

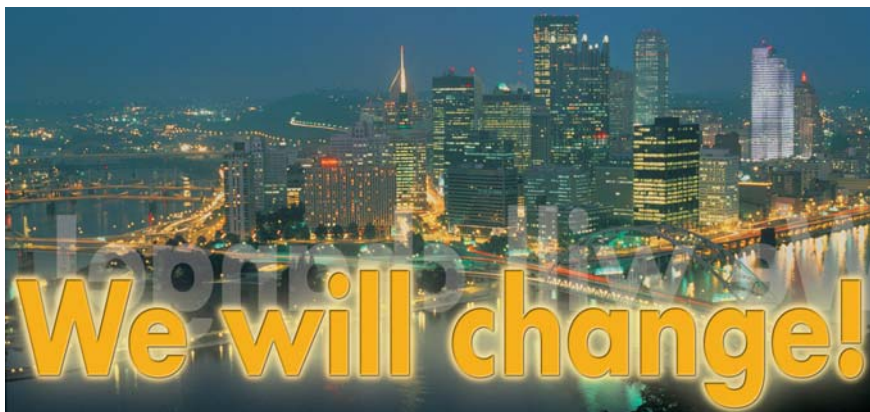
ProductNews

Issue 6 • April 2006

VS

A New Lighting Experience

Welcome to the Light & Building 2006



Vossloh-Schwabe will again be represented at this year's key lighting fair in Frankfurt from 23rd to 27th April 2006 and this time with more than 150 new developments.

More than ever before, the Light & Building has grown into a meeting place for international manufacturers from the lighting and electrotechnical sectors. This is clear evidence of how important the topic of globalisation has become in our sector as well.

We would be delighted to see you at our usual spot at stand B60 in hall 4.0. Our team will be happy to demonstrate highly interesting innovations from the fields of electronic and magnetic operating devices, lampholders and LED technology.

Visit us at our usual spot at stand B60 in hall 4.0

Under consideration of economic and ecological aspects and geared to meet the regional requirements of customers around the world, VS' modern component systems promote innovative designs and creative ideas.

Innovations for customers around the world

The following pages are designed to give you a preview of our latest developments and encourage you to pay our stand a visit.

Come and experience the efficiency of the global Vossloh-Schwabe group, find out more about our high-performance LED systems, explore a new generation of lampholders for the global market and get to know our ranges of modified magnetic operating devices that satisfy the provisions of international energy-saving directives. The extreme increase in costs for raw materials like

steel, copper and oil proved to be a challenge for our engineers and technicians that has led to new solutions. Witness intelligent solutions involving electronic operating devices with a DALI/PUSH interface and let us inspire you to create innovative designs and complex installations with a high degree of operational safety using the possibilities afforded by independent control gear units for HID lamps.

Whenever reliability, safety and the highest quality standards are at a premium, VS components are a crucial part of any lighting system.

VS components: reliable, safe, high-quality

VS' ALF automation system is the perfect solution for making your production more competitive and cost-efficient.

Employees from more than 30 countries will gladly present VS' new components catalogue to you or answer your questions regarding standards, markets and technologies. So whatever your query may be, you can rest assured we speak your language!

We look forward to seeing you!

We look forward to welcoming you at our stand at the 2006 Light & Building.

Welcome to the world of Vossloh-Schwabe.

*Kind regards,
Reinhard Kögel
27th March 2006*

**P. S. VS Stand Party:
18.00 to 20.30 hours,
Tuesday, 25th April 2006**



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VS

A New Lighting Experience



At home the world over...

As a global leading manufacturer of components for lighting technology Vossloh-Schwabe is one of the few to provide its international customers with a truly comprehensive product range that responds to regional market needs. So wherever you may be, you can always rely on the high quality of Vossloh-Schwabe products, all certified in accordance with international technical standards.

As a member of the Matsushita Electric Works group, Vossloh-Schwabe is represented around the world, engaged in research and involved in all areas that deal with high-quality and reliable components for lighting technology. You too can benefit from our global know-how. We look forward to hearing from you.

Vossloh-Schwabe A New Lighting Experience

Visit us at
light building
Light & Building, Frankfurt
23-27th April 2006
Hall 4.0, Stand B60

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VS

Electronic News

DALI for Low-voltage Applications

VS has completed its range of electronic transformers for low-voltage halogen lamps by adding converters fitted with a DALI interface. These electronic transformers are available for ratings of 20-70 VA and 50-150 VA.

The new DALI converters are characterised by interference resistance and precise control via the DALI interface, an error feedback function and programmable operating parameters in DALI mode. They can be dimmed between 1-100% and are immediately available under Ref. No. 186115 and 186116.



Ref. No.: 186115

Light Moods with Dimmable VS Electronic Ballasts

Apart from its 1-10 V electronic ballasts with analogue dimmers for T8 lamps, VS has also provided a complete series of new electronic ballasts for tubular fluorescent lamps for some time now. These electronic ballasts, which feature a metal casing of only 21 mm in height, are fitted with a DALI/PUSH interface for operating 1- or 2-18 W, 36 W or 58 W lamps.

Apart from the well-known advantages of the DALI/PUSH interfaces, VS electronic ballasts permit the lamp to be ignited within only 0.5 seconds. The dimmable range lies between 1 and 100%.

Welcome to the World's Key Lighting Fair in Frankfurt from 23rd to 27th April 2006 in Frankfurt.

Come and see Vossloh-Schwabe at the Light & Building, hall 4.0, stand B60.

Ballasts with "Brains"

At the beginning of 2006, VS extended its range of products for T5 lamps by adding dimmable electronic ballasts with "brains". These innovative devices, which feature a flat metal casing (21 mm) and are fitted with an IDC terminal, enable multiple operation of FH and FQ lamps using only a single ballast.

VS thus provides electronic ballasts with analogue (1-10 V) and digital (DALI/PUSH) dimmers for the complete spectrum of T5 lamps with outputs of 14, 21, 24, 28, 35, 39, 49, 54 and 80 W.



Ref. No.: 188329, 188330

Technical Specifications:

- Flat casing: 21 mm
- Flat IDC terminal
- Minimised inherent losses
- Ignition time: < 0.5 seconds

Slim Electronic Ballasts for Fluorescent Lamps

VS presents a new generation of 1- and 2-lamp standard electronic ballasts for operating T8 lamps. Instead of the usual 6 devices needed to operate lamps of 18, 36 and 58 W, VS' new concept has the advantage of enabling operation with only 4 devices as 18 and 36 W lamps can be operated using the same electronic ballasts.



Ref. No.: 188314, 188315, 188316, 188317

Technical Specifications:

- Slim K9 casing
- Multi-lamp function
- Operation of 18 W and 36 W with a single device (1- or 2-lamps)
- IDC terminal

Slim Electronic Ballasts in a New Metal Casing for Fluorescent Lamps

VS has extended its range with electronic ballasts to include M8 metal casing for multi-lamp operation of T5 lamps with wattages of 3x14 W, 4x14 W as well as of T8 lamps with wattages of 3x18 W and 4x18 W.



Ref. No.: 188318, 188438

Technical Specifications:

- New, slim M8 metal casing
- Fixing distance: 220 mm

Compact Electronic Ballasts for Single-ended Compact Fluorescent Lamps

For conventional downlights, VS presents a new series of compact electronic ballasts for 1- and 2-lamp operation of TC-TEL and TC-DEL lamps of 13 W to 26 W.



Ref. No.: 188292, 188321

Technical Specifications:

- Compact K2 casing
- Built-in and independent devices available with strain relief for leads
- 1- and 2-lamp operation
- Constant power uptake

Dimmable Compact Electronic Ballasts for Compact Fluorescent Lamps

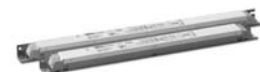
The VS range of dimmable compact electronic ballasts has been supplemented by a model for compact TC-TEL 57 W and 70 W fluorescent lamps. The new electronic ballast with an analogue dimmer is available as a built-in and an independent model.



Ref. No.: 188276, 188495

New Electronic Ballast for T5 Fluorescent Lamps

With immediate effect, the VS range also includes new electronic ballasts in a metal casing with a voltage range of 120 to 277 V specially designed to suit the US market. These electronic ballasts for 54 W T5 lamps are available both for 1- to 2-lamp operation and for operating 3- to 4-lamp 54 W luminaires as is usual in the USA.



Ref. No.: 188415, 188313

Electronic Ballasts for Discharge Lamps

As an innovation in the area of discharge lamps, VS is presenting electronic ballasts for 2-lamp operation of H11 lamps of 35 and 70 W. These electronic ballasts are available as built-in and independent models and are characterised by different product properties.

Continued on page 3

Electronic News continued

Technical Specifications:

- Two separate ignition channels < 5 kV
- Temperature protection and overheating sensor

In the event of overheating, the lamp is switched off until the temperature has stabilised again. The electronic ballast then reignites the lamp.

- Flicker-free light
- Colour stability due to consistently high performance
- Double terminal for feed-through wiring
- Intelligent end-of-life lamp cut-out



Ref. No.: 188223, 188224, 188456, 188455

Independent Electronic Ballasts with Pre-assembled Leads

In the interest of easy luminaire installation, VS will be launching independent ballasts for HI lamps of 35 W, 70 W and 150 W with lead on luminaire side with pre-assembled push-in connector as of mid-May 2006.

These electronic ballasts provide the advantage of being user-friendly during installation and offering flexible installation options. They are fitted with ST18 and GST18 connectors on the lamp side.



Ref. No.: 188475 ... 188480

Compact Built-in Electronic Ballasts for HI Lamps

The new compact 20 W discharge lamps are conquering the field of shop lighting and are increasingly replacing the existing low-voltage halogen systems. VS has developed a new generation of compact built-in electronic ballasts to operate these very compact lamps. The new ballasts are suitable for operating all common 20 W lamps on the market, e.g. the CDM-TM lamp.

They feature an installation-friendly compact design and their consistent performance ensures flicker-free light and stable colours.



Ref. No.: 188494

20 Years of Vossloh-Schwabe Ibérica, S.L.

Spanish Sales Office Celebrates 20th Company Anniversary



At the beginning of 2006 Vossloh-Schwabe Ibérica, S.L. celebrated its 20th company anniversary.

Barcelona is Vossloh-Schwabe's headquarters for southern Europe and Latin America. Highly qualified and motivated employees serve VS customers in their native language from Barcelona to Rio and Buenos Aires to Caracas.

Sales Office for Southern Europe and Latin America

Founded as a sales office in 1986, Vossloh-Schwabe Spain quickly developed into a successful company.

By now, the office coordinates sales of the entire VS range in southern Europe and Latin America. This success rests on the extraordinary commitment of a competent team, the high product quality and the trust our customers put in the VS brand.

Vossloh-Schwabe Spain will continue to both expand its market share in southern Europe and Latin America and remain a competent partner for its customers.



Lampholder News

New Lampholders for Discharge Lamps with a PGJ5 and GU6.5 Base

VS presents two new PGJ5 lampholders and one new GU6.5 lampholder for discharge lamps. The GU6.5 lampholders are suitable for protection class I and II applications and equipped with leads. The PGJ5 lampholders are available for luminaires of protection class I and II. Both types are made of ceramic materials and can be used with 20 W and 35 W discharge lamps.

The lampholders are available for lamp keys d-1 to d-3, q-1 to q-4, the combination key q-3/q-4 and for GX24q-5 and -6. The q-5 and q-6 lampholders are fitted with an additional, central key that prevents lamps with q-1 and q-2 keys from being inserted.

Overview of Benefits:

- Lampholders with an external thread or plain shell feature a central hole for screw fixing as well as two diagonally opposed screw holes
- Torsional stops at the rear of the lampholders fix the lampholder if the central screw hole is used
- Standard versions for the US market are also available

New Lampholders for Philips "Master Green Power TD" Lamp with a K12x30s Base

VS is launching a new lampholder made of highly-durable LCP for this new Philips "Master Green Power TD" lamp for assimilation lighting. The new VS lampholder is an ideal match for the high demands made by the lamp and the base system. Safe lamp exchange is enabled by an integrated power cut-out in the lampholder.

New GX53 Lampholders

In line with the IEC standard, VS provides new GX53 lampholders with an integrated key that prevents incorrect insertion of the lamp. This lampholder is only suitable for lamps that are also fitted with a key.

When inserting the lamp, it is held by a retaining clip and secured by a slider. Lamp tolerances are balanced out by internal springs in the lampholder.

Lamp tolerances are balanced out by internal springs in the lampholder

This construction enables easy, single-handed and touch-protected insertion of the lamp. At the same time, the lamp is protected against mechanical damage.

New Series of Lampholders for Compact Fluorescent Lamps with a G24 Base

VS has developed a new series of lampholders for lamps with GX24 or G24 bases that includes various attachment options and models. Models are available with an external thread or plain shell, with lateral push-in and screw on options. The vast range of Design is set up to suite customer's different needs.

More than 500 Pages Bursting with Information



When VS' much awaited 2006/07 Catalogue edition is finally delivered in April it will make an informative, five-language publication that spans more than 500 pages available to our customers all over the world. This catalogue will again set new standards. New products and even more technical details will go to make this catalogue a highly useful daily aid for engineers, technicians and buyers around the world. We are sure you enjoy your personal copy.

Continued on page 4

VS Publications

VS provides its international customer base with a practically unsurpassed range of publications.

Just about every important topic has been or will be covered in a range of professionally designed and interesting brochures.

Videos

- VS Image Video 2005
- VS ALF Video 2005
- VS Hometech Video 2004

Non-Print

- VS Catalogue 2006/07, CD-ROM
- Company Profile 2006
- LED Product Folder 2006, CD-ROM
- Catalogue 2005, cyrillic, CD-ROM

VS Periodicals

- VSReport Aromat 2005
- LED Newspaper 2005
- VSReport Magnetic 2005
- VSReport Product Piracy 2004
- VSReport Pricing Policy 2004
- Topmagnetic today March 2003/February 2004/April 2004

Technical Brochures

- Leuenberger Product Range 2006
- Capacitors 2006
- EEI 2005
- WEEE 2004
- Warranty Policy 2004

Product Catalogues

- VS Catalogue 2006/07

Product Catalogues for Regional Markets

- VS & Aromat 2005
- VS Standard Range 2005
- US Catalogue 2004
- Catalogue, cyrillic, 2005

Product-specific Catalogues

- HID Catalogue 2005
- LED Product Folder 2005
- LED Main Catalogue 2004
- Lighting Components for Domestic Appliances Catalogue 2004
- ALF Catalogue 2003

Image Brochures

- VS Image Brochure 2006
- Brief Portrait of VS 2005
- LED Image Brochure 2005

Lampholder News continued

New G5 lampholders with IDC terminal for automated wiring

VS has extended its range of G5 lampholders by adding devices fitted with IDC terminals. A new push-fit lampholder with a lamp axis of 18 mm and two push-through lampholders with lamp axes of 15 mm and 20 mm will be available in the second half of 2006.



New Luminaire Connection Terminals, Type 415

The new luminaire connection terminals with IDC terminals (type 415) were developed for T5 applications. The terminal's extremely flat design of just 16.5 mm is especially suitable for compact T5 luminaires with flat T5 electronic ballasts. These VS luminaire connection terminals naturally provide various earth options and are suitable for manual and automated wiring.

The new G5 lampholders and the new small luminaire connection terminals enable safe, quick wiring and testing of modern T5 luminaires using the VS ALF system.

Starter Lampholders for Automated and Manual Wiring

The product range in the area of starter lampholders with IDC terminals has been extended by type 43520. This starter lampholder is suitable for both automated and manual wiring.



Ref. No.: 530079

New G4 Lampholder for Microwave Ovens

VS has added a new model to its low-voltage range of G4 lampholders for microwave ovens. This new lampholder is installed by simple insertion through an opening in the metal casing (Ø 35.5 mm).

The slim-line glass cover enables space-saving installation. This lampholder also carries a T marking of T300 and is fitted with a 20 W low-voltage halogen lamp. This product can be made available with various lead lengths and connectors on request.



Ref. No.: 507885

New Lampholders for the Household Appliance Industry

Thanks to the extension of the existing lampholder range VS is now helping to increase the illumination level inside ovens. The new lampholders permit a higher rating (40 W) and are also available with E14 and G9 lamps.



Ref. No.: 529311

VS' standard E14 oven lights of 15 W and 25 W are available with T270 marking in LCP or T300 marking in ceramic and for openings of 35.5 mm or 48 mm.

New G9 Lampholder for Ovens

VS' new oven lampholder with a G9 base is pre-fitted with leads, was designed for an opening in the metal casing measuring 55x70 mm, attracts a T300 marking and is optionally equipped with a 25 W or 40 W lamp. Various lead lengths and different connectors are available on request.

As an alternative, a lampholder for low-voltage halogen lamps with a G4 base provides especially brilliant light and is also available with various lead lengths.



Ref. No.: 530111

Aromat Lighting Division goes VS



With effect from 1 July 2005, the Pittsburgh-based North American MEW company, Vossloh-Schwabe Inc., merged with the New Jersey-based Lighting Division of Aromat Corp.

Up to that time, the Lighting Division of Aromat Corp. had been responsible for the production and sale of electronic ballasts for HID lamps on the American market. In 2004, 12 employees in this business area generated annual sales of US\$ 25 million.

VS System Approach gains Importance

This merger within the MEW group has considerably improved the product range of Vossloh-Schwabe, Inc. for the US market. The know-how of both companies as well as VS' high quality standard provide a very promising and solid basis for the further expansion of our US market share. The new product range will be marketed under the internationally successful VS brand.

VS' system approach has gained further weight thanks to this extension of the product range and offers companies and customers clear advantages:

- extension of the product range
- ensuring our position as systems provider
- more cost-effective and quicker planning
- development, production and purchasing
- delivery of perfectly matched components to improve lamp operating conditions
- availability of customer-oriented solutions
- customer support during the design process
- availability of the VS warranty concept

Continued Availability of Leuenberger Products thanks to VS



Leuenberger products and especially their hot restrike ignitors are well known all over the world. The Leuenberger name stands for high-quality components for lighting technology that have been used in many projects worldwide.

Leuenberger stands for high-quality components for lighting technology

As a result of Leuenberger Technologies Ltd. having ceased all commercial activities in 2005, these special lighting components are now manufactured by VS. This has ensured that most of Leuenberger's former product range continues to be available for our international customer base.

As VS had already been manufacturing most of LTL's products as a sub-supplier for some time, it was possible to continue using existing production facilities. The integration of the LTL product range into the VS product universe has already been completed.

A separate VS brochure details all LTL products that are now available under the VS brand, accompanied by VS' typical customer services and warranty protection.

Your VS contact will be happy to answer any questions you may have regarding these new VS products.

Ignitor News

Hot restrike ignitors for high-pressure discharge lamps of 600 W, 1000 W and 2000 W/400V



Ref. No.: 147793

Apart from the well-known range of VS superimposed and pulse ignitors, we will be presenting a new family of hot restrike ignitors for high-pressure discharge lamps of 600 W, 1000 W and 2000 W/400 V at the Light & Building.

This special ignitor type is particularly popular when it comes to safety-relevant lighting systems in stadiums or film and TV studios.

These ignitors ensure that hot high-pressure discharge lamps are immediately re-ignited if their operation is interrupted. Considering of various attachment and installation requirements, these hot restrike ignitors are available in a variety of casings.

The following models are available:

- HZ 600K (Ref. No. 147790)
- HZ 1000K (Ref. No. 147791)
- HZ 2000K/400V (Ref. No. 147793)

Connection Terminals with Nominal Cross-section of 4 mm²

From now on, a large part of VS' ignitor range will be produced with a new connection terminal featuring a cross-section of 4 mm². Being both easy to handle and use, this new connection terminal will improve installation conditions within the luminaire industry.

The following VS ignitor families have been fitted with the new connection terminal:

- Z 70 S... and Z 70 K...
- Z 250 S... and Z 250 K...
- Z 400 M... and Z 400 MK...

Superimposed Ignitors for 600 W and 750 W HS Lamps

VS products naturally also function in their typically reliable and safe manner in the field of assimilation lighting. The new Z 750 S ignitor, which can also be used to safely ignite HS lamps of a higher wattage than the conventional 600 W, was developed on the basis of the Z 600 model. In combination with a suitable ballast, the Z 750 S is the ideal product for this market and meets protection class II requirements.



Ref. No.: 146990

IPP Technology now also available for Pulse Ignitor Systems

The introduction of IPP[®] technology in our range of control gear units has led to a new generation of pulse ignitors. As already previewed last year, the new PZ 1000 K D20 pulse ignitor (Ref. No.: 144980) will replace the PZ 1000 K P20 predecessor model.

Product Advantages:

- Micro-controlled IPP technology
- Very compact design
- Large field of application: 50–1000 W HS lamps, 35–1000 W HI lamps and 35–400 W C-HI lamps
- Lead length up to 10 metres



Magnetic News

New IP65 Control Gear Units

VS has enhanced its range of control gear units. Control gear units with IP65 devices, designed for outdoor use are available in the range of 35–150 W for HS/HI/C-HI lamps.

Just like for control gear units designed for indoor use which have already been launched with great success, VS is again setting a new standard with regard to dimensions and innovative technology.



Decisive Advantages:

- Compact dimensions of the entire unit, which consists of capacitor, ignitor and ballast.
- The installed ignitor features the new IPP[®] technology. This "intelligent pulse pause" technology has already been successfully employed in VS superimposed ignitors. The range of functions is rounded off by an additional protective function that monitors the temperature switch of the ballast.
- The control gear unit is fitted with pre-assembled lamp and mains leads.
- The ballast is fitted with intelligent temperature switch technology.
- A distance of up to 10 m to the lamp is possible.

Control Gear Units with Pre-assembled Lamp Leads

Control gear units for HS/HI/C-HI lamps with lead on luminaire-side with pre-assembled connector are a further highlight of the VS product range.

This halogen-free, three-conductor silicone 5kV lamp lead of 1 m in length is fitted with an ST18 or GST18 connector. This control gear unit is available for lamp outputs of 35, 70 and 150 W.



Ref. No.: 530322 ... 530332

Continued on page 6

Automation News



In response to the ever greater differences in manufacturing costs in the various regions in the world, the automation of production processes in the field of lighting technology has established itself as a popular option during the last few years.

Automation increases production volume, stabilises quality assurance processes, makes the production process more flexible and guarantees quick delivery of reliable products.

Automation increases production volume and stabilises quality assurance processes

Vossloh-Schwabe was very quick to realise these important additional aspects of automation and invested heavily into gearing its own production sites for the future.

VS invested heavily into gearing its own production sites for the future

As a systems provider of components for lighting technology, it made sense and still does to pass the experience we have gained in the fields of mechanical engineering and automation on to our customers around the world. At present, more than 40 ALF systems are in operation on no less than three continents. These highly reliable systems have increased the productivity of our customers and have established themselves as a firm technological fixture for the production of lighting technology.

At present, more than 40 ALF systems are in operation on no less than three continents

Companies using the ALF system benefit from the flexibility of purchasing components with IDC terminals from a whole host of manufacturers.

To mark the 2006 Light & Building VS is presenting new hard- and software solutions, additional customer services as well as a consistently extended ALF component family.

ALF COMPACT & ALF SMART:
Highly Precise, Reliable and Intelligent System Solutions

Certification according to ISO 14001



VS has been certified according to ISO 9001 for many years. In 2003 the environmental management system was introduced in addition to the central quality management system. At present the VS central quality management system constitutes a uniform, integrated quality and environmental management system. The process of having the environmental management system certified according to ISO 14001 was initiated in 2004 and certification followed at the end of 2005.

Magnetic News continued

New Protection Class II Ballasts

In the middle of 2006, VS will launch a new generation of protection class II ballasts with an output range of 35–150 W for HS/HI/HM lamps.

This further development courtesy of VS is an alternative to ballasts with double or reinforced insulation for luminaires of protection class II.



Advantages:

- Safe and robust design
- Intelligent temperature switch technology
- Integrated cable holder

IP54 Control Gear Units

The VS range of electromagnetic control gear units is being extended. From now on, control gear units are available with an output range of 600–2000 W for HS/HI/HM lamps. These fully potted control gear units with a profiled aluminium casing have been specially optimised for use in outdoor luminaires (IP54).



Ref. No.: 531187

Advantages:

- Slim, weather-proof unit
- Completely wired with ballast and capacitor
- Diverse installation options
- Suitable for installation in pylons

VS operates a uniform, integrated quality and environmental management system

Monitoring and Reduction

A standard-compliant environmental management system serves as a control element to monitor all production processes that could have an impact on the environment. Furthermore this certification enables the continuous improvement of eco-orientated activities to reduce environmental pollution.

Improving our Environmental Performance Assessment

The most critical environmental issues for VS are solid waste, atmospheric pollution due to exhaust fumes, wastewater, noise as well as the use of natural resources and raw materials. The unabated commitment of all involved is the basis for the continuous improvement of VS' environmental performance assessment.

Apart from the resources put in place by the Management, every employee is obliged to comply with internal work guidelines in the interest of preventing accidents and disruptions that could compromise eco-orientated activities and would increase the level of environmental pollution.

Clip-on Units for Ballasts

When attached, the VS clip-on unit turns a magnetic ballast into a control gear unit with an output range of 35–600 W for HI and HS lamps, and all with VS' tried-and-tested quality.

The clip-on unit contains the ignitor and capacitor. This technology reduces installation time and costs.



Ref. No.: 141550 ... 141555

Advantages:

- Ignitors with IPP* technology
- Capacitors with integrated fuse
- Intelligent temperature switch technology
- Lead lengths of up to 10 m to the lamp possible

Potted Protection Class II Transformers

In the area of low-voltage transformers, VS now provides potted transformers with an output range of up to 400 VA for 12 V low-voltage halogen lamps.

These transformers satisfy the requirements of protection class II.



Ref. No.: 531102

Advantages:

- Potted versions for use in aggressive environments (e.g. wet rooms)
- With an integrated temperature switch
- With or without a current monitor
- With or without pre-assembled leads

Complete Range of Magnetic Ballasts with B2 Energy Classification for Fluorescent Lamps

As the only luminaire component manufacturer in the world, Vossloh-Schwabe provides a complete range of B2 ballasts for all fluorescent lamp wattages with cross-sections of 28x41 mm, 28x28 mm and 18x41 mm: a result of VS' consistent quality and environmental policies.



As of 21.11.2005 the CE mark has been reserved for ballasts that meet the requirements of CE/EMA energy classes EEI = B1 or EEI = B2. Luminaire manufacturers can use ballasts bearing the CE mark in luminaires that are destined for the EU market, whereby the aim is to reduce CO₂ emissions in Europe. Moreover, this measure serves to increase the efficiency of luminaires with fluorescent lamp circuits even further.

Reduction of CO₂ emissions in Europe

LED News

New PowerEmitter Modules

The new PowerEmitter modules were specially developed for integration into luminaires. Thanks to their optimised thermal management properties, these modules ensure a very long service life. Various optical attachments are available for the PowerEmitter modules to generate optimum radiation angles.

Pre-assembled leads ensure easy installation of the modules. In addition to this, the existing range of 1 W PowerEmitter modules is being extended by models fitted with 3 W LEDs in the first half of 2006. The modules will then be available in both monochrome as well as RGB.



Ref. No.: 529806 ... 529809

New Monochrome EasyLED

The modules of the EasyLED 200–6 and 200–12 series, which were only available in white up to now, have been supplemented with monochrome models. EasyLED modules feature COB technology and are characterised by their unbeatable value for money. The modules are available in shapes of 200x10 mm and, by splitting the 200 mm module, of 100x10 mm. Thanks to the EasyConnect connector system up to 10 or 15 modules with a one-sided power supply can be connected in a continuous row or at an angle using a special connector. The high stability of this connection system also makes the modules suitable for profiled solutions, thus permitting simple and solder-free assembly.



Ref. No.: 530012 ... 530014, 528481, 530016 ... 530018, 528485

LEDLine Flex SMD In- and Outdoor (IP67)

These flexible line modules in SMD technology are now available in warm white as well as in a brighter white (W2). With a colour temperature of 2800 K, the warm white module is particularly suitable for home lighting.

The W2 model is 70% brighter than the W1 model and rounds the range off.



Continued on page 7



Monochrome HighPerformance Standard Line

VS' range of 6 W and 12 W HighPerformance standard line modules is now also being extended with monochrome models. The linear high-performance modules will shortly also be available in red, blue, green and yellow.



Ref. No.: 526742, 526743

DigiLED DALI Colour Control Modules

The three-channel DigiLED DALI 3-CH colour control module was specially designed to control VS Optoelectronic's RGB modules using the interationally agreed DALI protocol. In addition to this, the unit can be used for independent colour control of three mono-chrome LED modules.

DALI (Digital Appliance Lighting Interface) is a protocol developed for ambience-responsive and intelligent light management.



Ref. No.: 529620

LED Constant Current Sources

To supplement the product range for controlling HighPower LED modules, a 350 mA/6 W alternative will also be available in addition to the already existing power drivers with ratings of 350 mA/11 W, 700 mA/17 W and 1050 mA/18 W. The driver's compact design allows easy integration into existing housings.

70 W Converters, 12 Volt

To round off the existing spectrum of available 24 V 70 W operating devices, VS Optoelectronic is extending its product range with several 12 V operating devices with an output rating of 70 W each. Just like the 24 V operating devices, the 12 V models are also available with or without strain relief as well as in an IP67 version. The converters are electronically protected against overload, overheating and short-circuiting and meet all relevant standards.



Ref. No.: 530578, 530579

Standards

Information on the Standardisation of Operating Devices and Lampholders for Lamps for General Lighting

The standards governing operating devices are broken down into a safety section, recently reorganised into a main section (IEC 61347-1) as well as respective sub-sections (IEC 61347-2-x), and into separate subsections for performance (in acc. with IEC 60921, IEC 60923, etc.). Also as before, compensation capacitors are governed by IEC 61048 for safety and IEC 61049 for performance.

Currently special independent sections are being added for the description of digital interfaces of operating devices to the 62386 series of standards (again split into a basic section and in separate sections for the various operating devices) and a section covering the power consumption of fluorescent lamp circuits to the IEC 62442 series of standards (up to now this has been governed by EN 60294 in Europe). Both projects are being worked on at the IEC at present and ratified standards have yet to be issued.

The COMEX and EPC working groups initiate standardisation projects and continue to provide advice during the individual stages, in which all the member states of the IEC and the experts from the national committees are involved. In accordance with established rules, IEC publications, i.e. the standards themselves, gradually emerge on the basis of the initial drafts, the supplements and all the modifications. To enable detailed treatment to be given to specific topics, small expert panels of so-called project teams are convened in between the COMEX and EPC meetings.

Key Topics for COMEX and EPC:

- The digital "DALI" interface, already known from its use in electronic ballasts, will in future be governed by an independent standard, which will be broken down into a basic first section specifying general requirements for the interface and a separate second section laying down special requirements for the operating devices of the individual lamp applications. To ensure greater ease of future use with the most diverse control devices, standardisation work regarding interfaces for operating devices has also begun. The new standard has been allocated IEC number 62386.
- The publication of these two separate sections governing safety and performance will soon complete the first step of the standardisation process regarding operating devices for LED modules. The safety standard will be published under IEC 61347-2-13 and the performance standard under IEC 62384.
- The introduction of special test circuits to detect the end-of-life effect in fluorescent lamps has made electronic ballasts even safer and, as they ensure the lamp is then safely switched off, also prevent it from developing critical transitional states. Discussions are currently underway as to whether the tolerances for selecting lamps at the end of their service life should be tightened and whether the test circuits should be extended to include the assessment of T8, T10 and T12 lamps. Up to now, these tests are only specified for T5 and T4 lamps. In each case, the number following the T (i.e. T4, T5, T8, T10 and T12) denotes the lamp diameter in eighths of an inch, a unit of measure that remains popular in various countries.
- For conventional ballasts with double or reinforced insulation (for integration into protection class II luminaires), the required creepage and air clearance distances have now been raised to double the currently valid basic insulation values. Thanks to the publication of a corrigendum by the IEC office, an ENEC test mark is expected to be issued shortly. The IEC 60598 luminaire standard suggests a value of 3 mm; a value of 3.4 mm is under discussion with regard to the ballasts standard. If the 3 mm value from the luminaire standard is accepted, COMEX will also use this value.
- A test of the material strength of the insulating foil between the copper winding and the iron core of a ballast is currently being prepared. The test aims at ensuring such foils provide a minimum degree of material strength. A comparable test is already carried out for transformers.
- A clarification regarding feed-through wiring (feeding the mains voltage through to other devices) is under discussion for independent ballasts. The aim is to achieve the same feed-through wiring conditions for independent ballasts as are already currently common for luminaires.

Continued on page 8

Successful Marketing Tool



When Vossloh-Schwabe made its first T5 sample boxes available to its international customer base in 2003, this was a first attempt to present VS products in this new form.

Up to now, further sample boxes have been put together for HID, Edison and

Halogen, T8 and T5 lamps. This compact form of hands-on product presentation has proved to be extremely popular with customer the world over. For that reason, further sample boxes will follow this year with the aim of communicating the VS system approach.

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IEC Working Groups for Lampholders	Scope	Standards	Data Sheets	Lamps
EPC 1	Safety requirements for lampholders	IEC 60238 IEC 60400	--	60238 = Edison lampholders 60400 = Fluorescent lampholders and Starterholders 60838.1 = Miscellaneous lampholders 60838.2.1 = Lampholders S14 60838.2.2 = LED connectors 61184 = Bayonet lampholders 60399 = barrel thread for E14 and E27
EPC 2	Data sheets for lampholders based on the standards IEC 60238/60400 and 61184 and guidelines for general information	60061, part 1.3 60061, part 4 (Evidence)	60061-1 = 7004-... 60061-2 = 7005-... 60061-3 = 7006-... 60061-4 = 7007-...	60238 = Edison lampholders 60400 = Fluorescent lampholders and Starterholders 61184 = Bayonet lampholders
EPC 3	Data sheets for lampholders (Automotive Fits)	60061, part 1.3	60061-1 = 7004-... 60061-2 = 7005-... 60061-3 = 7006-...	60838 = Miscellaneous lampholders
EPC 4	Data sheets for lampholders from the standards IEC 60838 (Miscellaneous Fits)	60061, part 1.3	60061-1 = 7004-... 60061-2 = 7005-... 60061-3 = 7006-...	60838 = Miscellaneous lampholders

Standards for lampholders and their respective IEC Working Groups

Standards continued

The topic of earth connections for luminaires and ballasts is to be simplified by a clear and uniform definition. Only the terms "protective earth" and "functional earth" are to be used in future, whereby "protective earth" stands for the earth system of Protection Class I, while "functional earth" will be used for all devices that have to be earthed for functional reasons (EMC, starter aids for lamps).

As a functional earth can also be used in protection class II luminaires, the respective consequences must be observed in such cases. If ballasts with the symbol for protective earth (this only involves an insulating barrier to the protective conductor terminal) are installed, the luminaire design must also meet the requirements regarding double or reinforced insulation for the functional earth terminal.

When using electronic ballasts with a functional earth symbol, no special requirements need to be observed when connecting the functional earth as the ballast already meets all the requirements of a connection terminal with double or reinforced insulation.

The safety section (edition 1: 2005-6) regarding the standardisation of electronic ballasts for high-pressure discharge lamps has been published. Discussions have begun with regard to a separate section governing performance, but a standard is not expected to follow in the near future.

With regard to the requirements for electronic ballasts used to dim fluorescent lamps, uniform test circuits and requirements for all lamp types within a dimming range of 10-100% are currently undergoing preparation.

A CDV (Committee Draft for Voting) and the respective comments of the national committees have been submitted in respect of the standardisation of electronic ballasts for emergency lighting. A new draft (including comments) is expected to be issued shortly. In case of emergency lighting the performance requirements are included under safety.

Work has begun at COMEX to create a worldwide standard measuring the power consumption of fluorescent lamp circuits. At present, various regions (e.g. Australia and Europe) are governed by their own independent standards. The uniform test method is designed to ensure comparability between the various regions.

Further progress has been made with regard to the safety standard for LED light modules. A first draft of the standard, which will serve to assess the safety aspects or light modules, is expected to be published soon.

A connector system for combining LED light modules has been developed that has been included in the IEC 60061 group of standards.

For single-ended compact fluorescent lamps, the 2G8 system has been standardised and included in IEC 60061.

Preparations for the inclusion of new PGJ5 and GU6.5 lampholder systems are underway.

For the EMC assessment of luminaires and luminaire accessories when operated with electronic operating devices, a measuring method for the frequency range between 30 MHz and 300 MHz, the so-called CDN test method (Coupling - Decoupling - Network), is to be introduced as an alternative to field measurement. A respective CISPR proposal (IEC CDV document, Committee Draft for Voting) has been positively voted on by the national committees. An FDIS (Final Draft International Standard) is expected to be issued soon.

Apart from the requirements arising from standards elaborated via national, regional and international committees, an ever increasing number of regional requirements (laws) concerning energy and environmental policies needs to be observed.

The European directives (every member state is obliged to transpose the directives into national laws) are an example of this. The following lists the key directives for the luminaire industry:

73/23/EEC Low-voltage Directive

Proof of having satisfied the provisions of the low-voltage directive must be furnished via the conformity declaration for the products (covered by the CE mark).

2000/55/EC Maximum Energy Consumption Values for Fluorescent Lamp Circuits

The second banishment stage concerning magnetic ballasts for fluorescent lamps was implemented in 2005, as of 21.11.2005 the CE mark has been reserved for ballasts

Digital Addressable Lighting Interface (DALI)	Part 101: Digital Addressable Lighting Interface General requirements, System	IEC 62386-101
	Part 102: Digital Addressable Lighting Interface General requirements; Control Gear	IEC 62386-102
	Particular Requirements specified in special Parts for Different Control Gear under IEC 62386	201: Fluorescent Lamps 202: Self-contained Emergency Lighting 203: Discharge Lamps (excluding fluorescent lamps) 204: Low Voltage Halogen Lamps 205: Supply Voltage Controller for Incandescent Lamps 206: Conversion From Digital Signal into D.C. Voltage 207: LED modules 208: Switching Function 209: Colour control 210: Sequencer
Energy efficiency Requirements	Particular Requirements for Control Devices (Sensor) IEC 62386-30X under consideration	
	Energy efficiency of electrical lighting equipment - Ballasts for fluorescent lamps - Part 1: Method of measurement to determine energy consumption of ballast/lamp circuits	IEC 62442-1
	Lamp control gear - Part 2: Ballasts for fluorescent lamps - Performance requirements - Energy labelling and minimum energy performance standards requirements	IEC 62442-2

that meet the requirements of CELMA energy classes EEI = B1 or EEI = B2. Devices that fall in energy classes C and D are no longer permitted to be labelled with a CE mark. Luminaire manufacturers can use ballasts bearing the CE mark in luminaires that are destined for the EU market.

This measure serves to increase the efficiency of luminaires with fluorescent lamp circuits even further and ultimately aims at reducing CO₂ emissions in Europe. As part of the Kyoto Protocol, the EU has agreed to reduce its CO₂ emissions by 8%.

2002/91/EC Energy Efficiency Requirements for Buildings

The energy efficiency requirements for buildings are also designed to ensure a reduction of CO₂ emissions. This directive specifies the energy classification of buildings (new and refurbished) exceeding a floor space of 1,000 m². With reference to the primary energy used, a building's energy consumption is already calculated during planning and entered in an energy passport. In the area of lighting, guideline values for energy consumption are provided for the various ballast types. When using dimmable systems with daylight and movement sensors, reduction factors are used when calculating energy consumption. The guideline will be implemented in the energy saving ordinance over the course of 2006.

2002/95/EC Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment

With effect from 1.7.2006 electrical and electronic equipment (including luminaires) may only be introduced to the market if they do not contain or remain within the limiting values for the stipulated substances (0.1% for lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls [PBB] and 0.01% for polybrominated diphenyl ethers [PBDE]).

2002/96/EC Old Electrical and Electronic Equipment

The main provision of the law governing old electrical and electronic equipment concerns the obligation of the manufacturer to take back such equipment (luminaires).

Schedule of the Law governing Old Electrical and Electronic Equipment:

24.03.2005: Joint collection point and the delegation of autonomous power

24.03.2006: Obligation of the manufacturer/importer/distributor to dispose of old products

31.12.2006: Provisions regarding the reuse of old equipment, especially concerning the minimum recycling share of 70-80% of the weight of the equipment

13.08.2005: All other provisions, especially: Marking products with a crossed-out dustbin and a black bar or with the production date or of their introduction into the market.

Projects in preparation at COMEX

- Regulations regarding the separate collection of old equipment
- Regulations regarding the manufacturer's obligation to take back old equipment
- Obligation of the manufacturer to submit reports on quantities and provide further information
- Regulations governing fines

A take-back system has been elaborated for Germany in cooperation with ZVEI and Intersearch that meets the legal requirements in a simple and yet affordable way.

2004/108/EC EMC Directive (Modification of 89/336/EEC)

This supersedes the old 1989 directive. The application of the new directive is not permitted before 20.07.2007 and will become mandatory after 20.07.2009

2005/32/EC Framework Directive for Defining Requirements for Environmentally Compliant Design of Powered Products

This framework directive will set forth regulations for equipment features that will include environmental and energy provisions. At the present state of consultation, the lighting industry can expect three new directives of this kind that will lay down special requirements for street and office lighting. As a third area, consideration is being given to the topic of standby losses.

New Global Ad Campaign



Vossloh-Schwabe will be presenting itself with a new ad campaign in nearly every important international magazine in the field of lighting technology in 2006. The new layout provides more room for exciting visuals, headlines and information.

Over the course of the year the entire product range of Vossloh-Schwabe, the market leader in this field, will be communicated via this campaign. In addition to this, ads will be placed to mark specific events or highlight special topics.

VS Expotainment Worldwide



Trade Fairs in 2006

Domotecnica, Cologne
13.-16.02.2006

Beijing Light Fair, China
15.-17.03.2006

Light+Building, Frankfurt
23.-27.04.2006

Lightfair, Las Vegas
30.05.-01.06.2006

Guangzhou Light Fair, China
08.-11.06.2006

Hong Kong Light Fair, China
27.-30.10.2006

Electronica, Munich
14.-17.11.2006

Interlight, Moscow
06.-09.12.2006

Trade fairs all over the world enable exciting and live communication with our international customer base. In the past, trade fairs were perfect marketplaces for placing orders. Nowadays though, they are much rather communication platforms for entire industrial sectors. Globalisation and new communication possibilities make modern-day trade fairs a crucial element of the marketing mix.

With our products being the focus in any case, our trade fair activities centre around unusual presentations, events and shows. VS was early to recognise this trend and has offered its customers superior expotainment at all international trade fairs for many years.