

New laser beam sources for photovoltaic applications: PowerLine SL PV series from ROFIN

The PowerLine SL PV product series was especially developed for use in automation and production systems in the photovoltaic industry. The laser scribing processes used in that area place very high demands on the beam quality, especially on the symmetry within two Rayleigh ranges. In addition, a very high pulse to pulse stability is required at high frequencies. Specially designed for these requirements, the new PowerLine SL PV lasers optimally cover current and future demands in the production of modern PV thin-film systems. The laser beam sources are available in wavelengths of 532 nm (PowerLine SL 3 SHG PV) and 1064 nm (PowerLine SL 20 PV).

With the integration of a motor-controlled beam expansion unit in the laser head, the output beam can be used directly. The new temperature management system of the



PowerLine SL PV series provides for excellent long-term stability in regard to high performance: self-actuating thermal monitoring, stabilization of all relevant optical components with Peltier elements and heat dissipation with an air- or water-cooled cooling plate.

The pump diode and the RF generator are located in the compact laser head. This simplifies integration and makes great distances between the location of use and the supply unit possible as required. The supply unit of the laser covers three height units in the 19" industrial standard.

With integrated shutter and safety circuit, the laser system is accordingly designed in compliance with EN-954-1/EN 13849-1, which also facilitates direct integration.

With the PowerLine SL PV series, stable production processes with high throughput rates and excellent processing quality can be implemented. The new beam sources reduce operating costs and guarantee high availability.

Contact

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