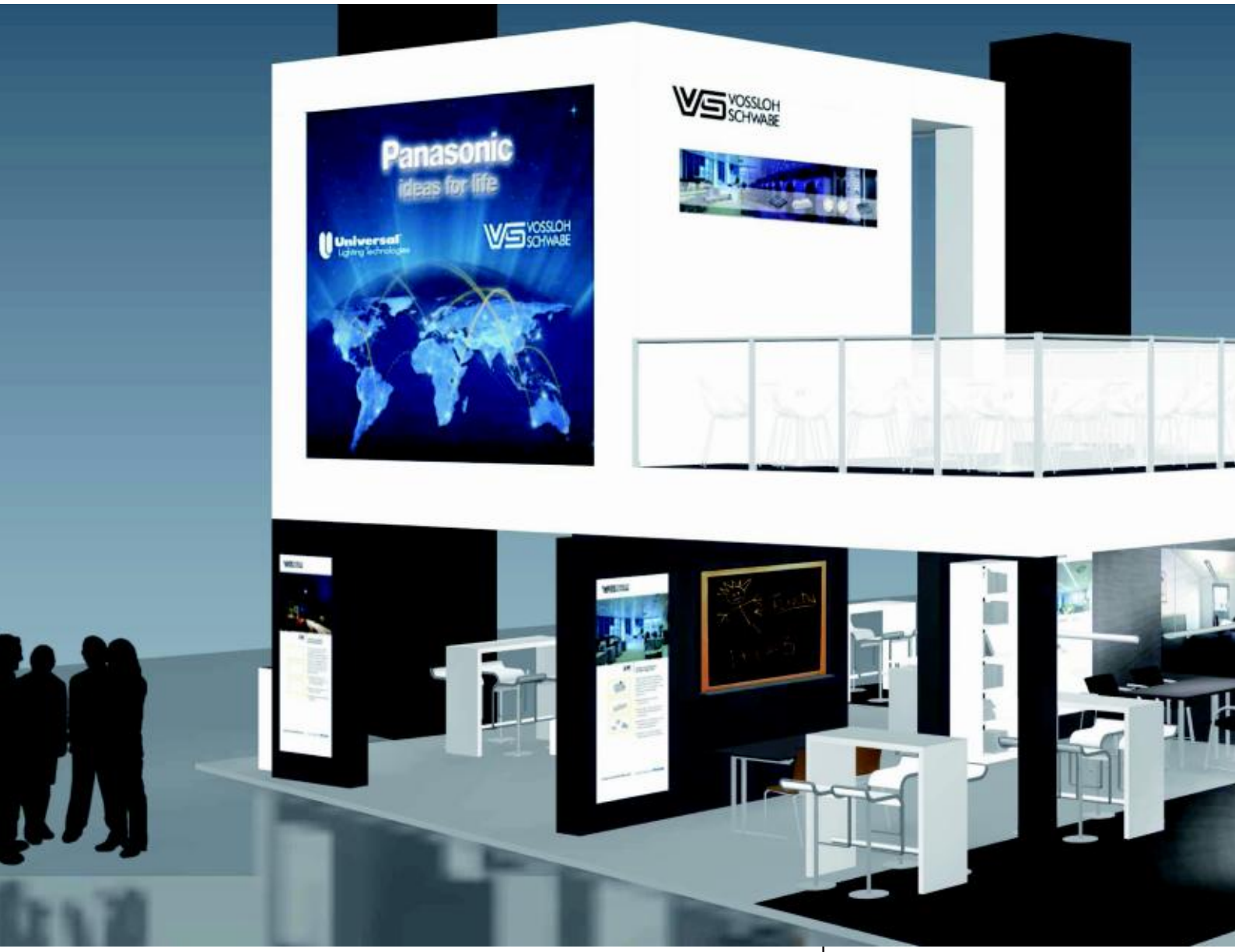
VOSSLOH SCHWABE



newsLIGHT

NEW PRODUCTS – NEW PROJECTS

newsLIGHT

EDITORIAL

Dear Customer,
Dear Reader,

The next international lighting fair, the Light+Building 2012, is about to open its doors in the German city of Frankfurt. With a wealth of innovative new products and product upgrades on the lighting market due to be presented, the excitement in the run up to this highlight event is naturally mounting.

Vossloh-Schwabe's exhibits will also include an interesting display of LED innovations. Our latest developments will be presented on a completely redesigned trade fair stand, which will be co-located with our parent company, Panasonic, for the first time. Apart from LED solutions for diverse applications, the topic of light management will form a further exhibition focus.

As a long-established company with almost 100 years of experience in the development, production and global distribution of high-quality components for lighting technology, we are ideally placed to play an active role in shaping change on the lighting market. Our expertise in a wide variety of technologies results in highly reliable individual components with a long service life. Above all, though, it enables us to provide first-class systems – a field that is gaining increasing importance due to the complexity of "new" technologies. With Vossloh-Schwabe, the choice is yours: from classic individual components right up to entire systems, which makes us a unique partner and gives you a decisive advantage.

The following pages of our newsLIGHT present a taste of what you can expect at our stand (B50 in hall 4.0), which we hope you will visit during the fair from 15 to 20 April.

I look forward to seeing you at the Light+Building 2012.
Klaus Breisch

CEO, Panasonic Lighting Europe GmbH
Managing Director, Vossloh-Schwabe Deutschland GmbH

CONTENT

NEW PRODUCTS

AT THE LIGHT+BUILDING 2012

light+building

Visit us in Hall 4.0, Stand B50

THE WORLD'S LARGEST TRADE FAIR FOR LIGHTING AND BUILDING TECHNOLOGY

With around 2,100 exhibiting companies and more than 183,000 visitors, the Light+Building numbers among the world's largest trade fairs in the field of lighting technology.

Vossloh-Schwabe will again be represented with a stand at the Light+Building, but with a slight change over previous years: for the first time, our extensive product range of lighting technology components will be presented together with our parent company, Panasonic.

The following four pages provide an overview of the new VS products due to be presented at the fair. A number of articles in this newsLIGHT then give some of these products more in-depth treatment.

LED SYSTEMS

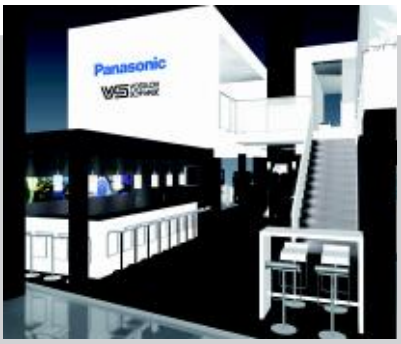
Key features: brilliant UV- and IR-free light (CRI Ra > 80/90) plus a very long service life (50,000 hours).

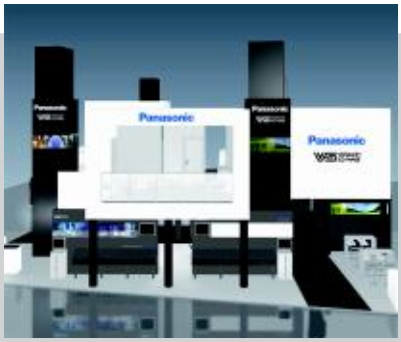
For Shop and Indoor Lighting

- Ideal substitute for low-voltage halogen lamps
- SMD or COB technology
- Highly versatile

Type:

- 500 lm (WU-M-424)
- 1,000/1,500 lm
- 2,000 lm (WU-M-432)
  – see page 17
- 3,000/4,000 lm (WU-M-431)
  – see page 17
- 5,500 lm (WU-M-437)
  – see page 17





Suitable LED Drivers
- Compact designs
- Highly efficient
- Standard and dimmable models

Type:
- ECXe 700 mA/17 W (186159)
- ECXe 700 mA/40 W (186200) – see page 17
- ECXe 1050 mA/60 W (186199) – see page 17

For Linear Luminaires (T5/T8 Substitute)
Linear LUGA model with or without a fixing unit – see pages 14–15
- 600 lm (548136) or 1,200 lm (in preparation)

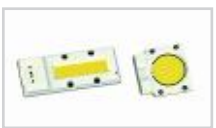
Linear LED Drivers
- ECXe 350 mA/15 W (186229) – see page 15
- ECXe 350 mA/75 W (186226) – see page 15
- ECXd 350 mA/75 W (186227) – see page 15

For Street and Outdoor Lighting
- Also for factory lighting
- SMD technology
- 3000 K, 4000 K, 5000 K
- Modular system: combinable lumen packages

Type:
- 3000 lm (WU-M-425) – see pages 10–11
- Linear model (WU-M-438) – see pages 10–11

- With a square or round luminaire array
- SMD or COB technology
- 3000 K, 4000 K, 5000 K

Type:
- 7,000/10,000 lm (WU-M-433)



Numerous LED Drivers
- Highly efficient
- Multi-current models
- Switchable drivers
- Drivers with an NTC interface
- Standard and dimmable models
- Degree of protection: IP67

Type:
- ECXd 700 mA/40 W (186206)
- ECXe 700 mA/400 mA/150 W (186202)
- ECXd 1200 mA/68 W (in preparation)

OLED MODULES
Organic Light Emitting Diodes

OLED Module with a Base Part for Fixing (186223, 186247, 186248)
- High CRI: Ra 90
- 3000 K, 4000 K, 5000 K
- Luminous flux: 48 lm
- Service life L70: 10,000 hours

LiCS Indoor
Lighting Control Solutions for Indoor Applications

- 64 addresses/16 groups
- For installation in distribution boards or luminaires as well as for independent operation
- Manual configuration
- With or without wireless technology (EnOcean)

Type:
- Light Controller L (186189)
- Light Controller LW (186190)
- Light Controller S (186210)

NEW PRODUCTS

AT THE LIGHT+BUILDING 2012

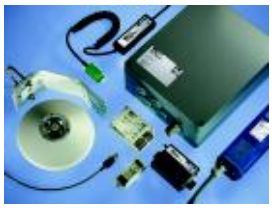
Visit us in Hall 4.0, Stand B50

Extender (186194)
- To extend DALI systems
- Secondary: up to 64 ballasts (broadcast)
- Bus extension by a further 300 m

Light and Motion Sensors
- For surface mounting and installation in ceilings and luminaires
- Small dimensions
- With or without a cord grip

Type:
- MultiSensor SM (186191)
- MultiSensor FM (186192)
- MultiSensor IL (186193)

LiCS OUTDOOR
Lighting Control Solutions for Outdoor Applications



Controller with a DALI or 1–10 V interface, light sensor, data concentrator as well as associated configuration software, designed for installation in the luminaire or pole. An all-round street lighting control system to suit the most diverse customer requirements.

ELECTRONIC SOLUTIONS FOR T5 LAMPS

- Electronic ballasts for high-efficiency T5 ECO lamps
- Energy classification: A2 BAT
- Service life: 50,000 hours
- Low-wear lamp operation 3x/4x24 W T5 HO
- Compact, slim casing design with standard fixing dimensions

Type:
- ELXc 135.220 (188921)
- ELXc 235.221 (188922)
- ELXc 424.223 (183039)

G5 Lampholders with a Monolithic Casing(545933/545935, 545937/545939, 545894/545896)
- Improved fit in the luminaire casing
- High stability thanks to monolithic casing
- High T rating due to fibreglass-reinforced PBT casing

ELECTRONIC ECO-SOLUTIONS (EffectLine) FOR TC-TEL/DEL LAMPS

For 26 W TC-TEL/DEL-Lamps
- Compact casing for installation and independent operation
- Suitable for 1x/2x26 W
- Energy classification: A2 BAT
- Service life: 50,000 hours

- ELXc 226.878 (183040)

ELECTRONIC BALLASTS FOR HI LAMPS

Energy-efficient ballasts for all HI lamps from 20 W to 150 W; compact designs for installation in luminaires as well as ballasts with a cord grip for independent operation.
- Compact casing design
- Protection classes I and II
- Service life: 50,000 hours
- Switches off in the event of a defective lamp
- Automatic cut-out in the event of overheating
- Flicker-free light

Type:
- EHXc 50.358 (183028/183029)
- EHXc 100.353 (183000/183001)

DIMMABLE ELECTRONIC BALLASTS FOR DIMMABLE HI AND HS LAMPS

For dimmable 50-250 W HI and HS lamps
- Infinite dimming via DALI
- MidNight: external control element for setting parameters
- Dimmed by microcontroller
- IP65-protected casing
- Unchanging power consumption
- Service life: 50,000 hours
- Flicker-free light
- Automatic cut-out in the event of overheating

GH76p LAMPHOLDER

GH76p lampholder for LED lamps with integrated control gear

RAGNI-PROJECT

FLORALED

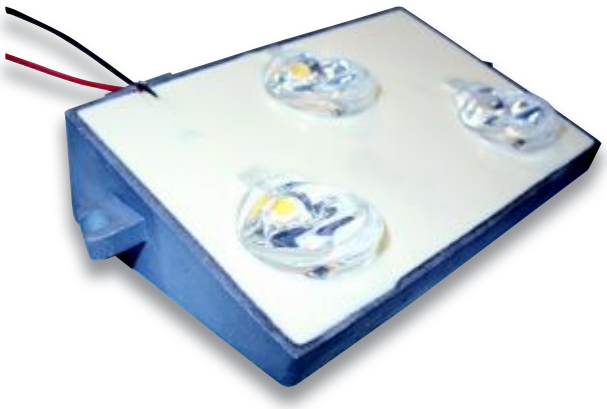
FloraLED with an LED Module made by Vossloh-Schwabe

A FRUITFUL PARTNERSHIP

As long-standing collaboration partners, Vossloh-Schwabe and the company RAGNI pool their knowledge to create innovative LED solutions for street lighting.

The collaboration between the French family-run business, RAGNI, which draws on more than 85 years of experience in the field of outdoor and street lighting, and Vossloh-Schwabe already began more than 10 years ago. Vossloh-Schwabe's efficient LED technology forms the basis of this latest project.

Drawing on its know-how and many years of experience, Vossloh-Schwabe's application engineering team has developed a customer-specific LED module, including a matching optics attachment, in cooperation with RAGNI. The versatile module is suitable for various applications and underscores the individuality of FloraLED.



Technical Features of the LED Module

- Three highly efficient high-power LEDs
- Operated with constant current (max. 700 mA)
- Individual bypass for each LED (avoids total failure)
- Degree of protection: IP67

The RAGNI Family

RAGNI headquarters in Cagnes sur mer, France

INTERVIEW WITH JEAN-CHRISTOPHE RAGNI

In our modern age, it really is rather special to be running a family business. In how far does a family-run business differ from an industrial company?

➲ Our company has been in business for more than 85 years – in other words, we are a company with a certain tradition. In comparison to a large enterprise, we are more flexible and can make decisions more quickly due to faster response times. At present, five members of the Ragni family work for the company.

Mr. Ragni, which tasks are you responsible for within the RAGNI company?

➲ As the export manager, my tasks are very varied. Apart from being responsible for new, global projects and their associated technologies, I also play an active role in marketing.

Jean-Christophe Ragni

What does a company have to do to set itself apart and remain successful over the long term in the street lighting business?

➲ You have to open your mind and think outside of the box to create new products that can surprise customers. At the same time, it is important to find the right project-facilitating partner, one such as VS, a company that counts as an expert in its field and is capable of evolving and implementing our ideas. Thanks to these collaborative ventures, we can supply our customers with optimum and high-quality products.

Where are your products manufactured and which countries (markets) do you supply?

➲ Our four production sites are in France, with our headquarters located in Cagnes sur mer in the south of France. We manage our global projects from here and do not focus on specific markets or countries.

Let's move on to the current project with Vossloh-Schwabe, FloraLED. What made you think of integrating these floral elements into a street luminaire?

➲ Together with a colleague, I was personally involved in developing the idea for FloraLED. To set ourselves apart from the competition, we felt it was important make an exceptional luminaire design our main focus. We were looking for a unique aesthetic, something playful that would be a pleasure to look at and prove to be useful at the same time.

How does FloraLED differ from other LED street luminaires available on the market?

➲ Many luminaires on the market simply lack design. The same old lighting systems are produced again and again, but no attention is paid to the appearance of a luminaire. For that reason, we at RAGNI always try to be open for new ideas and with that make every project unique.

At which point did Vossloh-Schwabe come in as a development partner?

➲ We already had a draft design for the luminaire as a CAD graphic when Vossloh-Schwabe joined us as a development partner. In particular, we were looking for a specialist in the field of optoelectronics and found exactly what we needed in the form of Vossloh-Schwabe.

Which single word would you choose to describe working with Vossloh-Schwabe?

➲ Unreservedly: partnership. At RAGNI, we do not think in terms of customers and suppliers. For us, the focus is on establishing a mutually supportive relationship and a positive, long-term collaboration. By trading information, it becomes clear that two companies share a common philosophy: to be open for new and innovative projects, and to ensure their successful implementation.

In your opinion, what is the decisive factor in such a collaborative project?

➲ Advance planning and organisation is crucial. And you have to push each other to a certain degree in order to get ahead. Similarities can also be found in the way that RAGNI and Vossloh-Schwabe work and think, the vital ingredient that makes this kind of cooperative venture a success.

LED ROADWAY LIGHT ME/S

STREET LIGHTING

ME/S module 3000 lm

STREET LIGHTING FEATURING LED TECHNOLOGY

Vossloh-Schwabe provides a reliable and compact LED module for street lighting in accordance with EN 13201.

IP67 Degree of Protection enables "Open" Luminaire Design

- The luminaire casing does not require additional protection and also acts as a heat sink.
- The LED module facilitates the design of compact luminaires with fewer components (neither a reflector nor a protective glass cover is required).

Optimised Directional Light Control

- The module covers all ME and S classes with only one optics attachment.
- Reduction of glare and optimisation of horizontal illumination.

Robust and Compact Aluminium Base

- Excellent thermal properties for optimum heat dissipation.
- Simple installation of the LED module in the luminaire.
- Slide-in installation possible.

All-round System incl. Matching Driver

- LED control gear with switchable output (similar to classic power reduction).

Vossloh-Schwabe's Modular Concept

Combining a variable number of LED modules facilitates easy creation of numerous different street luminaires for all required lighting classes.

Simple Wiring

Cables with reinforced insulation (incl. a cord grip) are used to connect protection class I and II LED modules.

ME/S module linear 3000 lm

SMD module linear 10.000 lm

MATCHING LED DRIVERS

Configurable LED Constant-current Drivers

Optimised for use in street lighting, Vossloh-Schwabe's electronic constant-current sources enable simple implementation of power reduction. Connecting a phase makes it possible to switch between 400 mA and 700 mA.

- **400 mA, 700 mA / 150 W**
- **IP20 and IP67 versions available**
- **Protected against transient mains peaks up to 3 kV**

OUTLOOK: BUILT-IN LIGHT MODULES

Vossloh-Schwabe's 10,000 lm SMD/COB LED modules are suitable for installation in outdoor luminaires. As a result, it is possible to implement both ME- and S-class street lighting (in acc. with EN 13201) as well as lighting for swimming and wellness pools.

Available with a square and circular luminaire surface, these 10,000 lm LED modules are not only suitable for street lighting, but also for high-bay industrial lighting.

We will be happy to provide further technical details at our stand at the Light+Building (hall 4.0, stand B50) or you can contact your VS representative.

Application Areas of the Lighting Classes

ME/MEW Lighting Classes
The ME and MEW lighting classes are designed for roads driven on at moderate to higher speeds.

CE Lighting Classes
Lighting classes CE0 to CE5 are suitable for streets with potential conflict zones, such as crossroads, intersections, roundabouts, congestion areas at crossings, streets with pedestrians and cyclists, shopping and business zones, but equally pedestrian underpasses and stairs.

S Lighting Classes
Lighting classes S1 to S7 are designed for pedestrian and cyclist areas, hard shoulders as well as other road segments outside of the carriageway, for representative streets, residential streets, pedestrian zones, footpaths, cycle paths, parking areas, school playgrounds, etc..

ES Lighting Classes
Lighting classes ES1 to ES9 are suitable, for instance, for high-crime zones, i.e. to enable identification of persons or objects with the aim of preventing the subjective notion of feeling unsafe in pedestrian zones and car parks.

EV Lighting Classes
Lighting classes EV1 to EV6 apply to, for instance, toll stations, transhipment hubs, shunting yards and many more areas.

LiCS OUTDOOR

INTELLIGENT STREET LIGHTING

iMCU
Intelligent Multifunctional Control Unit

COMMON TECHNOLOGIES IN THE FIELD OF LIGHT MANAGEMENT

The lighting technologies most commonly found on today's market are already decades old. While they have proved themselves to be robust, their main task has consisted of no more than enabling lighting to be switched on and off. Specifications regarding dynamic lighting were simply never drawn up since it used to be impossible to modulate the luminous flux of available light sources.

Typical Structures found in Light Management Systems

- **AFR – Audio-frequency ripple control technology**
- **ERT – European radio teleswitching**
- **Transmission**
- **Control line**
- **Astronomical clock**
- **Light sensor**

Vossloh-Schwabe's new LiCS outdoor light control system is designed for easy integration in established systems and provides our customers with an immediate and noticeable savings potential even when migrating a system.

THE NEW LiCS TECHNOLOGY

The topic of light management in the field of street lighting is still a very recent concept. But how does a light management system differ from established technologies?

- More functions and increased convenience
- Network-capable (iLC and iPC)
- Retrieval of diagnostic data

Vossloh-Schwabe's luminaire controllers feature local, intelligent and self-adaptive control functions that result in further energy savings. We therefore differentiate between two lighting systems:

- **Systems feat. local, intelligent controllers**
- **Network-capable lighting systems with a data concentrator**

iLC
Intelligent Luminaire Controller (built-in)

iPC
Intelligent Pole Controller (built-in)

ENERGY-SAVING FUNCTIONS

➲ **DPC (Delayed Switching for Pedestrian Crossing)**
The lighting is switched off after a short delay or switched on more quickly in the vicinity of pedestrian crossings.

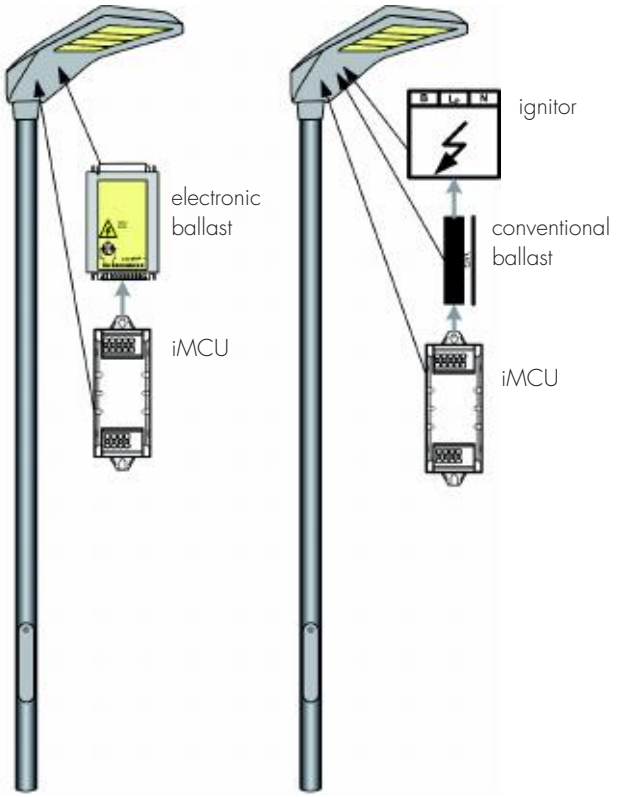
➲ **DOO (Dimmed On/Off)**
The lighting system is switched on or off in a dimmed state; also, dimmed changeover between dimming levels with configurable time sequences.

➲ **MFF (Maintenance Factor Function)**
Maintenance factor function: reduction of the degree to which the luminous flux decreases over the service life of the light source.

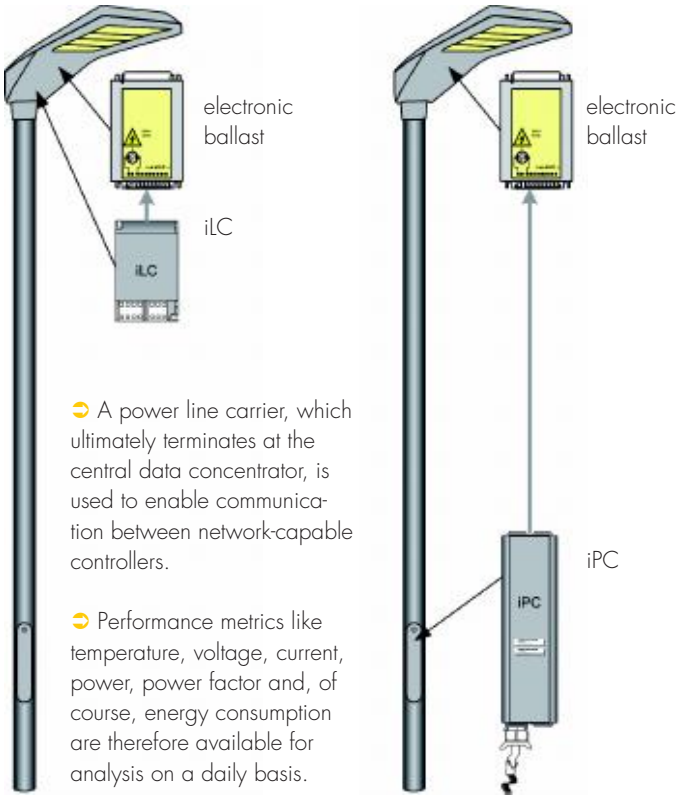
➲ **DBT (Dimmed Blocked Time)**
Configurable dimmer block during the run-up period of discharge lamps (can be deactivated).

➲ **ISD (Intelligent Switching Time Dimming)**
Intelligent, timer-controlled periods of dimmed light.

SMART LOCAL CONTROL (not network-capable)



SMART NETWORKING (network-capable)



➲ A power line carrier, which ultimately terminates at the central data concentrator, is used to enable communication between network-capable controllers.

➲ Performance metrics like temperature, voltage, current, power, power factor and, of course, energy consumption are therefore available for analysis on a daily basis.

OFFICE

T5/T8 LIGHTING NEWS

INTERESTING FACTS ON OFFICE LIGHTING

General workspaces require sufficiently bright lighting to create a pleasant atmosphere that helps people to concentrate on their work. As many people tend to prefer a combination of direct and indirect light, it is important to provide both basic lighting in the form of ceiling luminaires and to illuminate walls and work surfaces.

In line with the Health and Safety at Work Act, a lighting level of around 500 lux should be provided at computer workstations.

Office lighting that is ergonomically designed and individualised to suit the needs of each place of work not only prevents headaches, eyesight problems and fatigue, but also helps to improve posture and so avoid discomfort in the shoulder, neck and arm region.

LINEAR COB LED MODULES – LUGA Line

This is precisely where Vossloh-Schwabe and its new LED solutions come in. In comparison to conventional light sources (T5 and T8), these LED solutions deliver brilliant results with regard to service life and CRI values.

The future lies in flat designs as well in the possibility of efficiently (86 lm/W) equipping workplaces with the highest degree of lighting comfort and convenience (50,000 hours, L90, B10). These benefits are provided by Vossloh-Schwabe's COB technology, which delivers perfect results – either with or without a reflector – and creates an optimum working ambience in any field of application.

Technical Notes

- Slim design: 280x15 mm
- Low power consumption: typically 6.93 W
- Operating current: 350 mA DC

Fixing unit consisting of linear LED module and holder

COMPELLING ADVANTAGES

- **Long service life: 50,000 hours (L90, B10)**
- **Narrow colour tolerance: 3 McAdams**
- **High luminous efficiency: 86 lm/W at Tj = 80 °C**
- **Very low thermal resistance due to ceramic PCBs**

OUTLOOK: FIXING UNIT FOR LINEAR LED MODULE

The fixing unit is available in three different versions: installation, screw fixing and slide-in.

- **Easy to mount**
- **Holder made of heat-conductive plastic for optimum thermo-management**
- **Additional accessories such as a diffuser and a reflector are available on request**

LINEAR LED CONSTANT-CURRENT DRIVER

Vossloh-Schwabe's linear LED constant-current drivers were designed for use in office and shop lighting. The linear design is particularly suitable for luminaire concepts involving the replacement of T5/T8 fluorescent lamps with LEDs.

ECXe 350 mA/75 W (186226)
- With or without a DALI interface
- Overload protection
- Failure rate < 0.2%

ECXe 350 mA/15 W (186229)
- SELV
- Overload protection
- Failure rate < 0.2%

CONVENTIONAL LAMPHOLDER NEWS

The following presents our new series of G5 lampholders with a monolithic casing. The new casing consists of only a few individual parts, which results in improved lampholder stability and a perfect fit in the luminaire casing.

The monolithic front made of PBT (polybutylene terephthalate) additionally makes the lampholders more resistant against chemical substances.

SHOP

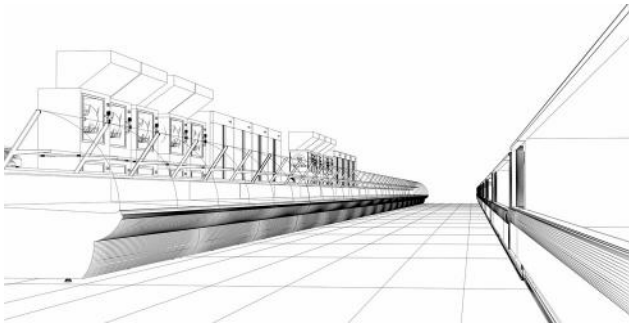
SHOP LIGHTING NEWS

INTERESTING FACTS ON RETAIL LIGHTING

Coordinating products, product displays and their lighting is an incontrovertible rule of retail lighting. The more suitable the respective luminaires are for the given task, the fewer luminaires will be needed. In this respect, it is important to create areas to which the eye is logically drawn. As a result, both investment and operating costs can be minimised.

The objective is to use lower wattages to deliver a considerably higher light output.

In addition, excellent colour rendering values are also growing in importance as they ensure customers get a realistic idea of product materials and colours. This is the only way to guarantee the customer can make the right decision at the point of sale. At present, metal halide lamps and LEDs deliver the best results in terms of colour rendering index, service life and current consumption.



INTERESTING FACTS ON LIGHTING FOR FOOD DISPLAYS

The fact that foodstuffs can be sensitive to heat must be taken into account when selecting the right lighting for food displays. At the same time, the light source has to be capable of rendering the numerous colours of fruit, vegetables, fish and meat, refrigerated goods and bakery products in a fresh and faithful way.

In line with the current trend to save energy and natural resources, lighting is only used where it is really needed. As a result, brightly lit products stand out, whereas aisles and circulation areas recede into the background.

COB module for shop lighting

COB module 5500 lm

LUGA MODULES FOR RETAIL APPLICATIONS 2000/3000/4000/5500 lm

VS has set a new standard with its innovative LED COB retail lighting solution.

When using reflectors, light distribution is more homogeneous with COB than with SMD technology. Thanks to this homogeneous light field, individually visible light points are a thing of the past.

- **Service life: up to 50,000 hours (L90, B10)**
- **Luminous efficiency of 106 lm/W**
- **CRI (Colour Rendering Index) Ra: typically 82**
- **Narrow colour tolerance: 3 McAdams**

In addition, VS provides numerous constant-current drivers in various designs and models: DALI or standard, with a compact or a linear casing – and all optimised to suit each specific lighting application.

Constant-current driver with a cord grip
ECXe 1050 mA/60 W (186199)

Constant-current driver for installation in luminaires
ECXe 700 mA/40 W (186200)

Our drivers and DALI interfaces not only guarantee increased convenience, but are also more energy-efficient.

TYPICAL APPLICATION AREAS

Installation in
- Reflector luminaires (20/35 W and 50/70 W as a substitute for HID)
- Flat surface-mounted downlights
- Façade spots
- Pendant luminaires with external technology

For use in
- Shop lighting
- Furniture lighting
- Stairwell and hallway lighting

HID – AN EFFICIENT SOLUTION

New Lamp, Numerous Advantages

The new and more efficient 50 W and 100 W HID light sources can be used to replace previously installed 70 W and 150 W HID lamps. The increased efficiency also demands a perfectly adapted ballast.

With our product range, we provide a high degree of convenience for one of the latest technologies in the field of high-pressure discharge lamps.

The more compact design of the casing enables a slimmer luminaire design. VS also provides the matching solution for independent operation.

50 W Electronic Ballasts
EHXc 50.358
- For installation in luminaires (183028)
- PCB version (183030)
- For independent operation, incl. cord grip (183029)

100 W Electronic Ballasts
EHXc 100.353
- For installation in luminaires (183000)
- For independent operation, incl. cord grip (183001)

HEARTBEAT CITY

D-CUBE CITY MALL
SEOUL, KOREA

D-CUBE CITY

The brand-new D-Cube City Mall in Seoul, Korea, opened its doors at the end of August 2011. With its exceptional size and spectacular design, the latest landmark in the south-west of Seoul stands out from all other buildings in the proximity.

The complex consists of a 51-storey apartment building as well as a 42-storey mega-mall, which is home to a hotel, office space, department stores, an arts and culture centre, restaurants, relaxing green spaces, a theatre as well as a theme park for children. A park-like outdoor area, designed with much attention to detail, is available for everyone to enjoy.

The challenge of harmoniously blending traditional, Korean elements with a modern ambience was readily accepted by the architecture firm, The Jerde Partnership. The architects succeeded in creating something that really stands out from the crowd: a 6-storey indoor waterfall. The mall's "nature and culture" theme is reflected throughout the entire huge complex. Far from being another conventional shopping centre, the D-Cube City Mall is an experience in itself for young and old.

VOSSLOH-SCHWABE ADDS THAT SPECIAL TOUCH

Without doubt, the lighting concept inside the mall also adds to the experience. The possibility of blending two white tones (2700 K and 4500 K) to create numerous different colour temperatures was decisive for using Vossloh-Schwabe's DualWhite AluLED modules. Warm white begins the day in the mornings, cool white takes over around midday and warm white finishes the day in the evenings. The lighting system in the complex thus mimics natural light, which mall visitors find particularly pleasant and natural.

Customer: Daesung Industrial co., LTD.
Architects: Jerde Partnership, Samwoo Architects & Engineers
Light planning: Design Luna
VS distributor: JK Lighting
Photos: Daesung Industrial co., LTD and Design Luna

Contour lighting with AluLED

AluLED

Thanks to its favourably slim and flat design, the module is not just ideal for illuminating complex structures, but also for projects in which a lack of space precludes installing conventional light sources.

For easy assembly, the module is available in various lengths and with preassembled connectors.

- Long service life: up to 45,000 hours
- Various white tones and RGB
- Built-in heat sink for optimum thermo-management
- Easy installation due to simple mounting system
- UV- and IR-free

DecoLED

The DecoLED module (15 W, 3000 K) can be found in the ceilings of the mall's walkways and in front of the individual shops. Vossloh-Schwabe's DecoLED is an ideal retail lighting solution.

- Long service life: up to 35,000 hours (at a luminous flux of > 50%)
- High light output: up to 66 lm/W
- Built-in compact heat sink
- Low-maintenance
- UV- and IR-free

Due to the high light output provided by VS' DecoLEDs, thanks to which a 5 W LED lamp can serve to replace a 120 W PAR 38 lamp, an energy saving of more than 86% and a corresponding reduction in CO_2 emissions can be achieved. Vossloh-Schwabe's DecoLED module constitutes an ecologically sustainable lighting option.

VS IN SERBIA

PANASONIC LIGHTING DEVICES SERBIA

REPUBLIC OF SERBIA

At the beginning of the 2011/2012 fiscal year, Vossloh-Schwabe opened a new production site in Serbia that operates under the name of Panasonic Lighting Devices Serbia doo. Since then, electronic ballasts have been produced on an area covering 10,000 m² in Svilajnac, a town with 10,000 inhabitants in central Serbia that is situated approx. 110 km south of Belgrade.

WHY SERBIA?

After a thorough analysis of the situation, a decision was made in favour of the Republic of Serbia, located in the centre of the Balkan peninsula. With 7.5 million inhabitants, Serbia is the largest state in the region formerly known as Yugoslavia. Next to its political stability, the nation is characterised by an impressive productivity level.

Apart from aiming to improve quality and delivery performance still further, VS continues to pursue its strategy of producing close to its customers. Thanks to the production site in Serbia, VS can now be even more flexible in response to customer requirements.

The experienced and highly qualified staff at our Urbach (Baden-Württemberg) location, also the site of our competence centre for electronics production, and our technology centre in Trnava (Slovakia) are providing support for the restart in Serbia and with that guarantees both process reliability and process quality. Not only has this level of support resulted in a safe and efficient increase in production, it also goes to ensure the VS quality our customers have come to expect.

PRODUCTION

During the first production stage, the Serbian facility mainly produced ballasts for compact fluorescent lamps. Last year, production capacity amounted to around 2.5 million units.

A second production line is now set to be commissioned in April 2012. This investment in a state-of-the-art production facility will enable us to double production capacity and extend the production range to include T8 and T5 lamps. Within the current year, VS will therefore be producing most of its equipment for fluorescent lamps in Europe. The two SMD pick-and-place machines made in-house by Panasonic will form the heart of this production line.

OUTLOOK TO THE FUTURE

At present, the Serbian production facility is staffed by 98 employees and operates a 2- or 3-shift system six days a week.The number of employees is set to increase to 160 in the current fiscal year. VS is also planning to take up production of HID equipment as well as further innovative products such as LED control gear at the site in Serbia. The administrative side of the organisation is also due to grow, so that apart from the production staff, VS plans to employ additional production engineers, technicians and office staff.

Furthermore, there are plans to establish a central warehouse for the region in Serbia, from where the products manufactured in Serbia can then be directly shipped to our customers and with that provide respective service advantages for growth markets such as Russia. This not only serves to ensure faster deliveries, shorter transportation routes and lower CO2 emissions, but will also drastically reduce haulage miles from the Serbian production site to the central VS warehouse in Ettlingen (Germany).

The production facility was VDE-audited in 2011; certification in accordance with DIN EN ISO 9001 and ISO 14001 is in preparation.

By clustering the production of electronics and LED equipment in Serbia, VS is pursuing the aim of putting an efficient and high-quality production facility at the service of its customers.

VS PRESENTS

THE TEST LABORATORY IN LÜDENSCHEID

SAFETY IS KEY

Our test laboratory in Lüdenscheid is used to test our products in accordance with national and international standards such as those issued by the VDE, IED and UL.

These standards contain numerous sections that specify test procedures for various properties or factors:

- **Visual**
- **Dimensional**
- **Electrical**
- **Mechanical**
- **Thermal**
- **Chemical**

In this issue of newsLIGHT, the focus is on the **electrical high-voltage tests** carried out on our products.

In preparation for the test, a sample is stored in a humidity chamber for 48 hours. The relative humidity of the chamber must be maintained at between 91% and 95% and air temperature must be kept at between 20 °C and 30 °C. The insulation and high-voltage test can be carried out after this period of humidity storage. The applied voltages, which are specified in the standards, far exceed the rated voltage of our products. Prior to applying the voltage, samples are wrapped in metal foil that simulates the luminaire casing.

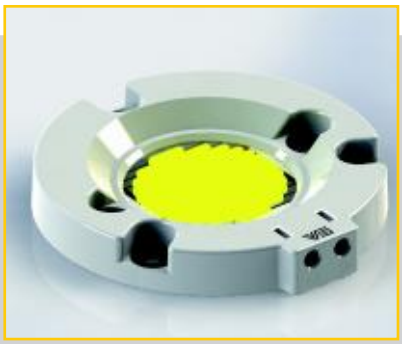
To begin with, voltage is applied between terminals of different polarities. After that, readings are taken between the individual terminals and the outer metal parts, simulated by the metal foil, including fixing elements such as screws or similar.

Flashovers or sparkovers must be prevented during testing.

Tests of this kind provide us with information on the electric strength of our products and ultimately on their safety. This is the only way we can guarantee faultless and risk-free operation of such equipment for the user.

STANDARDISATION AND TECHNOLOGY

NEWS



ZHAGA CONSORTIUM

The lighting technology revolution, triggered by LED light sources, has reached the stage of standardisation.

Founded in 2010, the Zhaga industrial consortium has set itself the task of ensuring interchangeability of LED lighting technology. At present, 170 companies are members of the Zhaga industrial consortium.

Zhaga is responsible for standardising key parameters – such as dimensions as well as thermal and photometric product features – to ensure interchangeability of components. In addition, at product level the necessary specifications are defined for dimming processes. The work carried out by the IEC (International Electrotechnical Commission) is also important with regard to LED lighting. In particular, the commission elaborates standards on the operating principles of LED luminaires and modules. The following are already publicly available specifications (PAS):

- IEC/PAS 62722-1 und IEC/PAS 62722-2-1 (LED luminaires)
- IEC/PAS 62717 (LED modules for general lighting)
- IEC/PAS 62612 (LED lamps with integrated ballasts)
- IEC/PAS 62707-1 (LED binning)
- IEC/TR 62732 (Three-digit code for designation of colour rendering and correlated colour temperature)

In addition, EN 62031 (LED modules for general lighting) and EN 62471 (photobiological safety of lamps and lamp systems) are also important:

- EN 62031 lays down basic safety requirements for protection against impermissible voltages and thermal safety (and also takes failure rate, humidity, heat generation and corrosion factors into account). In addition, requirements and information on the topic of thermo-management for luminaire designs are also defined.

- Along with supplement No. 1 (technical report), EN 62471 deals with the photobiological safety of lamps and lamp systems. Photobiological safety refers to the effect that the optical radiation given off by a light source has on human skin and eyes.

Based on EN 62471, a technical report is currently being prepared with specifications on taking LED luminaire and LED module readings and their respective labelling.

Whenever an electric light goes on around the world, Vossloh-Schwabe is likely to have made a key contribution to ensuring that everything works at the fl ick of a switch.

Headquartered in Germany, Vossloh-Schwabe has been a member of the global Panasonic group since 2002 and counts as a technology leader within the lighting sector. Top-quality, high-performance products form the basis of the company's success.

Whether cost-effective standard components or tailor-made product developments are needed, Vossloh-Schwabe can satisfy even the most diverse market and customer requirements. Vossloh-Schwabe's extensive product portfolio covers all lighting components: electronic and magnetic ballasts, lampholders, state-of-theart control systems (Lixos or LiCS) as well as LED systems with matching control gear units and OLEDs.

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