



Open Optical Network DWDM Economical Solution

High Bandwidth | High Capacity | Compact
Rich Port | Super Long Transmission



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YFY-260824

COLORX Series Non-Coherent DWDM Transceivers & Systems

COLOR ZR+ Optical Transceiver

100G QSFP28 PSM DWDM4

Gigalight 100G QSFP28 PSM DWDM4 is a four-channel, pluggable, parallel optical transceiver, suitable for 100G or 40G Ethernet metro access in DWDM applications. This optical transceiver is a high-end optical transceiver for data communication and interconnection applications. Performance transceiver. It integrates four data lanes in each direction with a bandwidth of 104Gbps. Each channel can operate at 26Gbps on G.652 single-mode fiber, with a transmission distance of up to 10km. It uses equipment such as external multiplexers/demultiplexers to transmit longer distances.

Features

- O-Band and C-Band optional
- 4-channel full-duplex transceiver
- Transmission data rate up to 26Gbps per channel
- Compliant with ITU-T 694.1
- 4-channel PIN photodetector array
- Internal CDR circuitry on receiver and transmitter channels
- Support CDR bypass
- Low power consumption<5W
- Hot Pluggable QSFP form factor
- Single male MPO(APC 8-degree) connector receptacle
- Working shell temperature 0°C to +70°C
- 3.3V supply voltage
- RoHS compliant (lead-free)



C Band Version

- 4-channel C-band EML DWDM
- Transmission distance up to 10km via G.652 SMF without external CD compensation
- Using external multiplexer/demultiplexer, EDFA, CD compensation, the transmission distance can reach 120km through G.652 SMF

Item	Product Code	TX1		TX2		TX3		TX4	
		Ch. No.	Frequency (THz)	Ch. No.	Frequency (THz)	Ch. No.	Frequency (THz)	Ch. No.	Frequency (THz)
1	GQS-D13101-124C	C13	191.3	C14	191.4	C15	191.5	C16	191.6
2	GQS-D17101-124C	C17	191.7	C18	191.8	C19	191.9	C20	192
3	GQS-D21101-124C	C21	192.1	C22	192.2	C23	192.3	C24	192.4
4	GQS-D25101-124C	C25	192.5	C26	192.6	C27	192.7	C28	192.8
5	GQS-D29101-124C	C29	192.9	C30	193	C31	193.1	C32	193.2
6	GQS-D33101-124C	C33	193.3	C34	193.4	C35	193.5	C36	193.6
7	GQS-D37101-124C	C37	193.7	C38	193.8	C37	193.7	C37	193.7
8	GQS-D41101-124C	C41	194.1	C42	194.2	C43	194.3	C44	194.4
9	GQS-D45101-124C	C45	194.5	C46	194.6	C47	194.7	C48	194.8
10	GQS-D49101-124C	C49	194.9	C50	195	C51	195.1	C52	195.2
11	GQS-D53101-124C	C53	195.3	C54	195.4	C55	195.5	C56	195.6
12	GQS-D57101-124C	C57	195.7	C58	195.8	C59	195.9	C60	196

COLOR X Optical Transceiver

Gigalight COLOR X-ray transceiver adopts PAM4 DWDM1 O-BAND silicon optical platform, which can be used in 5G fronthaul applications. The transmission distance reaches 10km. With an external SOA, it can meet the single-span transmission of 30km.

100G QSFP28 DWDM1(Siph 100G PAM4 O-BAND)

Features

- Adopting 100G PAM4 silicon photonic MZ modulation technology
- The electrical port side uses 4X 25G NRZ with built-in FEC-KP4
- DWDM O-BAND 150GHZ, 16 channels
- Meets 10km transmission
- With the addition of external SOA, it can meet the requirement of single-span transmission of 30km.
- Power consumption is expected to be less than 3.5
- Applied to 5G fronthaul and DCI interconnection



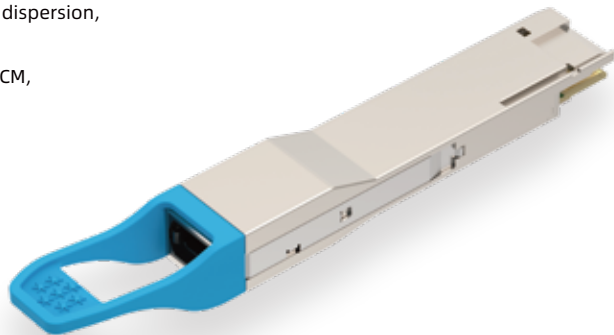
COLOR X Optical Transceiver Wavelength

Channel	Frequency	Wavelength	Channel	Frequency	Wavelength
1	231.4	1295.56	9	229.8	1304.58
2	231.2	1296.68	10	229.6	1305.72
3	231.0	1297.80	11	229.4	1306.85
4	230.8	1298.93	12	229.2	1308.00
5	230.6	1300.05	13	229.0	1309.14
6	230.4	1301.18	14	228.8	1310.28
7	230.2	1302.31	15	228.6	1311.43
8	230.0	1303.45	16	228.4	1312.58

200G QSFP-DD PSM O-Band DWDM4 10km Silicon Photonics Transceiver

Features

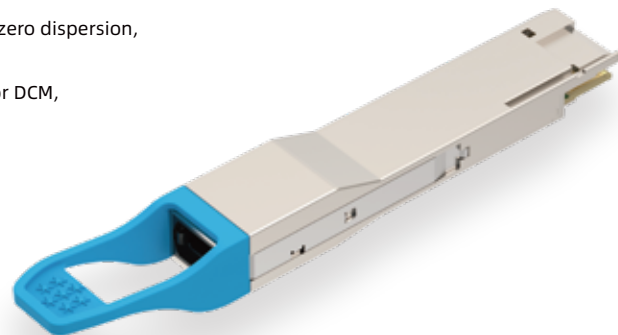
- 4x50G PAM4 + O-Band DWDM: 16-channel, 200GHz-spacing DWDM with near-zero dispersion, enabling cost-effective 200GE DCI connectivity.
- No Dispersion Compensation: Zero-dispersion operation eliminates the need for DCM, simplifying the optical link and reducing insertion loss.
- Ultra-Low Power: Silicon photonics integration with <10W power consumption, ideal for high-density data centers.
- Ultra-Low Latency: No coherent DSP-based dispersion compensation, reducing transmission latency.



400G QSFP-DD PSM O-Band DWDM4 10km Silicon Photonics Transceiver

» Features

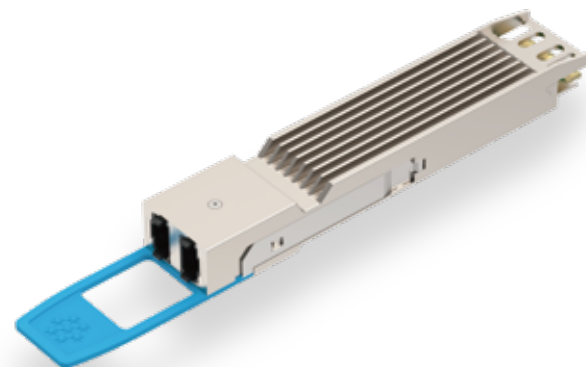
- 4x100G PAM4 + O-Band DWDM: 16-channel, 200GHz-spacing DWDM with near-zero dispersion, enabling cost-effective 400GE DCI connectivity.
- No Dispersion Compensation: Zero-dispersion operation eliminates the need for DCM, simplifying the optical link and reducing insertion loss.
- Ultra-Low Power: Silicon photonics integration with <10W power consumption, ideal for high-density data centers.
- Ultra-Low Latency: No coherent DSP-based dispersion compensation, reducing transmission latency.



800G OSFP 2xPSM DWDM4 O-Band 10km Silicon Photonics Optical Transceiver

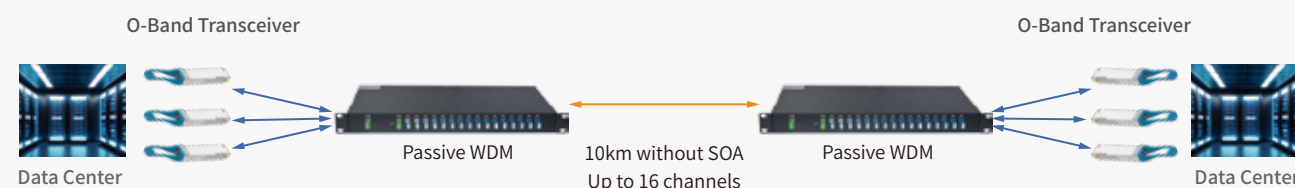
» Features

- 8x100G PAM4 + O-Band DWDM: 16-channel, 200GHz-spacing DWDM with near-zero dispersion, enabling a cost-effective 800GE DCI interconnect solution.
- No Dispersion Compensation: Zero-dispersion operation eliminates the need for DCM, simplifying link design and reducing insertion loss.
- Ultra-Low Power: Silicon photonics integration with <18.5W power consumption, ideal for high-density data center deployments.
- Ultra-Low Latency: Eliminates coherent DSP-based dispersion compensation, significantly reducing transmission latency.



COLOR X Optical Transceiver application

15 km Data Center Interconnect (without SOA amplifier)



Non-Coherent DWDM Equipment

100G OEO

OEO stands for Optical-Electrical-Optical, which is a light signal regeneration conversion device. GIGALIGHT's 100G OEO supports speeds ranging from 103.1~112Gbps. It is used for scenarios like optical signal wavelength conversion, single-mode conversion, relay amplification, signal regeneration, and finds widespread applications in the field of optical communication.

» Features

- Access signal rate: 103.1~112Gbps
- Support 3R function
- Single card supports 2-channel two-way service processing
- DDM information monitoring
- Support SNMP/Client Remote management



200G QSFP-DD OEO

The 200G QSFP-DD OEO is an O-E-O-based optical signal regeneration and conversion device. It supports wavelength conversion, single-mode conversion, relay amplification, and 3R regeneration for 200Gbps optical transmission. The line side supports 200G QSFP-DD PSM DWDM4 optical modules.

» Features

- 200Gbps access rate
- 3R regeneration
- 4x bidirectional services per card
- DDM monitoring
- SNMP/Client remote management



400G QSFP-DD OEO

The 400G QSFP-DD OEO is an O-E-O-based optical signal regeneration and conversion device. It supports wavelength conversion, single-mode conversion, relay amplification, and 3R regeneration for 400Gbps optical transmission. The line side supports 400G QSFP-DD PSM DWDM4 optical modules.

» Features

- 400Gbps access rate
- 3R regeneration
- 4x bidirectional services per card
- DDM monitoring
- SNMP/Client remote management



DCI BOX & Coherent Optical Modules

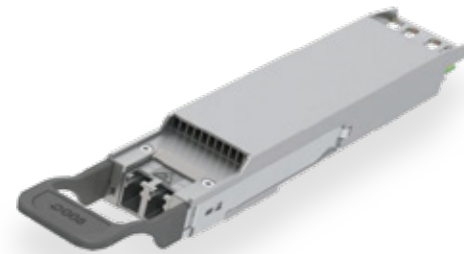
Coherent Optical Modules

800G OSFP DCO

The 800G OSFP DCO is a high-performance, pluggable coherent optical transceiver compliant with the OSFP standard. It adopts MPCS DP-QPSK / DP-16QAM modulation, polarization-diversity coherent reception, and advanced electronic link equalization technology, supporting multi-rate transmission at 400G / 600G / 800G.

Features

- 400G / 600G / 800G line rates
- MPCS DP-QPSK / DP-16QAM modulation
- Full C-band tunability with Flexible Grid support
- Supports 100GbE / 200GbE / 400GbE / 800GbE
- OSFP hot-pluggable form factor with duplex LC optical interface
- Single +3.3V power supply with MDIO management support
- Maximum power consumption: ≤30W
- Operating temperature: -5°C to +85°C
- RoHS Compliant

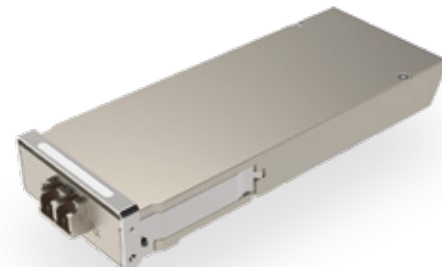


400G CFP2 DCO

GIGALIGHT's 400G CFP2 DCO digital coherent optical transceiver modules are designed for 100G/200G/400G Ethernet and OTN links, meeting the demands of high-bandwidth data center interconnection (DCI) applications.

Features

- Hot-pluggable CFP2 form factor
- Full C-band tunable ultra-narrow linewidth laser (75GHz channel spacing)
- 400G DP-16QAM modulation mode
- Integrated silicon photonics modulator & demodulator
- 22W typical (24W maximum) power consumption (100G/200G mode)
- 22dB/0.1nm RX OSNR tolerance (400G DP-16QAM)
- Duplex LC receptacle
- 0°C to 70°C operating case temperature range
- 3.3V power supply voltage
- RoHS compliant (lead free)

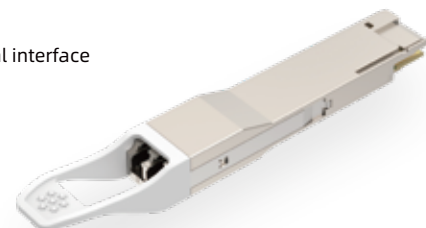


400G QSFP-DD ZR/ZR+

The GIGALIGHT 400G QSFP-DD DCO ZR/ZR+ modules support 400GE and OTN links reach up to 80km/120km or 600km and more. It operates on full C-band DWDM wavelengths with 75GHz (up to 64 channels) or 100GHz (up to 48 channels) channel spacing, and is ideal for long-haul metro DCI and 5G backhaul applications.

Features

- QSFP-DD MSA compliant
- OIF 400ZR or OpenZR+ MSA compliant
- Built-in digital diagnostic monitoring function
- Hot-pluggable 76-pin electrical interface
- 16.5W maximum power consumption
- 400G 16QAM modulation
- Compact size (18.4mm x 93.4mm x 8.5mm)
- Duplex LC optical interface
- Supports 425Gbps 400GBASE-R rate
- 400G-AUI-8 C2M, 8xCEI-56G-VSR PAM-4 electrical interface
- Commercial case operating temperature range
- 3.3V power supply
- Compliant with RoHS (lead-free)



DCI BOX

2U 12.8T DCI BOX

The GIGALIGHT 2U 12.8T DCI BOX is an open coherent DWDM optical transport platform for data center interconnect (DCI) and metro optical transmission applications.



Features

- 2U chassis including both optical-layer and electrical-layer cards to save space and facilitates capacity expansion
- Front-to-back heat dissipation design with multiple sets of high-speed fans to ensure excellent heat dissipation performance
- Optional with optical layer cards such as EDFA, WSS and OLP etc.
- Optional with electrical layer cards such as 100G OTU, 200G OTU and 400G OTU
- Up to 12.8T bandwidth for total 2U chassis
- Supports SNMP/Netconf, CLI/Web/BS, dual-master backup and OSC communication

Specifications

Parameters	Specifications
Client-side Rate	400GE/100GE/OTU4 or 10GE/OC-192/STM-64/8GFC/10GFC/16GFC
Line-side Rate	100G/200G/400G
RODAM Dimension	9
Power Consumption	≤300W
Dimensions(W×H×D)	440mm×88mm×420mm
Power Supply	AC(90V to 264V, 50/60HZ),DC(-36V to +60V)

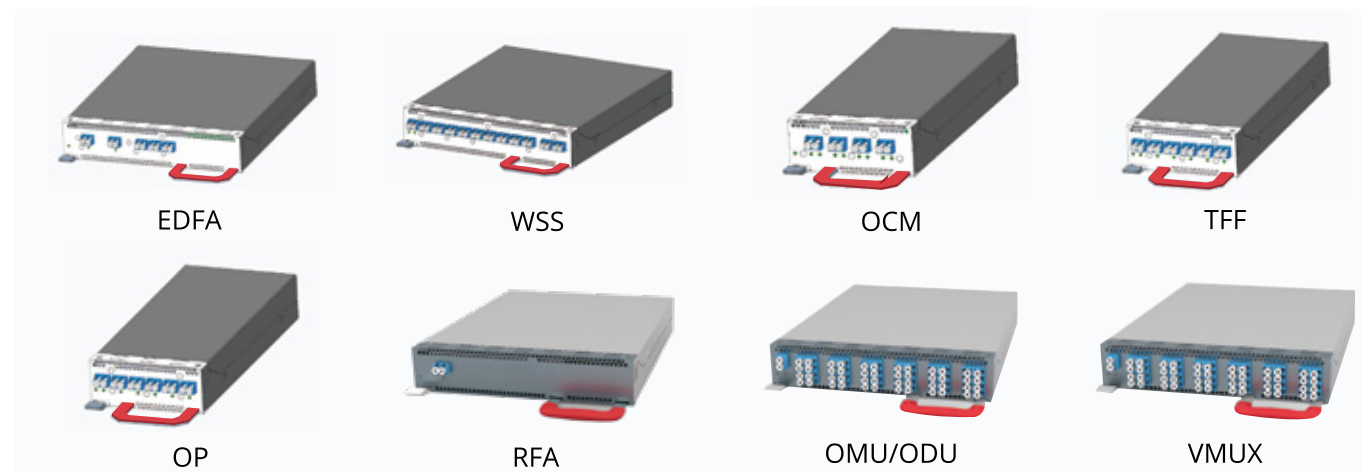
OTU Card



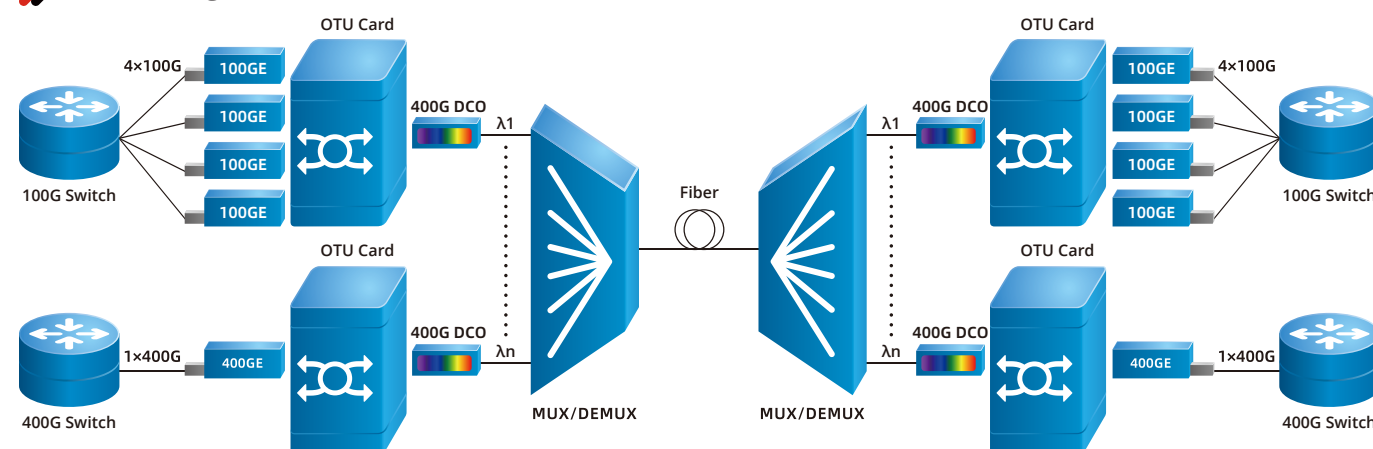
Specifications

Access Signal Rate	Client-side Interface	Line-side Interface	Power Consumption
100/112Gbps	4×100G QSFP28	2×200G CFP2 DCO	≤75W
100/112Gbps	4×100G QSFP28	1×400G CFP2 DCO	≤65W
400Gbps	2×400G QSFP-DD	2×400G CFP2 DCO	≤75W

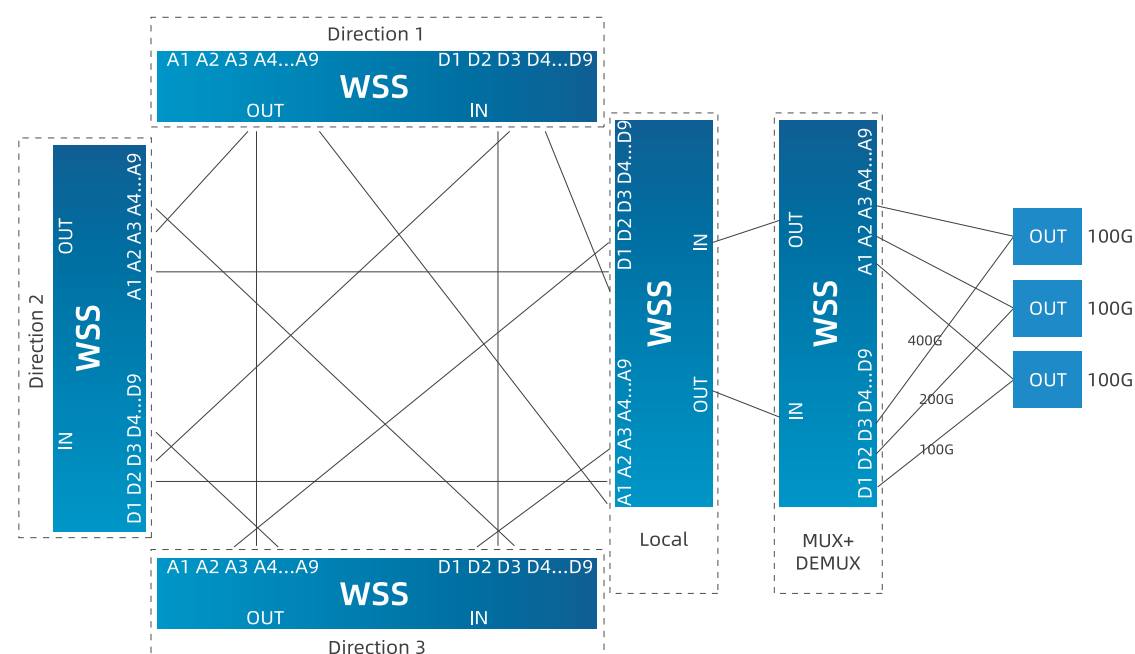
Optical Layer Service Cards



Wavelength Division Transmission



Typical ROADM Site Configuration



1U 800G DCI BOX

The GIGALIGHT 1U 800G DCI BOX supports ultra-large capacity service access, ultra-long-distance service transmission, and simple and convenient operation and maintenance management. It can operate reliably and save energy and reduce emissions, which can effectively meet the data center interconnection (DCI) needs of Internet companies, operators, and cloud service providers etc.



Features

- Fully visible equipment status and board status
- Board parameters can be set through the panel
- Supports in-band or out-of-band network management
- Supports SNMP client

Specifications

Product Features		Description
Environmental requirements	Operating temperature	-10°C~60°C
	Storage temperature	-20°C~75°C
	Relative humidity	5%~95% No condensation
Size(W×H×D)	1U	482.6×44.5×300mm
Power supply	AC	85~264V, 50~60Hz
	DC	36~72V
Power Consumption	1U	< 150W

100G/200G CFP2 OTU Card

The GIGALIGHT 100G/200G CFP2 OTU Card supports the transparent transmission of two 100G signals, can convert one 100G signal into one 100G DWDM signal or convert the two 100G signals into one 200G DWDM signal.



Features

- Hardware standardization, capable of supporting CFP2 DCO series modules from various mainstream manufacturers
- Single board card can access 1 CFP2 module and 2 100G LR4/SR4 modules etc.
- Supports 100GE to 100G DWDM signals (100G CFP2 DCO)
- Supports 2x100GE to 200G DWDM signal (200G CFP2 DCO)
- Supports DWDM: C-band (50GHz&100GHz)
- Supports 3R functionality (Re amplifying, Retiming, Re shaping)
- Supports for WEB/SNMP network management

Specifications

Product Features		Description
Data rate		103~112 Gbps
Port type	line side	100G CFP2 DCO/200G CFP2 DCO
	Client side	100G LR4/SR4 QSFP28
Modulation		100G DP-QPSK @ 50GHz 200G DP-16QAM @ 50GHz
RX OSNR Tolerance		< 12dB @ 100G DP-QPSK < 20.5dB @ 200G DP-16QAM
Power Consumption		< 35W

1U 6.4T DCI BOX

The 1U 6.4T DCI BOX is an industry-leading innovative data center interconnection product. It provides ultra large capacity business access, ultra long distance business transmission, simple and convenient operation and maintenance management (Web/SNMP), and can also operate reliably, save energy, and reduce emissions. It can effectively meet the needs of data center interconnection for users such as internet companies, operators, and cloud service providers. This product supports 4 slots, each slot supports transparent transmission of 4x100G/200G/400G OTU.



1U 6.4T DCI 4x1.6T

» Features

- Modular design, on-demand configuration, smooth upgrade
- Ultra large capacity, ultra high density, up to 6.4Tbps processing capacity per 1U rack
- Ultra low energy consumption based on state-of-the-art single carrier 200G or 400G coherent DSP
- Realize modularization and miniaturization of various optical layer devices, and flexibly implement optical layer services
- Forward and rear air outlet design, AC/DC power supply, reasonable height, width, and depth design, suitable for server rack requirements in data center equipment rooms, and can be deployed together with servers
- Simple operation and maintenance: Based on the SDN design concept, providing open APIs that can be quickly automated and integrated in any IT operating environment, achieving rapid service deployment
- Support for a unified network management platform, network management methods such as SNMP, Web, NMS (graphical interface), and Netconf/YANG model interface

» Specifications

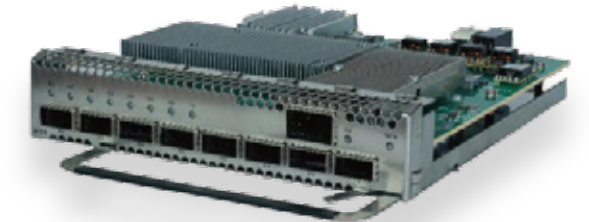
Product Features		Description
Maximum capacity of a single system		4x1.6T
Wavelength (frequency) range		DWDM: 1529.16nm~1567.14nm(191.3THz-196.05THz)
Single wavelength capacity		100G/200G/400G and three speed smooth upgrade/downgrade; Coherent detection and reception, QPSK/16QAM/16QAMPS modulation technology;
Physical network topology		Chain, star, ring
Environmental requirements	Operating temperature	-10°C~70°C
	Storage temperature	-40°C~80°C
	Relative humidity	5%~95% No condensation
Size(WxHxD)		440mmx44mmx535mm
Heat dissipation ventilation design		Forward wind, rear air, FRU fan
Structure		Integrated chassis, 19 inch rack
Power Supply Requirements (Standard value)		AC voltage range: 90V~264V 50/60Hz DC power supply voltage range: -36V~60V
Safety and EMC		Comply with FCC、UL、CE、TUV、CSA standards
Power consumption		<350W

800G Muxponder (OSFP)

The 800G OSFP Muxponder adopts an 800G OSFP pluggable coherent optical module, supporting the multiplexing of multiple 100GbE / 400GbE services over a single wavelength. It provides flexible line rates of 400G / 600G / 800G to meet the requirements of high-capacity, long-distance optical transmission.

» Features

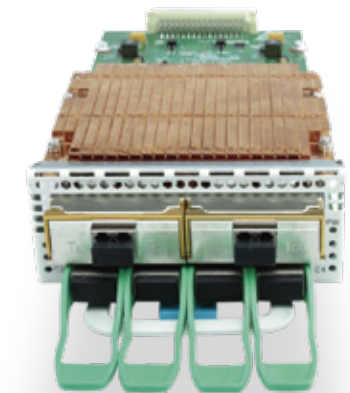
- Flexible 400G / 600G / 800G line rates
- Multiple 100GbE / 400GbE services over a single wavelength
- 800G OSFP pluggable coherent optical module
- Supports OTN / DWDM networks
- Transmission distance of up to 450 km
- Ideal for DCI, metro networks, enterprise networks, and campus networks



2x200G CFP2 OTU Card for 1U 6.4T DCI BOX

» Features

- Supports DWDM transmission and wavelength conversion
- Single board card supports four 100G bidirectional or four 100G unidirectional service access
- The line side supports two 200G CFP2 coherent optical module
- Client side supports multiple business interfaces: 100G Base-SR4/CWDM4/LR4/PSM4
- Support SNMP based unified network management platform, network management methods Web, NetRiver (graphical interface)
- Support CDR function, optimize output, DDM signal monitoring, ALS
- Support software to close ports



400G CFP2 OTU Card for 1U 6.4T DCI BOX

» Features

- Supports DWDM transmission and wavelength conversion
- Single board card supports four 100G bidirectional or unidirectional service access
- The line side supports one 400G CFP2 coherent optical module
- Client side support for multiple business interfaces (such as 100GBASE-SR4/ CWDM4/LR4/PSM4, etc.)
- Support SNMP based unified network management platform, network management methods Web, NetRiver (graphical interface)
- Support CDR function, optimize output, DDM signal monitoring, ALS
- Support software to close ports



Passive WDM Systems: Non-Coherent & Coherent

Optical Transport Platform

GIGALIGHT's optical transport platform can provide ultra-large capacity transmission of multiple access services. It features high service integration, high port density, rich service types, flexible configuration, etc., and supports the graphical management interface of C/S or B/S architecture based on SNMP protocol, providing very clear faults locating for management and maintenance to save costs.



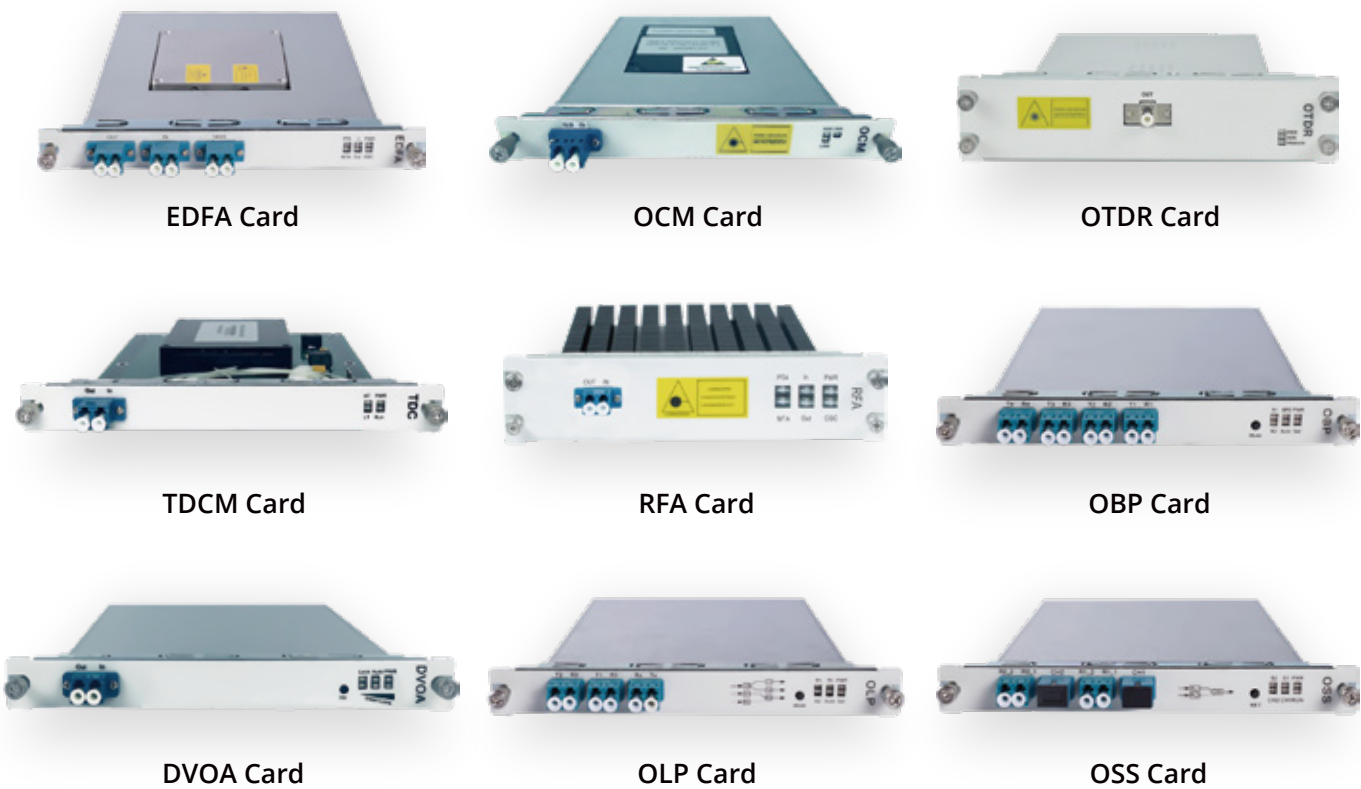
Features

- Flexible networking, small footprint, and strong scalability
- Supports hot swap of various service boards
- Supports multiple access services such as SDH, SONET, Ethernet, SAN, OTN and Video
- Line side supports 100G, 200G and 400G single-wave rate
- Support single-fiber unidirectional, single-fiber bidirectional and dual-fiber bidirectional transmission modes
- Supports various networking methods such as chain, star and ring
- Supports client access and interoperability from different vendors
- Supports multiple transmission wavelengths and can add and drop wavelengths at intermediate nodes through OADM
- Supports Web and NetRiver managements based on SNMP
- Support 1+1 power hot-swappable redundant backup with optional AC and DC power supplies

Specifications

Product Features	Description			
Platform	1U	2U	4U	5U
Size(W×H×D)	440mm×44mm×285mm	440mm×88mm×285mm	440mm×176mm×285mm	440mm×220mm×285mm
Slots	4	8	16	20
Power Consumption	≤120W	≤200W	≤300W	≤400W
Client-side Rate	100GE/OTU4 or 10GE/OC-192/STM-64/8GFC/10GFC/16GFC			
Line-side Rate	100G/200G/400G			
Modulation	QPSK/16QAM/16QAMps			
Operating Temperature	-10°C to +70°C			
Storage Temperature	-40°C to +80°C			
Relative Humidity	5% to 95% (non-condensing)			
Power Supply	AC (90V to 264V, 50/60Hz), DC (-36V to +60V)			

Service Cards



O-BAND MUX/DEMUX Passive WDM Chassis

16CH O-Band 200GHz DWDM ABS Module or Chassis

Gigalight's 16CH O-BAND DWDM 200GHz dual-fiber MUX/DEMUX 1U rack-mount unit features low insertion loss, helping improve transmission performance and extend transmission distance in O-DWDM systems. It is suitable for metropolitan area networks (MANs), regional networks, and DWDM networks, while helping conserve fiber resources.

Features

- 1U 19-inch rack-mount or module packaging
- LC/UPC duplex connectors
- Typical insertion loss: <4.0 dB
- Compliant with Telcordia GR-1209-CORE and GR-1221-CORE standards
- RoHS 6 compliant



Channel	Frequency	Wavelength	Channel	Frequency	Wavelength
1	231.4	1295.56	9	229.8	1304.58
2	231.2	1296.68	10	229.6	1305.72
3	231.0	1297.80	11	229.4	1306.85
4	230.8	1298.93	12	229.2	1308.00
5	230.6	1300.05	13	229.0	1309.14
6	230.4	1301.18	14	228.8	1310.28
7	230.2	1302.31	15	228.6	1311.43
8	230.0	1303.45	16	228.4	1312.58

DWDM passive wavelength extension box

Rack Mount Passive DWDM MUX DEMUX

48CH 100GHz DWDM MUX DEMUX

Features

- 1U 19" rack mount package based on AAWG
- 100GHz (0.8nm) channel spacing
- Compliant with ITU G.694.1
- Typical insertion loss < 4.0 dB (Gaussian) or < 6.0 dB (Flat-top)
- 1% monitor port for easy troubleshooting without downtime
- LC/UPC duplex connector
- Telcordia GR-1209-CORE and CR-1221-CORE compliant
- RoHS compliant



64CH 75GHz DWDM MUX DEMUX

Features

- 2U 19" rack mount package based on AAWG
- 75GHz (0.6nm) channel spacing
- Compliant with ITU G.694.1
- Typical insertion loss < 6.0 dB (Flat-top)
- 1% monitor port for easy troubleshooting without downtime
- LC/UPC duplex connector
- Telcordia GR-1209-CORE and CR-1221-CORE compliant
- RoHS compliant



96CH 50GHz DWDM MUX DEMUX

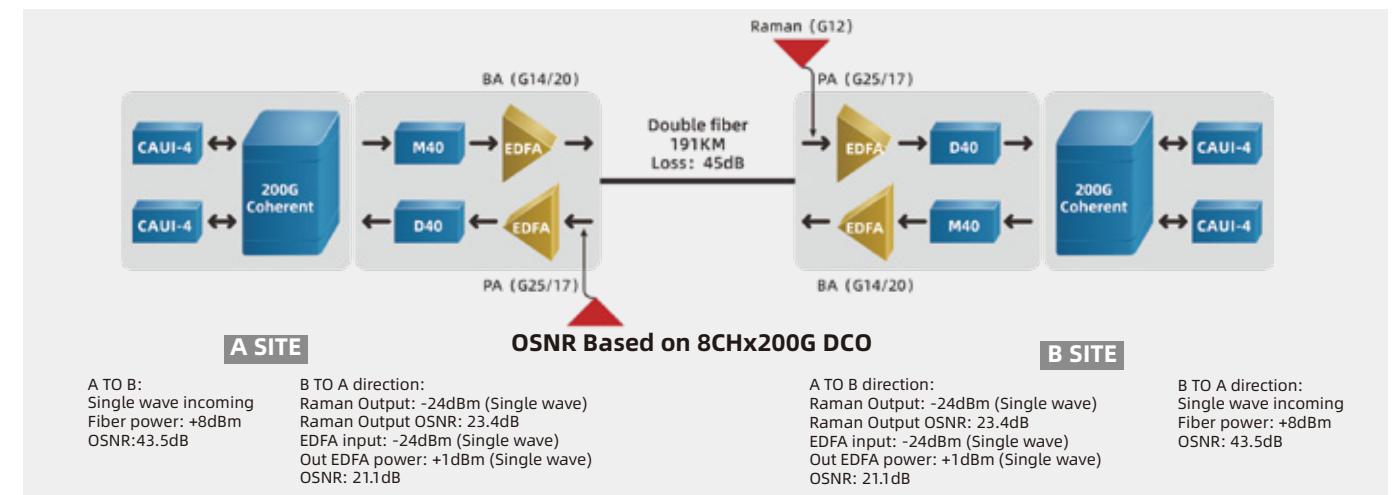
Features

- 2U 19" rack mount package based on AAWG
- 75GHz (0.6nm) channel spacing
- Compliant with ITU G.694.1
- Typical insertion loss < 7.3 dB (Flat-top)
- 1% monitor port for easy troubleshooting without downtime
- LC/UPC duplex connector
- Telcordia GR-1209-CORE and CR-1221-CORE compliant
- RoHS compliant



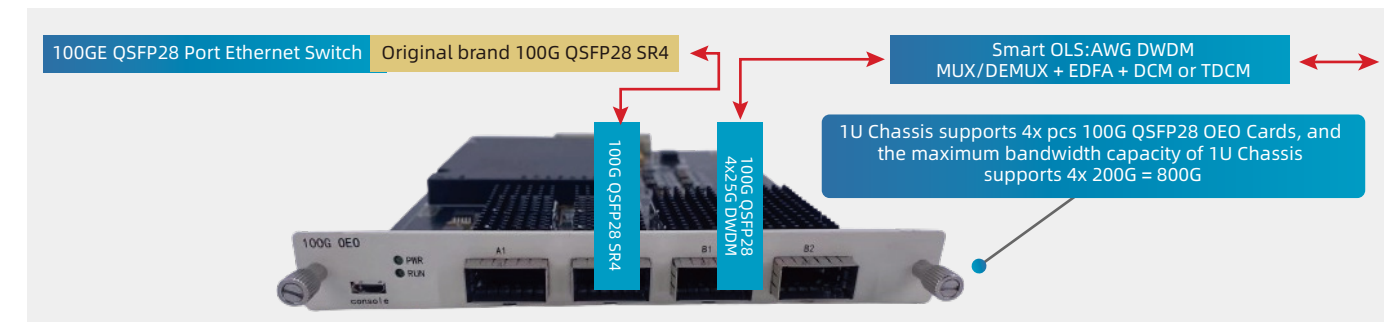
User Cases

Coherent Single Lambda 200G DWDM 200km (Ultra-long Single-span)



Non-Coherent DWDM Solutions: 4x 25G DWDM 80km range

- Total bandwidth capacity 48x 25G = 1200G on dual fiber
- Support single-fiber optical transmission solutions with a total bandwidth capacity of 400G



Non-Coherent DWDM Solutions: 100G PAM4 QSFP28 DWDM1 O-BAND 30KM

- 100G PAM4 silicon optical MZ modulation technology was used
- The electric port side adopts 4x 25G NRZ with built-in FEC-KP4
- DWDM O-BAND 150GHZ, 16 channel
- Direct transmission up to 10KM
- Add external SOA, meet single-span transmission 30KM

