

# FMU 40 Channels DWDM Dual Fiber End-to-End Transport Platform

Up to 400Gbps 140KM Dual Fiber BIDI End-to-End Transport



## Overview

40 channels DWDM dual fiber end-to-end transport platforms are designed primarily to address the growing needs for optical transmission link that support a broad range of applications including business Ethernet services, data center interconnect, mobile and fixed broadband backhaul, SAN and native video transport, private enterprise networks, and the migration of SONET/SDH, OTN, or WDM. Each shelf provides fabricless switching of packet, OTN, and SONET/SDH with up to 500G of packet interface capacity and support for Ethernet Bridging.

## Highlights

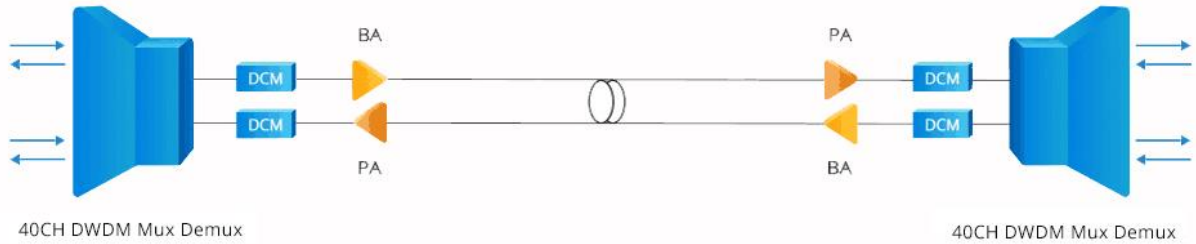
- Maximum Reach: 140km@10Gbps end to end transport
- Robustness: Redundant hot pluggable power supply units
- Protocol Transparency: Support SDH, PDH, OTN, Ethernet, SAN
- Manageability: Highly integrated with FMT management platform
- Flexibility Network: Optional transmission distance and fiber link loss

## TECHNICAL SPECIFICATIONS

| System                | Description   |
|-----------------------|---|
| Topology              | End-to-End DWDM networks  |
| Networking Modes      | Dual fiber bi-directional transport                             |
| Transport Network     | Metro WDM/dark fiber  |
| Approvals             | CE, FCC, RoHS   |
| Channel Count         | 40 DWDM channel (C21 to C60)                                    |
| Supported Protocols   | SDH/SONET, PDH, OTN, Ethernet, SAN                              |
| Power Supply          | 100V-240VAC 1.7A, 100W  |
| Redundancy            | Dual feeding, hot swappable                                     |
| Operating Temp        | -5 to 60° C   |
| Storage Temp          | -40 to 80° C  |
| Heat Dissipation      | 1* fan module, hot swappable                                    |
| Ingress Protection    | Non-waterproof  |
| Optical Specification | Description   |
| Fiber Distance        | 20km to 140km   |
| Fiber Link Loss       | 10dB to 29dB  |
| Fiber Types           | G.652D  |
| Network Management    | Description   |
| Management Ports      | 2*10/100/1000Base-T RJ-45<br>2*100Base-FX SFP<br>1*Console port |
| Management Protocols  | SNMP, monitor online, simple management tool                    |
| Management Channel    | Optical supervisory channel (OSC) at 1510nm (standard)          |
| DCN                   | OSC   |
| Visual Indicators     | LED status indicators for client ports, line interfaces, power  |

## Flexible Deployment Options

FS transport platform greatly enhances the reach and reliability of transport performance while providing the flexibility to select the optimal modulation scheme for a specific application.



| Distance  | Fiber Link Loss | Packing List          |                          |                      |            |                |                        |
|-----------|-----------------|-----------------------|--------------------------|----------------------|------------|----------------|------------------------|
|           |                 | DWDM Mux Demux (2pcs) | Booster Amplifier (2pcs) | Pre-Amplifier (2pcs) | DCM (2pcs) | Chassis (2pcs) | Attenuator (4pcs/each) |
| < 60km    | Loss ≤10        | 40CH C21-C60          | -                        | -                    | -          | 1U             | 3, 5, 7dB (3pcs/each)  |
|           | 10< Loss ≤20    | 40CH C21-C60          | -                        | O13/G20              | -          | 1U             | 3, 5dB                 |
|           | 20< Loss ≤26    | 40CH C21-C60          | O20/G20                  | O13/G20              | -          | 1U             | 5, 7, 10dB             |
| 60-80km   | Loss ≤20        | 40CH C21-C60          | -                        | O13/G20              | 40km       | 1U             | 3, 5dB                 |
|           | 20< Loss ≤26    | 40CH C21-C60          | O17/G20                  | O13/G20              | 40km       | 1U             | 5, 7, 10dB             |
|           | 26< Loss ≤29    | 40CH C21-C60          | O20/G20                  | O13/G20              | 40km       | 1U             | 3, 10dB                |
| 80-100km  | Loss ≤20        | 40CH C21-C60          | -                        | O13/G20              | 60km       | 1U             | 3, 5dB                 |
|           | 20< Loss ≤26    | 40CH C21-C60          | O17/G20                  | O13/G20              | 60km       | 1U             | 5, 7, 10dB             |
|           | 26< Loss ≤29    | 40CH C21-C60          | O20/G20                  | O13/G20              | 60km       | 1U             | 5, 7, 10dB             |
| 100-120km | Loss ≤20        | 40CH C21-C60          | -                        | O13/G20              | 80km       | 1U             | 3, 5dB                 |
|           | 20< Loss ≤26    | 40CH C21-C60          | O17/G20                  | O13/G20              | 40km+40km  | 2U             | 5, 7, 10dB             |
|           | 26< Loss ≤29    | 40CH C21-C60          | O20/G20                  | O13/G20              | 40km+40km  | 2U             | 3, 5, 7dB              |
| 120-140km | Loss ≤26        | 40CH C21-C60          | O17/G20                  | O13/G20              | 40km+60km  | 2U             | 3, 5, 7dB              |
|           | 26< Loss ≤29    | 40CH C21-C60          | O20/G20                  | O13/G20              | 40km+60km  | 2U             | 3, 5, 7dB              |

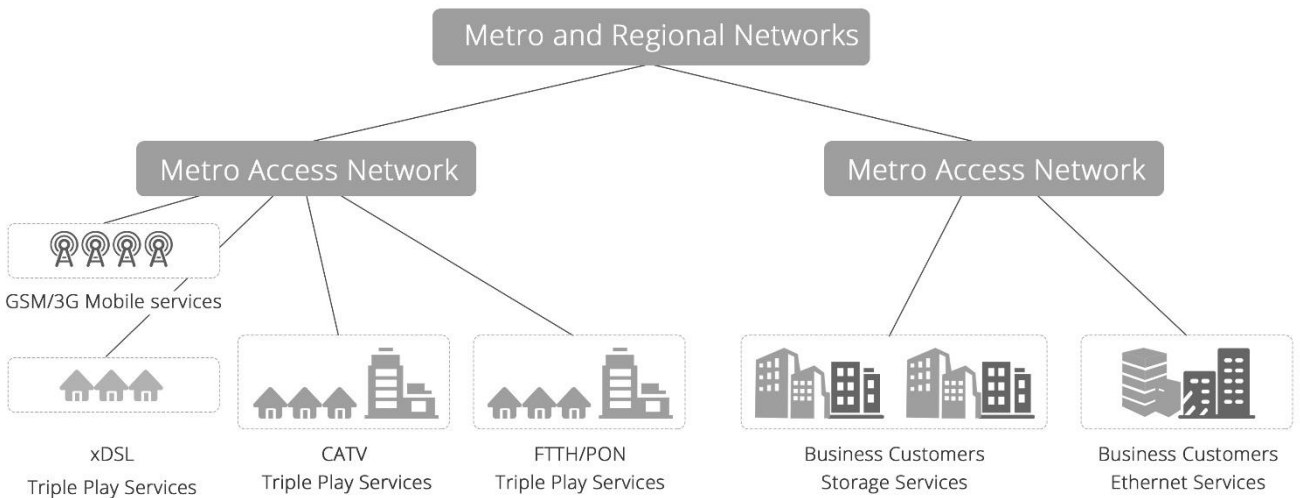
Note:

1. FS OTN solution contains devices at both ends without WDM transceivers
2. Free Accessory: 1\*Software CD, 1\*User Manual, 1\*Test Report, Screws M6 and Floating Nuts (Configuration as per capacity).

## Application

FS OTN solution is designed to support for metro/regional networks, such as GSM/3G mobile services, xDSL, CATV, FTTH/PON triple play services, business customers storage services and Ethernet services.

And FS OTN solution is a highly integrated extending multiplexing platform that can be used in financial institutions, universities, service providers, enterprises, dark fiber providers.

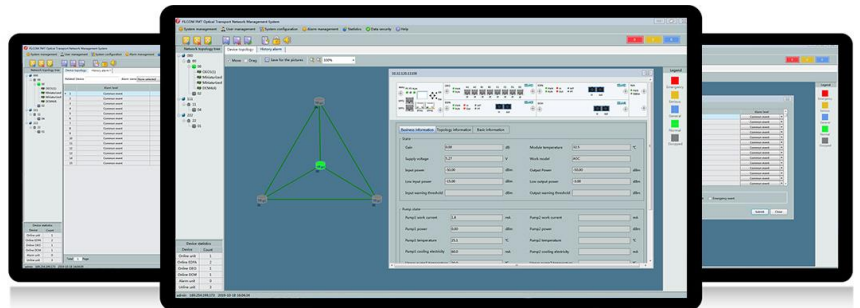


## Optical Transport Network Management System

The FS.COM Network Management Unit(NMU/NMS) module is the central management hub of the FMT system. Configuration and monitoring of integrated transponder are performed by SNMP or Command Line Interface. Using the corresponding MIB table, the transponder can be integrated into existing SNMP based management systems. In addition, an "Active Alarms List" is available which shows an overview of all the critical states. All alarms are stored in an alarm history file.

## Features of Monitor Online

- 1) Email notification
- 2) Performance monitoring
- 3) Alarm and event management
- 4) User and security administration
- 5) Local and remote network management



## Ordering Information

| ID                    | Category               | Description  |
|-----------------------|------------------------|--|
| <a href="#">35887</a> | DWDM Mux Demux         | 40 Channels C21-C60, with 1310nm Port and Monitor Port, LC/UPC, Dual Fiber DWDM Mux Demux, FMU 1U Rack Mount                             |
| <a href="#">72284</a> | Pre-Amplifier          | 20dB Gain Pre-Amplifier DWDM EDFA C-band 13dBm Output, LC/UPC, Pluggable Module for FMT Multi-Service Transport Platform                 |
| <a href="#">72283</a> | Booster Amplifier      | 17dBm Output Booster DWDM EDFA C-band 17dB Gain, LC/UPC, Pluggable Module for FMT Multi-Service Transport Platform                       |
| <a href="#">78227</a> | Booster Amplifier      | 20dBm Output Booster DWDM EDFA C-band 20dB Gain, LC/UPC, Pluggable Module for FMT Multi-Service Transport Platform                       |
| <a href="#">65781</a> | DCM                    | 40KM DCF-based Passive Dispersion Compensation Module, 4.2dB Low Loss, LC/UPC, Pluggable Module for FMT Multi-Service Transport Platform |
| <a href="#">65780</a> | DCM                    | 60KM Passive Dispersion Compensation, 4.2dB Low Loss, LC/UPC, Plug-in Card Type for FMT Multi-Service Transport System                   |
| <a href="#">65779</a> | DCM                    | 80KM DCF-based Passive Dispersion Compensation Module, 5.8dB Low Loss, LC/UPC, Pluggable Module for FMT Multi-Service Transport Platform |
| <a href="#">39214</a> | FMT Chassis            | 1U Managed Chassis Unloaded, Supports up to 4x EDFA/OEO/OLP Module with Accessories  |
| <a href="#">73580</a> | FMT Chassis            | 2U Managed Chassis Unloaded, Supports up to 8x EDFA/OEO/OLP Module with Accessories  |
| <a href="#">48522</a> | Fiber Optic Attenuator | LC/UPC Singlemode Fixed Fiber Optic Attenuator, Male-Female, 3dB   |
| <a href="#">48523</a> | Fiber Optic Attenuator | LC/UPC Singlemode Fixed Fiber Optic Attenuator, Male-Female, 5dB   |
| <a href="#">48525</a> | Fiber Optic Attenuator | LC/UPC Singlemode Fixed Fiber Optic Attenuator, Male-Female, 7dB   |
| <a href="#">48526</a> | Fiber Optic Attenuator | LC/UPC Singlemode Fixed Fiber Optic Attenuator, Male-Female, 10dB  |
| <a href="#">69611</a> | DWDM SFP+              | Customized 10G DWDM SFP+ C17-C61 100GHz 80km DOM Transceiver Module  |



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