Issue 2018

Highlights
and new products

TRIDONIC
Highlights 2018

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companionSUITE

Connected lighting, not just with sensors.
What just a few years ago seemed to be a vision of the future, has now long been a reality. The value of light has never been greater. It offers diverse possibilities for all aspects of life. For example, using heat mapping, the maximum visitor volumes in various spaces can be determined and effectively managed. Light is also continuing to set new standards when it comes to individualisation, from which people are benefiting in many different ways. Tunable White technology, which can promote well-being and concentration with flexibly adjustable light parameters, is being given a whole new dimension by the IoT, for example.
And Tridonic isn’t just playing a supporting role in this innovative approach, it’s actively shaping it. The result – solutions that offer much more than perfect light.

Discover the hidden lighting asset.

Read all the details about our Fitness Club ZERO NERO, Como project on page 15.
You can find further Tridonic references online at www.tridonic.com/reference-projects
**Highlights 2018**

**Efficient, innovative and safe outdoor lighting**

Generation 3 outdoor driver and generation 2 RLE modules

All you need for an open city infrastructure

As an all-round provider of outdoor solutions, Tridonic is improving its outdoor range with the latest generation of modules and drivers, combining safety, efficiency and innovation with the level of precision customers have come to expect. The new Surge Protection Device offers a higher level of overvoltage protection.

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**Module RLE ADV/EXC generation 2**

- **Efficient**: Up to 190 lm/W with Mid-Power
- **Safe**: NTC and up to 6 kV Surge/Burst resistance
- **Versatile**: Zhaga-compliant and M3-screw fixing

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**Much more than efficient – the next generation of outdoor modules**

Versatile, efficient and safe: The upcoming generation of RLE modules takes the three fundamental values of the Tridonic range for outdoor applications to the next level. The range of modules for outdoor and industrial applications has been specially designed for a modular luminaire concept. These highly efficient mid-power modules offer excellent glare characteristics, while the high-power modules impress with a long lifetime. Combined with Tridonic outdoor drivers, both modules can withstand an overvoltage of up to 6 kV.

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**Innovative ideas that make outdoor lighting systems safer and more efficient**

The innovative outdoor driver range ensures safe and efficient luminaire operation. As well as offering a wide range of wattages, the portfolio is particularly impressive as it offers an increased and flexible operating window in addition to two voltage outputs that enable maximum operational efficiency at all times. Every possibility is covered – from simple adjustment of the luminous flux via NFC* through to one4all DALI dimming solutions. Overvoltage protection for up to 10 kV (from 60 W) and outstanding temperature management ensure that the respective systems operate safely and efficiently – particularly under harsh conditions.

*Available from Q IV/2018

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**Driver 14/24/40/60 W Outdoor, one4all NFC* EXC generation 3**

- Optimized operation Window; Wide current range from 200 to 1,050 mA and 2-Vout
- Process-oriented programming and data interface
- Interfaces: NFC*, one4all, ready2mains, U6Me2
Why use a Surge Protection Device:
1. Increasing the lifetime of LED luminaires
   The electronic components within the LED luminaires are more sensitive against transients than previously in conventional solutions.

2. Reduce the risk of unexpected costs
   As it is difficult to identify a damaged component on site, in most cases the whole luminaire head will be replaced. Any defect in the field is costly and should be avoided.

3. Increasing the availability of light in security-relevant areas.

Robust fixed-output driver
The new ESSENCE driver generation is available with four output currents (500/700/1,050/1,400 mA) and comes in an IP67-protected aluminum housing. It is perfect for use in applications ranging from street and car park lighting to high-bay luminaires in industrial use. In their potted housings, the drivers can withstand ambient temperatures of −30 up to 60 °C and can be mounted outside the luminaire head, e.g. in the case of retrofit.

Energy consumption decreased drastically over the years, the sensitivity to overvoltages peaks with LED components

Surge Protection Device SNC

- Compact design
- Optical status indicator
- Double or reinforced insulation

Optimum protection from overvoltage with a compact design
The Protection Level II Surge Protection Device (Type II/III) guards luminaires against transients of up to 10 kV and 5 kA. This IP20-rated product can be used universally in different voltage systems between 100 and 277 Volt AC. It offers optimal protection of sensitive electronic components with a maximum output voltage of less than 1.3 kV (Up – L-N). KEMA KEUR certified, this product boasts double insulation, different wiring options and a mechanical visual status indicator.
The third generation of MSensors: open for all
New applications, interoperability and improved performance

A host of benefits with lots of different options

This development comes hand in hand with a new generation of sensors that are compatible with DALI-2 controllers from leading manufacturers and therefore are easy to integrate into various lighting management systems. Further, this facilitates the integration of sensors into luminaires, which are now also open for DALI-2 compatible systems. Not only is Tridonic playing a major role in developing these new standards but it is also one of the first to launch a complete series of corresponding luminaire built-in sensors developed in accordance with the IEC-62386-103 standard and to be certified by DiiA.

MSensor PIR generation 3

- Input device in accordance with the new DALI standard
- PIR technology with motion and daylight detection
- Can easily be integrated into LMS and BMS
- Compact design for complete integration into the luminaire

Multi-sensors for any application

Sensors featuring PIR technology combine the functions of motion and daylight sensors and offer various detection ranges, making them the ideal solution for every application. Low-bay sensors are perfect for low-ceilinged rooms such as offices and classrooms. Mid-bay sensors achieve the best results in the retail and industrial sectors. For areas up to 18 metres high, the range of high-bay sensors is particularly well-suited for logistics, warehouse and industrial facilities. Each sensor is easily integrated into the respective lighting management solution and building management system.
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Intelligent IP connected lighting for smart buildings
net4more

Luminaires generating data

Lighting is ubiquitous in every room, building and city. Equipped with the latest LED driver technology, luminaires are already a part of the Internet of Things (IoT). Tridonic focuses on the Internet of Light (IoL) as the lighting infrastructure provides the perfect backbone and enabler for the IoT.

Access the data and vision of tomorrow, today with Tridonic’s net4more Power over Ethernet (PoE) solution. Tridonic takes the IoL to a new level by accessing and aggregating data from luminaires. The net4more solution uses IPv6 connectivity without the need for gateways. All generated data can be accessed via open APIs on the link server or on the net4more cloud server. It can be also visualized via the Tridonic or customized apps on top of the net4more management portal.

Luminaires in the net4more system are equipped with sensors and drivers that can gather data – not only from the luminaire but also from the usage of the area surrounding it. The data, such as energy consumption or dim level, is as easily available as the date of commissioning which allows prediction of the lifetime. All data is accessible on the systems APIs or in the management portal and provides information to luminaire manufactures, building managers, users or whoever is interested in them and has been authorised by their owner.

Navigant Research’s report on “Power over Ethernet Lighting” noted that revenues in the PoE lighting segment are expected to grow from an estimated $35.8 million in 2016 to $499.9 million in 2025. Grow your piece of this burgeoning market with Tridonic’s customizable net4more solution and access nearly 100 different LED light sources compatible with the PoE luminaire driver. The luminaire manufacturer is now holding the key for future opportunities by utilising all of this data or enabling others to use it.
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Unlimited flexibility and efficacy
Module LLE generation 5

Maximum quality from the very beginning

Since 2000, more than 100 million LED modules in various designs have left the production facility in Jennersdorf, Austria – a substantial number that underlines Tridonic’s high level of expertise.

Each individual module is the result of an extensive qualification process. This begins with the selected raw materials that are comprehensively evaluated and tested. Each LED chip is chosen in accordance with its capacity to be processed, its visual characteristics and degree of reliability for further processing. Before completed modules leave the plant, they are subjected to a variety of tests that far exceed the requirements of the applicable standard in terms of number and intensity. This results in high-quality products, with the fifth generation of the LLE modules being impressive proof of this.

Module LLE 24 mm ADV generation 5

- Outstanding efficacy up to 200 lm/W
- CRI 80 and new CRI 90
- Combining different module lengths also in SELV portfolio

Exceptional efficacy for linear luminaires
A whole new level of efficacy is achieved with module LLE GS ADVANCED. Thanks to Zhaga-compliant lengths and boreholes, the modules can be easily integrated into existing designs. Additionally, with suitable covers they can be used directly as luminaires. Perfectly uniform light, even if several LED modules are used together in a line is another benefit.
Office and Education

New products

EM converterLED BASIC MH/LiFePO₄

- Added support for LiFePO₄ batteries
- Smart battery management
- Variants to support all LED voltages from 10 V to 250 V

Safety from a single source

The new generation of EM converterLED BASIC MH/LiFePO₄ now supports lithium iron phosphate batteries as well as an intermittent charge algorithm for NiMH. Designed to maximise battery lifetime, the smart battery management detects which battery type is connected and implements the correct algorithm. The units are compatible with all constant current drivers and supporting LED voltages up to 250 V. The new EM converterLED strengthens the solid foundation created by the original generation whilst expanding the functionality into new technologies.

Driver linear 50/75-W one4all ADV

- Selectable output currents via I-SELECT 2 plug
- Can be dimmed from 10 to 100 % via a DALI interface
- Increase life time of 100,000 h

The first ADVANCED driver with dimming function and adjustable currents

The one4all ADVANCED driver is ideal for simple lighting solutions that can be dimmed via the DALI interface. Output currents can be adjusted via the I-SELECT 2 plug. The low flicker value of < ±5 % guarantees high light quality.
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Retail and Hospitality
New products

Module DLE AC integrated one4all PRE / FO ADV generation 3
- Different lumen output: 2,000 lm, 3,000 lm
- Efficacy of up to 114 lm/W
- Reduced complexity thanks to a single SKU for drivers and modules

Integrated downlight solution with increased flexibility
Highly efficient single-component solutions for downlights make additional driver enclosures unnecessary, thanks to innovative driver-on-board technology. The third generation of DLE AC ADVANCED (fixed output) and PREMIUM (one4all) modules follows the trend for compact designs and ensures perfect interaction between driver and module technology. The constant current source helps modules to operate reliably and offers a low flicker value (across all dimming levels for PRE, too) in addition to highly uniform lighting.

Driver 25/40 W in-track flexC ADV
- Selectable output currents (25 mA steps): 350 – 600 mA, 500 – 1,050 mA
- Adapter available in white (RAL 9010) and black (RAL 9005)
- Can be combined with a variety of Tridonic spotlight modules

Invisible to the eye but essential for perfect track lights
In-track drivers and adapters – available in black or white – can be integrated into a 230-V 3-phase track in a way that makes them invisible to the eye, negating the need for a separate trackbox. Thanks to the wide operating window and wattages of up to 40 W, in-track drivers can be combined with a variety of LED spotlight modules. Output currents can be adjusted conveniently via I-SELECT 2 plug (resistor values according LED Set standard).

Driver 10/14 W ADV
- Efficiency up to 88 %
- Potted housing with a diameter of 42, 56 or 65 mm
- Good flicker value < ± 5 %

Design freedom for round spotlights
Thanks to its round, compact shape, the driver can be integrated directly into the spotlight head, making cumbersome trackboxes unnecessary. Presentation rooms and architectural spaces in particular benefit in this way from discreet spotlighting. Additional design freedom is provided with durability in extreme ambient temperatures of –20 °C up to +60 °C.
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Retail and Hospitality
New products

Calibrated Tunable White DLE PRE kit generation 2
- Colour spectrum that can be modified from 2,700 K to 6,500 K
- Extended dimming range from 1 to 100 %
- switchDIM and colourSWITCH for simple applications

Second generation Tunable White
The pre-calibrated kits from Tunable White 2-channel LED modules and DALI DT8 drivers enable the colour temperature to be individually selected, which remains constant across the entire dimming range. Pre-set dimming levels for coupled luminaires can be easily called up with a switch via the switchDIM function. The colorimetric locus can be called up via colourSWITCH. It is also possible to control the light wirelessly or via DALI devices and a touch panel.

Driver 38 W DT8 compact built-in and independent PRE
- Adjustable output currents for each channel
- Expanded dimming range of 1 to 100 %
- colourSWITCH and switchDIM for simple applications

Variable colour temperatures in all applications
Combined with the Tunable White modules from Tridonic, the calibrated kits of the Tunable White drivers ensure that the colorimetric locus remain constant across all dimming levels. The new, advanced technology enables extremely quiet operation. Further benefits include the very high efficiency of up to 90 percent and the significantly expanded dimming range. Equipped with colourSWITCH and switchDIM, the drivers also offer selectable colour temperatures in push button operation.

Driver 38 W 2-channel DT6, compact built-in and independent PRE
- Adjustable output currents for each channel
- Extended dimming range from 1 to 100 %
- Compact (C) or strain-relief housing (SR)

Two channels for maximum freedom
Two separate channels in one driver enable pendant and free-standing luminaires with direct/indirect light to be operated efficiently and are also ideal for simple Tunable White applications. The output currents can be adjusted for each channel via I-SELECT 2 plugs or DALI. In addition, pre-defined dimming settings can be selected using the proportion-SWITCH function. Lighting can be dimmed with a button via the switchDIM function. Drivers can be easily integrated into DALI control systems. This high degree of flexibility is also reflected in the one4all interface, which covers DALI DT6, DSI, switchDIM and corridorFUNCTION V2.
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Industry

New products

**Driver Linear 200 W fixC SNC Generation 2**

- Aluminium housing with IP67 protection
- Four selectable output currents of up to 1,400 mA
- Up to 94% efficiency

**The all-rounder for industrial environments**
The new linear 200 Watt ESSENCE driver offers the maximum robustness for industrial applications through its IP67 protected housing, the wide temperature range from –30 to +60 °C and an overvoltage protection of up to 6 kV. To avoid complexity and wiring in the luminaire, the driver has been reduced to the four most commonly used output currents (500/700/1,050/1,400 mA) and is therefore ideal for simple industrial luminaire designs. The high output of 200 W allows a luminous flux of up to 30,000 lumen to be achieved. This offers ideal lighting conditions in high-bay applications.

**Driver linear 100/150 W, industrial applications, one4all PRE**

Variant **“harsh”** for tough environments:
- High temperature range from –40 ... +70 °C
- Wide operating window
- 8 years warranty
- Minimum dim level of 1%
- Improved test cycles in terms of robustness and vibration

Variant **“moderate”** for normal environments:
- Temperature range from –25 ... +50 °C
- Wide operating window
- 5 years warranty
- Minimum dim level of 1%

**Driver series for harsh and moderate environments**
The new industry PREMIUM drivers combine robustness and a long lifetime with high efficiency and minimal standby losses. This guarantees maximum energy savings and long maintenance intervals. The drivers are perfectly suited to the fast growing Highbay market as their dimensions fit optimally into trunking systems. The two different variants, **moderate** and **harsh**, support applications in both normal and extreme environments. Furthermore, the driver is guarded by an overvoltage protection of 4 kV.
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Universal input voltage
New products

Driver linear 40 W, IoT-Ready PRE UNV

- Smart Modul Interface open for all intelligent sensors and protocols
- UL-certified, class II
- Dimming range: 1 to 100 %

First IoT-Ready Profile 1 compliant driver for energy reduction and monitoring
The driver is ideal for the seamless operation of sensors, which comply with the IoT-Ready Alliance standard when connected to an RJ45 connector. The backwards-compatible driver can be integrated into lighting management systems with any protocol, including THREAD, ZigBee and Bluetooth, enabling precise energy measurements by monitoring and displaying consumption values.

Driver compact 12/20 W 0–10 V or phase-cut outdoor ADV UNV

- IP66 housing
- Phase Cut or 0–10 V dedicated option available
- UL Recognized and Type HL

Overcome extreme environments without any problems
The highly compact, dimmable constant-current drivers with IP66 protection are ideal for use in outdoor and industrial systems. The Class II drivers optimally withstand extreme temperatures from −30°C to +90°C. Both the 12-Watt and 20-Watt versions enable dimming settings to be adjusted via leading edge and trailing edge phase dimmers or the 0–10 V interface.
companionSUITE
Software simplifies parameter setting

The Tridonic companionSUITE software collection supports luminaire manufacturers with the generation, transmission and control of driver settings. These include current, corridorFUNCTION, chronoSTEP, Constant Light Output, DC level for emergency lighting, etc. The companionSUITE is compatible with all common interfaces like DALI-2 or NFC. Their objective is to optimise processes in the long-term and counteract production errors. During subsequent quality management, Tridonic companionSUITE also makes it easier to analyse and correct potential sources of error.

deviceCONFIGURATOR
Using this program, production employees can easily and securely transfer defined settings to the driver. To avoid errors to the highest degree possible, the deviceCONFIGURATOR has a special function package consisting of a traffic light function and a barcode scan for reliable identification of the driver. There is also the option of checking written parameters via DALI and NFC.

The application is available to download from our website: https://www.tridonic.com/com/en/software.asp

deviceGENERATOR
This intuitive software enables users to create individual profiles with ease. This ensures that every driver receives the right setting in the next step. Thanks to regular updates and consistent further development, the software is always up to date.

The web based tool can be opened via https://devicegenerator.tridonic.com

deviceANALYSER*
This software was designed to make it easier for luminaire manufacturers to analyse errors in the event of a return. All parameters can be read out using the driver and compared with the original configuration. Deviations, which occurred at the luminaire’s place of use, are marked automatically.

* Coming in Autumn 2018
Decentralised lighting management

The newly opened ZERO NERO fitness club in Bergamo, northern Italy, offers state-of-the-art equipment training, a trendy range of courses and relaxation in a building of approximately 1,500 square metres. A system solution from Tridonic creates the right lighting scenes in all areas. The studio operator benefits from flexible control and reliable maintenance via the cloud with the connecDIM gateway.

FastLed performed the light planning for the various requirements in reception, in the open space with the sports equipment, the teaching studios and the spa and beauty area, and implemented the lighting concept.

When laying out the various rooms, the focus was on indirect light to create a pleasant atmosphere everywhere for club members. Additional direct accents create an interplay of light and shade. The DLE and SLE LED modules are used in downlights and spotlights and stand out for their high module and system efficiency along with colour consistency. LLE FLEX flexible LED continuous rows ensure light homogeneity in linear luminaires. The modules are operated with DALI LED drivers, which are controlled in a decentralised way via a connecDIM gateway.

Tridonic products used

- connecDIM
- Module LLE FLEX, DLE, SLE
- Driver DALI dimmable
Close light

We attach great importance to a strong international presence – this allows us to stay sufficiently close to our customers.