



Redefining Spectral Boundaries

Luxmux's Integrated Spectral Bench - The "BeST-SLED®"

**MULTI-FUNCTIONAL, HIGH DENSITY,
MULTI WAVELENGTH**



- **A Luxmux Original Design:** New Optical Spectral Engine in our new LSB Platform.
- **Custom, powerful and compact:** Luxmux offers integrated electronics, into a fully enclosed **Integrated Spectral Bench (ISB)**, which is a fully managed control unit for complete independent and integrated control of all light sources for a complete sub system solution
- **The Integrated Optical Spectral Engine Platform**, is a custom enclosure for the Optical Spectral Engine, housing a Spectral Bench platform, which multiplexes SLED diodes for super wide bandwidth combinations, covering all major telecom bands covering up to 460nm
- **The ISB drive electronics and operating software** provides individual SLED selection through a digitally controlled interface. Customized user spectrums can be designed and provided from standard SLED selections.
- **Process and operational control** is provided for each SLED as an exclusive unit or combined as a group. Each individual SLED can be tracked and monitored separately on operational dashboard's for optimum support.
- **Power meters** can be added for additional monitoring.
- **The ISB technique of integrating multiple wavelengths** into a broad spectrum, is designed for optimum coupling efficiency into a single mode fiber, providing exceptional flexibility for sensing and measurement applications.
- **The BeST SLED® product platform** offers up to 19 spectral combinations, to create greater choice and flexibility for widening the performance of your application.

Wide Spectrum

Stable, consistent power across the full spectrum.

Multi Wavelength

Multiple diodes with proprietary beam combining techniques, which simplifies product functionality and performance. An ideal solution for test and measurement systems, data communication equipment, and networking equipment that rely on individual multiple light sources.

Configurable

Luxmux Optical Bench Deck comprises individual and platform temperature control, for optimal spectral performance

On Demand Tuning

Capable for dynamic assignment, for different system level optical switching, channel path requirements.

Stability

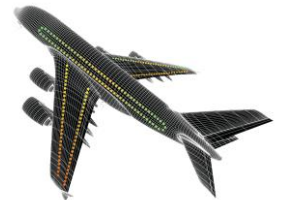
Optical wavelength stability is better than 10 pm, power stability is achieved through a highly interpretive thermal designed platform.

Communications and Control

External monitoring and control can be achieved through USB, a Serial and/or Ethernet cable for communication.

APPLICATIONS

- WDM Applications – Augment CWDM capabilities: Multiple wavelengths.
- Test and Measurement – Fiber Optic Components Test, OTDR, Metrology
- Optical Coherence tomography
- Data Centres/Communications
- Chromatic Dispersion Measurements





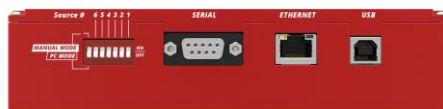
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Specification Overview

WIDE SPECTRUM	MULTI WAVELENGTH RANGES	CONFIGURABLE SLED COMBINATIONS	Fiber Coupled Power mW	SELECTIVITY	STABILITY	CONTROL OPTIONS
FWHM @ 10dB				1. Programmable SLED On/Off Control. 2. Individual Spectrum Control 3. Pulsed Operation or CW 4. Multiple SLED's Selection Average CWL (nm) 1300, 1340, 1390, 1430, 1480, 1550, 1615, 1680	Power Stability: < 0.2 dB in 8 Hrs (After Start Up @ 25 Deg C) Spectrum Stability: < 0.3 nm/Deg C (After Start Up @ 25 Deg C)	1. Individual SLED Operation 2. Individual SLED Modulation, or in pairs or group.
150	1575-1725	2	12			
205	1435-1640	3	18			
155	1310-1465	3	20			
200	1265-1465	4	25			
290	1435-1725	4	25			
235	1265-1500	5	35			
300	1305-1605	5	34.7			
460	1265-1725	6	40			
170	1435-1605	2	12			
330	1310-1640	6	38			
340	1265-1605	6	40			
195	1410-1605	3	19			
155	1265-1420	3	20			
145	1355-1500	3	19			
210	1515-1725	3	18			

ACCESSORIES	Optional connectors configuration FC/PC, SC/APC	POWER SUPPLY UTILITIES	Input Power Supply: Units Volts, Min 10, Typical 12, Max 24V Input Current: Units – Amp, Min 0.1 , Typical 1.8A, Max 3.5A Power Dissipation – Over Case Temperature Range: Typ 15W
SOFTWARE	PC Software for full control and monitoring Custom API available	CONFIGURATIONS	6 Independent monitor photo diode readouts for each SLED 6 Independent current reading for each SLED. Programmable/Manual operation. Temperature monitoring of OSE and the PCB. Customer Heat Sink: Recommended or Air Flow 4.7 SCFM.
DIMENSIONS	105.4mm[W] x 141.9 mm [L] x 38.1mm [H]	COMMUNICATION INTERFACE	USB (Type B), Ethernet, RS-232
WEIGHT	4.76 lb	EXTERNAL TRIGGERS	Manual/PC control individual SLED
Power Meters (Optional)	Germanium, 800 - 1800 nm; Wavelength Range λ 800 - 1800 nm; Peak Wavelength λ_P 1550 nm; Responsivity (1550 nm) $\mathcal{R}(\lambda)$ 0.85 A/W (Typ.); Active Area Diameter 7.1 mm ² ; Rise/Fall Time (RL=50 Ω , 3 V) tr/TF 600 ns / 600 ns (Typ.);) NEP (1550 nm, 1 V) W/ $\sqrt{\text{Hz}}$ 2.6 x 10 ⁻¹² (Typ.); Dark Current (1 V) Id 4 μ A (Max)		

ORDERING CODE	LTC	ISB	SLEDS	FT	SC	FWHM	CW	FOP
EXAMPLE	LTC	ISB	1300_1390_1480	PM	1265_1500	235	1383	15
	Luxmux Technology Corporation	Best-sled® Optical Spectral Bench One common TEC	SLED center wavelength, choose from one of the models in Table 1.0. 1300, 1340, 1390, 1430, 1480, 1550,1615,1680 [up to 6]	Fiber type P: Polarization maintaining PM1500-XP S: single mode smf28-e	Spectral Range	Full width half maximum [FWHM defined as the bandwidth from the lowest spectral dip]	Center wavelength *Defined as FWHM center wavelength	Fiber Output Power



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