

DWDM Source Bank

The Optilab DWDM Source Bank (DSB) series are designed specifically for use with Dense Wavelength Division Multiplexing (DWDM) based device and systems.

DSB-R DWDM Source Bank



Product Description

The Optilab DWDM Source Bank (DSB) series are designed specifically for use with Dense Wavelength Division Multiplexing (DWDM) based device and systems. With Optilab's comprehensive inventory of high quality Distributed Feedback (DFB) lasers, DSB can be custom ordered with up to 80 total DFB wavelengths to meet very high-density DWDM test and qualification requirements. With its powerful Labview-based software and intuitive front panel control, the user can control each of the DWDM channels individually for precise output power level and exact emission wavelength.

Optilab DSB series provide an optimal solution for repetitive testing of DWDM-based modules and components. Each DSB can be ordered with ITU grid spacing of 50 GHz, 100 GHz or a combination of both. Each DFB laser is precisely controlled to +/-5 pm wavelength stability. With the included LabVIEW software, controlling and monitoring of all 80 DWDM channels can be done through one standard USB port of PC. The capability allow for decreased testing cycles and improved productivity.

Features

- Up to 80 DWDM wavelength can be integrated into one system
- Powerful LabVIEW program for remote monitoring and control
- Output can be customized to PM Panda fiber connector
- Wavelength stability of ± 5 pm
- Three Year Limited Warranty

Applications

- Laboratory Testing and Measurement
- DWDM Networks
- Seed Laser
- Fiber Optics Components
- Fiber Sensors

PRODUCT SPECIFICATIONS

Technical Specifications

Number of DFB Lasers	Up to 80 lasers in one system
Standard Wavelength Range	1310 nm \pm 5 nm 1510 nm \pm 5 nm 1530 nm \pm 5 nm 1540 nm \pm 5 nm 1550 nm \pm 5 nm 1560 nm \pm 5 nm 1570 nm \pm 5 nm 1580 nm \pm 5 nm 1590 nm \pm 5 nm 1600 nm \pm 5 nm
Customized Wavelengths 1528 nm to 1563 nm	DWDM Wavelength in C-band Can Be Specified; See Attached Table
Wavelength Accuracy for Customization	± 0.02 nm
Output Power	10 mW, 20 mW, 50 mW on select wavelengths
Output Power Stability	± 0.05 dB over 8 Hours
Wavelength Accuracy	± 0.002 nm over 8 Hours
Standard Laser Linewidth	2 MHz typ., 10 MHz max.,
Narrow Laser Linewidth	< 1 MHz DFB Available
Side Mode Suppression Ratio	45 dB typ.
Optical Isolator	30 dB min.
Relative Intensity Noise	-145 dB/Hz max.
Polarization Extinction Ratio	20 dB typ. (with PM fiber Option)

Adjustable Features and Output

Channel Output Control	On/Off
DFB Power Output	Up to 10 dB Adjustment of Peak Power Output
DFB Wavelength Tuning	± 0.8 nm from the center of the wavelength

Ordering Information

DSB-w-R-xx-y-zzzz

w	Total Number of DWDM Channel (Up to 80)
xx	Optical Power Level (mW) 10, 20, or 50
y	PM Fiber Output Option SM: SMF-28 fiber, PM: PM PANDA fiber



Optilab

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Available DWDM Wavelengths for DSB-B

100 GHz Grid		50 GHz Offset		100 GHz Grid		50 GHz Offset	
nm	THz	nm	THz	nm	THz	nm	THz
1528.77	196.10	1529.16	196.05	1546.12	193.90	1546.52	193.85
1529.55	196.00	1529.94	195.95	1546.92	193.80	1547.32	193.75
1530.33	195.90	1530.72	195.85	1547.72	193.70	1548.11	193.65
1531.12	195.80	1531.51	195.75	1548.51	193.60	1548.91	193.55
1531.90	195.70	1532.29	195.65	1549.32	193.50	1549.72	193.45
1532.68	195.60	1533.07	195.55	1550.12	193.40	1550.52	193.35
1533.47	195.50	1533.86	195.45	1550.92	193.30	1551.32	193.25
1534.25	195.40	1534.64	195.35	1551.72	193.20	1552.12	193.15
1535.04	195.30	1535.43	195.25	1552.52	193.10	1552.93	193.05
1535.82	195.20	1536.22	195.15	1553.33	193.00	1553.73	192.95
1536.61	195.10	1537.00	195.05	1554.13	192.90	1554.54	192.85
1537.40	195.00	1537.79	194.95	1554.94	192.80	1555.34	192.75
1538.19	194.90	1538.58	194.85	1555.75	192.70	1556.15	192.65
1538.98	194.80	1539.37	194.75	1556.55	192.60	1556.96	192.55
1539.77	194.70	1540.16	194.65	1557.36	192.50	1557.77	192.45
1540.56	194.60	1540.95	194.55	1558.17	192.40	1558.58	192.35
1541.35	194.50	1541.75	194.45	1558.98	192.30	1559.39	192.25
1542.14	194.40	1542.54	194.35	1559.79	192.20	1560.20	192.15
1542.94	194.30	1543.33	194.25	1560.61	192.10	1561.01	192.05
1543.73	194.20	1544.13	194.15	1561.42	192.00	1561.83	191.95
1544.53	194.10	1544.92	194.05	1562.23	191.90	1562.64	191.85
1545.32	194.00	1545.72	193.95	1563.05	191.80	1563.45	191.75

Additional Information

All Optilab DSB series are backed by a three year limited warranty on complete system functionality. Our customer service team provides technical support for any inquires for the operation of the DFB source bank.

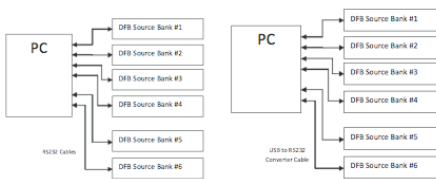


Fig.1a Hardware Configuration 1 Fig.1b Hardware Configuration 2

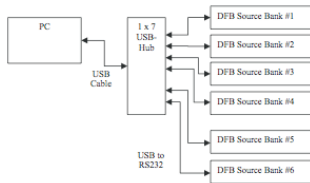


Fig.1c Hardware Configuration 3



DWDM Source Bank

Mechanical Specifications

Temperature Range	10° C to +50° C (operating), -10° C to +70° C (storage)
Operating Humidity	0% to 85% Relative Humidity
Power Supply	80 – 240 V, 43 – 63 Hz AC or 40 - 58 V DC (Optional)
Power Consumption	80 W max., per mainframe
Housing Dimensions	2RU: 19" x 18" x 3.5" for each mainframe
Control / Monitoring	LD Current, Output Power, Laser Wavelength
Remote Control	LabVIEW program via RS-232 and USB Port
Display	Output Power Level, Wavelength
Alarms	Over Temperature , Over Current
Optical Connectors	FC/APC, FC/UPC, SC/APC, SC/UPC PM FC/APC, PM FC/UPC
Optical Fiber Type	SMF-28 (Standard), PANDA for PM Output
Housing	Solid Cast Aluminum

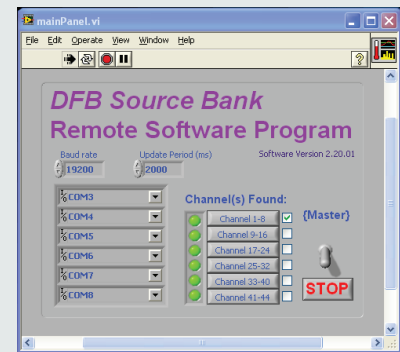


Figure above illustrates the main panel interface where the baud rate, update period, and comports can be controlled.

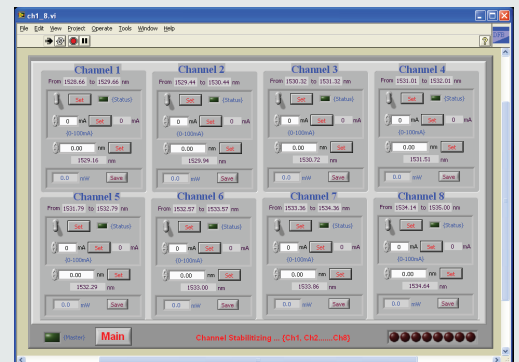


Figure above illustrates the Channel Panel interface where individual channels can be controlled.