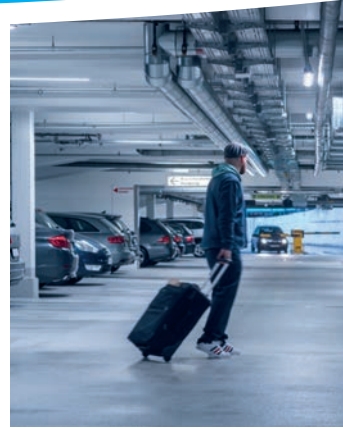




# SMART CAR PARKS

# Car parks have an intensive activity, so detecting their real use helps to make better use of light while saving energy



## THE CHALLENGES OF CAR PARKS

### Use 24/7

Parking areas never close or are open for many hours a day, although its use varies.

*LED technology increases energy efficiency and **reduces environmental impact**, while long lifetime products contribute to installation performance.*

### Dirt and fumes

Dust and gas, like fumes from cars, could enter into the luminaires and damage its electronics.

***Robust products with high IP rating** are required to guarantee quality lighting over long periods.*

### Impacts protection

Luminaires mounted in walls could be damaged easily.

*A **high IK rating** is essential, especially in luminaires within reach of vehicles.*

### Safe and sound

Safety and a good orientation for people and cars prevent accidents.

*An **appropriate light level** facilitates a proper recognition of vehicles, people and signage, avoiding dark zones and the lack of light in peak times to **ensure safety**.*

### Visual comfort

Warm light can reduce visual accuracy, while cold darken the area.

*A **neutral white light** makes people more comfortable, gets seen better by the drivers and helps CCTV, creating a safe environment.*

### Optimal light distribution

Indoor car parks are dark spaces with columns and corners.

*A diffuse and uniform distribution reduces the number of light points, which **cut investment, installation and operation costs**.*

### Different use

Car parks have from light to heavy traffic in peak hours, as well as natural light. Also, cars move, so light needs to be ready timely.

***Dimmable luminaires and sensors** adapt the light when and where needed to **save energy**. A natural transition to darkness reduces risks from sudden light changes.*

### Flexibility

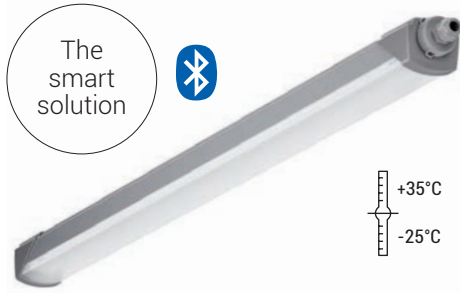
Quick installation and easy maintenance improve installation profitability.

***Intelligent control** provides real time information, facilitate commissioning and anticipate maintenance.*

*Its **wireless configuration** is more flexible, especially in refurbishment projects.*



ZALUX BASE WIRELESS



Up to 138lm/W  
 Up to 6,000lm IP66 / IP69K  
 L80 70,000 hours IK08



Quick, easy and safe mounting

- Single-part polycarbonate profile with cable gland.
- Impact-resistant end caps.

Intelligent lighting

- Bluetooth wireless control and sensors.
- Suitable for dimming, scenes control and data monitoring.
- Quick configuration thanks to its mesh connection: fully interconnected and flexible.



- Intelligent wireless control, with presence and daylight sensors to optimize the installation.



- DALI dimming to adapt the light to the needs and save energy.



- Corridor function. The right light in the right moment to save energy: when a person approximates, luminous intensity increases.

DUNA FLEX STP / ST



Up to 145lm/W  
 Up to 6,000lm IP66  
 L80 50,000 hours IK08



The right mix for car parks

- Polycarbonate housing and diffuser with UV protection.
- Unremovable closing clips for more security.

Options for higher flexibility

- IK03 PMMA diffuser and GRP housing version, with chemical resistance.
- HE version with up to 15,000lm and 100,000 hours.
- Through wiring and emergency kit optional.

ALHAMA T-LED



Protected openable luminaire

- With one of the most efficient LED tubes on the market, up to 160lm/W, made by glass to prevent sagging.
- High impacts resistance IK08, with polycarbonate housing and diffuser.
- 2 tubes version available.



# Wireless lighting control

## ADVANCED WIRELESS LIGHTING CONTROL SYSTEM



- Connected
- Flexible
- Safe
- Easy to use
- Profitable

Control partner: CASAMBI



### What are the benefits?

- **Reduced energy consumption** and contribution to the sustainability of the environment.
- **Save installation costs** thanks to a simpler, more flexible and faster commissioning.
- **Increase profitability** in refurbishment because there is no need to rewire to add new dimmable luminaires and sensors (only 3 wires required).
- **Reduce maintenance costs** by optimizing luminaires lifetime and anticipating maintenance works.
- Knowing the actual use and conditions of the spaces to **make better decisions**.



### How does it work?

Wireless connection between luminaires through Low Energy Bluetooth 

#### Mesh connection

- All devices connected
- Always communicated in all directions
- Fully interconnected and flexible.
- Every device is a signal amplifier.

#### High protected system

- Encrypted data
- Inhibitor and hackers proof



**Central controller, wiring or devices out of the luminaire are not needed**

#### Free App for mobile devices

- Monitor and access data remotely.

## What can you do with our wireless control system?

### Dimming

Adapt the luminous flux of the luminaire to the needs of space and people.

### Scenes control

Define and choose the most efficient lighting configuration at all times.

### Management and monitoring

Obtain data to optimize the installation.

### Presence and daylight sensor

Wireless control can be connected to sensors, which are able to activate scenes or single luminaires.

- Optimize the lighting configuration around the clock to get **up to 45% saving** during business hours.
- Daylight sensor take advantage of the natural light to provide the needed lighting level with **up to 60% savings**.

## Why intelligent lighting for car parks?

- Dimming **adapts the luminous flux** to the needs of the space.
- Presence sensors **provide the right level and save energy** when light is not necessary.
- Daylight sensors **take advantage of natural light** to illuminate the parking.
- Professional and easy commissioning **makes installation faster and effective**, which reduce costs.
- Scenes control allows to **choose the most efficient lighting configuration** in each time.
- Data monitoring shows the use of the space, to **optimize the installation and anticipate maintenance works**.

## Case study: smart car park

### Electrical figures

Luminaire power	0,029kW
Electricity cost	0,14 € /kWh
Working hours, per year	8.400,00 h

### ROI

**~2 years**

### Estimated savings

Overnight, 10 pm - 9 am	85%	11 h
Diurnal, presence	15%	5 h
Diurnal, absence	80%	8 h

### Average savings

**69%**





## Car parks need to guarantee safety and optimal visual conditions for pedestrians and cars in the right time.

ZALUX luminaires are developed to offer high protection and visual comfort, while improving energy efficiency.

- Robust materials guarantee lighting performance over long times, even in outdoor.
- The right light offers more comfort, creating a safe environment for pedestrians and cars.
- Intelligent luminaires provide the right light only when and where it is needed.
- Wireless lighting control and sensors optimize the installation to save costs with flexibility.

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The partner you can trust

