



LED Solutions for Horticulture

Made by Vossloh-Schwabe

When used for plant cultivation in greenhouses, LED technology is not only more energy efficient than conventional lighting, but also makes it possible to accelerate plant growth and improve plant quality.

Based on almost 100 years of experience with lighting technologies, Vossloh-Schwabe develops and manufactures LED solutions on proven industry platforms that can be individually tailored to suit your specific area of application. Whether you require components such as customised pre-assembled printed circuit boards or ready-to-use solutions, top light applications or vertical farming, monochromatic and full spectrum solutions or combinations of these, you'll find Vossloh-Schwabe is a reliable partner.

Vossloh-Schwabe continuously conducts research into and develops new solutions for horticulture lighting applications. Based on various LED technologies, PCB platforms, LED chips, state-of-the-art LED optics produced in-house, LED drivers and numerous LED lighting control options, Vossloh-Schwabe is capable of manufacturing virtually any solution you need.

■ TOP LIGHTING

LUGA Shop & LUGA Line

- Full spectrum COB board (19x19 mm or 28x28 mm) and linear model (280x15 mm)
- 2 different spectra: Bloom and Leaf
- Proven extra-long service life: > 60,000 h (L90/B10)
- Matching optics with IP65 protection available for square models
- Most efficient COB solution for horticulture on the market: up to 2.7 $\mu\text{mol/J}$ or 210 $\mu\text{mol/s}$



Square Version IP65 (WU-M-515)

- One channel SMD solution with IP65 protection including secondary optics
- Placement of 16 customisable SMD LEDs from qualified suppliers
- Directly mountable on luminaire metal case



Square Version IP20 (WU-M-475)

- PCB variant with IP20 for integration in luminaires
- Placement of 16 customisable SMD LEDs from qualified suppliers
- 2 types of optics for horticulture applications



Industry Kit (WU-M-600)

- SMD Board with numerous SMD options
- Heat sink and optics equal IP65 protection for module
- Ready to assemble or build an IP65-protected top light luminaire in combination with a VS driver box



■ INTER LIGHTING

VS Interlight

- VS Interlight luminaire with an evenly spread combination of red and blue LEDs
- Currently available in 230 V versions and 2 m length (2.5 m model to follow)
- Plug and play connectors enable interconnection of several VS Interlight luminaires
- Ideal for combination with our full spectrum top lighting options



LUGA Line

- Full spectrum linear COB board (280x15 mm)
- 2 different spectra: Bloom and Leaf
- Proven extra-long service life: > 60,000 h (L90/B10)



Linear SMD boards W2

- 1-channel mid-power SMD boards
- Wide range of matching optics available
- Available in 7 length: 70, 140, 280, 560, 700, 750 and 1120 mm





■ VERTICAL FARMING (IN-VITRO)

LUGA Line

- Full spectrum linear COB board (280x15 mm)
- 2 different spectra: Bloom and Leaf
- Proven extra-long service life: > 60,000 h (L90/B10)



AluFix LUGA

- Energy efficient linear COB module (Bloom or Leaf) with an aluminium heat sink and clear cover or optics
- Available in various lengths (up to 1,429 mm plus end caps)
- Robust aluminium holder optimises thermal management
- High-quality, one-piece optics provide optimum protection for LED modules and ensure homogeneous and seamless illumination of plants.



Linear SMD boards W2

- 1-channel mid-power SMD boards
- Wide range of matching optics available
- Available in 7 lengths: 70, 140, 280, 560, 700, 750 and 1120 mm



AluLED IP66/67

- IP66/IP67 aluminium profile is ideal for protected applications under humid conditions (excl. direct UV exposure)
- Slim and flat design is extremely flexible for mounting low-profile lighting
- Available in various sizes: 320 mm, 920 mm and 1220 mm
- Constant voltage (24 V and 48 V) solution



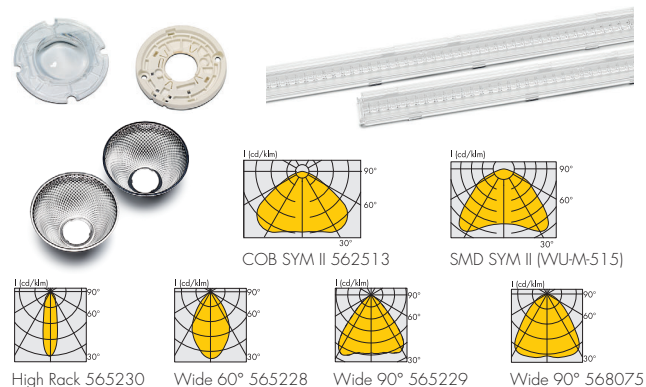
■ FURTHER SYSTEM COMPONENTS

Optics

High-output LED light sources are just one factor that goes into ensuring high efficiency at plant level since this depends on light being distributed throughout the plant in a homogeneous manner. Often enough, adding high-quality optics can improve the efficiency of the entire system.

Many of the LED platforms offered by Vossloh-Schwabe in both SMD and COB versions have their own optics solution, complete with numerous different distribution curves.

Suitable for top lighting and vertical farming solutions, among many others. Depending on the PCB type, optics can also serve to ensure higher degrees of protection such as IP54 or IP65.



LED Drivers

Our driver portfolio covers most voltage and current ranges for SELV and non-SELV devices.

Several dimming options are also available from 0–10 V, DALI, PWM or automated power reduction after defined times.

