



SUPERLUM
The driving pulse of SLD technology

SUPERLUM is the industry leading manufacturer of state-of-the-art, ultimate quality superluminescent diodes and light sources, semiconductor optical amplifiers and tunable swept lasers

NEW MODULAR BROADSWEEPERS AND OPTICAL BOOSTERS FOR OEM APPLICATIONS

Product Information

The new OEM Broadsweepers are modular 110 mm x 41 mm x 190 mm (W x H x D) versions of our the most popular, widely tunable and swept benchtop laser sources at 790, 840 and 930 nm. The laser architecture is relied on a linear external cavity configuration composed of a gain module, an acousto-optic tunable filter (AOTF) and a HR broadband mirror. The custom-designed AOTF allows narrow spectral filtering and hence narrow linewidth while maintaining high efficiency over a wide spectral range. The filter is thermally stabilized by a thermoelectric cooler (Peltier cooler) that results in a high stability and excellent repeatability of the laser wavelength over time and ambient temperature. PMF design ensures high PER exceeding 15 dB.

OEM Broadsweepers provide 3 mW output and tuning from 50 nm (790 nm model) to 100 nm (930 nm model). BS-790-1-OEM and BS-840-1-OEM sweepers' output may be boosted to 20 mW by a stand-alone optical booster of the same size, as shown in the picture. BS-930 output may be boosted to 10 mW upon request.



Features of the new design

- Akinetic design of the external cavity without any moving parts
- Excellent tolerance of wavelength settings
- Excellent sweep-to-sweep reproducibility of the output wavelength
- Linear and smooth wavelength tuning at any sweep rate
- Unidirectional sweep in any wavelength direction
- USB communication
- Stand-alone swept laser and booster units
- Compact dimensions

www.superlumdiodes.com
www.superlum.ie

Superlum Diodes Ltd, Unit B3, Fota Point Enterprise Park, Carrigtwohill, CO.Cork, IRELAND.
Ph. +353-21-4533666 / Fax. +353-21-4533026 / E-mail: sales@superlum.ie



Key applications

- Bio-medical OCT
- Bio-chemical spectroscopy
- Fiber-optic sensing
- Interferometry

Optical Parameters (by model)

BS-790-1-OEM

- **Full tuning range: 55 nm, centered at 795±5 nm**
- Minimum tuning range: 5 nm
- Optical power: 3 mW (from laser output) / 20 mW (after boosting)

BS-840-1-OEM

- **Full tuning range: 75 nm, centered at 840±5 nm**
- Optical power: 3 mW (from laser output) / 20 mW (after boosting)

BS-930-1-OEM

- **Full tuning range: 115 nm, centered at 930±5 nm**
- Optical power: 3 mW (from laser output) / 10 mW (after boosting, upon request)

Other Parameters (all models)

- Linewidth (FWHM): 0.05 nm
- Wavelength setting resolution: 0.01 nm
- Scan speed range: 1 – 10 000 nm/s
- PER: 18 dB (min.)
- Power vs. wavelength flatness: < 1 dB
- Signal-to-ASE excess: > 30 dB
- Fiber type: PANDA PM 850
- Optical output: compatible with FC-APC fiber connectors
- Operating voltage/current: +12 V DC / 1 A
- Communication between the laser and a PC: via USB interface
- Operating temperature range: from +15 °C to +35 °C
- Outline dimensions (W x H x D):
 - 110 mm x 41 mm x 190 mm (laser unit)
 - 110 mm x 31 mm x 190 mm (booster unit)
- Weight:
 - 1.5 kg (laser unit)
 - 1 kg (booster unit)

Upon request, Superlum can deliver a combined source comprising BS-790-1-OEM, 840-1-OEM and 930-1-OEM combined by an appropriate PMF couplers, with output power of 1 mW tunable over range from 770 nm to 1000 nm with the rate of up to 10,000 nm/s. As well, boosted versions of BS-790-1-OEM and BS-840-1-OEM may be combined for 10 mW source tunable from 770 to 880 nm may be delivered.