SBM (Single Fiber Fixed MUX DEMUX Card)

SBM (Single Fiber Fixed MUX DEMUX Card)

Details

Single Fiber DWDM MUX/DEMUX Board – 4 Channel & 8 Channel SBM Series

The **Single Fiber MUX/DEMUX Board (SBM Series)** supplied by **D-TECH Trading** is specially designed for multi-wavelength DWDM network applications. It can multiplex multiple optical wavelengths onto a single optical fiber or separate multiple optical channels transmitted through the same fiber according to wavelength.

Based on **Thin Film Filter (TFF) technology**, the SBM board operates on the ITU grid with **100 GHz channel spacing**. Optional ITU channel wavelengths are available according to network requirements.

The board supports serial connection with an **EDFA optical amplifier** for single-fiber bidirectional long-distance transmission. It also includes an **OSC monitoring channel**, optical power monitoring, and an optical power indicator for the MUX signal port.

Quick Specifications

Channel Options
4CH / 8CH

Channel Spacing

100 GHz

Technology

TFF

Transmission

Single Fiber BiDi

Key Features

- Supports 4-channel or 8-channel DWDM MUX and DEMUX
- Single-fiber bidirectional optical transmission
- ITU grid operation with 100 GHz channel spacing
- Based on Thin Film Filter technology
- Optional ITU channel wavelengths
- Supports EDFA serial connection
- Built-in OSC monitoring channel
- Supports optical power monitoring of the SIG port
- Optical power indicator for the MUX port
- Supports extended cascading through the EXP port
- Low insertion loss
- Compact one-slot board design

Applications

DWDM Networks

Multiplexes multiple DWDM optical channels over a single optical fiber.

Long-Distance Transmission

Supports single-fiber bidirectional long-distance transmission with EDFA amplification.

Metro & Backbone Networks

Suitable for telecom, ISP, enterprise, metro, and backbone optical networks.

Optical Monitoring

Provides OSC monitoring and optical power monitoring of the MUX signal port.

Product Specifications

Specification	4-Channel	8-Channel
Function	Supports MUX and DEMUX of 4 DWDM optical signals	Supports MUX and DEMUX of 8 DWDM optical signals
Channel Number	4? @ 100 GHz	8? @ 100 GHz
Insertion Loss	?2 dB, ?-IN to SIG-OUT / SIG-IN to ? -OUT	?3 dB, ?-IN to SIG-OUT / SIG-IN -OUT
3 dB Spectral Width	>75 GHz	>75 GHz
Adjacent Channel Isolation	>25 dB	>25 dB

Specification	4-Channel	8-Channel
Non-Adjacent Channel Isolation	>35 dB	>35 dB
OSC Channel	1491 nm / 1511 nm	1491 nm / 1511 nm
Single-Fiber Bidirectional Coupling Loss	?1.5 dB, RC to LINE / LINE to TC	?1.5 dB, RC to LINE / LINE to T
OSC Coupling Loss	?1.5 dB, OSC-A to LINE / LINE to OSC-D	?1.5 dB, OSC-A to LINE / LINE OSC-D
Slot Requirement	1 Slot	1 Slot
Power Monitoring	Supports optical power monitoring of the MUX port (SIG)	Supports optical power monitori the MUX port (SIG)
Indicator Light	Supports optical power indicator for the MUX port (SIG)	Supports optical power indicator the MUX port (SIG)
Extended Function	Supports extended cascading through the EXP port	Supports extended cascading through the EXP port
Cascading Limitation	Docking is not supported during cascading	Docking is not supported during cascading

4-Channel Fixed MUX/DEMUX Board Models

Card Model	Port Range	Add Center Frequency Range	Drop Cente Range
SBM2242	A22/D39, A23/D40, A24/D41, A25/D42	192.20–192.50 THz	193.90–194.
SBM4222	A39/D22, A40/D23, A41/D24, A42/D25	193.90–194.20 THz	192.20–192.

Card Model	Port Range	Add Center Frequency Range	Drop Cente Range
SBM2646	A26/D43, A27/D44, A28/D45, A29/D46	192.60–192.90 THz	194.30–194.
SBM4626	A43/D26, A44/D27, A45/D28, A46/D29	194.30–194.60 THz	192.60–192.

8-Channel Fixed MUX/DEMUX Board Models

Card Model	Port Range	Add Center Frequency Range	Drop C
SBM2246	A22/D39, A23/D40, A24/D41, A25/D42 A26/D43, A27/D44, A28/D45, A29/D46	192.20–192.90 THz	193.90
SBM4622	A39/D22, A40/D23, A41/D24, A42/D25 A43/D26, A44/D27, A45/D28, A46/D29	193.90–194.60 THz	192.20

Installation Recommendation

Select the correct SBM card model according to the required **add and drop ITU channels**. Confirm that the frequency plan at both ends of the single-fiber link is correctly paired before installation.

When connecting the board with an EDFA or additional DWDM equipment, calculate the complete optical power budget, including MUX/DEMUX insertion loss, coupling loss, fiber attenuation, connector loss, and amplifier gain. Use the **OSC and SIG optical monitoring functions** to verify link performance and maintain stable long-distance transmission.

© 2026 | Phone: +977 9851248419 | Email: info@dtechtrading.com | Website: https://demoshop.com. All rights reserved.