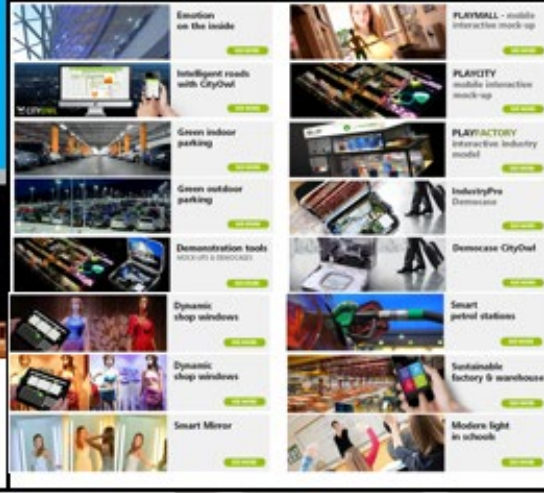
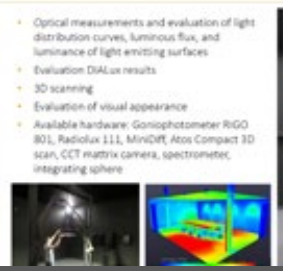




CORPORATE PRESENTATION PRODUCTS

oms
FOLLOW THE RIGHT WAY

oms
FOLLOW THE RIGHT WAY

WHY DO BUSINESS WITH US?

- The strong position at lighting market
- In-House Research and Development Centre
- Customer Oriented Company
- Quality Products with High Efficiency and Warranty Period
- In-House Innovation Centre
- Ability to Respond Quickly to Customer Requirements
- Ability to Produce Rapid In-house Prototypes
- A Short Time to Develop New Products
- A Quick Delivery
- Ultra-Competitive Price to Quality Ratio

OUR VALUES:

INNOVATION
FLEXIBILITY
PROFESSIONALISM
COOPERATION
CREDIBILITY

WHO WE ARE

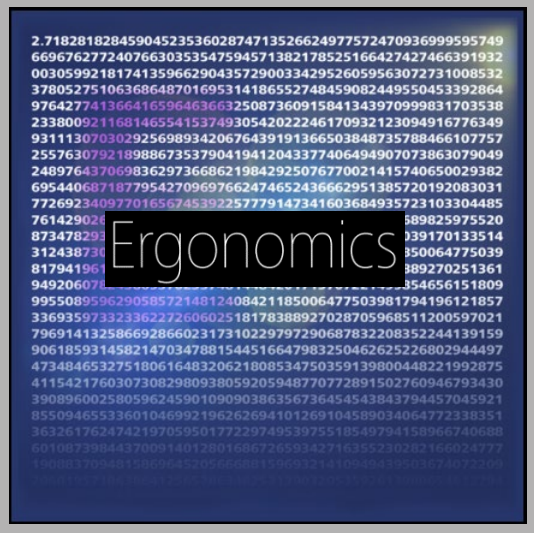
Our facilities

OMS, a.s.	
Established	1995
Number of employees	600
Export	87 %
Production surface area	103,100 m²
LIC surface area	810 m²
Office surface area	2,460 m²

OWNERSHIP STRUCTURE

Grafobal Group, a.s.	70%
Vladimír Levársky	30%

Grafobal Group, a.s.	
Consolidated turnover	980,000,000 €
Number of employees	6,200



LQS

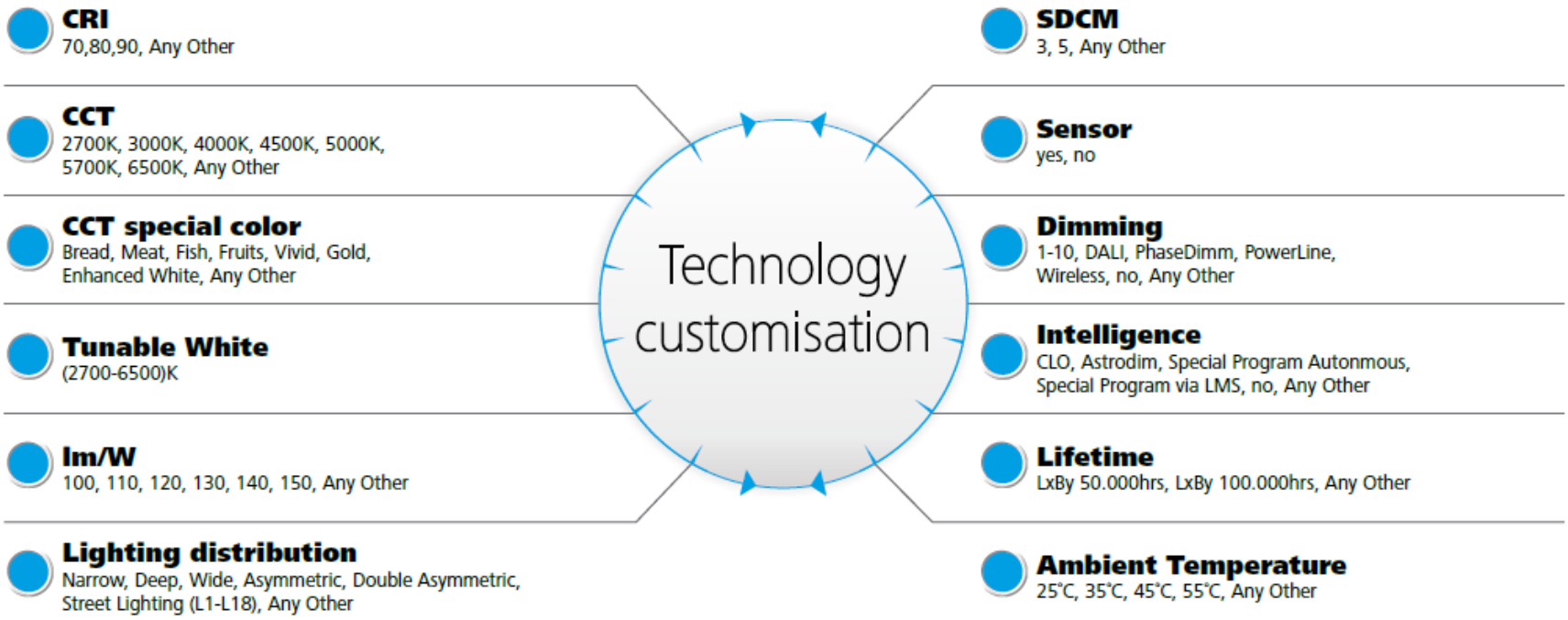
LIGHTING
QUALITY
STANDARD

The key
Is 6 E's

LIGHTING QUALITY STANDARD

TECHNOLOGY
CUSTOMISATION CAPABILITY

CUSTOMIZED SOLUTIONS READY TO MEET ALL REQUIREMENTS



IN HOUSE R&D DEPARTMENT

ONE OF THE BEST LIGHTING INDUSTRY R&D DEPARTMENTS IN EUROPE

INDUSTRIAL DESIGN
All the pre-production processes that lead to a fully functional prototype

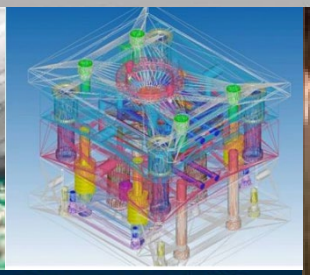
OPTICAL DESIGN
Selection and refinement of appropriate optical parts using vast practical experience and theoretical knowledge

THERMAL DESIGN
Characterisation of every product to ensure the reliability of every product and research and development of innovative concepts

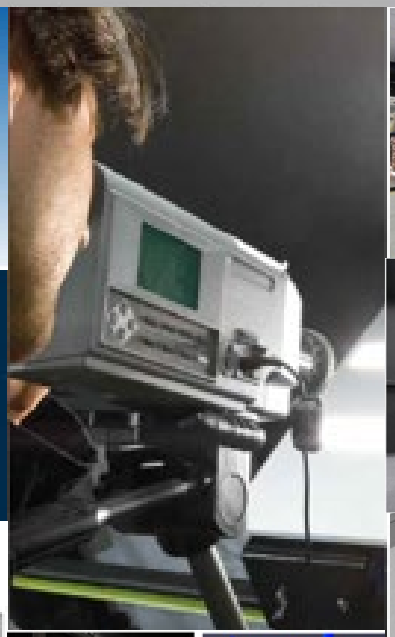
ELECTRONIC DESIGN
Advanced system level designs, DALI compatibility and long-term performance tests performed in-house

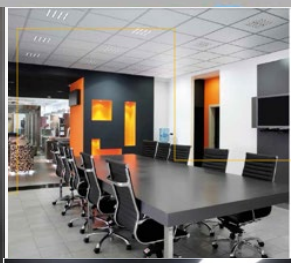
MECHANICAL DESIGN
More than 20 years of experience in the mechanical design and customisation of luminaires and precision tools

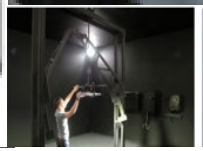
LAB SERVICES
Optical, thermal, electronic, mechanical, and pre-certification tests and measurements

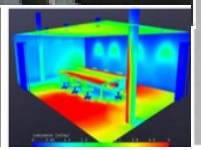


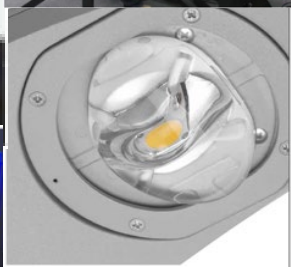
FULL LUMINAIRE DEVELOPMENT
One of the best-equipped and staffed R&D departments in Europe, delivering seamless industrial, optical, thermal, electronic, and mechanical design, and custom product development











TECHNOLOGY CUSTOMISATION CAPABILITY

ENGINEERING, TESTING, PROTOTYPING

COMPREHENSIVE SERVICES UNDER ONE ROOF

iLumTech is a research and development company that blends technology, creativity, and engineering to help customers transform their ideas into world-class products and solutions that follow global trends, focus on energy efficiency and cost reduction, and ensure wellbeing for all. iLumTech innovates lighting, optical, and electronic products for various sectors including the lighting, consumer products, entertainment, transport, and security industries. The convergence of technologies, industries, and markets presents exciting opportunities than challenge companies to innovate and deliver new and enhanced products and services. iLumTech is uniquely positioned within the research and development field thanks to decades-proven capabilities in luminaire, technology, and user experience design, development, and engineering for a wide variety of industries. We leverage this valuable skill set to help our customer create exceptional products, services, and experiences that drive their strategic growth.

FULL LUMINAIRE DEVELOPMENT

"Perfection has to do with the end product, but excellence has to do with the process." — Jerry Moran

LABORATORY SERVICES & PRE-CERTIFICATION TESTS & MEASUREMENTS

"Every line is the perfect length if you don't measure it." — Marty Rubin

OPTICAL DESIGN

"Music is the arithmetic of sounds as optics is the geometry of light." — Claude Debussy

ELECTRONIC DESIGN

"It's hardware that makes a machine fast. It's software that makes a fast machine slow." — Craig Bruce

INDUSTRIAL DESIGN

"I think it's the responsibility of a designer to try to break rules and barriers." - Gianni Versace

THERMAL DESIGN

"Nothing in life is certain except death, taxes and the second law of thermodynamics." — Seth Lloyd

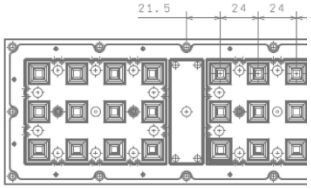
MECHANICAL ENGINEERING

"An optimist will tell you the glass is half-full; the pessimist, half-empty; and the engineer will tell you the glass is twice the size it needs to be" — Anonymous

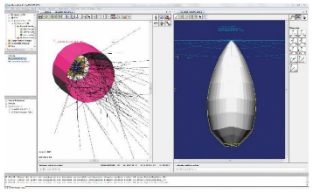
RAPID PROTOTYPING

"I love taking an idea… to a prototype and then to a product that millions of people use." — Susan Wojcicki

- After optical design approval, we prepare the mechanical design of the optical system taking into account other luminaire parts, production technologies, materials, and tolerances
- **Used software:** CATIA
- **Output for customer:** 3D STP file, 2D file with exact definition of dimensions and tolerances
- Drawings can be modified according to customer's company standards

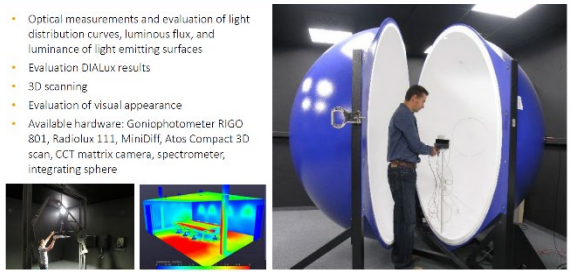


- Proposal of an LIDC shape for the required optical system according to a requested output, production technologies, manufacturing possibilities, and the mechanical design of the luminaire – reflectors, lenses, refractors
- Areas of expertise: street LED lenses, tunnel lighting lenses, flood lighting lenses, PAR38 lenss; downlight, spot, and floodlight reflectors; parabolic louvres; nano-diffusers
- **Used software:** LightTools / DIALux
- **Output for customer:** proposed LIDC in LDT, IES, and pdf format, and as a DIALux file

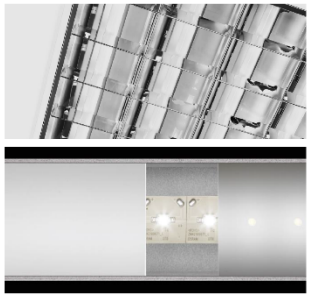


- Rapid prototyping within 14 days – timescale depends of lens type and chosen prototyping technology
- Printoptical Technology (photonics jet printer) offers a 100 % smooth and optically functional surface without the need for further finishing such as sanding or polishing
- Milling CNC (plastic machining) offers a high degree of consistency with close tolerances, near-optical grade surface finishes suitable for prototyping and some types of production
- Soft molding (rubber molding) is a simplified tooling process preferred for creation of between one and few hundred parts
- Spinning, punching, turning, diamond turning, CNC maching

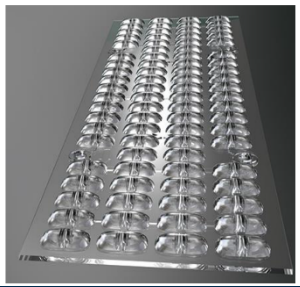
- Optical measurements and evaluation of light distribution curves, luminous flux, and luminance of light emitting surfaces
- Evaluation DIALux results
- 3D scanning
- Evaluation of visual appearance
- Available hardware: Goniophotometer RIGO 801, Radiolux 111, MiniDiff, Atos Compact 3D scan, CCT mattrix camera, spectrometer, integrating sphere



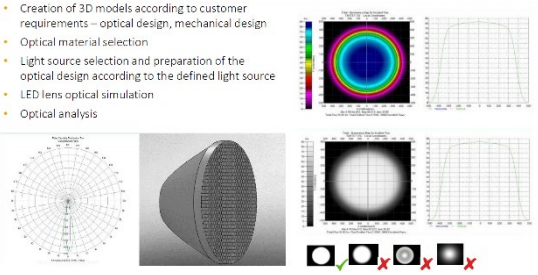
- Tailored design of luminaire optical parts according to customer requirements, application specifications, and/or luminaire design – lenses, reflectors, refractors, diffusers, louvres
- Evaluation of appropriate optical materials according to application specifications, production volumes, and price requirements
- Rapid prototyping
- Measurements, evaluations, simulations
- Tooling design, tool production
- Production of the final parts
- Optical system optimisation



- Requested optical part type – lenses, reflectors, refractors, hybrid systems
- Material characteristics, shape limitations, dimensions, mounting requirements
- Type of luminaire and application
- PCB and luminaire details, 3D STP files of other parts of the luminaire
- Required LIDC, UGR, intensity, road class
- Commercial requirements – target price, sales quantities, packaging details, time schedules, etc.
- **Input from customer:** above requested parameters
- **Output from iLumTech:** time schedule / price offer / technical feedback

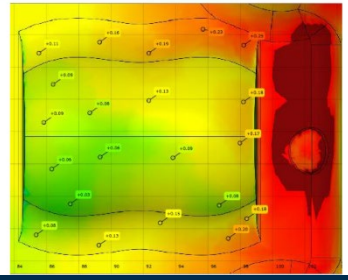


- Creation of 3D models according to customer requirements – optical design, mechanical design
- Optical material selection
- Light source selection and preparation of the optical design according to the defined light source
- LED lens optical simulation
- Optical analysis



- Evaluation of T1 samples – mechanical and optical evaluation
- 3D scanning and photometric measurements
- Comparison of design vs final results
- Proposal of modifications according to need
- Packaging design, label design
- Mould setting

3D scanning / comparison

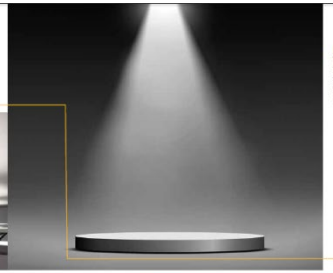


Innovation, Flexibility, Professionalism, Cooperation, Credibility

OMS

TECHNOLOGY CUSTOMISATION CAPABILITY

OUR OFFER



FULLY EQUIPPED R&D
We have some of the best-equipped optical, thermal, electronic, and mechanical laboratories in Europe, and can provide customers with an array of tests side-by-side with many other services.

EXPERIENCED ENGINEERS
Our engineers have experience in every field related to the development of lighting devices and their parts.

FUTURE ORIENTED THINKING
Thanks to our experience in the LED industry, all our development and engineering is done with the future in mind.

PROFESSIONAL OUTPUTS
Technical documentation and measurement reports are professionally completed and compiled ready for CE certification and entrance to serial production.

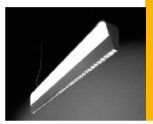
CONFIDENTIAL ATTITUDE
We have a strict NDA approach to all our work. The confidentiality of information about our cooperation and the projects we work on together is an essential part of our service.

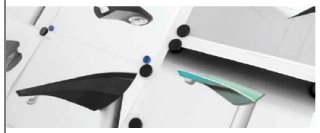
CONTINUOUS SERVICES
Product development is a never-ending process. We will continue with you on this journey through product optimisations, updates, and customisations.

OUR SERVICES

FULL LUMINAIRE DEVELOPMENT
"Perfection has to do with the end product, but excellence has to do with the process." Jerry Moran

Not every company has the time, capacity or resources to develop a new luminaire in-house. That's where we can help. We make it our business to support your business. By listening to your needs and understanding your business's marketplace, we can best apply our knowledge and experience to develop a final product that will give you a competitive advantage, save your time, and reduce your costs.



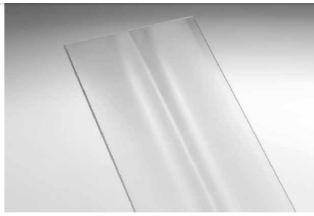


INDUSTRIAL DESIGN
"I think it is the responsibility of a designer to try and break rules and barriers." Gianni Versace

Saint-Exupery said: "A designer knows he has achieved perfection not when there is nothing left to add, but when there is nothing left to take away." Good design is not only about what, but also why, and how; and not only about making things pretty, but also making them work. Our designers work closely with other departments to assure that the final product works, can be manufactured, and will be successful and unique.

OPTICAL DESIGN
"Music is the arithmetic of sounds as optics is the geometry of light." Claude Debussy

You can always develop a product using commercially available optical systems. But, if you really want to be the manufacturer of successful, unique, and interesting luminaires while maintaining control over costs, there is only one way to proceed that makes sense: to develop and produce tailored systems. We have the skills and experience to support you throughout the entire process, from design through to tooling and production.



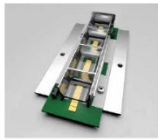
THERMAL DESIGN
"Nothing in life is certain except death, taxes, and the second law of thermodynamics." Seth Lloyd

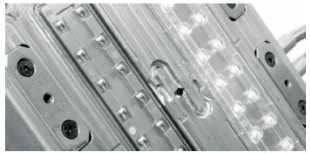
The most important part of thermal design is thermal simulation, without which many thermal solutions fail to deliver a required performance for an application. We can verify and compare thermal designs, optimise them for given luminaires, and so ensure that your thermal design will work.

OUR PRODUCTS

We have developed a range of devices for the professional lighting market with the aim of being inimitable and simple to install for lighting manufacturers, installers, electrical engineers, and even end users. All of the devices were created by our own optical, thermal, and electronic engineers, and produced locally. We are sure you will be satisfied with their user-friendly and intelligent functionality, offered at an appealing price level.

LED UNITS
LED Units that offer the attractive feature of requiring no further development as everything is included in one module, making them an ideal choice for luminaire manufacturers and those seeking devices for bespoke solutions.





CONNECTED LIGHTING
Practical and simple to use devices that are easy to incorporate in our everyday lives across work, rest, and play, and built around the DALI protocol for the control and commissioning of luminaires.

OPTICAL SOLUTIONS
Our range of optical solutions includes complete lens systems, reflectors, and customisable diffusers.

ELECTRONIC DESIGN
"It's hardware that makes a machine fast. It's software that makes a fast machine slow." Craig Bruce

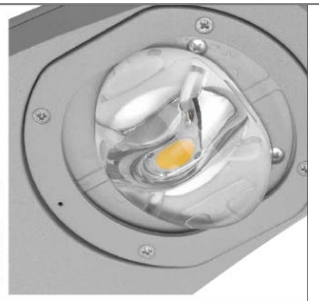
Whether you need to develop new hardware, a PCB, or need support in software development, we will help you reach the finishing line. We have the expertise and experience to meet your exact needs, and can take a project from concept through production under one roof.

MECHANICAL ENGINEERING
"An optimist will tell you the glass is half-full; the pessimist, half-empty; and the engineer that it is twice the size it needs to be." Anonymous

The experience and skill of our engineers combined with the power and flexibility of the latest 3D CAD software allows us to design and customise whole products or their individual parts. Our precise document management system assures that you will receive all proper documentation from which you can work in future.

RAPID PROTOTYPING
"I love taking an idea ... to a prototype and then to a product that millions of people use." Susan Wojcicki

A prototype allows you to explore your ideas and to show the intention behind a feature or the overall concept to users before investing time and money in development. Our functional prototypes guarantee high flexibility and minimal investment as every product mechanism and property is checked before tooling.



LABORATORY SERVICES & PRE-CERTIFICATION TESTS & MEASUREMENTS
"Every line is the perfect length if you don't measure it." Marty Rubin

Our laboratory services are designed to increase the speed and precision of product development and certification. What's more, performance of pre-certification tests acts as the base for CE declaration of conformity and assures positive results from the certification authority.

PRODUCT CUSTOMISATION CAPABILITY

CONSTRUCTION
DIMENSION
CONNECTORS
SENSOR
EMERGENCY
COLOUR
PRODUCT
PROTECTION . IP, ...

MANUFACTURE

FROM CONCEPT TO MANUFACTURE, ALL UNDER ONE ROOF

TECHNOLOGIES

We invest in continual technological development, from the software and tools used by designers and engineers through the high-tech automated robots used in production to the stringent testing protocols used to ensure superior quality.

SPECIAL REQUEST FACTORY

Our special request factory provides us with unrivalled flexibility, which allow us to make very small and precise parts with ease and at speed.

LED PRODUCTION

All of our LED chips are soldered using the selective wave method, and all components and final products are thoroughly tested using precision equipment in line with stringent ISO 9001 technical standards.

PRODUCT CUSTOMISATION CAPABILITY

SPECIAL REQUEST FACTORY

Our special request factory provides us with unrivalled flexibility, which allow us to make very small and precise parts with ease and at speed.

PRODUCTS

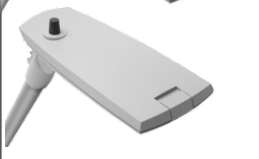
Comprehensive portfolio of products suitable for every application and ready for use in the most complex projects.

oms

FOLLOW THE RIGHT WAY

IMPLEMENTING MOST ADVANCED LIGHTING TECHNOLOGIES

PRODUCTS SUITABLE FOR USE IN THE MOST COMPLEX PROJECTS



* *In progressing*

IoT READY

IoT sensors allow to manage objects remotely and obtain require data through its network infrastructure.

Li-Fi*

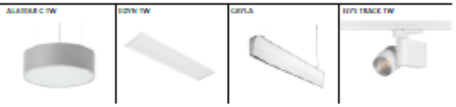
Light Fidelity - uses visible light communication (VLC) and enables high.

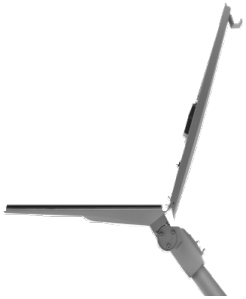
PI-LED*

Creative PI-LED colour space can be set individually to any value within the PI-LED triangle while keeping the CRI constantly high (90+).

TUNABLE WHITE

Tunable white technology allows to adjust the lighting with regard to the displayed products; their colours can be highlighted as needed.





LED FASHION

Colours will retain their quality, including visually pleasing surfaces, colour saturation and chromatic values.

HUMAN CENTRIC LIGHTING

Human centric lighting is based on the idea of enabling the regulation of light direction, colour temperature and level according to need and desire to positively influence alertness and relaxation, mood, visual acuity and productivity.

LED FOOD

Colours will retain their original quality, including visual colour saturation and chromatic values.

DALI DEE BRIDGE / BLUE BRIDGE

Buildings with already existing wirings, especially with easy installation where is needed to change fix luminaires for more advanced – DALI / tunable white.

TRENDS

LEADERS IN RESEARCH AND APPLICATION OF TECHNOLOGICAL AND LIGHTING TRENDS

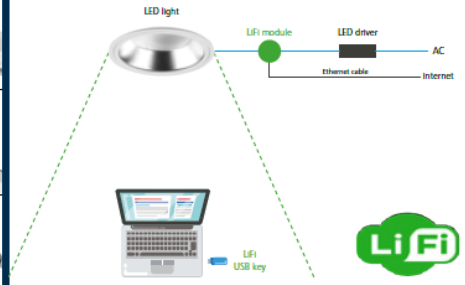
POSITION TRACKING WITHIN OCCUPIED SPACE

In conjunction with smart phones, the lights use the latest technology to accurately search / map people with high precision (10 cm).

LIGHT WILL NEVER BE JUST LIGHT

Sensors that become affordable and lights connected to the internet, luminaires begin to produce, along with sensors not only related to lighting, but also to temperature and air quality.

Li-Fi



Li-Fi is a light connection, it can move data 100 times faster than Wi-Fi through light modulation. This means that large files or movies can be downloaded in seconds rather than minutes using Wi-Fi.

CAMERA LIGHTING CONTROL

Camera lighting controls make use of infrared, ultrasonic or microwave sensors to detect movement, which is one of the most cost effective, simple and affordable solution.

TRENDS

GLOBAL / LIGHTING TRENDS

Effects Based on Lighting Trends

POSITION TRACKING WITHIN OCCUPIED SPACE

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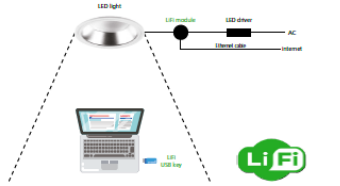


SELF-LEARNING CONTROL SYSTEMS

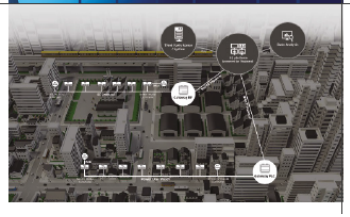
The concept of a device that learns its own settings was promoted by Nest Laboratories in thermostats. The concept is suited to perfect lighting control so it examines how this approach can be taken to enable the system to operate itself and how it is used over time.

BLUETOOTH WILL WIN THE PROTOCOL WAR

Bluetooth has ratified the standard in collaboration with beacons to share information with each other. Bluetooth reach, however, will increase from the typical 10 metres that consumers are accustomed to. In 2018, it is expected that this development will lead to the interconnection of IoT lighting in retail, warehouses, offices and other spaces.

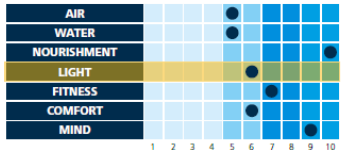
INTEGRATED STREET LIGHTING

Street lights nowadays serve as a space for advertising leaflets but they will be filled with technologies from CCTV systems, PA speakers, Wi-Fi transmitters or serve as a place for charging an electric vehicle in the near future.



BUILDING WELL BUILDINGS WILL BECOME A STANDARD

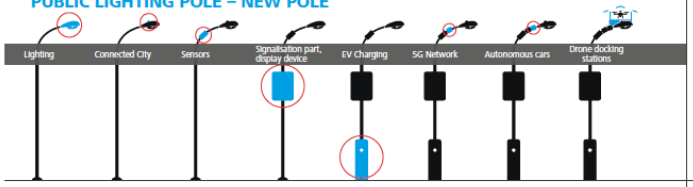
WELL Buildings will be the standard in terms of both working conditions and productivity.



GLOBAL / LIGHTING TRENDS

Effects Based on Lighting Trends

PUBLIC LIGHTING POLE – NEW POLE



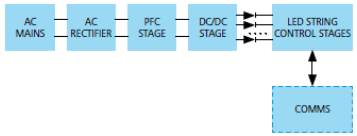
MODULAR LIGHTING CONCEPTS

HUMAN CENTRIC LIGHTING

Use modern lighting technologies to support health and well-being, performance, and comfort at school and in the workplace.

CONTROLS WILL LEAVE THE CUPBOARD

The light controls were stored in a large black box that was in the EDB. In 2018, we can expect that artificial intelligence moves into light systems. The interface will become standard on devices using Bluetooth.

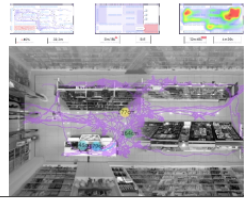


SMART PARTY LIGHTING

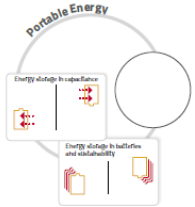
The Smart Home has been haunting many industries for years as a buzzword through trade shows, lectures and sales brochures. The market shares of building automation and intelligent use of light are still low. But usage is skyrocketing thanks to improved apps and intelligent wizards like Google Home or Siri. In the past few years, we have significantly increased our sales with Philips Hue, the market leader in intelligent lighting. And this development will continue. Because energy savings and new light experiences go hand in hand in the Smart Home.

LIGHTING AS A METRIC AND ANALYTIC TOOL

With new data, retailers are gaining insights into where customers in the store like to spend their time, and they can showcase sales promotion products This is achieved through networked LED lights. Their light signals transmit an individual coding for each luminaire, which contains corresponding information about its position.



MOBILELIGHTING WITH BATTERY



AGRICULTURE: WITH LIGHT RECIPES TO MORE CROP YIELD

Regional products will continue to be very popular in Germany in the coming year. And that's a good thing: LED lights help local farmers in particular to improve their yields by providing the optimal light spectrum for specific plants without having to raise the temperature. Our scientists have developed special "light recipes" that are tailored to the special needs of plants and vegetables. With LED lighting and light recipes for horticulture, farmers can improve taste, vitamin C content and shelf life, save on operating costs and better control the growth climate. As demand for locally produced products increases, I expect more initiatives in urban agriculture to use LED lighting to improve yield and quality.

MODERN LIGHT TECHNOLOGY AS A CLIMATE SAVER

We live in times of climate change and need to think in all industries about how to use energy efficiently to stop exploiting our planet. What the auto industry is still facing here, the lighting industry has already behind. Signify is committed to delivering more than two billion modern LED lamps and lighting by 2020. And we are well on the way to achieving this goal ahead of time. The modernization of lighting is a key to reducing global energy consumption. Switching from conventional lighting to LED and intelligent lighting systems can cut global electricity needs by 80 percent and reduce carbon emissions by 1,400 million tons annually. This corresponds to a value of 272 billion euros. Now cities, communities.

LIGHTING CONTROLS

LIGHTING CONTROL SENSORS

The sensors of the future should be designed to harmonise light with people. In response to this, iLumTech has developed a new series of sensors capable of measuring light intensity, light type, and the presence of people, according to which lighting is switched, dimmed, or altered in some way in order to make light truly match the needs of the user.





DALI CONTROL INTERFACES

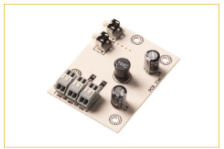
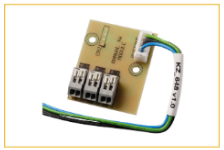
DALI control interfaces enable easy communication between users and their DALI devices. By combining suitable hardware and software, it is possible to control the DALI functions of luminaires and non-lighting DALI devices. All iLumTech DALI interfaces are designed to meet the needs of small to mid-sized installations, with the option for use on available control devices such as smartphones, tablets, and computers, which negates the need for expensive installation of additional control units. The purpose of all our DALI interfaces is that they be easy to use, and truly useful. All software is free to download from Google Play and the Apple App Store, or from our website at www.ilumtech.eu.



TUNABLE WHITE MODULES

As part of the Connected Lighting product family, iLumTech brings to the market a range of Tunable White modules that function based on a totally different principle to standard Tunable White, somewhat like that of a two-way valve. An electronic switch is used to regulate the direction of a single current flow to both warm and cold LED modules, meaning that only one power supply is needed and over-illumination impossible. This leads to higher reliability thanks to simpler dimming and CCT control. What's more, the luminaire's efficiency is stable across all CCTs. iLumTech Tunable White modules come with a range of regulation methods including manual push button control, DALI control, and advanced user-interface control.



DALI POWER LINE COMMUNICATION

DALI Power line communication is a revolutionary technology which allows to control the DALI devices through existing power lines without additional wiring and saving of up to 30% of total install cost. The main advantage is its flexibility – it works with any DALI driver and the installer is not limited by size of the luminaire since the DALI PLC coupler can be installed outside of the luminaire.



LIGHTING CONTROLS

DALI 4X RELAY

- The only mains powered DALI compliant switching device on the market
- Allows for the control of non-DALI, non-dimmable luminaires within a DALI network
- DALI device type 7 – each output is independent
- Integrated push button for manual control
- Housed in a standard DIN-railed mountable box

DALI PLC

- allows for coupling DALI network via mains, without using additional wiring
- translate the DALI signal to the PLC (power line communication) and PLC back to the DALI signal
- no need of DALI wiring, just standard main for communication of DALI commands

DeeBridge

- Allows for intuitive control of DALI installations from computer, tablets and smartphones
- Application runs on Windows, Android and iOS
- Provides dimming control via buttons, switches and sliders
- Offers standard or advanced Tunable White and RGB control as well as lighting scenes and timers
- Integrated web server for initial setting
- Wireless control via external Wi-Fi router
- Fast scanning of the DALI network
- Auto commissioning
- Pre-set and customisable lighting scenes

BlueBridge

- Allows for wireless control of DALI installation via Bluetooth 4 (low energy)
- Application runs on Android 4.3 and later
- Powered directly from the DALI bus with a steady current below 10 mA
- Small form factor
- Simple electronic construction
- Fast scanning of the DALI network
- Auto commissioning
- Pre-set and customisable lighting scenes

DALI AMBIENT SENSOR

- Allows for measurement of illuminance (lux [lx]) and Correlated Colour Temperature (Kelvins [K]) properties
- Illuminance or CCT regulation, or dual regulation
- Passive mode measures brightness and CCT values to be used in centralised regulation
- Active mode both measures and directly controls connected luminaires
- Ceiling mounted

DALI/USB Bridge

- Simple to use tool for setting-up and commissioning of DALI networks
- Supports DALI standards for device types 1, 6, 7 and 8 as well as all iLumTech devices
- Application runs on Windows (Android app to be released soon)
- Functions independently of the DALI network – USB powered
- Small form factor (USB stick)
- Simple electronic construction

DALI INPUT UNIT

- Allows for the connection of any type of standard switch or button
- Powered from the DALI bus with up to 4 inputs
- DALI part 103 compatible to support all standard DALI commands
- Universal binary (2-state) input with DALI bus output
- Pre-define functionality
- Small form factor

DALI TW MODULE TYPES 6 AND 8

- Extension for standard LED driver that allows for DALI Tunable white control
- Standard 1 DALI LED driver needed for dimming control
- DALI device type 6 with all features appears with two DALI addresses – brightness and CCT
- DALI device type 8 appears with one DALI address — simultaneous control of brightness and CCT
- Allows user to set a wide range of lighting scenes

MANUAL TW MODULE

- Allows for CCT control via push buttons, negating the need for a DALI bus
- Powered by standard LED drivers (FIX, 1–10 V and DALI)
- Smooth CCT regulation using long presses of push buttons
- Discreet incremental CCT regulation using short presses of push buttons
- Two variants with fixed or flexible positioning of the push buttons on the luminaire

DLS PANEL II

- 7-inch touch panel device with user-friendly GUI for Tunable White and RGB luminaire regulation
- Supports DALI type 8 control gears (up to 192)
- 3 independent DALI lines – one internally powered
- Offers automatic or manual control options
- Provides pre-set dynamic lighting scenes – daylight simulation
- Customisable static and dynamic lighting scenes
- Possibility of connection to illuminance and movement sensors
- Password protection option

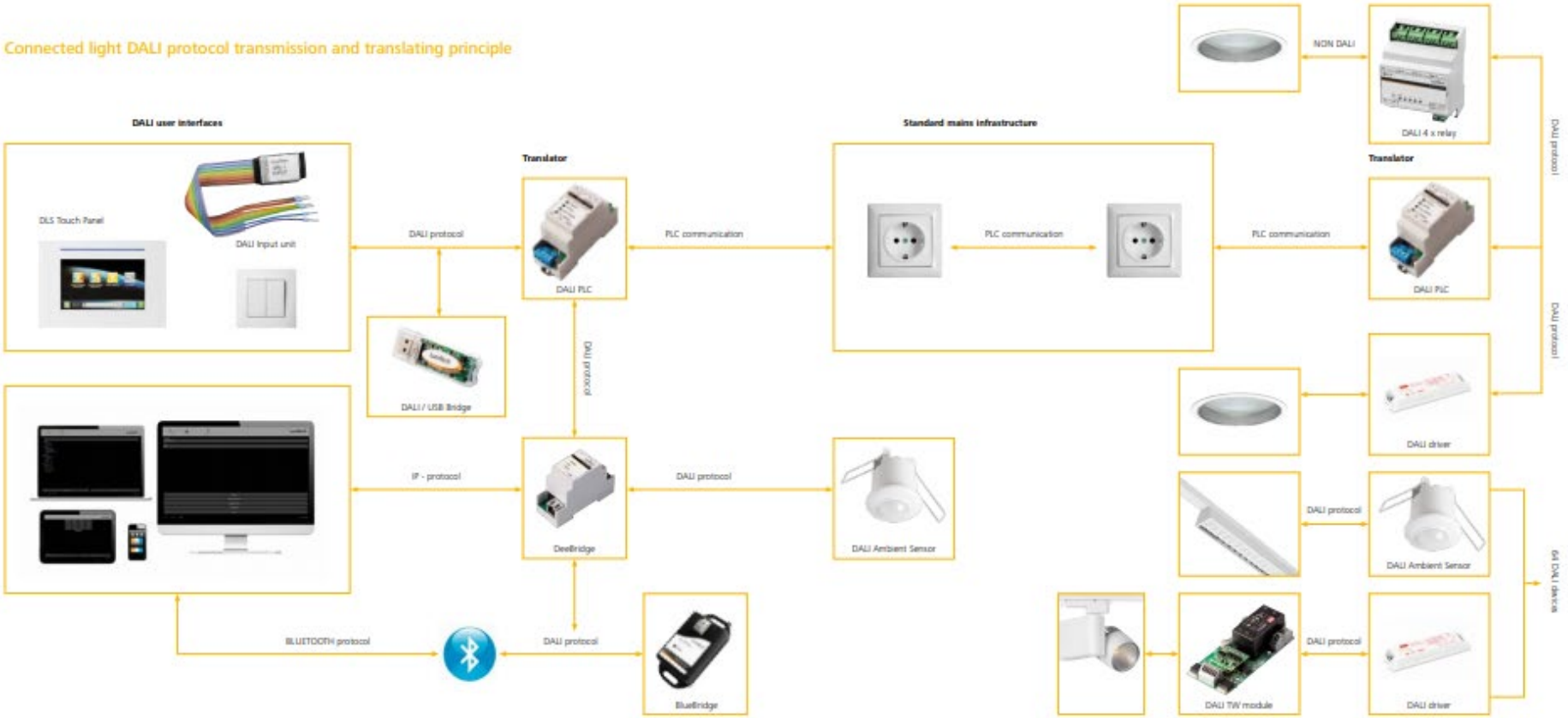
STANDARD TUNABLE WHITE COMPARED TO ILUMTECH'S TRUE TUNABLE WHITE

Standard Tunable White luminaire require the use of two independent power sources to supply separate warm and cold white LED arrays. Efficiencies are dependent on the selected CCT with the warmest or coldest settings performing best. It is difficult to combine such CCT control with dimming. Such luminaires have a bigger BoM and lower reliability.

True Tunable White uses only one power supply for both LED arrays, which provides consistent efficiency across the entire CCT range. It is easy to combine true Tunable White control with dimming. This type of regulation makes it possible to offer advanced control options – through DALI or using manual push buttons. Such luminaires have a smaller BoM and higher reliability.

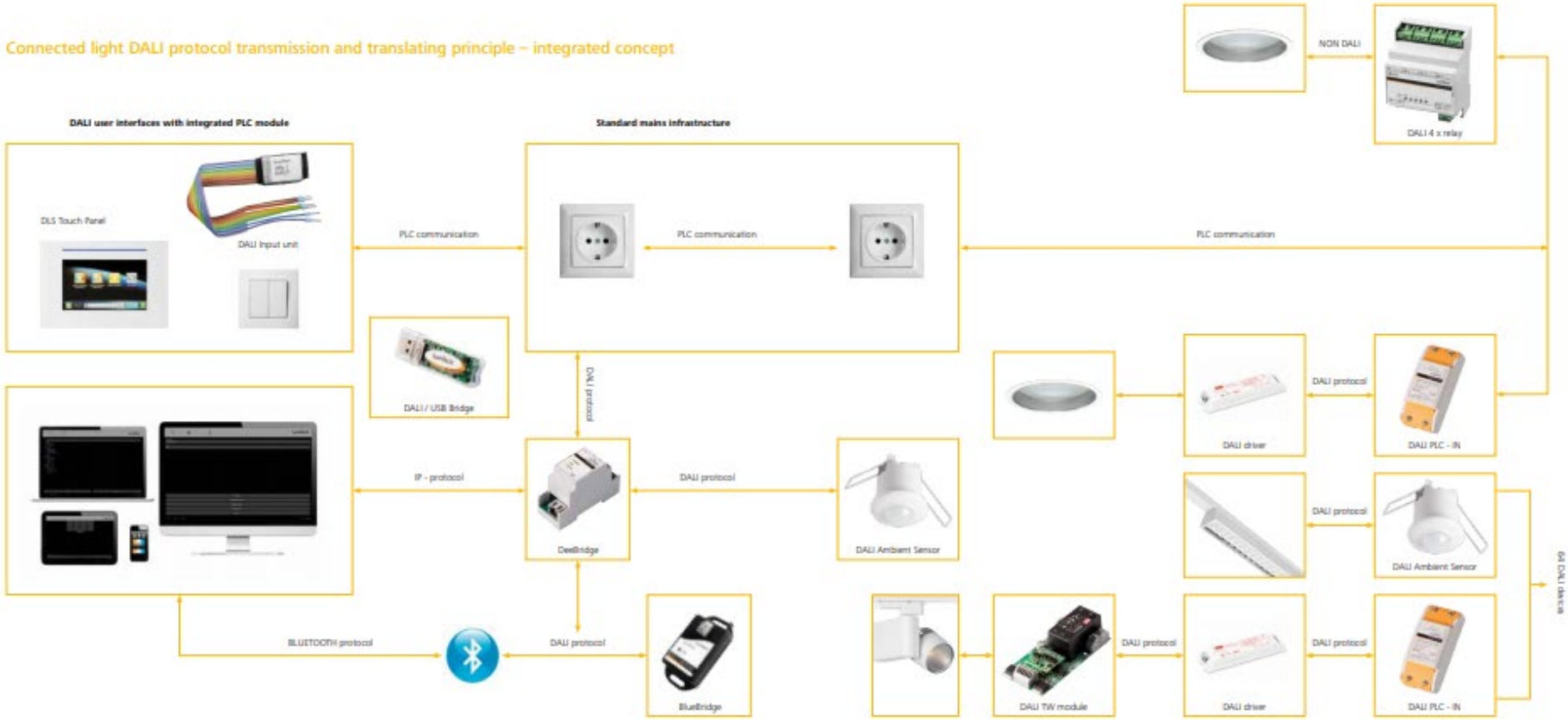
LIGHTING CONTROLS

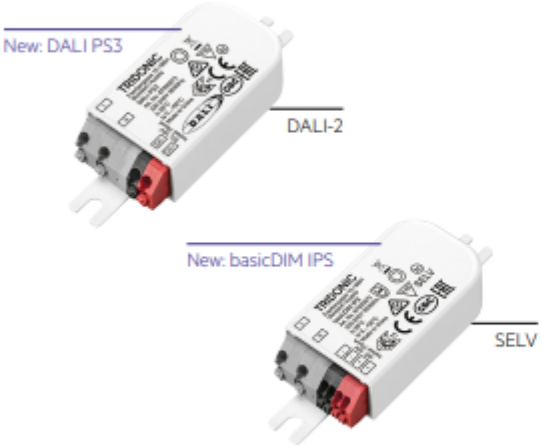
Connected light DALI protocol transmission and translating principle



LIGHTING CONTROLS

Connected light DALI protocol transmission and translating principle – integrated concept





Power Supply basicDIM IPS and DALI PS3

- DALI PS3: Latest-generation DALI-2 power and data supplier
- basicDIM IPS: first SELV power supplier for controls applications
- Energy supply up to 70 mA
- For wall sockets, trackbox and installation in luminaires

Power and data supply in small format

Tridonic is expanding its range of components for future-proof lighting systems with two small supply modules. DALI PS3 uses the latest DALI-2 generation for power and data supply, while basicDIM IPS uses the extra low voltage to deliver more compact and safe control solutions. This means that sensors, wireless controllers and other communication interfaces can be supplied with up to 70 mA. Up to two devices can be integrated into one circuit, and up to four control terminals with basicDIM IPS enable flexible connection to additional control devices.

Two in one driver

For luminaires offering both direct and indirect lighting there is now a particularly practical LED driver solution with two channels in one driver.

The dimmable DALI DT6 constant-current driver from the PREMIUM-SELV series is ideal for linear and area luminaires in offices and health care facilities as well as for direct and indirect lighting applications, for example in floor-standing luminaires. Dimming in this case has a contrary effect: increasing the brightness on one channel reduces the brightness on the other channel. Simple tunable white solutions are also possible. This driver is already certified to DALI-2.

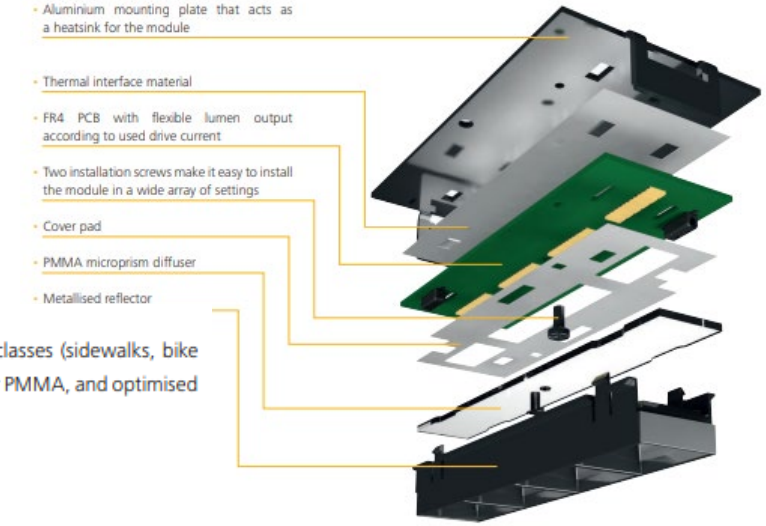
Driver LCA 50 W 350–1050 mA 2xCH lp PRE

LIGHTING CONTROLS

SEMITAS 01 is a 2x2 LED lens array designed for European ME road lighting classes. SEMITAS 01 is made of clear PMMA, and optimised for luminaires using a transparent flat cover.

INFINITAS STRUCTURE

Semitas 01



SEMITAS 05 is a 2x2 LED lens array designed for European P road lighting classes (sidewalks, bike paths, emergency strips, pedestrian zones, parks). SEMITAS 05 is made of clear PMMA, and optimised for luminaires using a transparent flat cover.

Semitas 05

SENSORS












LIGHTING CONTROLS

TWO DIFFERENT MODELS / SIZES:

TALL

Dimensions:
41 mm (W) x 112 mm (L) x 60 mm (H)

Weight: 310 g

10 years battery life

FLAT

Dimensions:
55 mm (W) x 73 mm (L) x 22 mm (H)

Weight: 100 g

7 years battery life

LIGHTING CONTROLS

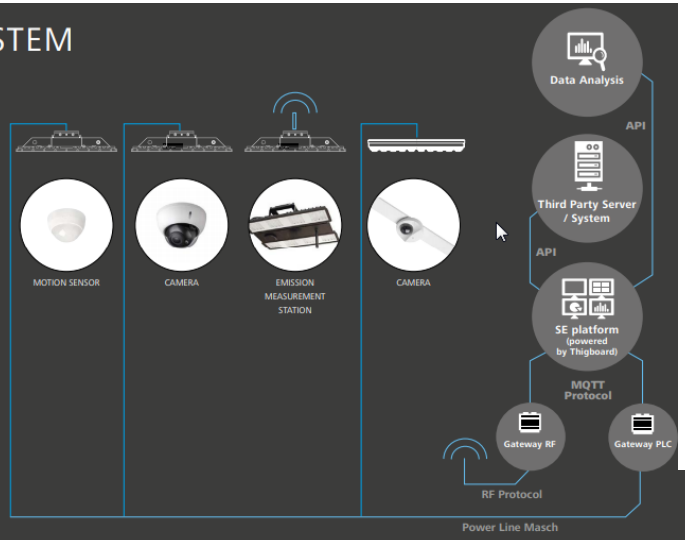
CONTROL SYSTEM

LIGHTING GRID AS COMMUNICATION BUS

Lighting grid based on PLC or RF communication is used as a communication bus for all connected IoT smart devices.

Lighting grid will be like communication highway for smart devices.

Luminaires exist as an independent ones or as a rail system.



CONTROL SYSTEM

IOT FOR LIGHTING

ADAC controller is your easiest way to program complex logic in KNX/EIB, Modbus, BACnet, EnOcean and other networks. Controler will enable you to efficiently customise building automation processes, easily delivering unlimited flexibility benefit to end users in a cost-effective way.

ADAC controller is an embedded platform with integrated Ethernet, USB, GSM, Serial interfaces and I/O ports. Allows to use it as cross-standard gateway, logic engine, visualisation platform, IP Router. Scripting templates provides user-friendly, flexible configuration interface and integration with cloud/web services, 3rd party devices. Via applying custom scripts can simultaneously act as thermostat, security panel, lighting controller, etc.

- Logical functions
- WEB SCADA visualisation for PC and touch-devices
- cross-standard gateway
- integration with third party devices over USB, RS485 serial port, Ethernet - AV, IR, HVAC
- Data logger with trends
- Presence monitoring
- Lighting regulation
- Universal controller (lighting, shutter etc.)
- Health/activity monitoring
- Internet-of-Things
- Cloud server/client
- Energy metering

CONTROL SYSTEM

IOT MASTER PLC / RF

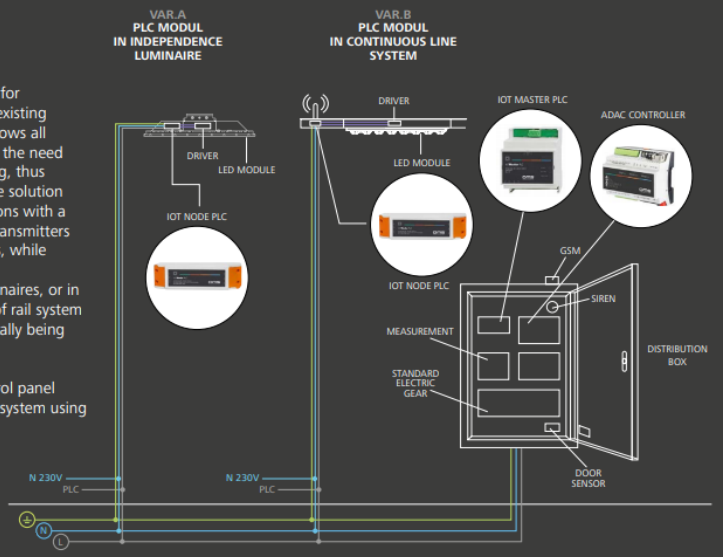
- Communication gateway between ADAC and IoT Nodes
- Serial communication with ADAC – RS232
- Provides reliable and secure communication on RF and PLC: AES-128 encryption
- 3 phase support for PLC
- Up to 128 IoT nodes
- Integrated vibration sensor for hit detection
- Support for remote FW update

CONTROL SYSTEM

POWER LINE COMMUNICATION

Choose Power Line communication for control that is facilitated along the existing power supply infrastructure. This allows all communication to be done without the need for additional control lines or cabling, thus minimising reconstruction costs. The solution is ideal especially for older installations with a limited number of phases. Special transmitters are located in the distribution boxes, while receivers are within the luminaires, if we talk only about the single luminaires, or in case there is a receiver at the start of rail system in which DALI collector is automatically being implemented.

External movement sensors or control panel buttons can be implemented in the system using the same way.



REFERENCES

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MARTIN AUER BAKERY
GRAZ - AUSTRIA

CARREFOUR EXPRESS
ANTWERP - BELGIUM

SHOWROOM MERCEDES
AUBIERE - FRANCE

LANDI STORE BUCHRAIN
- SWITZERLAND

CHAMPION BASSANO
MILANO - ITALY

MEMORIAL WATERLOO
WATERLOO - BELGIUM

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