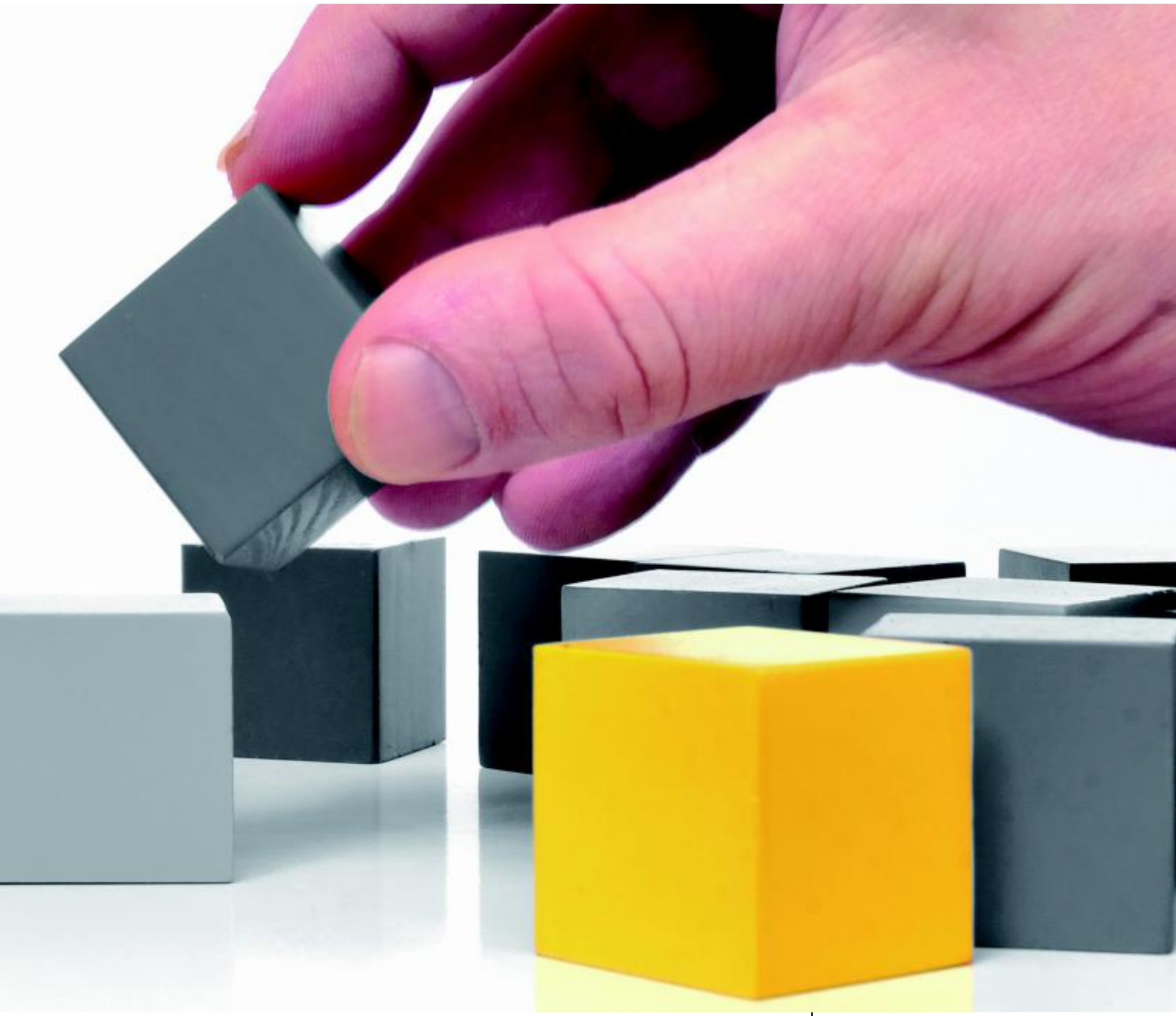
VOSSLOH SCHWABE



OUR KNOW-HOW – YOUR ADVANTAGE

Customised LED Modules

OUR KNOW-HOW

YOUR ADVANTAGE





LED TECHNOLOGY: THE FUTURE OF LIGHTING

Thanks to the rapid pace of progress in the field of LED developments, the luminous efficiency (lumen/Watt) values that are possible today are soon set to double. Developments such as controllable temperature ranges and constant colour-quality improvements, to name just two, are opening up ever new fields of application and make LED technology the most innovative lighting solution we have today – a position it will continue to occupy in the future.

Investments into R&D as well as intensive activities in the field of customer relations management are an integral part of our corporate philosophy and drive innovations.

Our customers benefit from the extensive R&D work carried out by the Panasonic Group as well as from our long-standing partnerships with globally leading suppliers.

ADJUSTING LIGHT LEVELS USING A LIGHT MANAGEMENT SYSTEM

A major shift towards greater energy awareness has begun, regardless of whether the field of application is street, architectural or monument lighting. Energy-saving lighting using LEDs as well as light management systems based on DALI are making a major contribution to this end. Such systems let you switch individual luminaires on and off in response to requirements and enable energy-optimised dimming of luminaires.



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Electronic, dimmable ballast (DALI)
+ Motion sensor
+ Light sensor

Energy savings of up to 80% can be achieved





No matter whether the equipment you choose comes from our broad range of standard LED products or whether you team up with us to find a customised LED solution, we are always the right partner for your projects.

PRODUCT RANGE

Only 30 years ago, our entire LED product range comprised no more than 12 products. By now, Vossloh-Schwabe's LED product and solutions range is made up of some 4,200 product varieties – in all brightness classes, colours and designs.

Vossloh-Schwabe's LED Product Range:

- **Standard LEDs**
  For signalling and process display purposes in numerous colours
- **LED Modules**
  Variously rated, pre-assembled modules with chip-on-board (COB) or surface-mounted-device (SMD) technology
- **High-Power, Super-Bright and Ultra-High-Bright LEDs**
  COB, SMD or T-type
- **LED Assembly Groups**
  Customised assembly groups
- **Display Panels and Backlights**
  Lighting modules for flat display panels or LCD screens
- **LED Luminous Surface Modules**
  Modules that are suitable for polychromatic (RGB) control
- **LED Converters**
  For addressing and dimming voltage- and constant-current-operated LED applications with various outputs
- **LED Connection Technology**
  Connection elements for safe and quick terminal contacts
- **LED Light Control**
  Daylight control, RGB colour blending, dimming

LISTENING, UNDERSTANDING, IMPLEMENTING

In cooperation with our customers, we develop ideas and elaborate solution approaches. From individual LEDs or complete PCBs right up to entire systems, we have the know-how to put our customers' wishes into practice. And conducting preliminary optical and thermal simulations means we can already begin to optimise the final product in advance.

Even when it comes to satisfying special customer wishes such as **solar-powered operation, humidity protection, control of chromaticity coordinates and colour temperatures as well as motion sensors**, we have the requisite know-how to provide the right assistance. LED modules are therefore adapted to suit the respective requirement to deliver light when and where it is needed.

Following the initial presentation and a first exchange of ideas with the customer, our application workshop gets to work and, if required, quickly provides prototypes and samples.

LEDs can not only be incorporated into existing luminaires, but we can also break new ground by implementing utterly new ideas for luminaire designs in collaboration with our respective client. Intensive communication with our customers, quick response times and fast implementation of individual project stages are key in this respect.

Our customers particularly appreciate:

- **Having a SINGLE contact partner**
- **Working as part of a team**
- **The ideas that VS delivers**
- **Open communication**
- **Our many years of expertise**

OUR KNOW-HOW

OLIGO LICHTTECHNIK (Oligo Lighting Technology)





LISGO luminaire by OLIGO

CUSTOMISED LED MODULE FOR HOME LIGHTING

Innovative and dimmable LED module for a trend-setter in the field of luminaires for home lighting.

Our Remit:

- Developing a PCB for luminaires of minimal width, but lengths of 300 mm to 1800 mm
- Integrating the LED module in straight and slightly domed designer luminaires
- Enabling infinite dimmability of the luminaire by touching the two end caps

Our Solution:

- Using highly efficient SMD LEDs and performance-optimised current drivers for 24 V DC operation in conjunction with a semi-flexible PCB to enable a highly flexible system design.
- A separate control PCB for regulating brightness levels can be connected to the LED PCB in the luminaire using IDC technology. A capacitive measuring system via electrodes at the end caps was chosen to deliver the required touch-sensor dimming function.



- Adding optional mini reflectors can ensure optimum illumination even if luminaires are fitted at different heights.

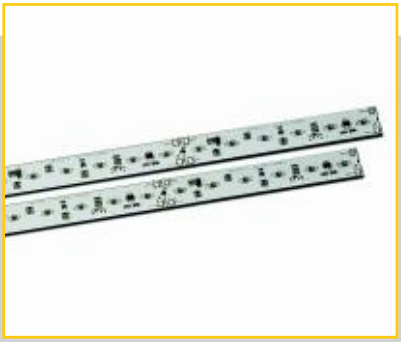


TECHNICAL DETAILS

- Reflectors for optimum light distribution
- System lengths of up to 10 modules are possible, with six highly efficient SMD LEDs per module
- Easy system wiring thanks to IDC connectors
- Optimised for connection to the VS control PCB

OUR KNOW-HOW

FURTHER DEVELOPMENT WORK BY VS





CUSTOMER-SPECIFIC MODULE FOR INTEGRATING LIGHTING INTO ROOM DIVIDERS, SHOWER CUBICLES OR FAÇADES

Technological development work for a broad array of applications in response to customer queries in the field of surface illumination.

Our Remit:

- Enabling a maximum LED module length of up to 4000 mm
- Integrating a switch on the PCB to reduce the required luminous flux of 2000 lm per circuit board by 50%
- Divisible single PCB to enable variable system length
- Resin encapsulation option (IP67) for outdoor use

Our Solution:

- Construction of the LED circuit board to operate with 24 V DC and enable connection to a maximum of 11 PCBs, each 370 mm in length and divisible into three sections, using IDC terminals.
- The 18 highly efficient SMD LEDs per PCB can be reduced from 2000 lm to 1000 lm by using a switch.
- Resin encapsulation in a frame in line with IP67.
- The distribution of the SMD LEDs ensures that additional reflectors or lenses of various designs can be retrofitted, thus enabling easy creation of different lighting scenarios.



TECHNICAL DETAILS

- Divisible into three sections (individual sections of 123.3 mm each)
- 18 highly efficient SMD LEDs
- Narrow-angle optics for optimised light coupling into glass
- Simple wiring thanks to IDC technology

OUR KNOW-HOW

LEIPZIGER LEUCHTEN (The Leipzig Luminaire Company)





BUILT-IN LED MODULE FOR STREET AND OUTDOOR LUMINAIRES

This product family of outdoor luminaires for garden, path and street lighting was created in collaboration with the innovative luminaire manufacturer, Leipziger Leuchten.

Our Remit:

- Developing circular SMD LED PCBs with a high luminous flux for integration into already existing luminaire casings
- Ensuring mains operation for the highest possible system efficiency and optimum modification of the cooling mechanism to suit the luminaire casing
- Adding a reflector to indirectly radiate light from the luminaire

Our Solution:

- To ensure an optimum fit in the casing, two PCBs were developed, one with four high-performance SMD LEDs and one with seven high-performance SMD LEDs.
- A bore hole in the middle of the PCB allows the cable to be laid to the back and thus enables the current driver to be integrated into the luminaire pole.
- The LED light is bundled using an optics attachment that was especially optimised for SMD LEDs. Light is deflected by a reflector fitted to the upper part of the luminaire.

TECHNICAL DETAILS

- Four or seven highly efficient Cree MC-E LEDs
- Resin encapsulation of all electrical connections as protection against humidity and corrosion
- With pre-assembled optics attachments

OUR KNOW-HOW

BSH
(Bosch and Siemens Household Appliances)





Example by Siemens

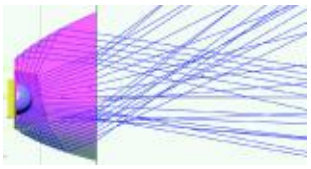
CUSTOMISED LED MODULE FOR EXTRACTOR HOODS

This LED module for extractor hoods was developed in cooperation with BSH Bosch und Siemens Hausgeräte GmbH, a global brand leader in the field of domestic appliances.

Our Remit:
- Illuminating various areas at 500 lx
- Ensuring suitability for three different applications: 30-cm, 60-cm and 90-cm extractor hoods
- Deflecting light to the rear to reach the area requiring illumination behind the LED module

Our Solution:
A special TIR (Total Internal Reflection) optics attachment, optimised for use with LEDs as well as for the desired integration into extractor hoods. This optics attachment ensures asymmetric light radiation.

The optics attachment is used to:
- Bundle light
- Focus light
- Blend light



This guarantees homogeneous illumination of the hob at all times.

TECHNICAL DETAILS

- Six highly efficient SMD LEDs
- Supply voltage 24 V DC
- Dimensions of the PCB (W x H): 120 mm x 20 mm

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 flick 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-the-art control systems (LiCS) as well as LED systems with matching control gear units and OLEDs.



A member of the Panasonic group Panasonic

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