VOSSLOH SCHWABE

newsLIGHT

EDITORIAL

Dear Customers and Readers,

While it may be a bit of ancient wisdom to say that information only hurts those who lack it, the saying has never been more fitting than today. It is equally true to say that the "half-life" of modern LED technology has become shorter than the period between two trade fairs.

So to bridge the gap, we present newsLIGHT, our brand new information brochure, of which we are proud to present the very first issue today.

As the name already suggests, newsLIGHT will provide information on the latest developments regarding our components and systems. In addition, each new issue will not only feature a reference project – which can be anywhere in the world – involving our products, but will also offer you an insightful glimpse behind the scenes of our testing and measuring facilities. In each case, we aim to provide you with more information about our know-how and customer-orientated services. Last but by no means least, newsLIGHT will include regular updates regarding relevant standards as well as the dates we will be presenting our innovations, for example, at trade fairs.

newsLIGHT will be published twice a year in printed and electronic form. That means it will also be available for download from our website at www.vossloh-schwabe.com, along with further in-depth information.

By continuously developing the company for the future, we strive to ensure we can continue providing you with tomorrow's innovative solutions today. Challenge us.

We hope you will find our newsLIGHT to be a good and informative read.

Yours,

Andreas Vogel,
Managing Director Sales and Marketing

CONTENTS

LED-HIGHLIGHTS

LED modules for reflector luminaires used in shop lighting

Our new LED modules for retail lighting applications are now ready for mass production. Thanks to their compact design and protective frame, these modules are particularly suitable for use in reflector luminaires, and their photometric characteristics make them comparable with the 20 W or 50 W HID lamps typically used in downlight applications for retail lighting purposes. However, the modules are equally ideal for use in furniture lighting, flat ceiling-mounted downlights, façade lighting equipped with suitable reflector technology, stairwell or hallway lighting as well as suspended luminaires with external technology.

The modules will be available in two sizes (50 mm or 56 mm in diameter), with various numbers and arrangements of LEDs as well as with the following colour temperatures: 2700 K, 3000 K and 4000 K. Given favourable conditions, luminous fluxes of up to 4000 lm can be achieved using these modules. A thermal fuse that switches the module off if it overheats guarantees safe operation. In addition, the 56 mm modules are equipped with an integrated 12 V DC interface for connecting external active cooling components (e.g. a fan).

Up to 3000 lm – HeliosLine and HeliosFlood LED modules

Our new Helios LED modules, each of which is fitted with eight LEDs, have set a new standard in light intensity and can achieve brightness levels up to 3000 lm at 350 mA and a maximum power uptake of 32 W. The superior light intensity ensured by these modules makes them an ideal choice for general lighting applications.

Both products are available in cool white and warm white. As the warm white modules achieve a CRI of Ra 85, they are also perfect for shop lighting purposes. The product range is rounded off by optionally available self-adhesive optics attachments.

HeliosLine
Line module: 280 x 25 mm
Suitable for
slim linear luminaires

HeliosFlood
Round module, ∅ 110 mm
Suitable for
e.g. downlights

Efficient module operation is ensured by Vossloh-Schwabe's 350 mA/42 W driver. The ECXe 350 mA/42 W driver can be used to operate between 12 and 30 high-performance LEDs at 350 mA within a secondary voltage range of 40 V to 115 V – and with an outstanding efficiency factor of 89 % to 92 %. The driver is not only protected against short-circuiting and overloading, but also against transient mains peaks of 4 kV between L, N and PE and 3 kV between L and N, all of which makes it ideal for use in LED street luminaires. The ECXe driver and Vossloh-Schwabe's Helios modules thus combine to form an energy-efficient and reliable lighting system.

LED-HIGHLIGHTS

Line, Spot and Mini LED modules

Energy-efficient, high-CRI, VDE-certified in accordance with EN 62031

Line (8 LEDs, 200x15 mm)

Spot (4 LEDs, Ø 45 mm)

Mini (4 LEDs, 50x10 mm)

Vossloh-Schwabe's new XP and HC Line, Spot and Mini LED modules are not only compact in size, but also come with various numbers of mounted LEDs. As a result, they can be used to cover a wide range of luminaire types and luminance levels.

The modules are each fitted with XP-C, XP-E or XP-G LEDs made by Cree. The HC module (high CRI) constitutes a special case as the warm white LEDs deliver an impressive CRI value of Ra 85 or 92. In addition, the modules have been certified in accordance with the new EN 62031 safety standard by the VDE (German Association for Electrical, Electronic & Information Technologies), which considerably eases the certification process required for the finished luminaire.

Cree XLamp™ XPx – in detail

Vossloh-Schwabe's Mini, Line and Spot LED modules feature the new XP LED series made by the American manufacturer, Cree Inc. Compact casing dimensions (3.45 x 3.45 x 2 mm) teamed with differently rated microchips ensure a product range that enables a broad performance spectrum. The difference between the XP-G, XP-E and XP-C LEDs lies in the size of the integrated chip. The larger the chip, the higher the light intensity, efficiency and maximum permissible driving current.

High CRI value – Ra 85/92

High-CRI LEDs are required for certain applications, such as providing lighting for living space, shops or museums. While conventional warm white LEDs attain a CRI value of Ra 80, the new high-CRI (HC) LEDs offer an astounding CRI of Ra 85 or Ra 92. Our Line, Spot and Mini LED modules are now also available with these HC LEDs. Our range includes several product types, including flexible linear modules.

The clear visual improvement achieved with an enhanced CRI value is particularly apparent in the red and yellow spectral range. This lifelike reproduction of shades enables "true-colour" displays of any product line.

Colour rendering value: Ra ~ 80

Colour rendering value: Ra > 85

A 40 W halogen lamp replaced with a Mini XP-E module made by VS.

G9/40 W

Mini XP 5.5 W

Update regarding LEDLine ECX drivers

With immediate effect, our constant current drivers of the ECXe LEDLine series are now also suitable for operation with DC voltage. With the exception of the 350 mA/42 W device, all drivers can now be operated on the primary side using AC voltage or DC voltage of 176 V to 264 V – as a result of which they can now also be used in emergency lighting systems. These drivers naturally also comply with the updated EN 55015 EMC directive for devices up to 300 MHz, both for AC and DC voltage operation. Offering a maximum output that is higher by 2 W at identical casing dimensions, the new ECXe 350 mA/8 W driver is set to replace the old ECXe 350 mA/6 W device.

The ECXd 700 mA/34 W DALI constant current driver delivers 700 mA and can regulate brightness within a range of 0.5% to 100%. Driver control can be effected either using a DALI-compatible controller or a conventional keypad (PUSH). A PWM signal is applied to the 700 mA output current for the purpose of LED brightness control. As LED brightness remains at 100% if no PWM signal is applied, the driver is also suitable for stand-alone operation. The output voltage is regulated to remain within a range of 9 V to 48 V. The driver can be used to actuate from 3 to 12 typical high-power LEDs at 700 mA. The driver is available in two models: one made for built-in operation and one featuring an integrated cord grip for independent operation. A 50/60 Hz supply voltage is required for AC voltage operation and a 0 Hz supply voltage for DC voltage operation of the driver.

CONTROL, DIM, SAVE – LiCS

Energy-efficiency, sustainability, cost reduction and flexibility – these are not only today's popular catchwords, they are also becoming ever more significant for our future.

Merely "thinking green" or optimising costs no longer cuts the mustard in the current climate – instead, systems have to be both innovative and adaptable to performing a variety of tasks. Our newly developed LiCS lighting control system ticks all the boxes in this respect.

Whether it be used for commercial or residential lighting purposes, a modern lighting control system must both permit flexibility of use and ensure easy operation. Moreover, various methods can be used to effect energy savings and therefore cost reductions. Using Vossloh-Schwabe's MultiSensor technology, for instance, will ensure lighting levels are automatically modified to suit ambient conditions, while initiating a system check will immediately identify any defective luminaires or lamps and make performing maintenance tasks considerably more convenient.

VS Light Controller L

Developed on the basis of DALI and requiring neither a superordinate bus system nor a separate data input device, the "VS Light Controller L" is a lighting control system for use with 35 mm installation rails. The controller is configured by the display using a rotary control knob.

- Up to six independently configurable standard push-buttons
- A maximum of 64 separately addressable luminaires, up to 16 separately addressable VS MultiSensors. (The maximum bus load of 200 mA must be observed.)
- Standard push-buttons for switching, dimming and calling up pre-programmed lighting scenes
- Push-button activation of the integrated timer
- Constant light control of groups/luminaires
- Relay contact for minimising stand-by losses

VS Light Controller LW

Used in combination with EnOcean technology, the "VS Light Controller LW" permits radio-controlled system operation.

- Range: up to 30 m inside buildings
- Various push-button-operated remote control models
- Batteryless, wireless and maintenance-free

VS MultiSensor

Using daylight sensors and motion detectors serve to both save energy and increase personal comfort and convenience at the same time. To this end, VS has developed a new light- and motion-detecting MultiSensor device.

- Power supply via the DALI bus without requiring additional mains power
- Fully configurable using the VS Light Controller
- Space-saving installation due to small dimensions
- For surface- or built-in mounting as well as integration in luminaires (VS MultiSensor SM, VS MultiSensor FM, VS MultiSensor IL)

VS Extender

A total of 64 luminaires can be controlled via one DALI address using Vossloh-Schwabe's new extender unit.

- With cord grip for independent installation
- Number of luminaires is randomly expandable

EFFICIENT ECO-DESIGN

Downlighting using VS DALI components

DALI has established itself as the global standard for digital lighting control.

Together with LiCS, our new CFL DALI product range forms an ideal control system for energy-efficient lighting in shops, offices, industrial sites and public buildings. As our DALI-compatible control gear units attract an A1 classification, they already now meet the stringent requirements specified by the third step of the EU's eco-design directive (2005/32/EC), which is not due to come into effect until 13 April 2017.

Key advantages for various applications:

- Energy savings
- Reduction of CO_2 emissions
- Lighting comfort
- Lower maintenance and energy costs

Performance features that positively impact lighting systems featuring VS DALI control gear units:

- Two-strand, potential-free control input that is not sensitive to polarity
- Gradual dimming curve to suit the eye's sensitivity to light
- Enables total system, group or individual lighting control
- Scene memory
- Synchronised scene transitions
- Status reports on lamp condition
- Easy integration into building management systems

Numerous dimmable lighting systems simply require a conventional push-button for switching and dimming purposes. In addition to featuring a DALI interface, our DALI-compatible, CFL electronic ballasts are therefore fitted with an additional input to enable a push-button to be connected if desired.

The push-button can be connected either between the phase of the EB's mains voltage supply and the key input or between the EB's neutral conductor and the key input.

Characteristics of the PUSH function:

- Only one push-button needed for dimming and switching on/off
- Fully supported DC operation – no functional limitations
- The last-selected lighting level is stored
- Soft start

Our CFL DALI products are available for two lamp types:

- 14 W/17 W TC-TEL lamps
- 18 W and 26 W/32 W/42 W TC-DEL/-TEL lamps

Both CFL models are available to suit one- or two-lamp and/or built-in or independent operation.

Other features:

- Stand-by losses: < 0.3 W
- Automatic restart after lamp replacement
- Suitable for luminaires of protection classes I and II (in line with EMC specifications)

Photo:
Swiss Reinsurance Company, London. Fitted with cutting-edge technology made by VS: DALI 2 x 26 W/32 W/42 W

COOPERATION IS KEY

Vossloh-Schwabe – more than (just) a component manufacturer

We provide our customers with bespoke, all-round solutions that range from design, sampling and tool manufacturing all the way to assembly and production equipment. When developing customised connecting terminals and lampholder systems, we therefore naturally also draw on our knowledge of adapter and track systems featuring up to 12 poles. Vossloh-Schwabe's direct internal communications channels make a further contribution to delivering successful solutions to our customers.

The DISCUS spotlight system made by Zumbotel Lighting GmbH is a good example of a current collaborative project. As part of a bespoke, all-round solution engineered for a specific customer within the framework of a cooperative project, new adapters and track boxes were jointly developed for Zumbotel Lighting's spotlight systems. The outstanding teamwork involved in drawing up the project requirements as well as in elaborating design details and how best to implement them are particularly worthy of note.

Track box benefits at a glance:

- Linear design and functional improvements
- The mechanical workings of the track box are fully hidden by the 3-phase track, thus keeping visible dimensions very small.
- Linear in design and fitted to run alongside the track, the track box integrates seamlessly into any ceiling design.
- Adding DALI functionality ensures additional flexibility when refurbishing existing lighting installations.
- The track box is designed to permit easy, intuitive operation. Once the box has been fitted, a rotary switch on the side permits phase selection, even during operation.

Further track box and adapter functions:

- Space for various (20 W to 150 W) electronic control gear units for HID lamps and lighting solutions involving LEDs.
- Easy luminaire mounting thanks to pre-wired adapters and use of IDC connecting terminals.
- The combination of plastic and aluminium plus a double locking mechanism go to ensure extremely stable attachments to the track.
- A DALI solution is also available, including electronic protection for applications in which DALI-compatible luminaires are connected to a standard three-phase rail.

Outlook

We will continue to develop this technology as well as maintain close cooperative contact with our customers in the future too. In so doing, our main aim will always be to satisfy customer-specific requirements with bespoke applications and solutions.

Vossloh-Schwabe's LEDSpots: the perfect replacement for halogen spots

Solution concepts involving special lampholders have already been delivered by Vossloh-Schwabe in the past. Now the time has come to shed some light on the area of LED technology as well and also offer our customers a complete LED solution. Tailor-made solutions can naturally be implemented as well. A variety of fixing springs permits easy installation in furniture, ceiling panels and cooker hoods.

The new LEDSpots are equipped with transparent or opaque optics and high-power Cree XP-E LEDs with a service life of up to 50,000 hours. In comparison to conventional halogen lamps, energy consumption decreases by 50 %.

- Colour temperatures: from warm white (2850 K) to cool white (6200 K)
- Shiny- or matt-finish metal ring
- Fixing springs for easy mounting
- Available as a set with three VS LEDSpots, plug-in connectors and a constant current driver

MAGNETIC – READY FOR THE FUTURE!

Magnetic HID ballasts with an A3 and A2 energy classification

All of our standard magnetic HID ballasts already comply with the A3 energy classification that is due to come into effect in 2012 and whose limiting values will then remain valid until 2017.

As of 2017, only ballasts attracting an A2 energy classification will then be permitted within the European market.

Investments made into a new production facility in 2010 have set the course for the future. We are now able to offer our customers a complete range of particularly low-loss A2 HID ballasts for all wattages, but with the same mounting dimensions as our current range of standard devices.

Key advantages at a glance:

- Extremely low-loss devices
- A2 energy classification
- Mounting dimensions that are identical to those of our current range of standard devices
- Service life of at least 100,000 hours

Ideal for all indoor and outdoor HID lighting applications.

Magnetic ballasts for fluorescent lamps with an A2 energy classification

Thanks to using special low-loss electrical steel and designing a new ballast shape, we can now provide our customers with magnetic ballasts for fluorescent lamps that meet the requirements of the European A2 energy classification.

Consisting of an extremely low-loss A2 ballast for fluorescent lamps plus an electronic starter, this system is suitable for many future applications.

Major advantages include:

- Planning reliability for the future due to the A2 energy classification
- Lamp service life comparable to that achieved using an EB with an A2 energy classification
- Low maintenance costs with a service life of at least 100,000 hours

Perfect for use in:

- Extreme ambient temperatures (–30 °C to +80 °C)
- Aggressive environments (nuclear power plants, mines, petrol stations, etc.)
- Industrial buildings and railway stations

IDEAS THAT IGNITE

Superimposed ignitors with push-in terminals

Vossloh-Schwabe ignitors with push-in terminals provide measurable advantages: time and costs are not only saved due to faster installation, but our tried-and-tested push-in terminals greatly simplify the job of wiring up components and additionally save time as well.

Our ignitor range is rounded off by an all-in package (consisting of a VS ballast, capacitor and ignitor), which is now also available with push-in terminals. But whether they feature push-in terminals or screw terminals, all VS ignitors share the same electrical properties.

- Superimposed ignitors in a plastic casing for lamp outputs of up to 400 W
- Available as a standard ignitor and as an ignitor with an automatic cut-out
- Guaranteed safe and reliable with an electric ignition of up to 5 kV
- Conductor cross-section: 0.5–2.5 mm²
- Suitable for solid conductors und flexible conductors (with end sleeves)

Ignitors with an integrated power switch – now also with push-in terminals

The compact new design of this unit permits space-saving integration inside the luminaire. In addition, the device naturally also saves costs and effort: the "two-in-one" solution reduces installation and maintenance costs, while tried-and-tested push-in terminals ensure easy wiring. The two different mounting options the ignitor is fitted with ensure further flexibility. The device can be attached using either an M8x10 male nipple or the fixing brackets on the casing.

- Area of application: 50–70 W and 70–250 W HS lamps
- Conductor cross-section: 0.75–1.5 mm²
- Suitable for solid conductors and flexible conductors (with end sleeves)
- Integrated power switch guarantees full-load lamp start
- Output reduction with switched-off control phase L_{ST} (positive logic)

Control phase L_{ST} ON (230 V) = the high-pressure discharge lamp is operated at nominal output. Control phase L_{ST} OFF = the high-pressure discharge lamp is operated at reduced power after a time lag of 327 seconds.

This does not shorten the lamp's service life!

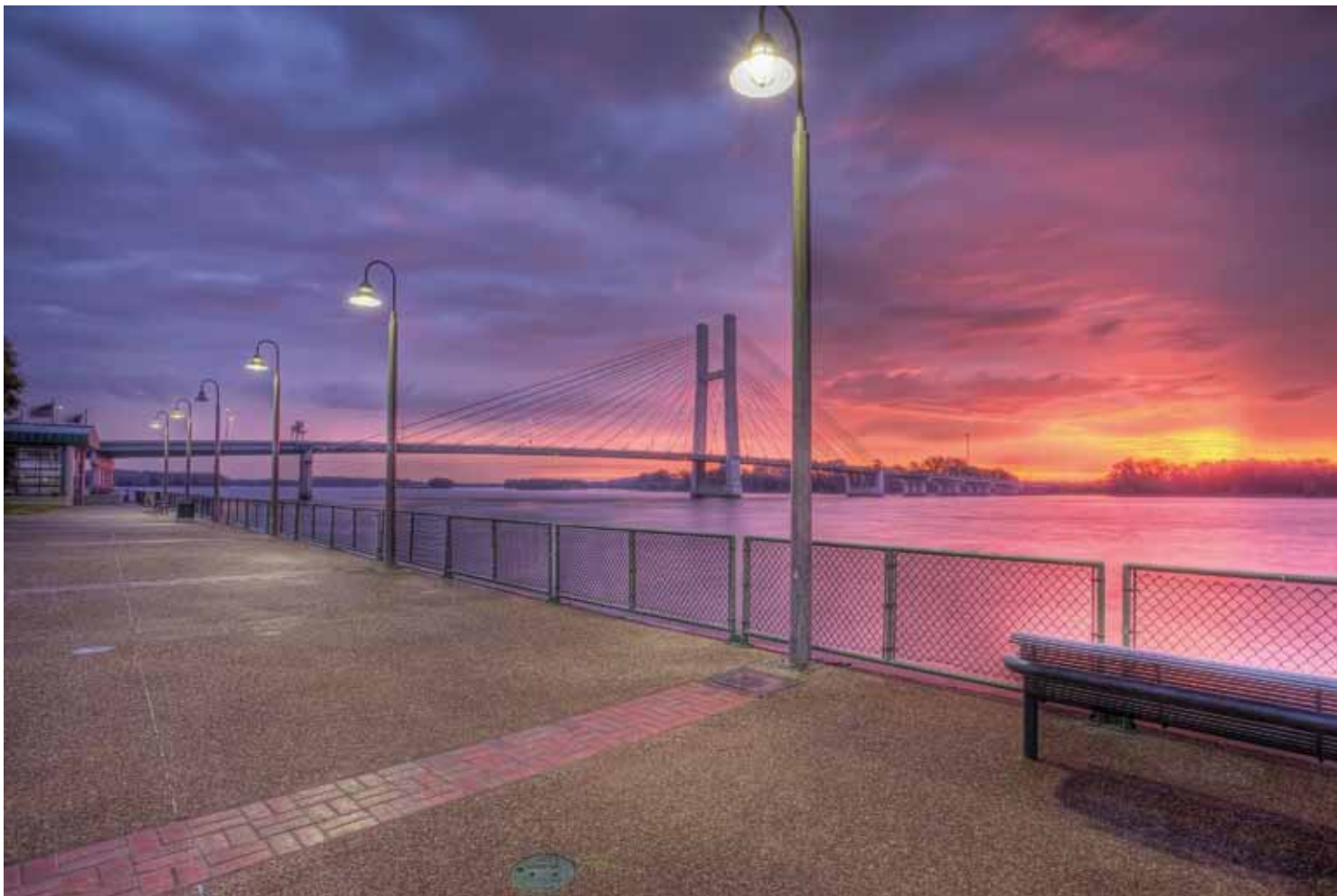
Power switch for operating various lamp types at reduced power

The power switch is designed to enable single-step reduction of the operating power used by various lamp types (FL, CFL, LED, HS, HI and C-HI) via the respective converter or electronic ballast using the 1–10 V interface of the control gear unit. The power switch is mainly used for outdoor luminaires.

Power reduction is effected on the basis of positive switching logic, i.e. power is reduced when the control phase L_{ST} OFF equals 0. Discharge lamps can only be operated at reduced power if they are approved for this purpose by the manufacturer.

Other features:

- A suitable resistor (1–70 kΩ; minimum power loss of 0.1 W) can be used to address the power switch via an external terminal at the output
- The resistor must be selected by the manufacturer to suit the desired degree of power reduction
- Suitable for use in luminaires of protection classes I and II



LITTLE THINGS MAKE ALL THE DIFFERENCE

It may be a well-kept secret, but the little German town of Herzogenaurach is actually the world's capital of sport! And this is no idle claim to fame, since the town is home to the new headquarters of PUMA, the German sport lifestyle company. Covering a total area of 50,000 sqm, the new premises are made up of three buildings: one for admin, one housing the Brand Center and one for the PUMA factory outlet store. As a result of clever office design featuring ceiling-height glazing, the 107 individual and open-plan offices found in the admin building provide PUMA's admin staff with generously dimensioned office space that is bathed in natural light. Commanding an area of 10,000 sqm, the Brand Center is mainly used to exhibit PUMA's innovative sport lifestyle collections, but also includes a multimedia auditorium that is large enough for 1,500 people. Finally, the PUMA factory outlet store covers another 3,000 sqm of sales area, spread over three levels. The three buildings are positioned in such a way as to create a large central square, the PUMA Plaza.

Inspired by a shoe box

The architect who designed the buildings, Klaus Krex of da capo al fine architects in Nuremberg, drew his inspiration for the PUMA store directly from the PUMA brand – namely, from the world-famous red shoe box. When it came to the projecting platform of the multimedia auditorium, on the other hand, he took up the idea of the well-known PUMA stripe. And even with regard to the most important marketing tool in the world of architecture – that of lighting – Krex remained consistently true to PUMA's brand image.

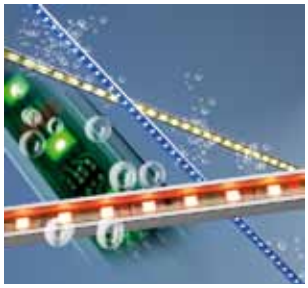
The red shoe box also provided Krex with a bright idea for designing the lighting of the outdoor area, thanks to which the illuminated façade of PUMA's new corporate headquarters already draws attention from a distance as an inviting beacon for visiting guests. Fitted with energy-saving lighting technology, the "light in the shoe box" both makes an elegant brand-affirming statement and acts as a welcoming business card that is visible from afar.

The outdoor luminaires designed by SELUX are a perfect match for the red-themed PUMA factory outlet store with the driveway and the parking spaces adjacent to the building illuminated with single and double luminaires. The wholly unique design of the iconic PUMA lamppost, the luminaire head of which is loosely representative of the sleek brand PUMA lithely leaping out of a half-open PUMA shoe box, is another real eye-catcher. In addition, light columns and LED markings on the ground create a fitting and memorable lighting atmosphere.

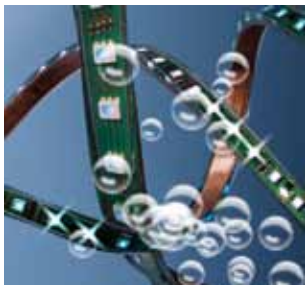
Semperlux and Vossloh-Schwabe illuminate the new PUMA headquarters in Herzogenaurach, Germany

PUMA Plaza illuminations

The inner courtyard features additional red and white effect lighting in the form of ground-level linear markings created using LEDs made by Vossloh-Schwabe. These LEDs enable digital lighting sequences to flow over the square. To complement the clear-cut, rectilinear forms that characterise the entire building complex, a number of slender light columns, made of square aluminium sections, were installed to add to the courtyard's stylishly chic appearance.



The LED modules provided by Vossloh-Schwabe were encapsulated in line with IP67 for use in outdoor applications before being installed in the aluminium light columns. This ensures the LED modules are particularly well protected against environmental stress factors such as water, dust and temperature fluctuations. In addition, the aluminium columns ensure a high degree of structural stability, guarantee easy handling and are equipped with Vossloh-Schwabe's well-known LEDLine Flex SMD modules in red and white.
Innovative solutions including spotlights, floodlights, bus bars, recessed luminaires, free-standing luminaires and downlights – all operated using Vossloh-Schwabe's high-quality components – were also provided by SELUX to suit the many and varied indoor lighting needs.



Flexible lighting design with savings potential

The main aim of the lighting concept developed for the new PUMA corporate headquarters was to deliver optimum quality of light, enable maximum flexibility in using the available space and yield the greatest possible energy savings. As a result, the lighting system comprises 1,200 m of the DALI-compatible EUTRAC bus bar and i-trac luminaires made by SELUX as well as 985 DALI ballasts and 4,650 standard electronic ballasts made by Vossloh-Schwabe.

SELUX' i-trac PARABOL floodlight features a tilting luminaire body for creating uniform light curtains that constitute an ideal source of general lighting at the workplace, while SELUX i-trac SPOTs are perfect for accent lighting to set off the interior design. The fact that the i-trac luminaires made by SELUX are designed to permit quick insertion at any point along the bus bar without requiring tools keeps the lighting system flexible enough to adapt to any changes made to rooms. The integrated DALI control common to both the spot- and the floodlight enables individual and dynamic light coordination.
The top-quality DALI electronic ballasts supplied by Vossloh-Schwabe fully meet the DALI standard and are fitted with a potential-free two-strand control input that is not sensitive to polarity. The achieved dimming curve is analogous to the eye's sensitivity to light. Vossloh-Schwabe's DALI electronic ballasts make it possible to address the lighting system as a whole as well as groups or individual luminaires. In addition, they feature a scene memory function and provide notification in the event of defective lamps. Finally, the low-power design ensures very low stand-by power consumption.

PUMA photos by Markus Bollen

INTRODUCING:

Our luminaire testing laboratory in Urbach

Our testing laboratory is indispensable in the development and testing of new luminaires. In short, it serves to ensure product quality and helps our customers to save costs and time. Our fully automated thermal and electrical testing facilities pursuant to EN 60598 are not only invaluable for CE-marking purposes, but can also serve to avoid time-consuming re-testing by ensuring that luminaires are first checked in the lab before being submitted to a certification institute for testing.

These tests allow us to make recommendations regarding suitable control gear with a view to meeting all technical, economic and environmental requirements.

Testing procedure

Divided into several key steps, the testing procedure runs over approx. 24 hours and is completed automatically once started. The associated test reports are produced once the testing phase has been completed, either in industry or testing institute format in German, English or French. Apart from taking temperature readings, electrical values (U, I, P) are also measured on the primary and secondary side. For luminaires operated with electronic ballasts there is the additional option of measuring the electrical values per lamp circuit using a wattmeter.

A wattmeter is also used to accurately record the values of luminaires with high-frequency supply units. With regard to luminaires with low-voltage transformers, a specially developed ohmmeter has been integrated to measure the resistance of the winding. The R-cold, R-warm and winding temperature values are also recorded.

Testing procedure in accordance with EN 60598:

1. Entering the parameters of the device to be tested and the testing conditions
2. Testing after completion of the burn-in phase
3. Testing during normal operation at 0.9, 1.0, 1.06 and 1.1 x rated voltage
4. Testing during extraordinary operation at 1.1 x rated voltage and short-circuited starter
5. Thermal fuse testing
6. Half-wave operation

Test results are made available in a standardised test report agreed with the respective test institutes.

Four test circuits each provide connections to test the following equipment:

- LED luminaires
- Luminaires featuring inductive fluorescent lamps or capacitive fluorescent lamps
- Luminaires operated with electronic ballasts
- Luminaires featuring mercury vapour lamps (HM) or high-pressure sodium lamps (HS)
- Low-voltage luminaires with a magnetic or electronic transformer
- Luminaires with incandescent lamps and luminaires fitted with an autotransformer (luminaires destined for the US market)

STANDARDISATION AND TECHNOLOGY NEWS

LED technology has asserted itself within the lighting industry and is influencing global standardisation activities

The need to make sparing use of natural resources has also impacted global standardisation activities, whose main focus is the use of electronics in all lighting applications. In consequence, these activities naturally also include the electronic systems required to operate and control common lamp technologies and equally those needed for lighting systems involving LEDs (incl. OLEDs).

For the field of LED technology this can mean having to agree new procedures and approaches regarding the safety and performance requirements of LEDs and their electromagnetic compatibility. In addition, the photobiological safety factor is also given careful consideration. The following table shows the relevant safety and performance requirements of LEDs and associated systems.

Product	Safety requirements	Performance requirements
LED Lamps	IEC 62560 Edition 1, publication of the standard is expected in 2011	IEC 62612/PAS publicly available specification
LED Ballasts	IEC 61347-2-13, the standard was published in 2006	IEC 62384, the standard was published in 2006
LED Modules	IEC 62031 Edition 1, the standard was published in 2008	A draft is being developed
LED Luminaires	IEC 60598-1, the standard has long been in use and includes luminaires with LED lamps	A draft is being developed
LED Products	IEC TS 62504, terms and definitions for LEDs and LED modules used for general lighting purposes	

The product evaluation criteria to be used for assessing the electromagnetic compatibility of luminaires fitted with LEDs are laid down in current standards. These considerations do not result in any design conflicts with regard to luminaires fitted with built-in components. However, for systems that do not qualify as classic luminaire constructions, the aim is to assess the electromagnetic compatibility of individual components instead of the system as a whole, which would give manufacturers of such luminaire-esque systems the freedom to use any combination of individual components they liked and would remove the need for time-consuming testing of the system as a whole.

An implementation date for this EMC assessment has yet to be named.

2011 TRADE FAIR OUTLOOK

Middle East Electricity 2011

08 – 10 February 2011, Dubai International Exhibition Centre

When the Middle East Electricity fair opens its doors for the 36th time in February 2011, it will be to welcome an international group of companies and specialists from sectors such as energy generation, lighting, water, new and renewable energy as well as nuclear power generation.

As in previous years, we will again be represented with a stand **(in hall 8-G10)** and are looking forward to presenting numerous new developments for all lighting applications at the German Pavilion.

This year, our special exhibition focus is on energy-efficient solutions.
Our highlights include:

- HID shop lighting
- LED modules for street lighting and lighting for large indoor spaces
- Lighting control systems
- Power reduction for outdoor lighting

Our trade fair team is looking forward to your visit and presenting our innovations for the lighting industry to you in person.

EuroShop 2011 – The Global Retail Trade Fair

26 February – 02 March 2011, Düsseldorf Exhibition Centre

The international EuroShop trade fair is set to provide another quality-packed programme for the areas of store construction, lighting, architecture and store design – and for the 17th time! The exhibition covers every aspect of product presentation, visual marketing and sales promotion at the point of sale.

We will also be at the EuroShop this year in **hall 11, stand F01**, where our team of experts will be on hand to present our latest developments and technologies along with efficient lighting solutions for all kinds of sales environments.

We look forward to your visit.

Porsche Museum, Stuttgart-Zuffenhausen, Germany
Equipped with VS components (e.g. built-in electronic ballasts, DALI-compatible electronic safety converters)

VOSSLOH SCHWABE

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