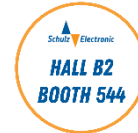


PRESS RELEASE

Baden-Baden, 12.05.2025



>> LASER World of PHOTONICS 2025 <<

SCHULZ-ELECTRONIC PRESENTS NEW HIGH-POWER LASER DIODE DRIVER FOR VOLTAGES UP TO 125 V

With the LDDP-30-125, SCHULZ-ELECTRONIC is presenting a fundamental new development in the field of laser diode drivers at LASER World of PHOTONICS 2025. The compact buck/boost converter was specially developed for applications with long strings of high-power single-emitter laser diodes and high voltages of up to 125 V. The driver thus meets the requirements of high-performance diode generations that require currents of 30 A and more, covering a wide range for which there are hardly any suitable solutions on the market to date.

Laser diode drivers are special power supplies designed for the reliable and precise operation of laser diodes. They enable precise control of the current, ensure safe pulse modulation and ensure optimum performance of the laser diode while protecting against thermal or electrical overload. Laser diode drivers are used in various areas, including medical technology, industrial systems for laser material processing and military systems, for example for drone defense.

The trend towards stacked single emitter laser diodes with increasing current and voltage requirements is leading to an increased need for powerful drivers. Suitable compact DC/DC devices were previously only available to a limited extent. SCHULZ-ELECTRONIC presents a new development that closes this gap: The LDDP-30-125 offers an output voltage of up to 125 V and a current of 30 A if required. Higher outputs are also available on request.

The highly integrated buck/boost converter is the technical highlight of this innovative device. Despite an output of 3600 W, it is only 180 mm × 70 mm × 28 mm in size and achieves a power density of over 10 W/cm³. Thanks to its compact design, the driver is ideal for installation in very compact systems.

In terms of system integration, the new LDDP is impressive as it can be operated with standard 48 VDC power supply units. These are widely used in the medical sector in particular. The signal inputs and outputs are fully isolated (USB, RS485, analog), which increases both safety and design flexibility. In order to achieve higher performance, it is possible to operate several devices in parallel as power sources without the need for complex load distribution.

PRESS RELEASE /// SCHULZ-ELECTRONIC 12.05.2025

The most important features of the LDDP-30-125:

- Supply voltage: 24-70 VDC
- Output voltage: up to 125 VDC
- Max. Output current: 30 A (expandable on request)
- Ultra-low current ripple: $< 10^{-4}$
- Pulse operation up to several kHz
- Can be connected in parallel for higher outputs
- Fully isolated interfaces
- Compact dimensions: 180 × 70 × 28 mm
- Power density: $> 10 \text{ W/cm}^3$

With the LDDP-30-125, SCHULZ-ELECTRONIC is specifically expanding its LDDP series with a powerful solution for future requirements in industry, research and defense. The combination of high voltage, flexible current range and compact design clearly sets the new driver apart from the market standard and offers customers a future-proof platform for new generations of lasers. The LDDP-30-125 is the result of close development cooperation with Dr. Heller Elektronik. The more compact LDDP-12-125 model is also available for operation up to 12 A/125 V.

About SCHULZ-ELECTRONIC

SCHULZ-ELECTRONIC is a leading solution provider and development partner for professional power supplies. Whether laboratory power supply, industrial power supply, laser diode driver or pulse generator - the product portfolio includes all leading brands. In addition, SCHULZ-ELECTRONIC develops highly complex special solutions and complete systems from batch size 1. SCHULZ-ELECTRONIC supplies devices, assemblies and components for the automotive industry, the solar and photonics sector, research and development facilities, the aerospace industry and the railroad sector. Founded in 1975 and headquartered in Baden-Baden, the company has branches in Berlin, Basel (CH) and Shanghai (CN).

PRESS RELEASE /// SCHULZ-ELECTRONIC 12.05.2025



Caption: The compact LDDP-30-125 high-power laser diode driver from SCHULZ-ELECTRONIC is the smallest buck/boost converter in its performance class.

Image source: SCHULZ-ELECTRONIC GmbH

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