Outdoor lighting

Our solution for nights out

TRIDONIC

Outdoor Lighting

We have the right solution

Modern outdoor lighting places complex demands on the technology. The challenge is to find the right mix of reliability, efficiency and safety, while fulfilling the demand for minimizing the ecological impact and preserving security. Thanks to our extensive experience in the field of outdoor lighting, we can offer you the right solution, both technically and commercially, for every task and any customer.

In addition, we are also happy to advise you on how to make your system even better. Always at the cutting edge of technical development when it comes to safety on streets and squares at night on the one hand and economic efficiency on the other.

Tridonic – we make it happen

The three core competencies of Tridonic outdoor lighting

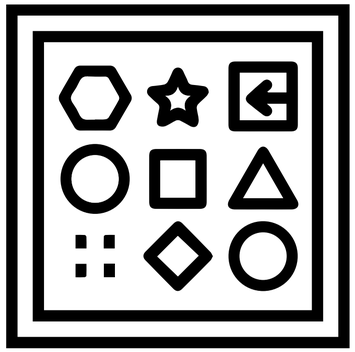
Tridonic outdoor lighting DNA is based on three pillars

Tougher than the rest

Environmental conditions are harsh and put a strain on any outdoor components. No problem, because our testing goes way beyond the industry standards.

Everything for the luminaire

The products of our portfolio are harmonised among each other, making it easy for you to equip your luminaire compatibly.



Citizen Centric Lighting

We create use cases on outdoor lighting based on a future-proof system. We think ahead for our customers.

Tougher than the rest

Refers to one strong core competence of our outdoor portfolio, which is testing in the labs. We create mission profiles for different applications and define test procedures that go beyond industry standards.

All this testing leads to robust and resistant products which are necessary at the end of the day for an outdoor luminaire.

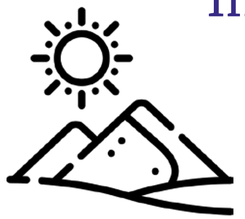
30 weeks in
climate chamber

70 °C

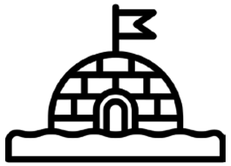
85 %

relative humidity

Thermal shock test



10 sec



and back

Accelerated
corrosion
(salt, gas)

1,000 hrs

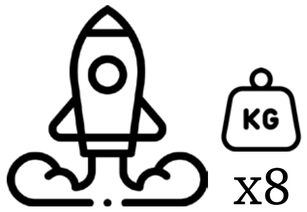
Tougher than the rest

Temperature

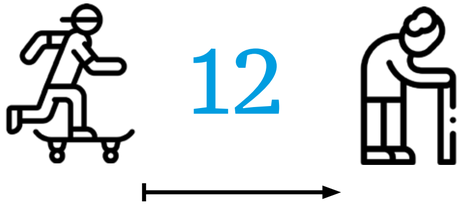
−40 °C +105 °C

25 G

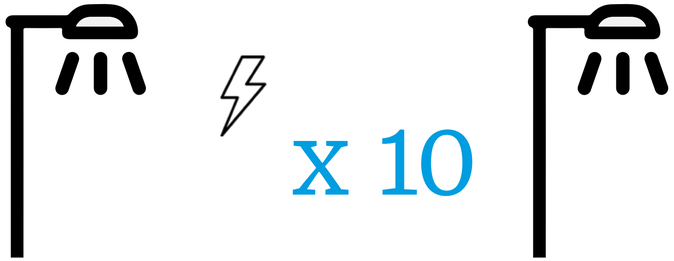
Bump test



Accelerated ageing



Surge/burst 10 kV



Tougher than the rest

Defining and following mission profiles for each application allows us to offer industry-leading guarantee times.

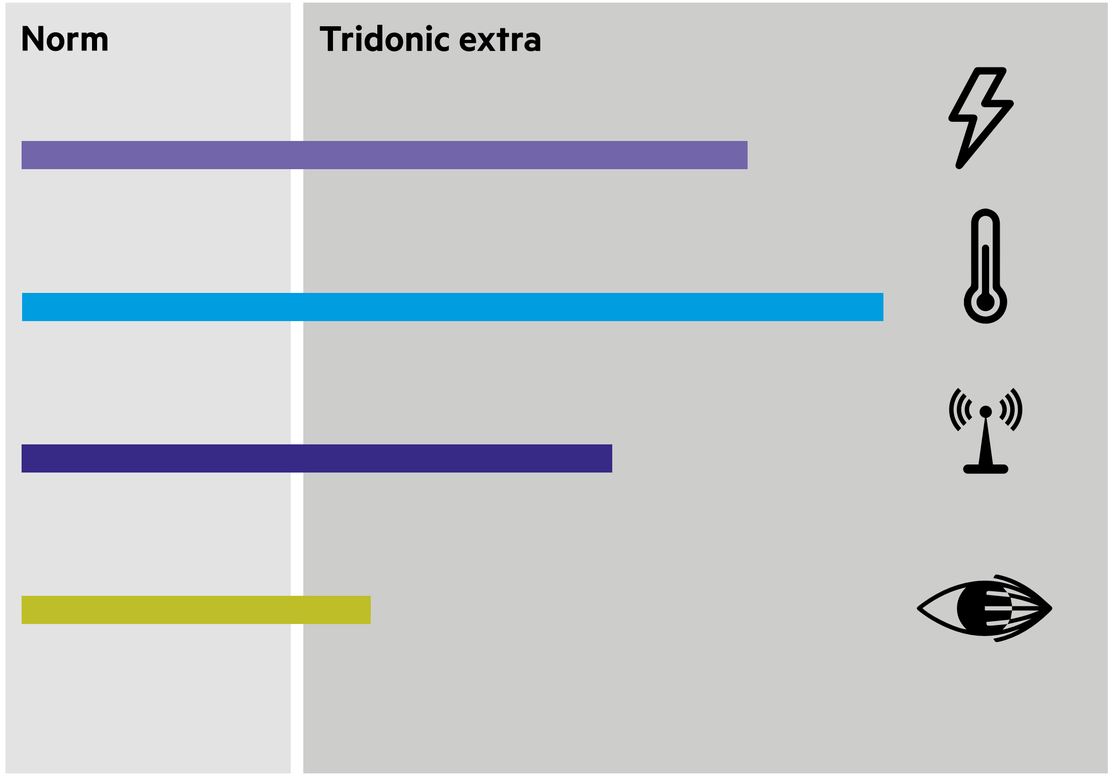
Surge/burst
IEC 61000-4-5

Climate
IEC 60749-5:2003

EMC (electromagnetic compatibility)
CISPR 15:2018

TLA (Temporal Light Artefacts)
IEC/TR 61547-1 and IEC 61000-4-15
IEEE1789

Glossary >



Everything for the luminaire

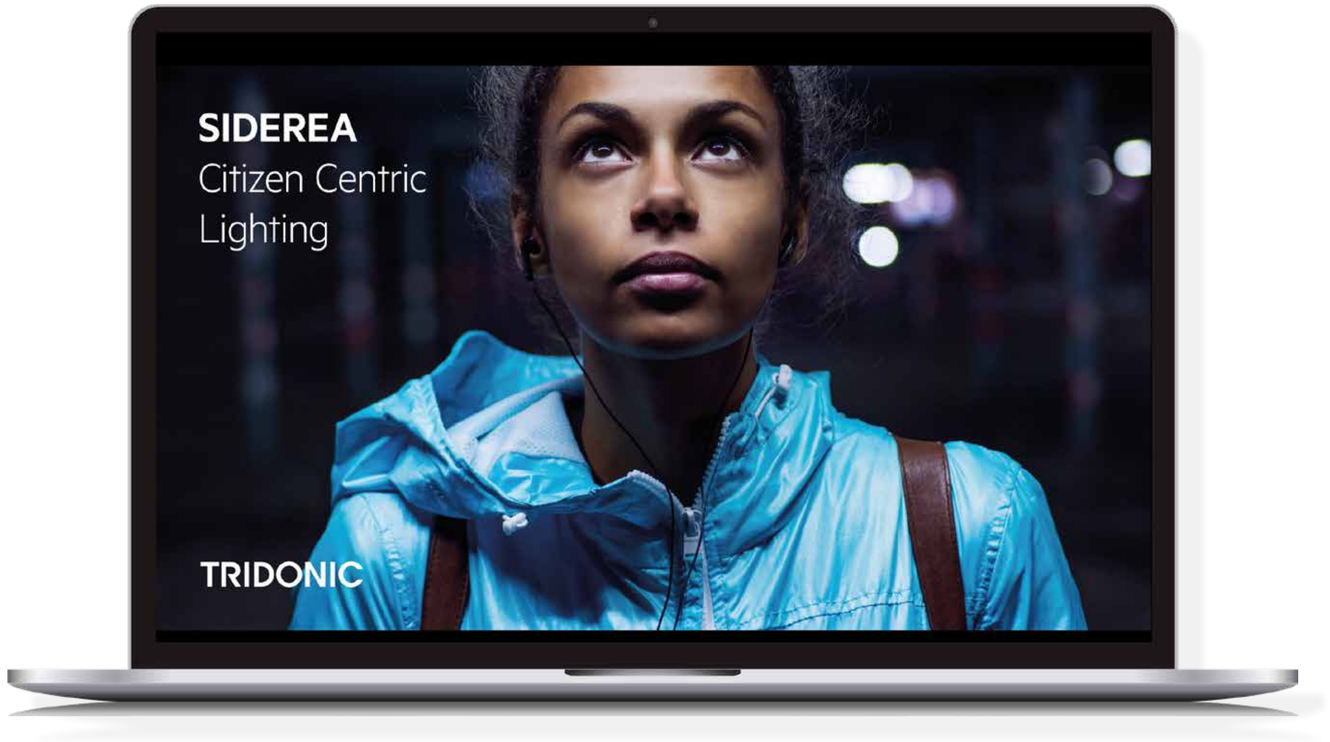
The whole is greater than the sum of its parts: Tridonic outdoor products are harmonised, standardised and coordinated with each other, making them as a whole bigger than the sum of the parts.

Thanks to our system guarantee for drivers and nodes, you won't have any problems with compatibility, making, planning, installing and operating your system a breeze.

Tridonic – working when it counts
Product portfolio >

Citizen Centric Lighting

SIDEREA makes outdoor lighting smart



Outdoor lighting is one of the most omnipresent power grids in cities. The switch to LEDs has made street lighting more efficient and reduced energy costs.

But outdoor lighting can also be the starting point on the road towards the digital city. SIDEREA makes outdoor lighting smart. Tridonic offers components that enable their customers' luminaires to connect wirelessly to each other, to IoT networks or Smart City platforms.

Citizen Centric Lighting

Asset management

Dynamic lighting

Light on demand

Beyond lighting

Built on a standardised connectivity interface

PRE3 D4i driver as platform

Sustainability

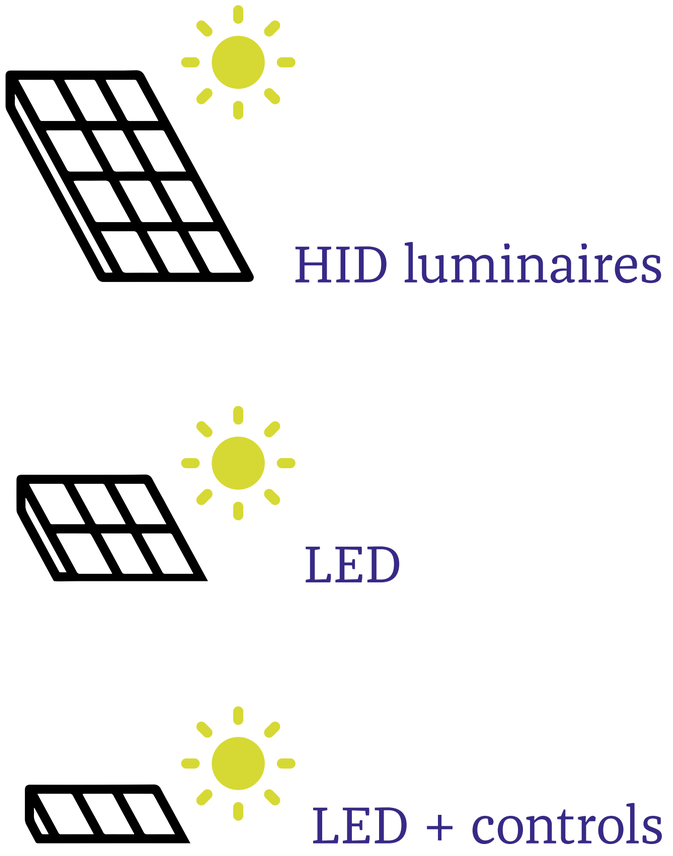
Saving energy – the sleeping giant of climate change

Efficiency in every respect

Technical developments in the lighting sector have brought enormous progress in energy saving. LED luminaires consume about 50 % less electricity than conventional high intensity discharge luminaires.

Additional energy savings can be achieved with intelligent lighting controls. Light is used selectively exactly when and where it is needed. We want to show you solutions that let you benefit directly from this progress. With lighting solutions for outdoor areas, that offer safety and security, promote well-being and at the same time reduce the ecological footprint of a city.

Energy consumption compared



≈ 85 % potential energy savings [2]

[2] Tridonic field tests

Circular economy by Zhaga standards

Enabling future-proof connected outdoor lighting – NOW

Standardised interfaces

Where possible, we adhere to the industry specifications of the Zhaga standard, which provides for standardised interfaces to improve the interchangeability and above all the interoperability of LED lighting systems worldwide.

ZD4i certification represents the seal of quality and compatibility for a future-proof luminaire and enables both access to more networks and connection to the digital world.

Zhaga Book 18:
Smart interface between outdoor luminaires and sensing / communication modules

Zhaga Book 24:
Programming of luminaire components using NFC

Zhaga **Standardised physical interface**

\+

Standardised communication protocol

Circular economy by Zhaga D4i standards

Enabling future-proof connected outdoor lighting

Longer service life thanks to replaceability

D4i drivers	Zhaga socket	ZD4i luminaire	ZD4i extension

Protecting the night sky

Light only where it's needed

Reducing artificial light at night is a key target of outdoor lighting. When choosing dark sky-friendly lighting solutions, a balance between what people need, for example to feel safe, and what nature needs, for example regarding the environment and impact on biodiversity, needs to be found.

Through the use of control systems and selected components, better designed light can be produced. With Tridonics lighting controls, light can be dimmed at night according to certain profiles. Moreover, sensors can be used to switch lights off, ensuring they are only used when and where they are needed.

More informations >

Protecting the night sky

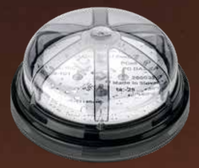
Tridonic solutions

RLE Amber Module
Suited for natural habitats thanks to insect-friendly light spectrum
More informations >

Tridonic ADV/EXC/PRE driver range
With chronoSTEP function to dim light level during night
More informations >

SIDEREA sensorMODE
Sensor based dimming according to different profiles (ambient light, occupancy etc.)
More informations >

PSensor motion sensor
Presence detection and monitoring of ambient light
More informations >



PCell light sensor
Monitoring of ambient light
More informations >

Changes in temperature are always stressful

Interview with Jakob König, Head of Global Hardware Approval & Automation

Today we're here to talk about a research project for investigating the service life of LED drivers. What exactly does it involve? We wanted to find out which factors affect the life of LED drivers. Up to now, service life has been mainly about costs, but sustainability considerations are becoming increasingly important.

What affects the service life of a component? Firstly, we looked at a large number of parameters and identified the ones that have the greatest influence on the ageing of an LED driver. We investigated the effects of temperature changes, constant high temperatures and humidity levels, and the effects of vibration, among other things. Initial findings indicated that changes in temperature had the greatest impact on the life of the drivers. In our project with Fraunhofer Institute IZM Berlin we then concentrated on this factor.

Changes in temperature are always stressful

Interview with Jakob König, Head of Global Hardware Approval & Automation

What was your process? Changes in temperature are always stressful for the driver. Firstly, we observed the changes in temperature when the driver was switched on and off, and then saw what happened when we used intelligent dimming to avoid abrupt changes. Simulations showed that simply by reducing the temperature rises, the service life of drivers could be extended by at least 15 per cent.

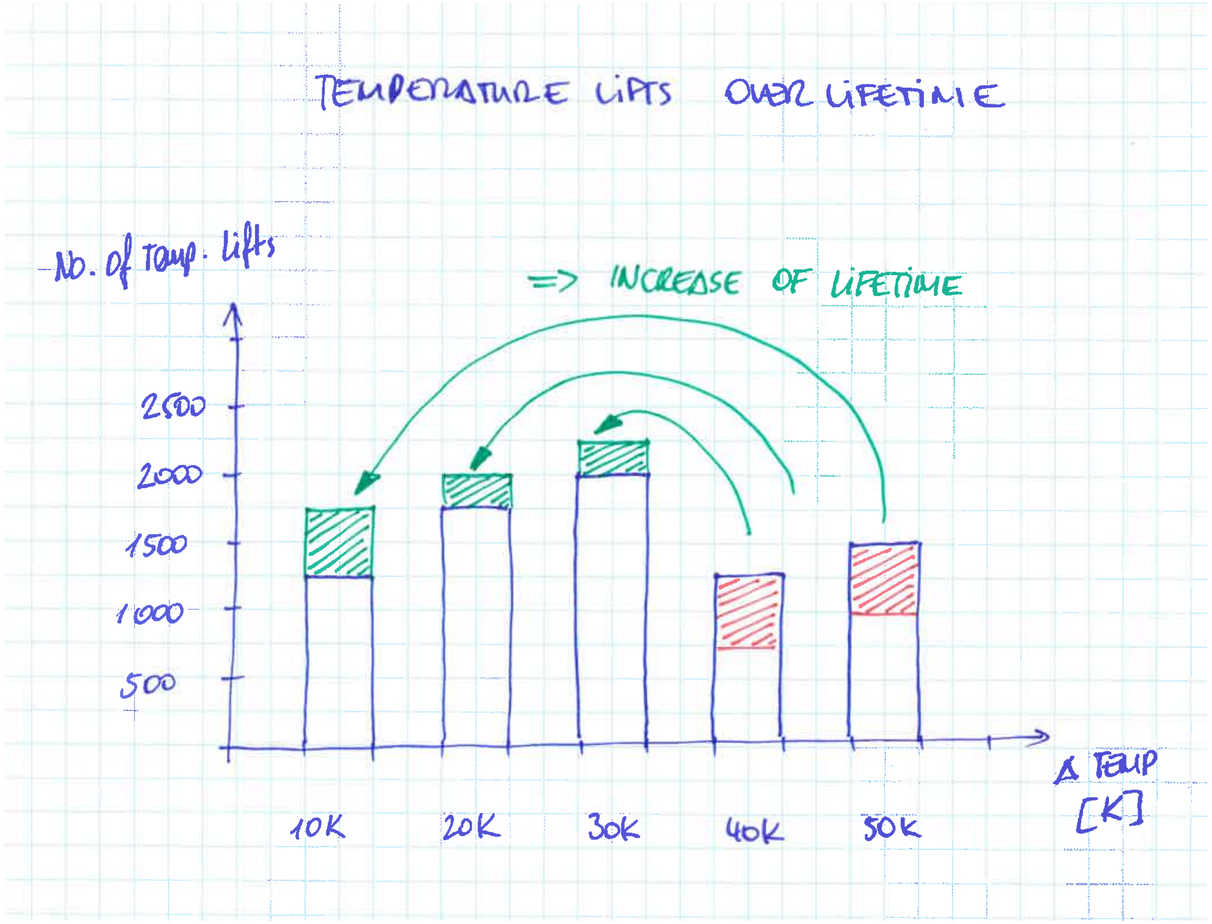
This is all the more interesting if we assume the standard manufacturer's guarantee of eight years. With intelligent control we can extend the service life of our drivers to almost ten years, which of course dovetails neatly with the notion of the circular economy.

Changes in temperature are always stressful

Interview with Jakob König, Head of Global Hardware Approval & Automation

The research project is ongoing. What comes next? Now we know for sure that we can extend service life by reducing the increases in temperature. Our next step is to check with our customers which type of lighting control is appropriate for which applications.

How can our customers use the research results? They can use the results to simulate different scenarios and their effects. We want to focus attention on the fact that different types of use have different effects on service life, and that the life of lighting installations can be extended by intelligent lighting control. Of course, we are delighted whenever customers contact us to give us their feedback.



Citizen lighting

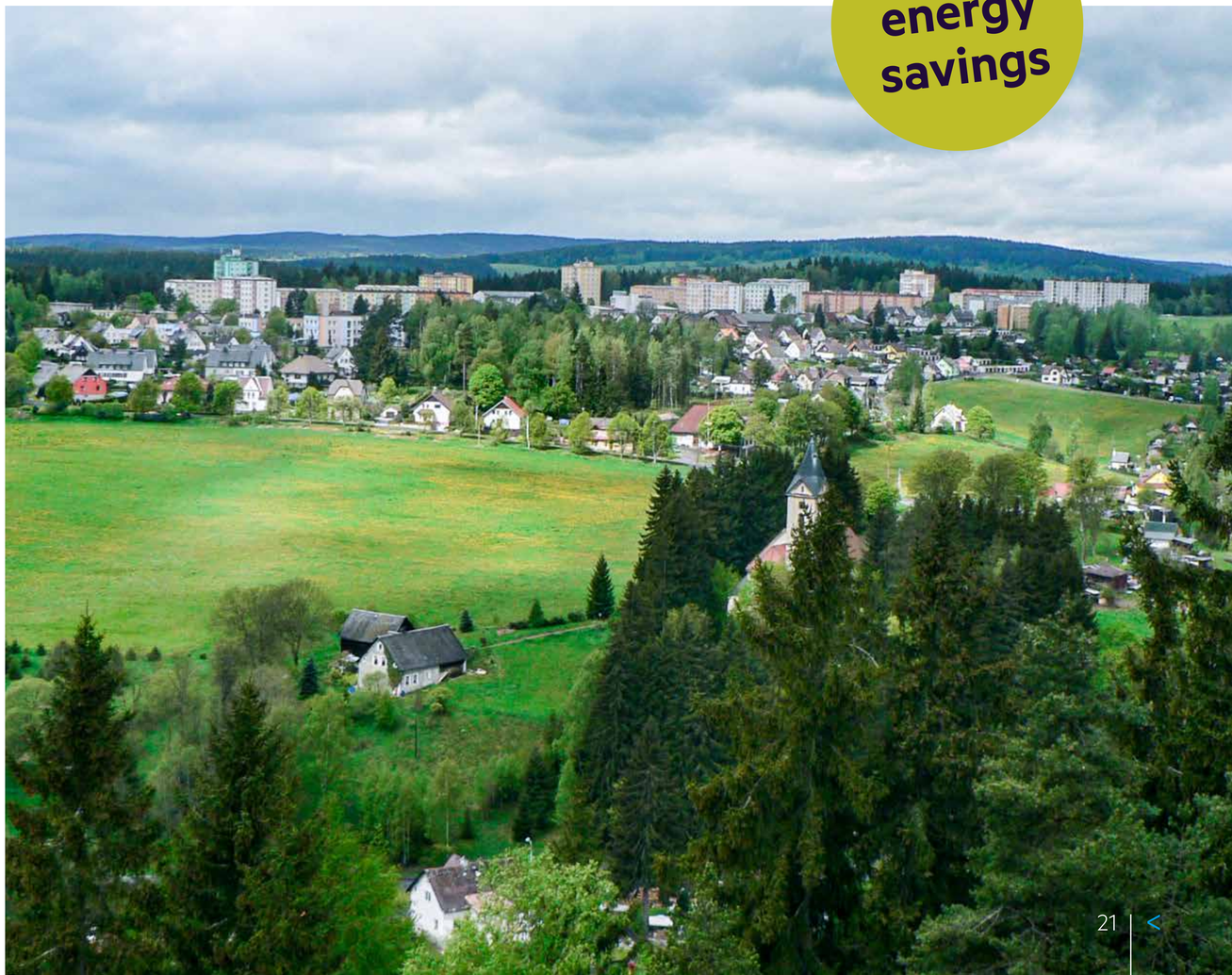
Your partner for bright moments

How a small municipality in Czech republic embarked on connected outdoor lighting

Rotava is a town of about 3,000 habitants in the West of the Czech republic. With forethought to the renewal of its public lighting, the towns council already applied years ago for support from the national energy saving program EFEKT to renew its public lighting.

The modernization of the public lighting included the replacement of existing discharge luminaires by LED ones and the integration of a centrally controlled LED lighting system with luminous flux regulation in almost all the city's streets.

70 % energy savings



How a small municipality in Czech republic embarked on connected outdoor lighting

The Czech lighting company LAMBERGA won the tender and installed 289 LED lighting points in the town and replaced all the affected control cabinets. The respective LED fixture LAMBERGA XT is designed for all types of outdoor applications such as roads, cycle paths, car parks and green areas. It fulfills all the requirements in the field of public lighting and can be used in Smart City systems.

6 Mio.
LED streetlights trusting on Tridonic

50 k
Sensors sold

Number of connected light points

How a small municipality in Czech republic embarked on connected outdoor lighting

LAMBERGA XT includesTridonic connected and intelligent components such as the D4i PRE driver and the RF Multi Master Controller enabling the city to control the different light points and retrieve data from it. Moreover connected motions sensors, vehicle counters or other devices that trigger dynamic lighting can be equipped to the luminarie. In addition with the CMS of Paradox Engineering the town operators can define individual lighting patterns for individual districts or streets.

Street lighting can be controlled and dimmed according to programmed schedules and adapted to specific local conditions when needed and in real time. Hence, the entire system was connected to the control system to monitor and control according to the city's needs. The modernization of the public lighting could be realized within three months.

How a small municipality in Czech republic embarked on connected outdoor lighting

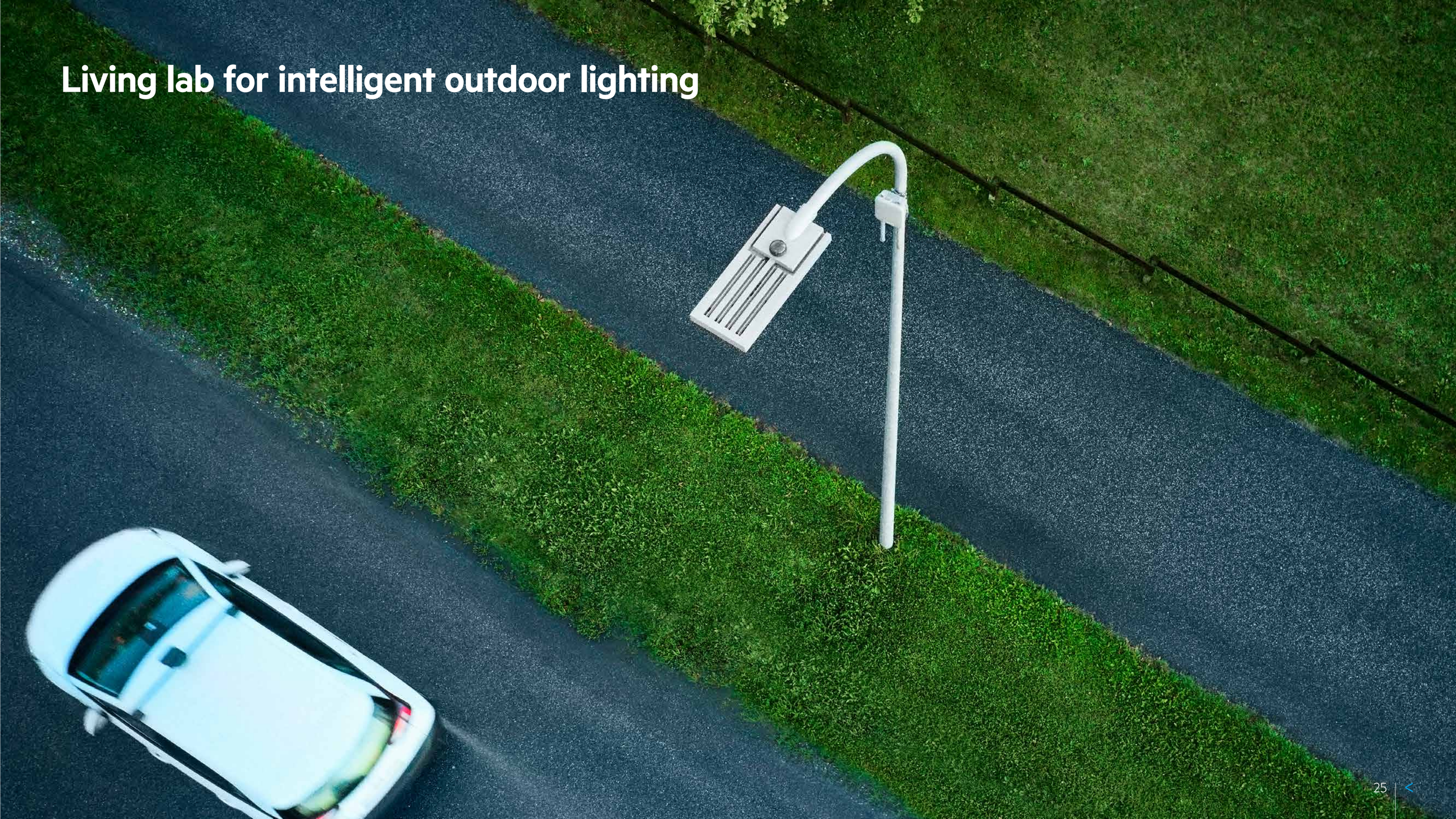
The main motivation for Rotava to switch to LED lighting was the considerable energy savings, the almost maintenance-free operation and long service life of the luminaire.

Michael Červenka, the major of Rotava, says that even in the face of rising energy prices, savings will be significant and could be already counted to more than 70 %.

Products from Tridonic used

- PRE3 driver LCO NFC D4i
- EXC2 & ADV2 Modules RLE
- Communication Module ZD4i RF Multi Master Controller
- CMS System Paradox Engineering

Living lab for intelligent outdoor lighting



Living lab for intelligent outdoor lighting

Scientists, city planners and lighting engineers are testing the latest developments for Smart City applications in the "DOLL Living Lab". Located in Albertslund, a suburb of Copenhagen, this combined test centre, exhibition space and innovation hub is Europe's largest facility of its kind.

There we are working together with outdoor luminaire manufacturer WE-EF and IoT solutions specialist Paradox Engineering to establish the technical principles for intelligent connected city lighting. An outdoor solution with Tunable White functionality is being used there for the first time. The technology enables different lighting scenarios to be selected, such as a pleasantly warm light in the morning.

Traffic flow can be measured using sensors in the street lights and this information can be linked to the traffic light control system to reduce congestion in the city. Searching for a parking space will no longer be as worrying because sensors in the lights will detect free spaces and this information will be transmitted via the cloud to an app. The pilot project covers a single-lane approach road to Copenhagen on the outskirts between a commercial area and a residential area.

The road is flanked on one side by a pedestrian and cycle path. A total of 23 LED street lights have been installed over a length of around 800 meters. The luminaires have three Zhaga Book 18 interfaces for the sensor and communication modules.

Living lab for intelligent outdoor lighting

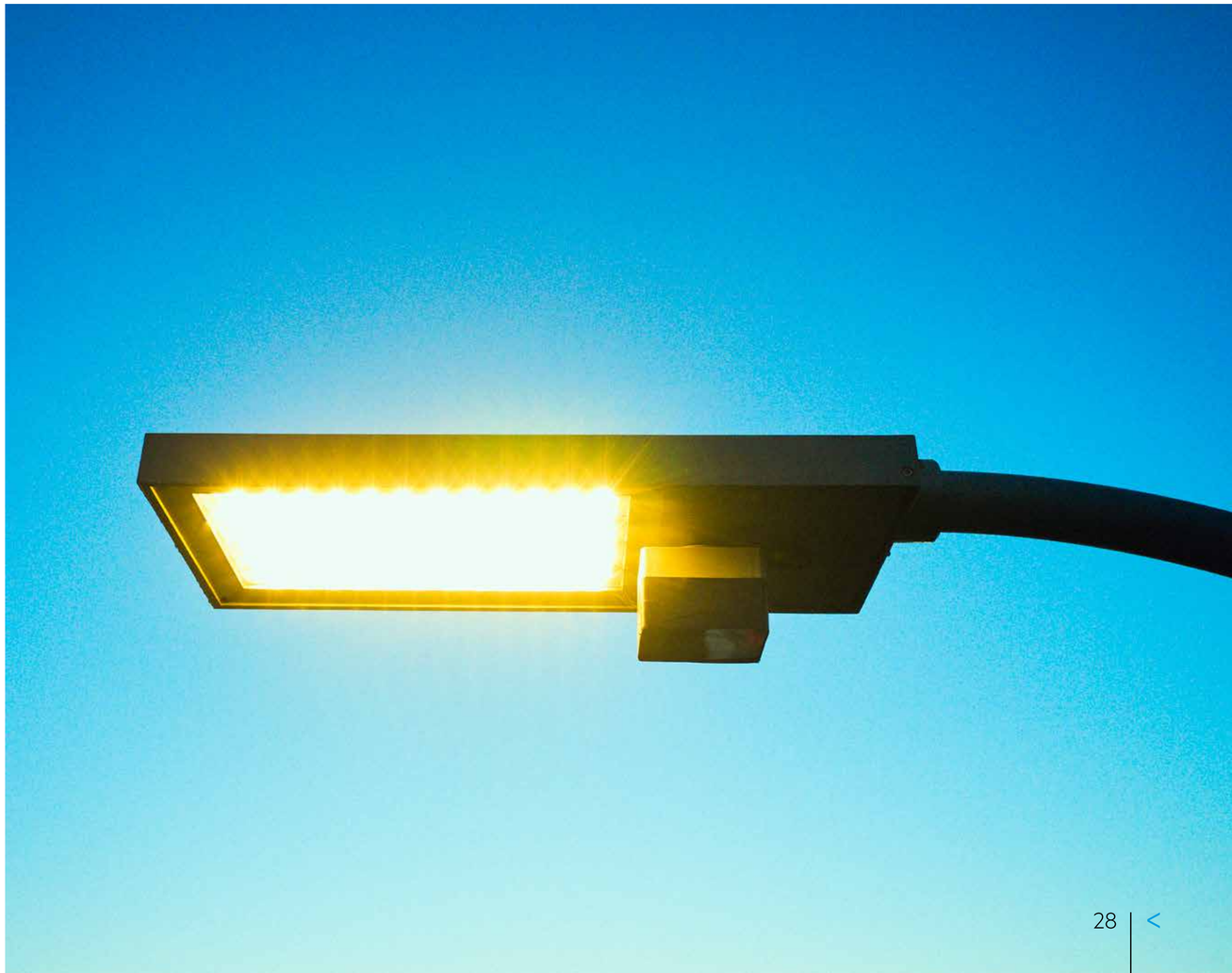
Our D4i- and Zhaga-compatible RF Multimaster Controller handles communication between the luminaires. In the initial test phase the interfaces on the underside of the luminaire housings were equipped with PIR sensors, specifically developed for street lighting. They have two PIR elements with asymmetric lenses, which enable two separate areas to be detected, as is the case on the DOLL test track.

Living lab for intelligent outdoor lighting

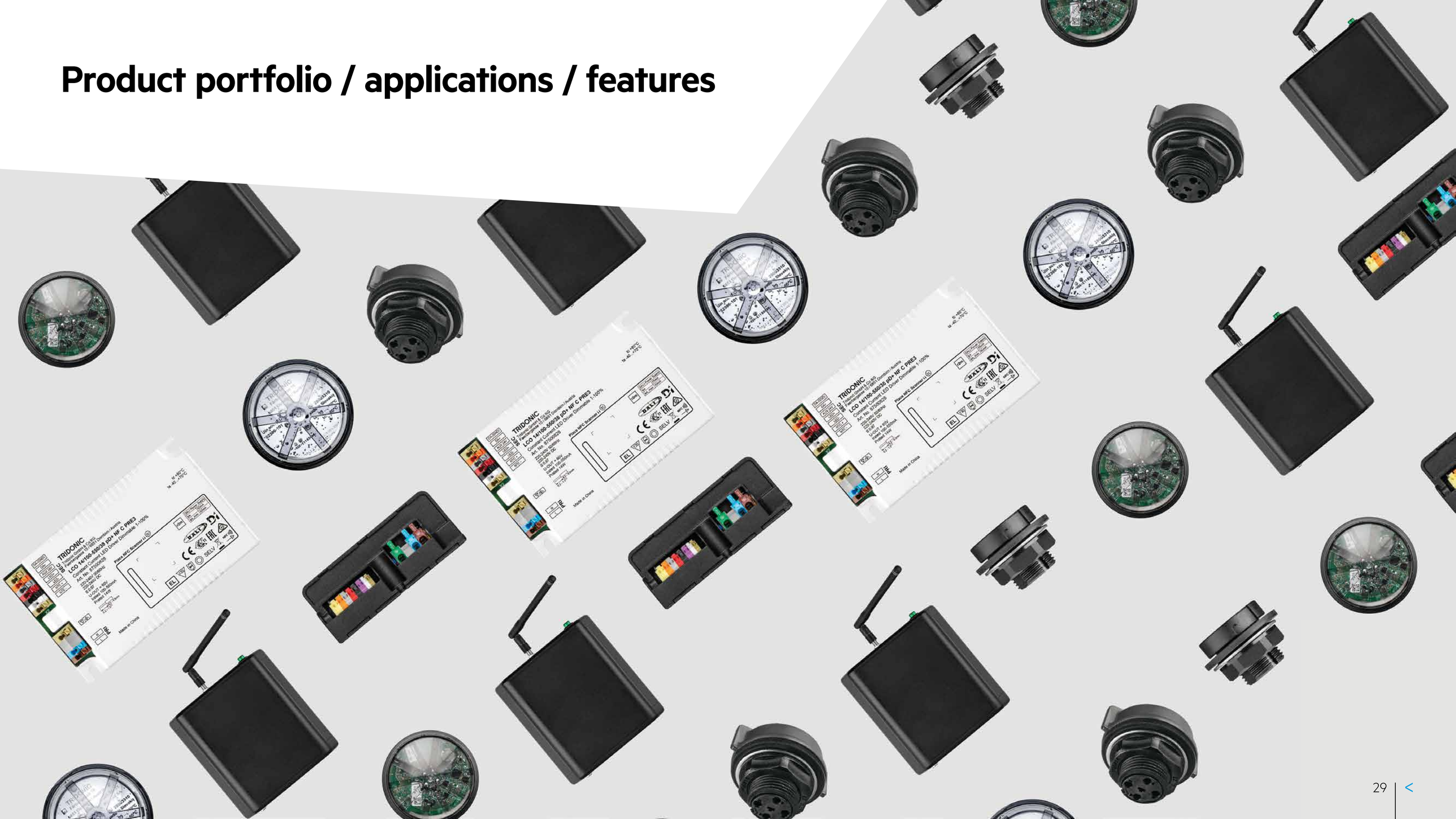
The outdoor drivers developed according to the D4i standard allow the lights to be easily integrated in IoT networks. State of the art with a view to the future.

In the first test phase, three use cases were defined and tested, leading to a new, series-ready Tridonic outdoor lighting solution for towns and cities. That includes such things as asset management for monitoring the luminaires in real time, light on demand for minimising energy consumption and light emissions, and dynamic lighting with adaptive colour temperatures for raising alertness and arousing emotions. Towns and cities have the opportunity to integrate intelligent control into their urban network when upgrading their lighting to LED technology.

Or if their budget does not allow for a full upgrade at the time of modernisation they can at least factor that in, because the intelligent control components can be retrofitted in any luminaire bearing the D4i seal. Tests are being carried out to see how traffic-dependent lighting control for motorways could be integrated in an urban network. Integration of traffic lights – as described above – is also planned.



Product portfolio / applications / features



Outdoor applications

Street & highway

Residential streets

Parks

Transit hubs

Logistics hubs

Sports

Outdoor

Product overview

Modules	RLE
	LLE FLEX IP67 EXC2
Drivers	IP20
	D4i
	IP67
	IP67 constant voltage
Controls	RF Communication module
	groupCONTROL Programmer
	Bluetooth® basicDIM Wireless outdoor Node
Sensors	Motion and light sensor – PSensor
	Light sensor – PCell
	MSensor OTD SFI 30 PIR 10DP DA
Accessories	SPD
	Zhaga socket

High-power modules

RLE EXC

"Tougher than the rest" applies perfectly to RLE modules. Safety, durability and a long lifetime can be achieved thanks to its robust design, which has of course been tested under the harshest conditions.

- Huge performance temperature range from –40 to +105 °C
- Zhaga Book 15 compliant
- Integrated NTC for overtemperature protection
- For use with standard 2x2 lenses (e.g. LEDiL Strada 2x2)
- Push-in terminals for simple and quick wiring
- Long lifetime of up to 100,000 hours
- 8-years guarantee

More informations >

Mid-power modules

RLE ADV

The RLE modules are designed for modular and versatile luminaire designs. They provide an ideal basis for exceptional lighting solutions in outdoor areas and industrial applications.

- Huge performance temperature range from –40 to +95 °C
- Surge tested (–/+ to earth) 6 kV with Tridonic LED driver
- Integrated NTC for overtemperature protection
- For use with 4 x 16 lenses (e.g. LEDIL Stradella 16)
- Push terminals for quick and simple wiring
- Long lifetime of up to 80,000 hours
- 5-years guarantee

More informations >

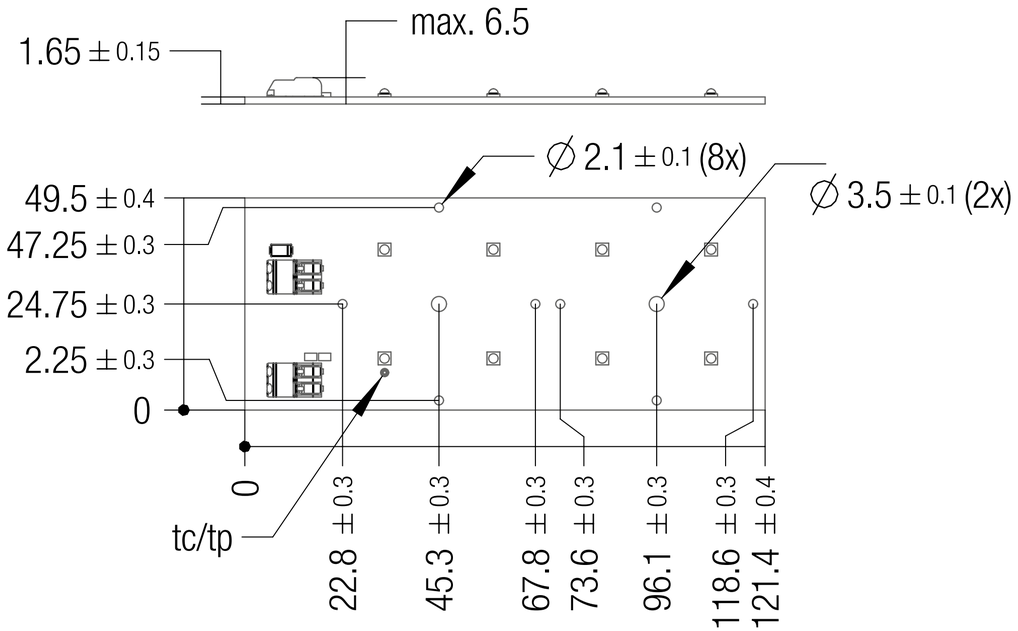
Can't find what you're looking for?

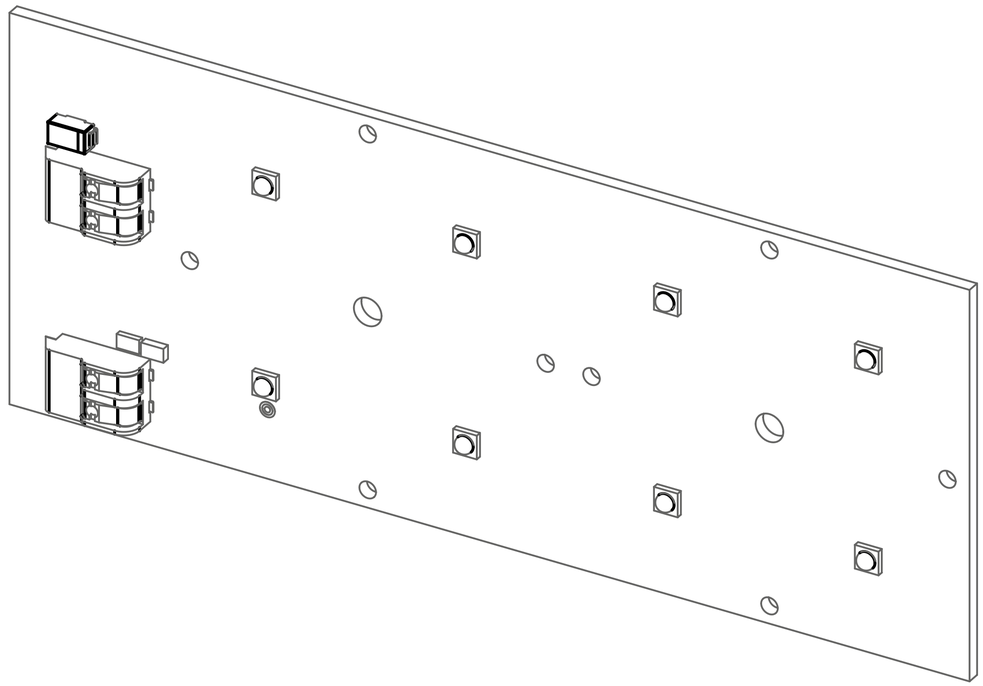
Customised outdoor LED modules

If you'll buy it, we'll build it

With CPD (Customised Product Development) we offer you the opportunity to develop exactly the products which meet your requirements. With the same quality standards as all other Tridonic products, but tailor-made.

Contact us >





Module

LLE FLEX IP67

The IP67-protected flextape is the perfect fit when the light colour and quality are important. With the innovative airGAP technology Tridonic provides stable colour temperature and no colour shift. It is ideal for architectural or path illumination.

- IP67: protected against water and dust
- Pitch distance of 7 mm for high light homogeneity
- 5 cm cut option for high design freedom
- Self-adhesive 3M tape at the backside for simple mounting
- Self-cooling (no additional heat sink required)
- Harmonised accessories system (from interconnector to input terminal to end cap) to keep the IP67 protection active
- System solution in combination with Tridonic constant voltage LED driver (fixed output and dimmable)
- Lifetime of up to 50,000 hours
- 5-years guarantee

More informations >

Drivers IP20
(ADV, EXC)

The Tridonic IP20 series comes in different layers: ADV drivers focus on affordability while fulfilling Tridonic quality expectations regarding durability and light quality. When the extra flexibility of DALI-2 is required, the EXC driver is the right choice.

Drivers of all layers – ADV, EXC and PRE – have common power levels and operating windows. 10 kV surge / burst protection and an NFC reader are also included.

- 14 W, 24 W, 40 W, 60 W, 90 W, 135 W, 200 W
- 10 kV surge burst protection
- NFC / QR-code: NFC Reader ready label
- 4service NFC app
- chronoSTEP / U6Me2
- Lifetime of 100,000 hours @ ta 60 °C
- 8-years guarantee

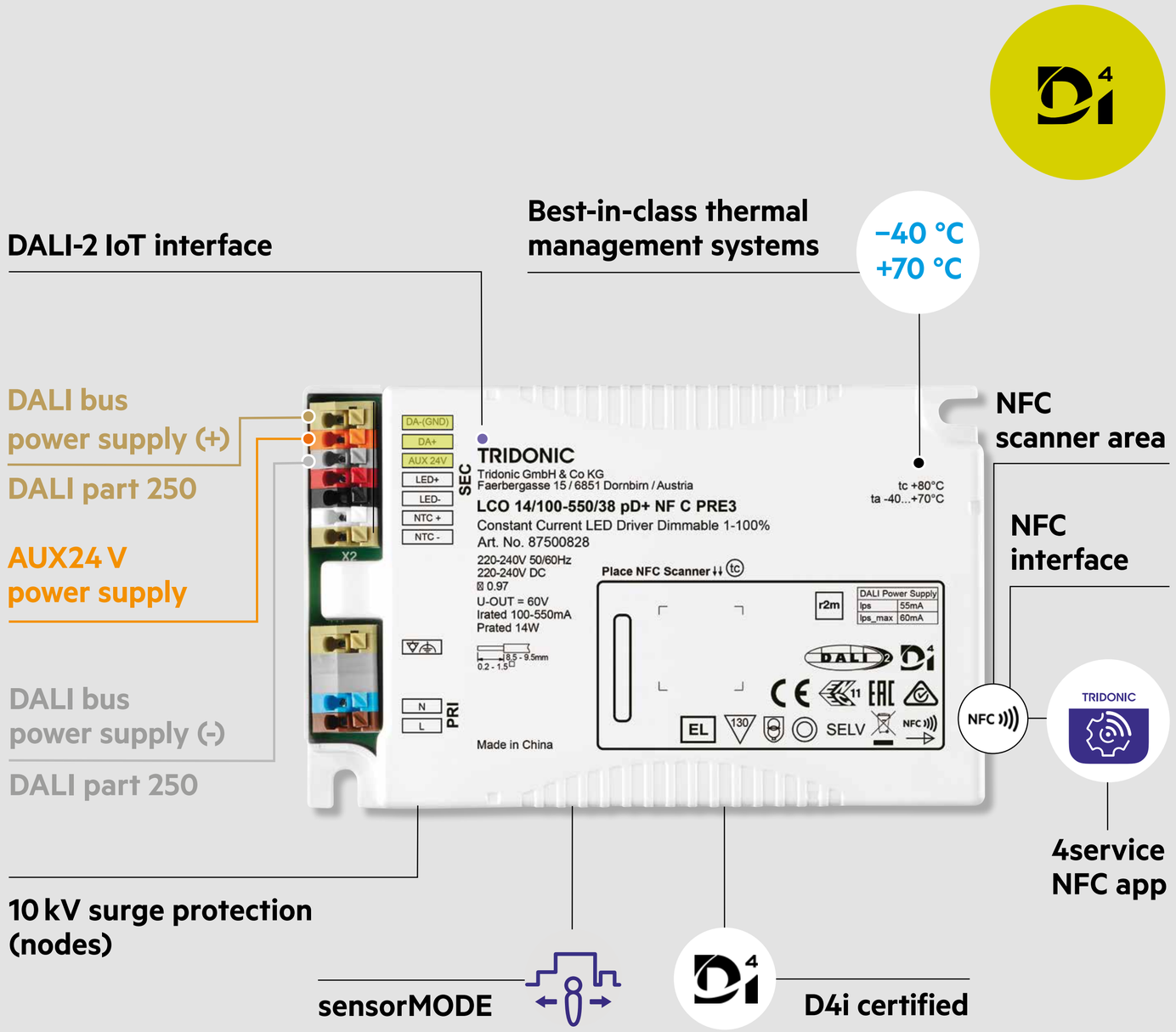
More informations >

Drivers D4i
(PRE)

PRE3 D4i drivers are state-of-the-art drivers with a connection option for IoT devices in case of connected outdoor applications. In addition, the driver meets the latest DALI standard D4i, which defines the provision, vital data and consumption data of the drivers.

In combination with the RF node, PIR sensor and Zhaga socket, cities and municipalities can equip themselves for the digital future, today.

More informations >



Drivers IP67

The dimmable IP 67/IP 66 driver range is a true universalist, as it comes with a wide input voltage range and ENEC and UL certification. The width of both the operating windows and the available power range grant flexibility when designing lumen packages for street/road, horticulture and industrial luminaires.

- Dimmable: 0–10 V input with 1 to 100 % dimming range
- 75 W / 100 W / 150 W / 200 W / 240 W / 300 W
- Wide input voltage range
- Flexible operating window of 200–1,400 mA
- 24 V auxiliary power source
- Configurable via NFC
- Lifetime of up to 50,000 hours
- 5-years guarantee

More informations >

Drivers IP67 constant voltage

The non-dimmable constant voltage driver is the perfect solution for dry, damp and wet locations. It can be combined with external dimmers or the basicDIM Wireless CV module, making it ideally suited for dimmable and controllable lighting solutions.

- 24 V constant-current driver
- Universal voltage: 90–305 V
- Potted metal housing for higher potection against corrosion
- Lifetime of up to 50,000 hours
- 5-years guarantee

More informations >

Driver features

Driver product portfolio

Benefit	Function	essence (SNC) **Cost-effectIve** Dimmable, IP67	advanced (ADV) **Simplicity itself** NFC programming, IP20	excite (EXC) **Flexible** DALI connectivity, NFC programming, IP20	premium (PRE) **Convenient** powered DALI, sensorMode, D4i, AUX, IP20
	Power	75, 100, 150, 200, 240, 300 W	14, 24, 40, 60, 90, 135, 200 W	14, 24, 40, 60, 90, 135, 165, 200 W	14, 24, 40, 60, 90, 135, 165, 200 W
	Current range	500–1,400 mA	200–1,050 mA	200–1,550 mA	200–1,050 mA
	Lifetime / guarantee	50,000 h / 5 years	100,000 h / 8 years	100,000 h / 8 years	100,000 h / 8 years
Performance features	D4i with 24V AUX				✓
	Industry-leading efficiency		up to 94.5 %	up to 94.5 %	up to 93.5 %
Safety features	ITM*, ETM**, eCLO***	ITM/ETM	✓	✓	✓
	IVG+ (Intelligent voltage guard plus)		✓	✓	✓
	Transient protection	10 kV / 6kV	10 kV **** / 6 kV	10 kV **** / 6 kV	10 kV / 6 kV
	Ambient temperature ta	–40 °C to +60 °C	–40 °C to +70 °C	–40 °C to +70 °C	–40 °C to +70 °C
	deviceKEY		✓	✓	✓

* Internal temperature management, ** External temperature management, *** Anticipated constant light output,
**** 14–60W: 10kV: L/N–PE acc. to EN61547 / 8kV: L/N–PE acc. to EN61000-4-5

Driver product portfolio

Benefit	Function	essence (SNC) **Cost-effectIve** Fixed output, IP67	advanced (ADV) **Simplicity itself** NFC programming, IP20	excite (EXC) **Flexible** DALI connectivity, NFC programming, IP20	premium (PRE) **Convenient** powered DALI, sensorMode, D4i, AUX, IP20
Dimming features	sensorMODE				✓
	DALI-2			✓	✓
	switchDIM			✓	
	chronoSTEP 2 (virtual midnight)		✓	✓	✓
	inputDIM		✓	✓	
	0–10 V	✓			
Programming interfaces	DALI-2			✓	✓
	NFC	✓	✓	✓	✓
	U6Me2		✓	✓	✓

chronoSTEP

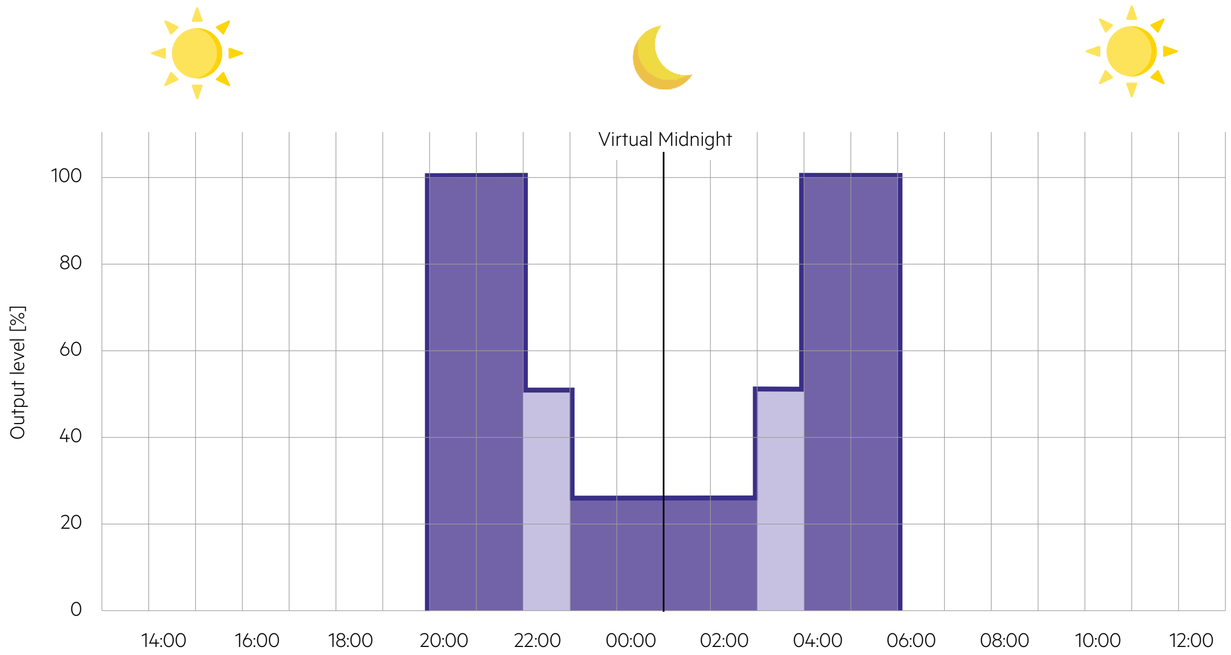
Virtual midnight

Dimming outdoor luminaires during nighttime will conserve energy and cost without sacrificing traffic safety. chronoSTEP enables autonomous dimming of drivers without the need of additional controls.

The device automatically measures the switch-on and switch-off times of the lighting installation over the previous three days. The switch-on and switch-off times are typically the times at which the sun sets and rises. The midpoint of these two reference points is the time referred to as virtual midnight.

Eight individual dimming levels can be defined. This allows individual outdoor LED luminaires or entire streets to be programmed as desired from the control cabinet.

Example of programmed brightness curve

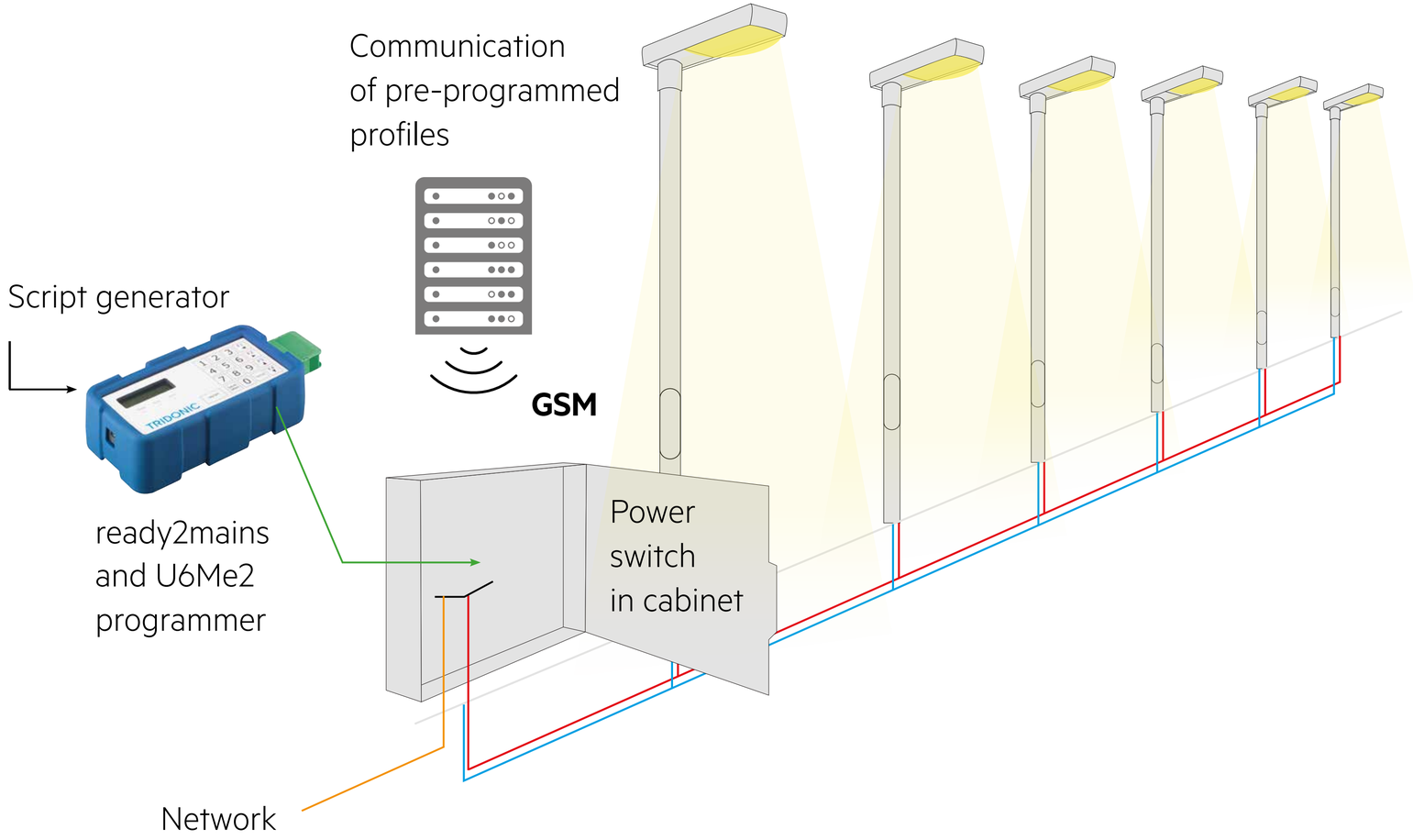


U6Me2

Remote control and programming system

With the U6Me2 protocol, signals can be transmitted directly via the mains line, which enables a particularly convenient luminaire configuration at the control cabinet.

The chronoSTEP function settings can be adjusted using switching mains commands. Thanks to the ready2mains and U6Me2 programmer, luminaires are easy to configure remotely. Programming a whole street or a single pole using a connected switching cabinet and U6Me2 is quick and cost-efficient.

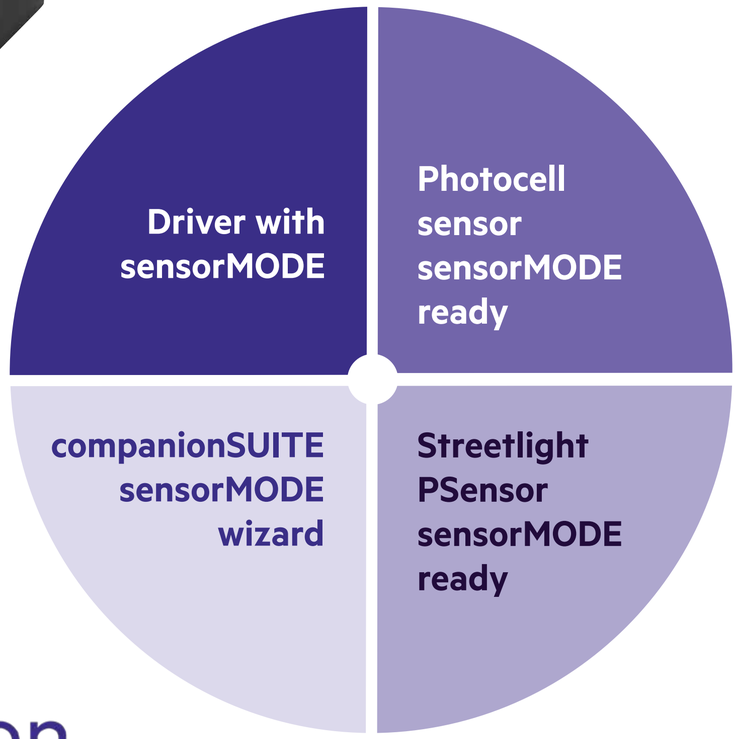


sensorMODE

Sensor-based dimming of individual luminaires

sensorMODE is a technology integrated in Tridonic drivers and sensors which allows the application of several dimming profiles: ambient control, motion control or a combination of both.

More informations >



D4i based

More informations >

More informations >

Zhaga Book 18 based

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companionSUITE

companionSUITE

Digitalisation of the product

The Tridonic companionSUITE is a software collection that helps customers with the commissioning, field servicing and analysis of the driver settings. companionSUITE supports the digitalisation of design and production processes, the analysis of lifetime data and potential cause issues.

companionSUITE is compatible with commonly used interfaces such as DALI-2, NFC or U6Me2.

deviceGENERATOR

Software for easy parameter creation

deviceCONFIGURATOR

Software for easy and secure programming of the LED driver

4service NFC app

On-site installation and maintenance app

deviceANALYSER

Software for easy driver diagnostics

4service NFC app

Serviceability in the field

With the 4service NFC app-installation technicians and maintenance engineers can adjust driver functions on site at any time easily and wirelessly. The 4service NFC app can be used to set the LED output current, select the operating mode, configure chronoSTEP profiles or set DALI short addresses.

Moreover, if an LED driver is faulty, the data memory can be read out and seemlessly copied to a replacement device. Prerequisite is an LED driver with NFC interface from Tridonic and an NFC scanner with bluetooth® connection.

GET IT ON Google Play

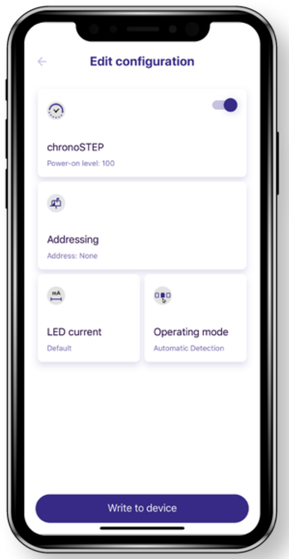
Download on the App Store

4service NFC app

Serviceability in the field

Example functions of 4service NFC app

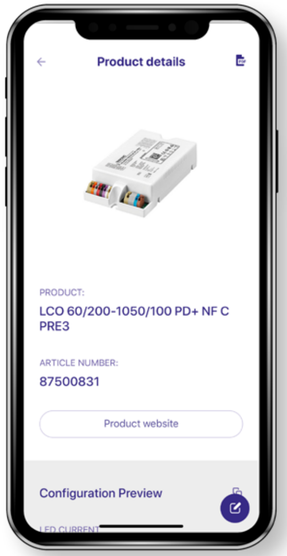
Copy settings to another device



Change or adjust parameters

Product info via integrated QR code reader

chronoSTEP



Product details

LED current

Controls

ZD4i RF Multi Master Controller

First Zhaga D4i-certified control device for monitoring and controlling luminaires. This controller controls up to 8 DALI DT6 channels. A sensor for detecting ambient light has already been integrated. Data is transferred from luminaire to luminaire.

- Ready for Zhaga book 18 Ed. 3 receptacle for plug & play installation to the luminaire
- GPS version for easy commissioning by visual representation in the user interface and master clock function
- Low energy consumption using IPv6/6LoWPAN technology (required for groupCONTROL)
- Supports the 868 MHz narrow band frequency
- For use in full self-healing mesh networks with up to 300 nodes for stable and secured operation (60 nodes per groupCONTROL)
- Lifetime of up to 100.000 hours
- 8-years guarantee in combination with Tridonic LED driver PRE3 (otherwise 5-year guarantee)

More informations >

Controls

groupCONTROL Programmer

The groupCONTROL Programmer enables simple, local group management of smaller outdoor installations with up to 60 light points. The integration of sensors, schedules and light scenes creates a customised system, which, thanks to Zhaga Book 18 standard compliance and D4i certification, can be seamlessly expanded into an IoT-based Smart City solution if required.

- Control via smartphone, tablet or laptop via web app (configTOOL)
- Local autonomous group management via RF mesh
- Battery run-time of up to 8 h
- Can be installed without the need for network experts
- Lifetime of up to 50,000 hours
- 5-years guarantee

More informations >

Controls

basicDIM Wireless Node (PRE3)

basicDIM Wireless app

GET IT ON Google Play

Download on the App Store

With the basicDIM Wireless outdoor node based on Zhaga Book 18, outdoor areas of private property buildings can be easily connected to existing basicDIM Wireless indoor networks. Campuses, parking lots or warehouses are ideal applications for this product.

- 2.4 GHz bluetooth® network
- Can be controlled wirelessly with an Android / iOS smart device
- No need for an external gateway device
- Automatically forms a wireless communication network with up to 250 nodes
- Range > 50 m
- Supplied via DALI compatible power supply (e.g. D4i driver)
- Support for Tridonic PSensor and MSensor
- Zhaga Book 18 form factor
- Lifetime of up to 100,000 hours
- 5-years guarantee

More informations >

Sensors

D4i motion and light sensor: PSensor

The PSensor is a D4i sensor for both occupancy detection and monitoring of ambient light. This sensor allows a rectangular-shaped area to be monitored, making it ideal for street applications. The sensor is based on a Zhaga receptacle for easy and flexible installation to the luminaire.

- Low energy consumption via DALI-2 bus supply
- Two built-in PIR sensing elements, allowing an asymmetrical detection area of up to 560 m^2
- Corresponds to standard Zhaga Book 18 Ed. 3 – plug and play interface
- Mounting height: 4–8 m
- D4i-approved and fully compatible with DALI Part 351 including MB201
- Lifetime of up to 100,000 hours
- 8-years guarantee in combination with Tridonic LED driver PRE3 (otherwise 5-year guarantee)

More informations >

Sensors

Light sensor: PCell

The D4i light sensor for street lighting monitors ambient light for stand-alone and connected applications. In combination with the outdoor PRE D4i LED drivers featuring sensorMODE the luminaire can be controlled using ambient light levels or activating chronoSTEP 3 profiles. Light pollution is reduced while saving energy.

- Corresponds to standard Zhaga Book 18 Ed. 3 – plug and play interface
- Simple commissioning for standalone applications via sensorMODE, plug & play interface
- Designed to be mounted on top or bottom of luminaire
- Provides accurate light measurements between 0.2 and 20,000 lux
- Measurement is detected in an angle of 150°
- Lifetime of up to 100,000 hours
- 8-years guarantee in combination with Tridonic LED driver PRE 3 (otherwise 5-year guarantee)

More informations >

Sensors

MSensor OTD SFI 30 PIR 10DP DA

The D4i-certified multi-sensor with presence and daylight detection has been specially developed for harsh environments. The sensor's small housing and correspondingly unobtrusive appearance mean it can be simply and discreetly integrated into luminaires. For outdoor luminaires or streetlights with luminaire posts of up to 10 metres in height it's the perfect solution.

- Presence and daylight sensor
- Small housing for simple and unobtrusive integration
- Mounting height of up to 10 metres
- IP66 and IK05 protection
- Parameters can be individually adjusted in companionSUITE
- Power supply via DALI line
- Shutter for preventing presence detection in particular areas
- Fully compatible with the SIDEREA ecosystem (including groupCONTROL)

More informations >

Accessories

Surface protection device (SPD)

Fitted to the luminaire or pole, the surge protection device prevents a luminaire being damaged at overvoltages of up to 10 kV. In the event of a lighting strike, the surge protection device may be damaged itself, but the lighting remains functional.

- Protection up to 10 kV L-N (IEC 61643-11)
- IP20 protection
- Universal use for street, tunnel or object lighting
- Flexible installation, fixed via integrated elongated holes
- Double or reinforced insulation
- Optical status indicator

More informations >

Surge protection device class I:
SPD with additional earth conductor for country-specific requirements

Surge protection device SNC EU

Accessories

Zhaga socket ACU Z18 Set / Zhaga Book 18 Ed. 3 receptacle

Zhaga receptacle for plug & play of Zhaga compatible sensors and communication nodes enabling Zhaga certified luminaires.

- Designed for street lighting control
- Set consisting of receptacle, lock washer and mounting nut
- Compliant with Zhaga Book 18 Ed. 3 contact system
- Optional IP 66 with sealing cap
- IK09 high impact resistance

More informations >

Glossary

DALI: The Digital Addressable Lighting Interface is a trademark for network-based products that control lighting. The underlying technology was established by a consortium of lighting equipment manufacturers as a successor for 1–10 V / 0–10 V lighting control systems. The DALI, DALI-2 trademarks are owned by the lighting industry alliance DiiA (Digital Illumination Interface Alliance).

D4i: The DALI standard for intelligent, IoT-ready luminaires.

EMC: Electromagnetic compatibility is a characteristic of electrical and electronic equipment that permits it to operate as intended in the presence of other electrical and electronic equipment, and not to adversely interfere with that other equipment. The goal of EMC is the correct operation of different equipment in a common electromagnetic environment.

Internet of Things (IoT): Describes the network of physical objects ("things") with sensors, software and other technologies that connect and exchange data with other devices and systems over the Internet.

IPv6: The most recent version of the Internet Protocol, the communications protocol that provides an identification and location system for computers on networks and routes traffic across the Internet.

6LoWPAN: Standard protocol for establishing IPv6 communication on wireless networks: regarded as one of the preferred protocols for creating the Internet of Things (IoT).

PIR sensor: A passive infrared sensor is an electronic sensor that measures infrared light radiating from objects in its field of view. They are most often used in PIR-based motion detectors.

RF mesh: A communications network made up of radio nodes organised in a mesh topology.

Glossary

Smart City: A collective term for holistic development concepts aimed at making cities more efficient, technologically advanced, greener and more socially inclusive. These concepts include technical, economic and social innovations. The idea of the smart city goes hand in hand with the utilisation of digital technologies, such as the entire urban environment being equipped with sensors that make all the data collected available in the cloud.

Surge/burst: When the voltage in a circuit or part of it is raised above its upper design limit, this is known as overvoltage. A surge protection device protects luminaires against overvoltage, thus improving safety and avoiding unexpected costs incurred as a result of damage.

TLAs: Temporal Light Artefacts are undesired effects in the visual perception of a human observer induced by temporal light modulations. Two well-known examples of such unwanted effects are flicker and the stroboscopic effect. The term 'flicker' refers to directly visible light modulations at relatively low frequencies (< 80 Hz) and small modulation levels. The 'stroboscopic effect' is the effect which may become visible for a person when a moving object is illuminated by modulated light at somewhat higher frequencies (> 80 Hz) and larger modulation levels.

ZD4i: A joint certification programme from the DALI Alliance and the Zhaga Consortium. Zhaga-D4i products indicate the plug-and-play interoperability of sensors, communication nodes and luminaires.

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