



>DWDM Product Catalog

DWDM Optical Transmission equipment manufacturers,
Big data transmission overall solution provider;

Shenzhen ISEELINK Communication Co.,Ltd.



COMPANY PROFILE

ISEELINK is a national high-tech enterprise focusing on R&D, Manufacturing, and marketing in the field of DWDM production. Our product line includes DWDM/OTN transmission equipment, DWDM DCI-Box equipment, 5G front-haul semi-active CWDM equipment, optical protection equipment (OLP/OBP/BYPASS), optical amplification (EDFA/Raman/SOA/OEO), optical line online monitoring equipment (OLM), optical switches (OSW), optical modules, etc.

With reliable stability, strong environmental adaptability and good quality, it meets the needs of telecommunication operators, electric power, education, data centers and other industries.

Along the way, ISEELINK sticks to quality, innovation and technology to supply supreme products and services.

We also provide ODM/OEM and manufacturing services to provide users with overall solutions for big data transmission.

COMPANY HONOR



Catalog

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1.OSP3800 DWDM/OTN Equipment

With the rapid development of the Internet, the bandwidth pressure caused by the spurt growth of data traffic makes it imperative to introduce a 400G system into the transmission network. Therefore, Shenzhen ISEELINK communication Co., Ltd. has introduced a new generation of high-capacity, long-distance 400G wavelength division transmission Equipment OSP3800 series products. The product uses advanced transmission technology and high integration technology to support single-channel transmission rate from 100Mbps to 400Gbps, and provides wide bandwidth, large capacity and fully transparent transmission for 800Gbps expansion, enabling smooth upgrade of capacity. It provides a stable platform for multi-service operation and future network upgrade and expansion. It is widely used in operators, broadcasting, IDC, finance, government, cloud network, big data and other industries.

● Product Features

● Huge capacity transmission

Supports 96×400G ultra-large capacity transmissions, that is single fiber transmission capacity up to 38.4Tb/s, and support 80/96×10G/100G/200G/400G hybrid transmission, supporting smooth upgrade from 40 waves to 80 waves, 48 waves to 96 waves. It ensures low investment and smooth expansion in the early stage of network construction to meet the growing bandwidth demand in the future.

● Excellent 400G transmission performance

400G system adopts 16QAM coding technology for coherent detection, supports oFEC, B2B OSNR tolerance index is excellent, adopts industry advanced DSP processing technology, dispersion tolerance is 26000 ps/nm, and supports 400 km or more of non-electric relay transmission. Save investment and greatly facilitate operation and maintenance.

● Flexible and comprehensive service access capability

Supports 100M-100G any service access: CPRI1~10, eCPRI, FE/GE/10GE/25GE/40GE/100GE, FC 1G~32G, STM-N, OTU1/2/3/4, etc. Transparent transmission reduces the cross-transmission delay of the circuit.

● Telecommunications reliable protection

Supports multiple network protection schemes such as optical layer 1+1 channel protection and optical line side 1+1 protection, providing multiple protection for important equipment units and optical fiber lines.

Support AC 220V, DC -48V power supply, 1+1 power protection.

● Excellent structure, convenient and easy to maintain

It adopts 1RU, 2RU, 3RU 5RU standard 19-inch rack design, completely configuration-free installation, device plug-and-play, and unified network management platform, providing complete network and equipment performance monitoring capabilities.

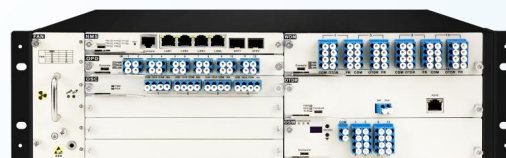
Product Diagram



OSP3800-CH04 1RU



OSP3800-CH08 2RU



OSP3800-CH12 3RU

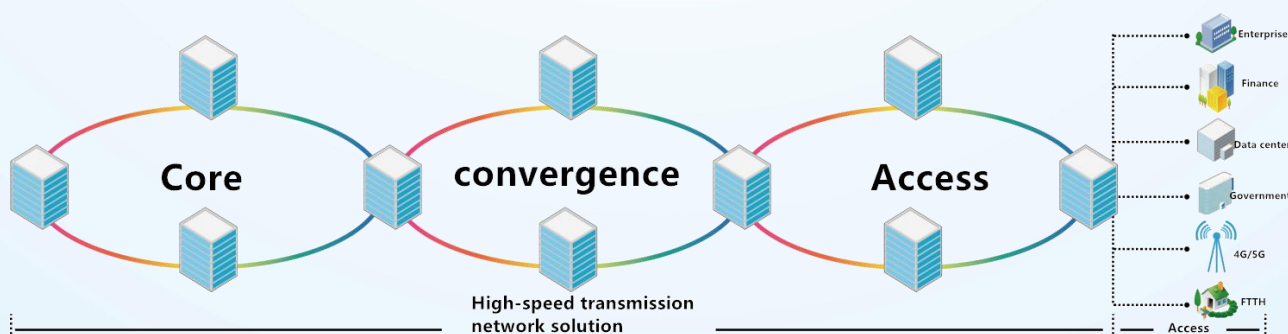


OSP3800-CH20 5RU

Product Specification

Function	Note			
	OSP3800-CH04	OSP3800-CH08	OSP3800-CH12	OSP3800-CH20
Product model	OSP3800-CH04	OSP3800-CH08	OSP3800-CH12	OSP3800-CH20
Equipment Size (W × D × H, mm)	1RU: (back-power supply) 442(W)×350(D) ×44(H)mm	2RU: (back-power supply) 442(W)×350(D) ×88(H)mm	3RU: (back-power supply) 442(W)×350(D) ×132(H)mm	5RU: (back-power supply) 442(W)×350(D) ×220(H)mm
Service slot	4 slots	8 slots	12 slots	20 slots
Power consumption	225W (Max)	350 W (Max)	550W (Max)	750W (Max)
Max channel number	CWDM: 18 wavelength, DWDM: 96 wavelength(50GHz)			
Single channel max rate	400Gbit/s			
Line side rate	1.25Gbit/s, 2.5Gbit/s, 10Gbit/s,25Gbit/s, 40Gbit/s, 100Gbit/s,200Gbit/s,400Gbit/s			
Support service	<ul style="list-style-type: none"> ● STM-1/4/16/64/256、OC-3/12/48/192/768 ● OTU-1/2/3/4 ● FE/GE/10GE/25GE/40GE/100GE ● FC 1G/2G/4G/8G/16G/32G 			
Clock features	Support IEEE 1588V2			
Network topology	Point to point, chain type, star type, ring type			
Network level protection	Optical channel 1+1 protection, optical multiplex 1+1 protection, optical line 1+1 protection			
Equipment level protection	Power supply backup			
Network management	SNMP, Web, CLI, Telnet			
Installation	19"and 23" cabinets, ETSI 600mm cabinets Wireless outdoor base station cabinet, FTTX outdoor cabinet, hanging wall			
Working temperature range	-10℃~60℃			
Working humidity range	5~95% no condensation			
Storage temperature range	-40℃~85℃			
Heat dissipation	Fan cooling			
Power supply mode	AC: 90 ~ 260 V或HDC:127~370 V 或 DC:-72 ~ -36 V			

Network Positioning

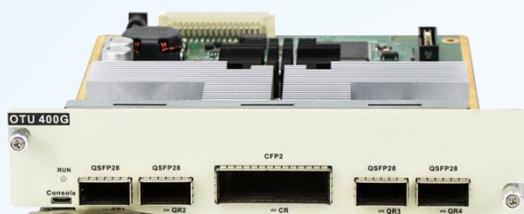


1.1 400G Coherent TMUX: 1*CFP2+4*QSFP28

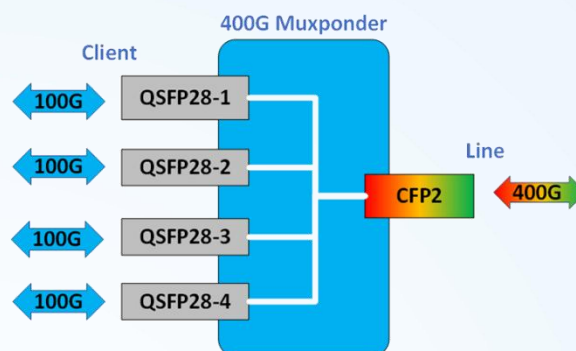
The 400G coherent TMUX service card supports four 100GE service accesses, adopts advanced technologies such as 16QAM modulation and coherent reception, and overcomes the transmission physical effects of high-speed transmission systems on OSNR requirements, CD tolerance, PMD tolerance, and non-linearity.

It can realize 400GE business over 400 kilometers of non-relay transmission, and the line side interface supports C-band 96-wave (50GHz) tunable.

Product Interface



Functional illustration



Product Specification

Function	Description
Interface	<ul style="list-style-type: none"> Client-side interfaces: 4, pluggable based on QSFP28 Line side interface: 1, based on 400G CFP2 pluggable, coherent 16QAM
Line mode	Support transparent transmission of 1*400GE service, which can convert 4 channels of 100GE service optical signals on the client side into 1 channel of 400G rate DWDM standard wavelength optical signals
Repeater mode	Support 400G wavelength electrical relay
Support business type	<ul style="list-style-type: none"> 100GE
WDM technology	Support DWDM: C-band 50GHz 96 waves tunable
FEC technology	Support oFEC
Number of occupied slots	Support OSP3800 full series chassis, occupying 2 slots, (1RU)
Network management function	<ul style="list-style-type: none"> Support real-time monitoring of port working status, including: transmit optical power, receive optical power, temperature, error code statistics etc. Support port loop-back function and port shutdown function
Max power consumption	65W (including optical module)
MTBF	> 100,000 hours

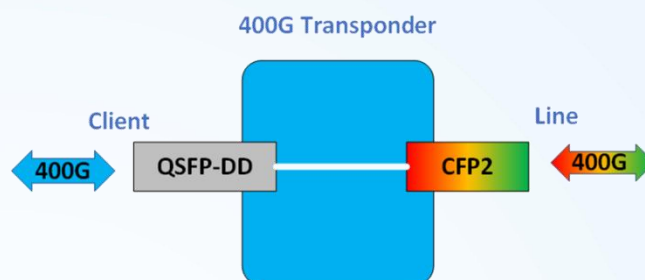
1.2 400G Coherent OEO: 1*CFP2+1*QSFP-DD

The 400G coherent OTU service card supports one 400GE service accesses, Its main function is to perform one 400GE service signals that are accessed, and can be transformed into three WDM standard wavelength optical signal, so that the multiplexer unit performs wavelength division multiplexing on optical signals of different wavelengths, and at the same time implements the inverse process of the above process.It can realize 400GE business over 400 kilometers of non-relay transmission, and the line side interface supports 80-wave tunable.

Product Interface



Functional illustration



Product Specification

Function	Description	
Interface	<ul style="list-style-type: none"> Client-side interfaces: 1, pluggable based on QSFP-DD Line side interface: 1, based on 400G pluggable CFP2 	
Line mode	Support transparent transmission of 1*400GE service, which can convert 1 channels of 400GE service optical signals on the client side into 1 channel of 400G rate DWDM standard wavelength optical signals	
Repeater mode	Support 400G wavelength electrical relay	
Support business type	<ul style="list-style-type: none"> 400GE 	
WDM technology	Support DWDM: 1529.5~1565.50nm	
FEC technology	200G-QPSK, 20% SDFEC, 2x100G	OSNR tolerance: 13.8dB
	200G-16QAM-PS,20%SDFEC, 2x100G	OSNR tolerance: 15.8dB
	400G-16QAM-PS,20%SDFEC, 4x100G	OSNR tolerance: 21dB
Number of occupied slots	Support OSP3800 full series chassis, occupying 2 slots, (1RU)	
Network management function	<ul style="list-style-type: none"> Support real-time monitoring of port working status, including: transmit optical power, receive optical power, temperature, error code statistics etc. Support port loop-back function and port shutdown function 	
Max power consumption	50W (including optical module)	
MTBF	>100,000 hours	

1.3 200G Coherent TMUX: 1*CFP2+2*QSFP28

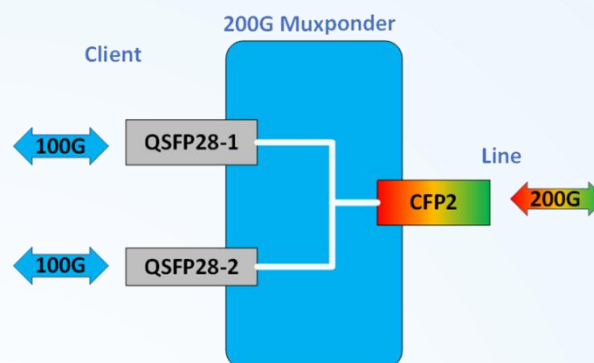
The 200G coherent TMUX service card supports two 100GE service access, adopts advanced technologies such as QPSK modulation and coherent reception, and overcomes the transmission physical effects of high-speed transmission systems on OSNR requirements, CD tolerance, PMD tolerance, and non-linearity.

It can realize 200GE business over 1200 kilometers of non-relay transmission, and the line side interface supports C-band 96-wave (50GHz) tunable.

Product Interface



Functional illustration



Product Specification

Function	Note
Interface	<ul style="list-style-type: none"> Client-side interface: 2 QSFP28 ,hot-plugging WDM-side interface: 1 100G/200G CFP2 ,hot-plugging, coherent QPSK
Line mode	Support one 200GE service transmission, transform two 100GE service optical signal into one 200G rate DWDM standard wavelength optical signal
Relay mode	Support 200G wavelength electrical relay
Support service type	<ul style="list-style-type: none"> 100GE
WDM technology	Support DWDM: C band 50GHz 96 wavelengths adjustable
FEC technology	Support oFEC
Occupied slot number	Support OSP3800 series chassis, occupy 2 slots,(1RU)
Network management function	<ul style="list-style-type: none"> Support real time monitoring of the port working state, including: transmitting optical power and receiving optical power, temperature, error code statistics,etc. Support port loop-back and port shutdown
Max power consumption	50W (including Module)
MTBF	> 100000 hours

1.4 100G Coherent OEO: 1*CFP+1*QSFP28

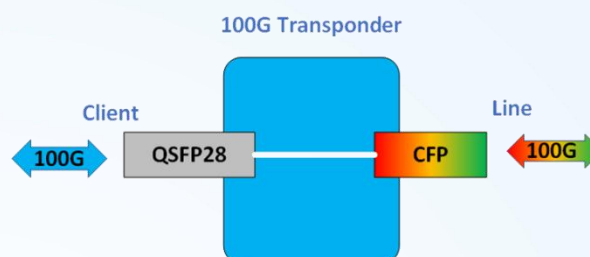
The 100G coherent OEO service card supports one 100GE service access, adopts advanced technologies such as QPSK modulation and coherent reception, and overcomes the transmission physical effects of high-speed transmission systems on OSNR requirements, CD tolerance, PMD tolerance, and non-linearity.

It can realize 100GE business over 1600 kilometers of non-relay transmission, and the line side interface supports C-band 96-wave (50GHz) tunable.

Product Interface



Functional illustration



Product Specification

Function	Note
Interface	<ul style="list-style-type: none"> Client-side interface: 1 QSFP28 hot-plugging WDM-side interface: 1 100G CFP hot-plugging, coherent QPSK
Line mode	Support one 100GE service transmission, transform one 100GE service optical signal into one DWDM standard wavelength optical signal
Relay mode	Support 100G wavelength electrical relay
Support service type	<ul style="list-style-type: none"> 100GE
WDM technology	Support DWDM: C band 50GHz 96 waves adjustable
FEC technology	Support SDFEC
Occupied slot number	Support OSP3800 series chassis, occupy 2 slots. (1RU)
Network management function	<ul style="list-style-type: none"> Support real time monitoring of the port working state, including: transmitting optical power and receiving optical power, temperature,error code statistics, etc. Support port loop-back and port shutdown
Max power consumption	50W (including Module)
MTBF	> 100000 hours

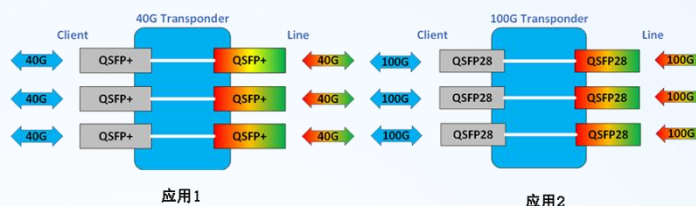
1.5 40G&100G OEO: 6*QSFP28

The 40G&100G incoherent OEO service card supports three 40GE or 100GE bilingual service access. Its main function is to perform 3R regeneration of three 40GE or 100GE service signals that are accessed, and can be transformed into three WDM standard wavelength optical signal, so that the multiplexer unit performs wavelength division multiplexing on optical signals of different wavelengths, and at the same time implements the inverse process of the above process. It's suitable for short-range transmission of wavelength division in metro areas at 40G or 100G rates.

Product Interface



Functional illustration



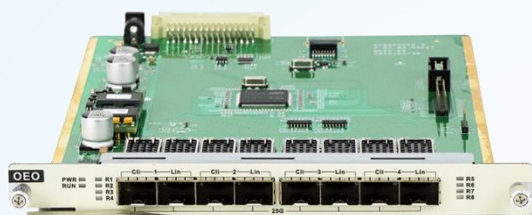
Product Specification

Function	Note	
Application	100G wavelengths transform	40G wavelengths transform
interface	<ul style="list-style-type: none"> Client-side interface: 3 QSFP28 hot-plugging WDM-side interface: 3 QSFP28 hot-plugging 	<ul style="list-style-type: none"> Client-side interface: 3 QSFP+ hot-plugging WDM-side interface: 3 QSFP+ hot-plugging
Line mode	Supports three 100G service transparent transmissions, which can transform three 100G service optical signals into two WDM standard wavelength optical signals	Supports three 40G services for transparent transmission, which can transform three 40G service optical signals into two WDM standard wavelength optical signals.
Support service type	<ul style="list-style-type: none"> 100GE OTU4 	<ul style="list-style-type: none"> 40GE OTU3
Relay mode	<ul style="list-style-type: none"> Support 40G&100G wavelength electrical relay Optical signal single, multi-mode transform 	
WDM technology	Support DWDM: C band 100GHz 40/48 waves, 50GHz 80/96 waves	
Occupied slot number	Support OSP3800 series chassis, occupy 1 slot , (0.5RU)	
Network management function	<ul style="list-style-type: none"> Support real time monitoring of the port working state, including: transmitting optical power and receiving optical power, temperature, etc. Support port loop-back and port shutdown 	
Max power consumption	30W (including Module)	
MTBF	> 100000 hours	

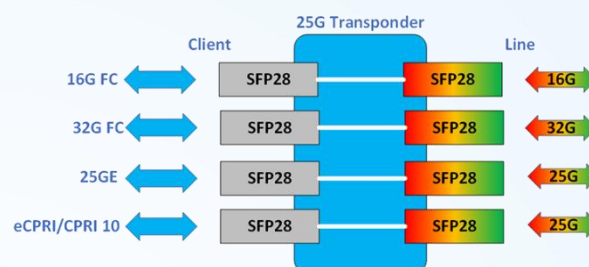
1.6 25G OTU: 8*SFP28

The 25G incoherent OEO service card supports four types of service access with 16 to 32G rates. Its main function is to finish the 3R regeneration of any 4-channel signals under any protocol within the rate of 25 Gbit/s to be accessed, and then convert them to optical signals of a standard DWDM wavelength or standard CWDM wavelength, so that the multiplexing unit can conduct WDM for optical signals of different wavelengths and also achieve the inverse process of the above process. It's applicable to the wavelength division transmission solution for 25GE rate services, and compatible with 16G or 32G FC.

Product Interface



Functional illustration



Product Specification

Function	Note
interface	<ul style="list-style-type: none"> Client-side interface: 4 SFP28 hot-plugging WDM-side interface: 4 SFP28 hot-plugging
Line mode	Supports transparent transmission of any type of service in four 16G~32G rate ranges, and converts four service optical signals into four WDM standard wavelength optical signals.
Relay mode	Support 16G~32G wavelength electrical relay
Support service type	<ul style="list-style-type: none"> 25GE 16G FC(compatible 32G) eCPRI、CPRI 10
Adaptive	16~32G rate adaptive, configuration free
WDM technology	<ul style="list-style-type: none"> Support CWDM: 18 waves Support DWDM: C band 100GHz 40/48 waves,50GHZ 80/96 waves
Occupied slot number	Support OSP3800 series chassis, occupy 1 slot, (0.5RU)
Network management function	<ul style="list-style-type: none"> Support real time monitoring of the port working state, including: transmitting optical power and receiving optical power, temperature, etc. Support port loop back and port shutdown
Power consumption	18W (max, including Module)
MTBF	> 100000 hours

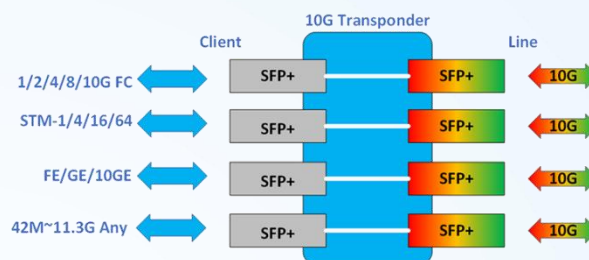
1.7 10G OEO: 8*SFP+

The 10G incoherent OEO service card supports four types of service access with 42M~11.3G rates. Its main function is to finish the 3R regeneration of any 4-channel signals under any protocol within the rate of 1.25 Gbit/s~11.3 Gbit/s to be accessed, and then convert them to optical signals of a standard DWDM wavelength or standard CWDM wavelength, so that the multiplexing unit can conduct WDM for optical signals of different wavelengths and also achieve the inverse process of the above process. It's applicable to the wavelength division transmission solution for any access of services with the rate of 11.3G or below.

Product Interface



Functional illustration



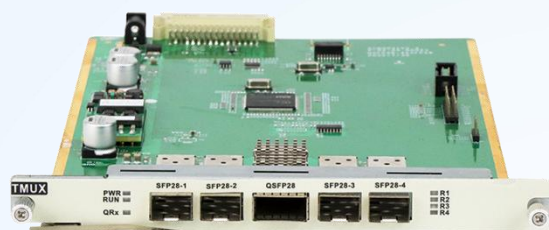
Product Specification

Function	Note	
Card type	10G OTU-3R	10G OTU-2R
interface	<ul style="list-style-type: none"> Client-side interface: 4 SFP+ hot-plugging, compatible with SFP WDM-side interface: 4 SFP+ hot-plugging, compatible with SFP 	
Line mode	Supports transparent transmission of any type of service in four 42M~11.3G rate ranges, and converts four service optical signals into four WDM standard wavelength optical signals.	
Relay mode	Support 42M~11.3G wavelength electrical relay	
Support service type	<ul style="list-style-type: none"> GE, 10GE 1/2/4/8/10G FC STM-16/64 CPRI-2/3/6/7 	<ul style="list-style-type: none"> FE, GE, 10GE 1/2/4/8/10G FC STM-1/4/16/64, OTU1/OTU2/OTU2e CPRI-1~8, 42M~11.3G Any
WDM technology	<ul style="list-style-type: none"> Support CWDM: 18 waves Support DWDM: C band 100GHz 40/48 waves, 50GHz 80/96 waves 	
Occupied slot number	Support OSP3800 series chassis, occupy 1 slot, (0.5RU)	
Network management function	Support real time monitoring of the port working state, including: transmitting optical power and receiving optical power, temperature, etc.	
Power consumption	16W (max, including Module)	
MTBF	> 100000 hours	

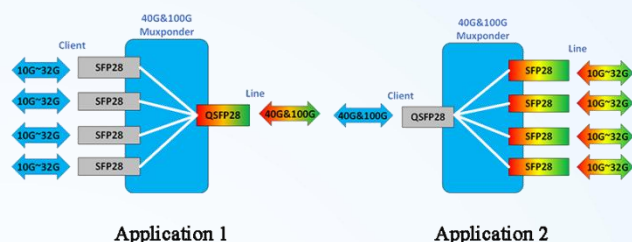
1.8 40G&100G TMUX: 4*SFP28↔QSFP28

The 40G&100G incoherent muxponder service card supports 4x10G↔40G or 4x25G↔100G electrical layer multiplexing/demultiplexing, and transforms the multiplexed/demultiplexed optical signals into WDM standard wavelength optical signals. It can facilitate the wavelength division multiplexing of the optical signals of different wavelengths by mux unit, and simultaneously implement the inverse process of the above process. It's suitable for 10G~25G forward multiplexing or 40G/100G inverse multiplexing wavelength division short-distance transmission solution.

Product Interface



Functional illustration



Product Specification

Function	Note	
Application	4x10G↔40G & 4x25G↔100G	40G↔ 4x10G & 100G↔4x25G
interface	<ul style="list-style-type: none"> Client-side interface: 4 SFP28 hot-plugging, compatible with SFP+ WDM-side interface: 1 QSFP28 hot-plugging, compatible with QSFP+ 	<ul style="list-style-type: none"> Client-side interface: 1 QSFP28 hot-plugging, compatible with QSFP+ WDM-side interface: 4 SFP28 hot-plugging, compatible with SFP+
Basic function	Supports 4*10G & 4*25G service optical signals to be multiplexed into one 40&100G rate WDM standard wavelength optical signal	Supports one 40&100G service optical signal demultiplexed into 4*10G & 4*25G rate WDM standard wavelength optical signals
Support service type	<ul style="list-style-type: none"> 10GE, 25GE 8G/10G/16G FC (compatible 32G) STM-64, OTU2, CPRI/eCPRI 	<ul style="list-style-type: none"> 40GE, 100GE OTU3, OTU4
WDM technology	Support DWDM: C band 100GHz 40/48 waves	Support CWDM: 18 waves Support DWDM: C band 50GHz 80/96 waves
Occupied slot number	Support OSP3800 series chassis, occupy 1 slot, (0.5RU)	
Network management function	<ul style="list-style-type: none"> Support real time monitoring of the port working state, including: transmitting optical power and receiving optical power, temperature, etc. Support port loop-back and port shutdown 	
Power consumption	20W (max, including Module)	
MTBF	> 100000 hours	

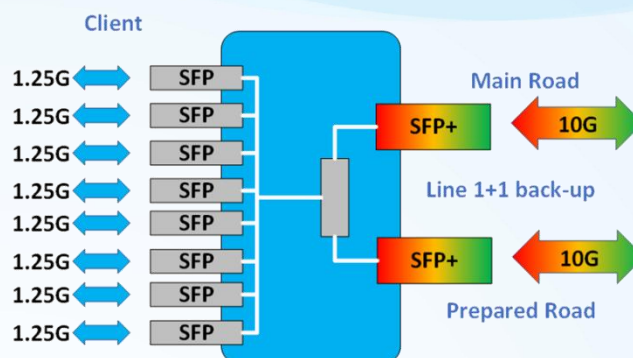
1.9 10G TMUX: 8*1.25G↔10G

The 10G incoherent muxponder service card supports supports 8*100mbps port converging one 10G port or 8*1.25gbps port converging one 10g port, and can convert the multiplexed/demultiplexed optical signals into WDM standard wavelength optical signals, so as to facilitate the wavelength division multiplexing of optical signals of different wavelengths by the combining unit, and realize the reverse process of the above process. It is suitable for 10G forward multiplexing in metropolitan area.

Product Interface



Functional illustration



Product Specification

Function	Note
Application	8x1.25G↔10G & 8x100M↔1.25G
interface	<ul style="list-style-type: none"> Client-side interface: 8 SFP hot-plugging, compatible with SFP WDM-side interface: 2 SFP+ hot-plugging, compatible with QSFP+
Basic function	<p>Supports 8*100Mbps service optical signals to be multiplexed into one 10G rate WDM standard wavelength optical signal</p> <p>Supports 8*1.25G service optical signals to be multiplexed into one 10G rate WDM standard wavelength optical signal</p>
Support service type	<ul style="list-style-type: none"> Supports 8-channel FE/GE transparent service transmission
WDM technology	Support DWDM: C band 100GHz 40/48 waves
Occupied slot number	Support OSP3800 series chassis, occupy 1 slot, (0.5RU)
Network management function	<ul style="list-style-type: none"> Support real time monitoring of the port working state, including: transmitting optical power and receiving optical power, temperature, etc. Support port loop-back and port shutdown
Power consumption	20W (max, including Module)
MTBF	> 100000 hours

1.10 EDFA: Erbium-Doped Fiber Amplification Card

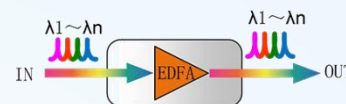
EDFA is an erbium-doped fiber amplification card. Its main function is to compensate the power of the signal light in the transmission link, and it can amplify the optical signals of up to 48 channels (channel interval of 100 GHz) or 96 channels (channel interval of 50 GHz) at C band at the same time. It has the characters of flat gain, locked gain, low noise figure, etc. and it's an indispensably important component for DWDM system, future high speed system and all-optical network long-distance transmission.

Product Interface

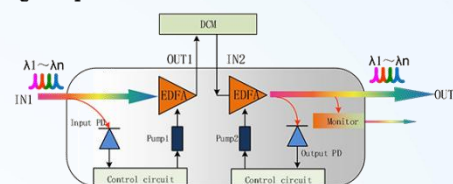


Functional illustration

SA: single stage amplifier



DA: dual stage amplifier



Product Specification

Function	Note			
Working wavelength range	Standard type: 1529nm~1561nm Applicable to 40 wavelength(100GHz) or 80 wavelength(50GHz)DWDM system			
	Extension type: 1528nm~1568nm Applicable to 48 wavelength(100GHz) or 96 wavelength(50GHz)DWDM system			
EDFA TYPE	OBA	OLA	OPA	R/B-EDFA
Min input optical power	-22dBm	-30dBm	-32dBm	-30dBm
Max output power	+20dBm	+20dBm	+16dBm	+20dBm
Max Gain	12dB	25dB	25dB	25dB
Noise factor	< 5.5dB			
Gain flatness	< 1.5dB			
Secondary amplification	Support built-in dual pump (optional) for signal secondary amplification			
Unique technology	Support gain locking technology, transient control technology automatic shut-off technology of output optical power			
Network management function	<ul style="list-style-type: none"> Support real time monitoring for EDFA port working state, including: optical power, optical pumping, temperature, etc. Support pump shutdown threshold and automatic recovery time setting function 			
Occupied slot number	Support OSP3800 series chassis, occupy 1 slot, (0.5RU)			
Optical interface	LC/UPC			
Max power consumption	30W			
MTBF	> 100000 hours			

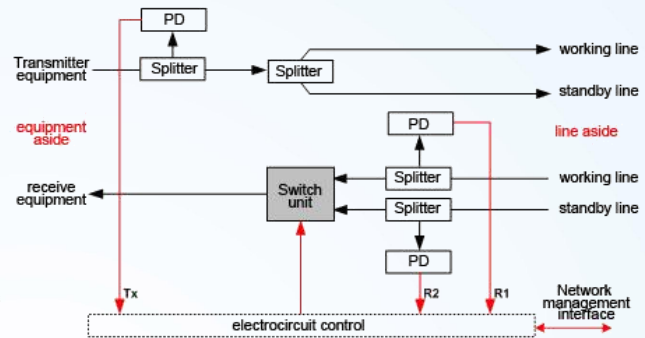
1.11 OLP: Optical Line Protection Card

OLP optical protection card is to assist the wavelength division system to complete optical layer protection solutions such as optical line 1+1/1:1 protection and optical wavelength 1+1/1:1 protection. It can monitor the primary and backup routing optical paths in real time. In the event that the fiber core is blocked or degraded in performance, it can implement the secure rearrangement automatically in the main and standby fiber core, so as to guarantee optical signals in the system line to recover quickly. OLP technology is to complete the routing switch operation in optical layer. The optical layer protection has the incomparable advantages over the protection of upper services, and it is the best solution to provide the user with an uninterrupted communication.

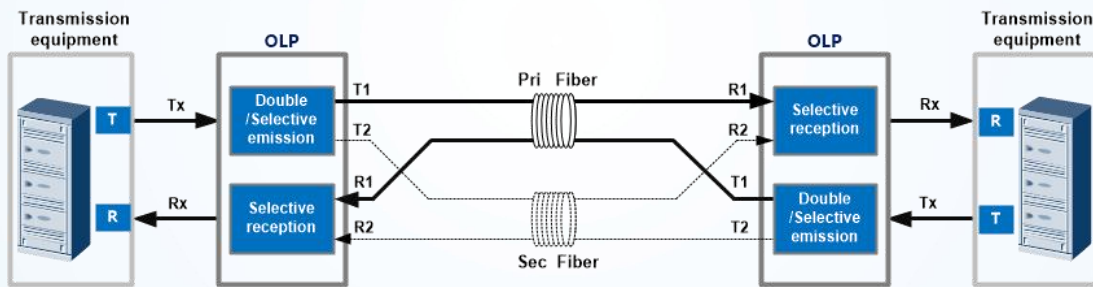
Product Interface



OLP1+1 Functional illustration



Product Diagram



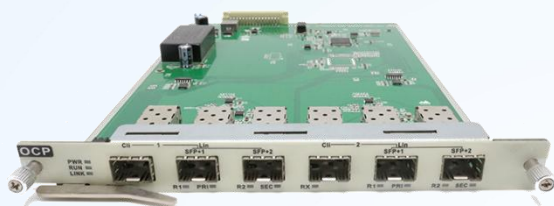
Product Specification

Function		Note			
working wavelength range		1260nm~1650nm			
OLP TYPE		OLP-1:1	OLP-1+1	OLP-1-1	OLP-BIDI
Switching time		<35ms	<15ms	<15ms	<15ms
Introduction loss	Tx port	<1.3dB	<4dB	<1.3dB	<1.3dB
	Rx port	<1.3dB	<1.2dB	<1.3dB	<1.3dB
Monitoring of optical power		-50 dBm ~+23dBm			
Application scenes		● Optical line 1+1 protection			
Network management		supports the OLP optical power real-time monitoring, active switch scheduling,			
Occupied slot number		Support OSP3800 series chassis, occupy 1 slot, (0.5RU)			
Optical interface		LC/UPC			
Max power consumption		5W			
MTBF		>100000 hours			

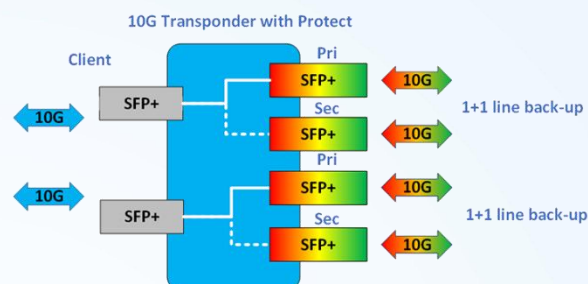
1.12 10G OCP: 10G protection OEO Card

The 10G protection OEO Card is an optional part of WDM system, which is mainly used in line protection and ring network protection networking. At the transmitting end, one optical signal is divided into two identical signals, which are transmitted through different specific wavelengths or different lines. At the receiving end, the signals of two specific wavelengths or different lines are received and sent to the subsequent processing according to the signal quality, which is the process of double transmitting and selective receiving.

Product Interface



Functional illustration



Product Specification

Function	Note
Application	In line protection and ring network protection networking
interface	<ul style="list-style-type: none"> Client-side interface: 2 SFP+ ,hot-plugging, WDM-side interface: 4 SFP+ ,hot-plugging,
Basic function	<ul style="list-style-type: none"> 3 R 6*SFP+ interface Support 2-way two-way or 4-way one-way data transmission Support line side 1 + 1 protection
Support service type	<ul style="list-style-type: none"> 10GE, 25GE 8G/10G/16G FC (compatible 32G) STM-64, OTU2, CPRI/eCPRI
WDM technology	Support DWDM: C band 100GHz 40/48 waves
Occupied slot number	Support OSP3800 series chassis, occupy 1 slot, (0.5RU)
Network management function	<ul style="list-style-type: none"> Support real time monitoring of the port working state, including: transmitting optical power and receiving optical power, temperature, etc. Support port loop-back and port shutdown
Power consumption	20W (max, including Module)
MTBF	> 100000 hours

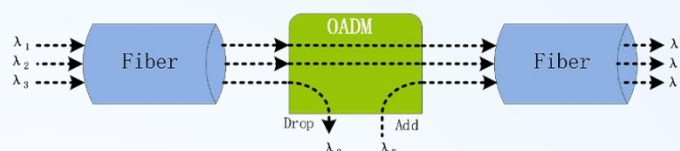
1.13 OADM: Optical Add Drop Multiplexing Card

OADM card is an important part of WDM system. It can realize the dynamic reconfiguration of optical wavelength channel by OADM module. That is to say, it can dynamically adjust the wavelength resource and fiber path in optical path layer according to the change of traffic and demand in transmission network path and make the most effective use of network resources.

Product Interface



Functional illustration



Product Specification

Function		CWDM OADM					DWDM OADM				
Channel number		1	2	4	8	16	1	2	4	8	16
Operating wavelength(nm)		1260~1620					1525~1565				
Business Type		ITU-T Grid					ITU-T Grid				
Center wavelength (nm)		20					0.8nm(100GHz)				
Channel insertion loss (dB)	In---Drop	≤0.8	≤1.2	≤1.8	≤2.6	≤4.5	≤0.8	≤1.2	≤1.8	≤2.6	≤4.5
	Add---Out	≤0.8	≤1.2	≤1.8	≤2.6	≤4.5	≤0.8	≤1.2	≤1.8	≤2.6	≤4.5
Flatness (dB)		ITU±6.5									
Adjacent channel isolation (dB)							≤0.5				
Non-adjacent channel isolation (dB)							≥30				
Return loss (dB)							≥40				
Flatness (dB)							≥50				
Occupied slot number		Support OSP3800 series chassis, occupy 1 slot, (0.5RU)									
Optical interface		LC/UPC									
Max power consumption		5W									
MTBF		> 100000 hours									

1.14 MDU: 1~16 Wavelengths Multiplexing/Demultiplexing

card

MUX & DEMUX is a wavelength division multiplexing (WDM) based combiner/demultiplexer card, which multiplexes multiple standard DWDM or CWDM wavelengths on the same optical fiber for transmission. The demultiplexing card is used to demultiplex multiple standard DWDM or CWDM wavelengths transmitted on a single fiber

Product Feature

- Low insertion loss (IL)
- High channel isolation
- High stability and reliability
- Provide 1 to 16 channels with compact design
- Conform to ITU-T G.694.2
- Conform to Telcordia GR-1209-CORE-2001 standard
- Conform to Telcordia GR-1221-CORE-1999 standard
- Conform to RoHS-6 (no lead)



Pluggable Card Type: 16 channel Mux



Pluggable Card Type: 16 channel Demux



OSP3800 1RU: 442(W)×350(D)×44(H)mm

Application Area

- WDM system

Product Specification

Function		CWDM OADM					DWDM OADM				
Channel number		1	2	4	8	16	1	2	4	8	16
Operating wavelength(nm)		1260~1620					1525~1565				
Business Type		ITU-T Grid					ITU-T Grid				
Center wavelength (nm)		20					0.8nm(100GHz)				
Channel insertion loss (dB)	In---out	≤0.8	≤1.2	≤1.8	≤2.6	≤4.5	≤0.8	≤1.2	≤1.8	≤2.6	≤4.5
Flatness (dB)		ITU±6.5									
Adjacent channel isolation (dB)							≤0.5				
Non-adjacent channel isolation (dB)							≥30				
Return loss (dB)							≥40				
Flatness (dB)							≥50				
Occupied slot number		Support OSP3800 series chassis, occupy 1 slot, (0.5RU)									
Optical interface		LC/UPC									
Size		OSP3800 1RU: 442(W)×350(D)×44(H)mm									
MTBF		> 100000 hours									

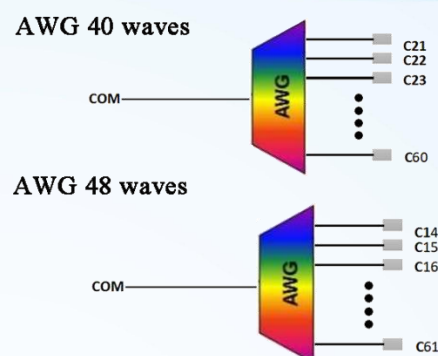
1.15 AAWG: 40/48CH Multiplexing/Demultiplexing Card

AWG split-wave card is mainly used in the DWDM system to complete 40/48 optical wavelength multiplexing and demultiplexing functions in the C-band range, which can multiplex different wavelengths of light into one. Multiple optical channels multiplexed on the same fiber are separated by wavelength on the fiber. It is based on waveguide grating technology on silicon substrates design for precise channel coupling, low insertion loss, high channel isolation and high stability for 40/48-wave high-capacity DWDM systems.

Product Diagram



Functional illustration



Product Specification

Function	Note
Optical channel number	40/48 channel, support C band (C_EVEN), (C_ODD)
Channel spacing	0.8nm (100GHz)
Channel frequency	± 12.5 GHz
Wavelength accuracy	≤ 0.05 nm
Channel insertion loss	≤ 5.5 dB
-1dB bandwidth	≤ 0.34 dB
-3dB bandwidth	≤ 0.51 dB
Adjacent channel isolation ratio	≥ 25 dB
Non-adjacent channel isolation ratio	≥ 30 dB
Total isolation	≥ 23 dB
Flatness	≤ 1.5 dB
Return loss	≥ 45 dB
Directivity	≥ 50 dB
Occupied slot number	Support OSP3800 series chassis, occupy 2 slot, (1RU)
Optical interface	LC/UPC
Extend function	Support C band(C_EVEN)40/48 channel and(C_ODD)40/48 channel through Interleaver extend to 80/96 channel
Max power consumption	3W
MTBF	> 100000 hours

1.16 DCM: Dispersion Compensation Module

The DCM dispersion compensation is a pure passive device. It can compensate the dispersion slope of standard single-mode optical fiber (G.652) in C-band. And it is used to repair the optical signal distorted by dispersion and compensate the damaged signal in optical transmission system, so as to improve the performance of the transmission system and achieve high-speed, large-capacity, long-distance communication. The dispersion range of the DCM can reach -10 to -2100ps/nm at 1550nm wavelength. Products with special requirements for central wavelength and dispersion can be also provided.

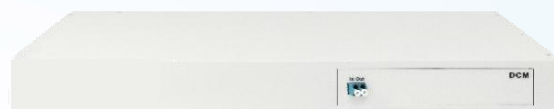
Product Feature

- 100% slope compensation of G.652 optical fiber in C-band
- Low insertion loss
- Low polarization mode dispersion
- Wide band Dispersion Compensation for DWDM System
- Packaging and interface types can be customized
- Comply with Telcordia GR-2854-CORE standard
- Conform to RoHS-6 (lead free)



1RU Pluggable Card Type

Occupies two slots in the OSP3800subrack



7209 1RU: 442 (W)×250 (D) ×44 (H)mm



2901 1RU: 442 mm (W)×250 mm (D) ×44 (H)mm

Application Scenario

- SDH high speed optical transmission system
- DWDM optical transmission system
- G.652 Standard single-mode optical fiber long-distance and metropolitan area communication system

Product Specification

Function	Parameter					
Equivalent G.652 compensation length	20Km	40Km	60Km	80Km	100Km	120Km
1545nm wavelength dispersion (ps/nm)	-340±20	-670±30	-1000±40	-1340±50	-1670±60	-2040±60
1545nm relative dispersion slope (nm ⁻¹)	0.004±20%					
Insertion loss (dB)	≤3.5	≤5.0	≤6.8	≤8.7	≤10.7	≤12.9
Polarization mode dispersion (ps)	≤0.5	≤0.8	≤1.0	≤1.2	≤1.3	≤1.4
Polarization dependent loss (ps)	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1
Optical reflection (dB)	-27					
Maximum permissible input power (dBm)	+23					
Working temperature range	-5°C~70°C					
Storage temperature range	-40°C~85°C					
Environmental/Reliability Testing	Conform to Telcordia GR-2854 and GR1221standard					
Interface type	LC/UPC or to be customized					
Package type	7209 1RU: 442 (W)×250 (D) ×44(H) mm 2901 1RU: 442 (W)×250 (D) ×44 (H) mm					

1.17 NMS: Network Control Management Card

NMS is a network management module specially designed for OSP3800 series products , Its main function is to provide the interface between equipment and network management system. With the OTN network management system of OSP3800 series, NMS completes the single card management, various maintenance and management signal transmission of network element, and realizes the real-time monitoring, maintenance and management of equipment element and the whole synchronous equipment network. It provides a good solution for equipment monitoring.

Product Diagram



Product Feature

- High-speed ARM processor is used to provide powerful data processing capability. It can collect the status information, alarm events and performance parameters of each single card's function module, and transform, process and store them. Meanwhile, control and management information is transmitted to other functional modules of the equipment.
- Provide a RJ45 Console interface to support simulation terminal operation
- Provide four RJ45 Ethernet interfaces to support IP-based graphical SNMP network management,generally used for out-of-band network management
- Provide 2 SFP interfaces to support in-band management of equipment, realize the processing of 2 OSC optical monitoring channels, and complete the receiving and sending of optical signals of optical monitoring channel at each station.
- The management module is hot swappable and does not affect the normal operation of current service after failure.

Product Specification

Function	Description
Local management serial port	Support a RJ45 Console local management serial port
Remote management Ethernet port	Supports four RJ45 Ethernet interfaces, interface rate 10/100M adaptive
OSC optical monitoring port	Supports two pluggable 100Mb/s optical SFP ports
Network management method	Support CLI, Telnet, SNMP, Web and other network management methods
Exchange function	Support IP communication between devices to realize integrated management
Protection function	Plug out or failure of network management card will not affect existing service
Maintenance function	Support local or remote software online upgrade
Reset function	Support hardware reset of local NMS card by operating key
Initialization function	Support initialization of local NMS card hardware by operating key
Working temperature	-10℃~+60℃
Working humidity	5%~95%
Number of occupied slots	Support OSP3800 full range chassis, occupying 1 slot (0.5RU)
Maximum power consumption	5W
MTBF	> 100000 hours
Default IP address of factory	192.168.1.188

1.18 E600 Network Management System

The E600 network management system is based on B/S architecture. It supports the unified management of the whole communication network products of ISEELINK, and realizes the management, maintenance and testing functions of the fault, performance, configuration and security of the whole network system. End-to-end management function can be also provided according to user's requirements. By use of network management system, it can improve the quality of network service, reduce maintenance costs, provide guarantee for the rational use of network resources, and provide standard external interfaces for upper network management. It provides a complete solution for the network management of transmission network.

Network Management Interface

The screenshot displays the OTN Network Management System (NMS) interface. The top navigation bar includes: OTN网络管理平台, system management, Node Management, Device Management, Alarm Management, Report Management, Performance management, Business management, Line Management, and Measurement Management. The main area shows a logical topology view of a network device with various ports and components. Below the topology, there is a section for NMS configuration and a table with the following data:

Port	Link Status	Rate/Duplex LC
Description: OTN Management system		
Software Version: 5.50		

The screenshot displays the OTN Network Management System (NMS) interface for a fiber test. The top navigation bar is the same as the previous screenshot. The main area shows a fiber test results page for fiber TEST001. The test parameters are as follows:

parameter	current parameter	Reference parameter
Wavelength	1625 nm	1625
range	60 km	60
pulse width	80 ns	80
refractivity	1.468	1.468
Average times	5	5
Endpoint threshold	5	5

The test conclusion table shows the following data:

Measured curve	Index	Name	event type	distance	insertion loss	Cumulative loss	Action
No matching records found							
Reference curve	1	起点	Reflection event	0	0	0	
	2	终点	Endpoint	40135	0	7.83	

2.DCI5800 DCI-Box Transmission Equipment









The DCI5800 series is a new generation of DCI coherent wavelength division transmission system launched by ISEELINK. It provides an open DWDM transmission platform for data center interconnection (DCI) and metropolitan area network(MAN) wavelength division applications. Featuring high integration, strong scalability, small size, low power consumption and easy operation, DCI5800 is extremely cost-effective and suitable for the needs of large-capacity nodes above 16T in core networks such as national backbone networks, provincial backbone networks, metropolitan backbone networks and data center interconnection.



DCI5800 2RU: 442 (W)×500 (D) ×88 (H)mm

DCI5800 1RU: 442 (W)×500 (D) ×44 (H)mm

Product Feature

<p>400G TMUX Card</p> <p>Client Side: 4*100G QSFP28 Line Side: 1*CFP2 400G</p> 	<p>200G TMUX-1 Card</p> <p>Client Side: 20*SFP+ Line Side: 1*CFP2 200G</p> 
<p>EDFA Card</p> <p>Support 21dBm saturated output Support built-in OSC monitoring channel</p> 	<p>OLP Card</p> <p>Optical line 1+1 protection Manual and automatic working modes Support power failure, no light locking</p> 
<p>WSS Card</p> <p>9-dimensional wavelength selective switch Built-in PA/BA/OSC</p> 	<p>OCM Card</p> <p>Provide 8 ports Support optical power detection of 96-wave optical signals</p> 
<p>TFF Card</p> <p>100GHz 4-Channel ADD and 4-Channel DROP Insertion loss ≤ 2 dB Built-in optical power acquisition Adjacent channel isolation >25dB</p> 	<p>OTDR Card</p> <p>Working wavelength: $1625\text{nm} \pm 10\text{nm}$ Dynamic Range: 30~40dB Pulse width: 5ns~20us Polling in 8 directions</p> 

Data Center Interconnection Application



3.DCI3100 Integrated DWDM Equipment

The DCI3100 integrated wavelength division equipment is developed by ISEELINK for data center interconnection (DCI) scenarios. It has the outstanding characteristics of large capacity, small size, low energy consumption and high cost performance. Housed in standard 1U chassis, this device supports max 1.6T (16*100G) capacity and can be smoothly expanded to 3.2T capacity through device stacking. Adopting high-density opto-electronic integration technology, DCI3100 avoids complex fiber jumper connections with its unique switch-like design and brings ultimate user experience by its extremely simple installation. It is a perfect solution for ultra-large transmission capacity in metropolitan DCI networks.

Product Feature

- The device adopts simple box design, is only 1U high, and can be stacked, which can effectively save room space and realize flexible migration.
- 1RU supports a maximum transmission capacity of 1.6T (16*100G), which can be effectively expanded to a fiber of 3.2T through device stacking.
- The device supports mixed transmission of multiple services, including service types such as 100GE. Service interfaces and quantities can be flexibly customized by customers.
- Devices do not have complex optical and electrical cross-connections, services are transmitted transparently, and service ports are physically isolated, improving network security.
- The device network is simple, does not change the original network topology, no complex optical layer design, only need to choose the device model according to the decay or kilometers.
- The device supports 1+1 line protection on the optical cable side and automatically selects transmission routes to improve network reliability.
- According to the site one-box delivery, power-on free, plug and play; No jumper, no manual intervention.



800G



1.6T



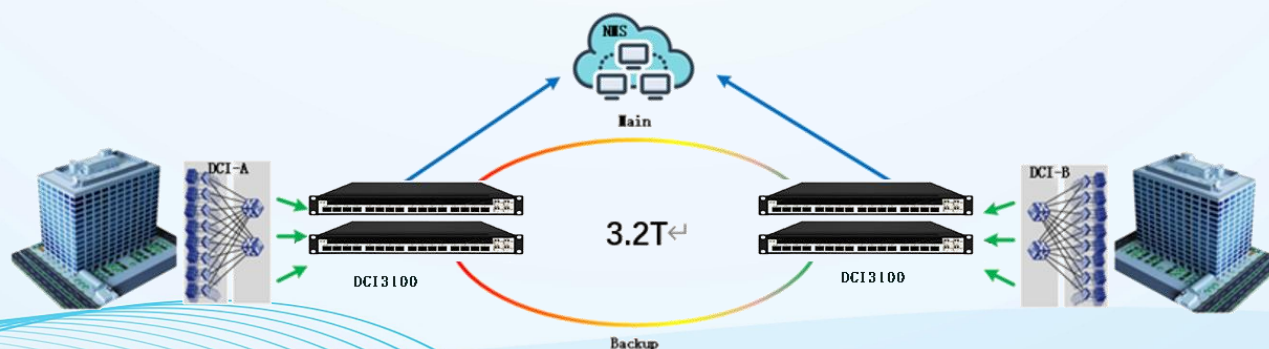
DCI3100 1RU: 442 (W)×600 (D) ×44 (H)mm

- Air forward and air out, AC power supply, reasonable height, width and depth design, suitable for server rack requirements in the data center room, and can be deployed together with servers.
- Double configuration server power supply, can be hot plug, adopting the Load Share 1 + 1 hot backup method.

Product Specification

Function	Description	remark
Equipment dimension	1RU: 442 (W)×600 (D) ×44 (H)mm	
Maximum transmission capacity of a single machine	1RU 1.6Tbps (16*100G)	
The biggest single fiber transmission capacity	The 2 x 1RU device stack is expanded to 3.2Tbps	
Maximum transmission rate of a single port	100Gbit/s	
Service port type	100G QSFP28 optical port	Customized according to customer needs
Maximum number of ports on a single machine	16 QSFP28 optical ports	Customized according to customer needs
Supported service types	100GE	It depends on the type of the service port
Network level protection	Supports 1+1 protection on the line side	
Device level protection	<ul style="list-style-type: none"> ● 1+1 power input backup ● 4 Fan hot backup 	
Installation mode	19" server cabinet	
Power supply	AC:90 to 260V Two hot-swappable server power modules	
Network management	<ul style="list-style-type: none"> ● Visualizes the Web interface ● DCI3100 Network management system 	
Heat dissipation	Forward air, rear air, four hot-swappable fan units	
Typical power consumption	Full configuration<600W	
Working temperature range	-10℃~60℃	
Working humidity range	5%~95% no condensation	
Storage temperature	-40℃~85℃	
MTBF	>100000 hours	

Application scenario



4. Optical Amplification System

4.1 OEO Optical Relay Amplification System

The OEO optical relay amplification subsystem, adopts the clock and data recovery (CDR) chip design with the highest performance and flexibility in the industry. It can perfectly realize the function of optical signal regeneration and amplification, signal cleaning and shaping with features of highly compact structure, flexible configuration and low power consumption. The system supports the relay amplification of optical signals at any rate between 100M~100G with all modes and is widely applied in the field of operators, private networks and information systems.

Product Feature

- Support the optical relay amplification of services at any rates, such as SDH/SONET, POS, GE, 10GE, 40GE, 100GE and so on
- Support optical signal conversion of single mode and multi-mode, single and dual fiber and wavelength conversion
- 1U platform supports as most 24 services amplifying at rate of 155M~10G or 18 service amplifying at rate of 40G~100G
- Adopt modular design with flexible configuration of each OEO function card and excellent scalability
- Support multi-kinds of graphical interface network management, such as SNMP, Web
- Support ALS function to extend the laser lifespan and avoid the damage to humans from laser leakage
- Support AC power 220V, DC power -48V, and 1+1 power input protection
- Free of configuration installation and support plug and play. All the optical interfaces are pluggable to reduce the spare parts cost



OSP3800 1RU: 442 (W)×350(D) ×44 (H)mm

Product Specification

Function	Description
Working wavelength range	Multi-mode 850nm, single mode 1260nm~1650nm, CWDM/DWDM
Supported service types	STM-1/4/6/16/64/256, FE/GE/10GE/40GE/100GE
Service access capability	<ul style="list-style-type: none"> ● Support the OEO (optical-electrical-optical) amplification of at most 32 routes' services under any protocols within the rate of 155M~10G ● Support the OEO (optical-electrical-optical) amplification of at most 16 routes' services under any protocols at the rate of 40G or 100G
3R function	Support 3R function: re-amplifying), re-timing, re-shaping
ALS function	Support laser automatic turn-off alarm function. The laser will automatically turn off the emission when it receives no light
Network management	Support multi-kinds of graphical interface network management, such as SNMP, Web
Equipment dimension	OSP3800 1RU: 442 (W)×350 (D) ×44 (H) mm
Optical interface	LC/UPC
Working temperature range	-10℃~60℃
Working humidity range	5%~95% no condensation
Storage temperature	-40℃~85℃
Power supply	AC: 90 ~ 260V or DC: -72~ -36 V (support 1+1 power input backup)
Typical power consumption	Full configuration <80W
Heat dissipation	Fan cooling
MTBF	>100000 hours

4.2 EDFA Optical Amplification System

The main function of the EDFA optical amplification subsystem is to compensate the signal's optical power in the transmission link, which can finally extend the optical signal transmission distance. It can be divided into OBA, OLA and OPA based on the application scene. BA is usually used at the transmitting end to boost the output optical power of the system. LA is usually used at the repeater section to compensate the power loss of the line. PA is usually used at the receiving end of the system to improve the input optical power. The EDFA can amplify all the input optical signals by using the erbium-doped fiber as the gain medium and using the 980nm or 1480nm pump laser as the pump source with one-stage or two-stage amplification. It's one of the most indispensable and important part of the DWDM system, high speed transmission system and all optical network in the future.

Product Feature

- Support the unified amplification of 40/48/80/96CH DWDM signal of C band
- Automatic gain control(AGC)
- Flat gain and low noise figure
- Support built-in VOA and automatic adjustment of optical power
- Support two-stage amplification with OADM or DCF modules to be configured in the line
- Support AC power 220V, DC power -48V, and 1+1 power input protection
- Support multi-kinds of graphical interface network management, such as SNMP, Web



OSP3800 1RU: 442 (W)×350 (D) ×44 (H) mm



7210 1RU: 442 (W)×250 (D) ×44 (H)mm

Product Specification

Function	Parameter			Remark
Working wavelength range	Stand type: 1529nm~1561nm, extended type: 1528nm~1568nm			
EDFA type	OBA	OLA	OPA	
Min input power (typical)	-22dBm	-30dBm	-32dBm	
Saturation output power (typical)	+20dBm	+20dBm	+16dBm	To be customized with max +23dBm
Rated gain (typical)	12dB	25dB	25dB	To be customized
Gain flatness	≤1.5dB			
Noise figure	≤5.5 dB			
Working temperature range	-10℃~60℃			
Working humidity range	5%~95% no condensation			
Storage temperature	-40℃~85℃			
Equipment dimension	OSP3800 1RU: 442 (W)×350(D) ×44 (H)mm 7210 1RU: 442 (W)×250 (D) ×44 (H)mm			
Network management	Support multi-kinds of graphical interface network management, such as SNMP and Web			Optional
Special technology	Built-in VOA with automatic adjustment of optical power			Optional
Optical interface	LC/UPC			
Power supply	AC: 90 ~ 260V or DC: -72~ -36 V (1+1 power input backup)			
Typical power consumption	Full configuration <60W			
Heat dissipation	Fan cooling			
MTBF	> 100000 hours			

4.3 SOA Optical Amplification System

The SOA optical amplification subsystem is a special amplification platform for low power optical signal of 100G high-speed services in optical networks. It adopts the plug-in card type and hot-plug design with the characteristics of high integration, low power consumption and stable output power. The system is widely used in data link power amplification and extending transmission distance in various industries.

Product Feature

- Wavelength range: 1280nm~1330nm
- Working modes: automatic power control (APC) and automatic gain control (AGC)
- Input power range: -17dBm~-4dBm
- High output power: saturated output optical power can reach +12dBm
- Double power protection: support AC power 220V, DC power -48V, and 1+1 power input protection
- Flexible architecture: 1U plug-in card design, flexible capacity configuration



OSP3800 1RU: 442(W)×350(D)×44(H)mm

- Green and easy-to-use: configuration-free installation, plug-and-play
- Unified network management platform: Support multi-kinds of graphical interface network management, such as SNMP, Web

Product Specification

Function	Parameter	Remark
Working wavelength range	1280nm ~ 1330nm	
Input power range (total power)	-17dBm ~ -4dBm	
Output power range (total power)	2dBm ~ 12dBm	
Gain	≤14dB	
Gain flatness	≤2dB	
Noise figure	≤7.5 dB	
Polarization dependent gain	≤2dB	
Working temperature range	-10℃~60℃	
Working humidity range	5%~95% no condensation	
Storage temperature	-40℃~85℃	
Equipment dimension	OSP3800 1RU: 442(W)×350(D)×44(H)mm	
Network management	Support multi-kinds of graphical interface network management, such as SNMP and Web	Optional
System capacity	6*100G optical signal amplification	1U full load
Optical interface	LC/UPC	
Power supply	AC: 90 ~ 260V or DC: -72~ -36 V (1+1 power input backup)	
Typical power consumption	Full configuration <110W	
Heat dissipation	Fan cooling	
MTBF	> 100000 hours	

5. Optical Protection System

5.1 OLP Optical Line Protection System

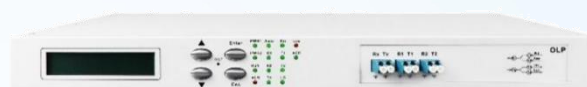
The OLP optical line protection subsystem launched by ISEELINK is based on the advanced development of optical switch technology. It's an automatic monitoring and protection system independent of communication transmission system and completely based on the physical link of optical cable. The system can automatically switch the signal to the optical fiber of the protection path when performance deterioration or blocking of work path is detected. In this way, an optical communication network with high reliability, safety, flexibility and strong disaster resistance is established.

Product Feature

- Applicable to all kinds of optical communication system
- Support line protection of dual fiber and single fiber transmission network
- Support multiple working modes of automatic or manual switching
- Supporting real-time monitoring of main and backup routes
- Fast response: switching time < 20ms
- Support automatic non-return and automatic return functions, automatic return time can be set to adapt to a variety of application scenarios
- Support panel button operation. The system can be operated by button on site without management card
- OLP card and network management card are independent of each other and have no influence on each other



OSP3800 1RU: 442 (W)×350 (D) ×44 (H)mm



7211 1RU: 442 (W)×250 (D) ×44 (H) mm

- Support multi-kinds of graphical interface network management, such as SNMP, Web
- Support power-off and power-on retention functions
- Support AC power 220V, DC power -48V, and 1+1 power input protection

Product Specification

Function		Parameter			
Working wavelength range		1260nm ~ 1650nm			
OLP type		OLP-1:1	OLP-1+1	OLP-1-1	OLP-1-1-BIDI
Switching time		< 35ms	< 15ms	< 15ms	< 15ms
Introduction loss(A pair)	Main path	< 4.5dB	< 2.0dB	< 2.0dB	< 4.5dB
	Backup path	< 4.5dB	< 2.0dB	< 2.0dB	< 4.5dB
Monitoring power range		-50 dBm ~ +25dBm			
Working temperature range		-10°C ~ 60°C			
Working humidity range		5%~95% no condensation			
Storage temperature		-40°C ~ 85°C			
Equipment dimension		OSP3800 1RU: 442(W)×350(D)×44(H)mm 7211 1RU: 442 (W)×250 (D) ×44 (H)mm			
Network management		Support multi-kinds of graphical interface network management, such as SNMP, Web			
Optical interface		LC/UPC			
Power supply		AC: 90 ~ 260V or DC: -72~ -36 V (support 1+1 power input backup)			
Typical power consumption		Full configuration < 30W			
Heat dissipation		Fan cooling			
MTBF		> 100000 hours			

5.2 OBP Optical Bypass Protection System

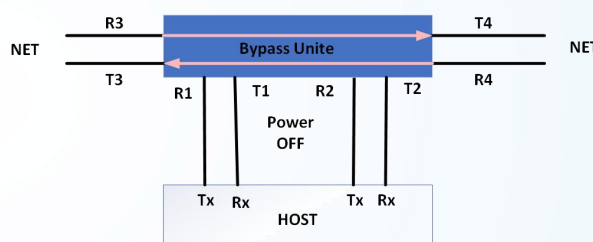
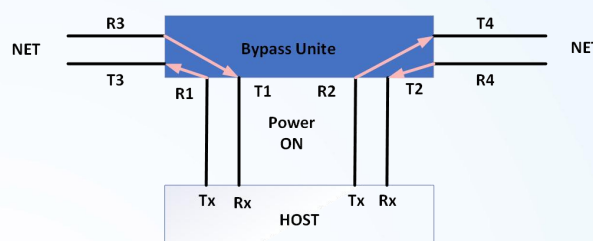
The OBP optical bypass protection subsystem (Bypass) is an intelligent optical path switching system. It belongs to the physical layer equipment and is applied to pure optical network environment. It can automatically identify the power supply status and optical signal output status of network nodes. When the local optical equipment fails (including power interruption, hardware or software failures), it can instantaneously switch to the bypass optical path, and the communication line will bypass the local equipment (i.e. the fault node), thus avoiding the total resistance obstacle caused by the fault node and ensuring the normal system connectivity.

Product Feature

- Applicable to all kinds of gateway equipment, such as DPI equipment, firewall, IPS, UTM, IDP, spam gateway, anti-virus gateway, special DDos equipment, special logic isolation equipment in all fields, etc.
- Support power-off and power-on retention function: Bypass equipment's power-off or power-on, does not affect the switching status of work routing to ensure the normal operation, and has hot-swap function.
- Unique power storage function to ensure that no .wrong switch occurs even when the bypass equipment itself is power off.
- Automatic instantaneous switch to fault nodes without human intervention, switching time < 20ms.
- OBP card and network management card are independent of each other and have no influence on each other
- Support multi-kinds of graphical interface network management, such as SNMP, Web
- Support AC power 220V, DC power -48V, and 1+1 power input protection



OSP2900 1RU: 442 (W)×280 (D) ×44 (H) mm



Product Specification

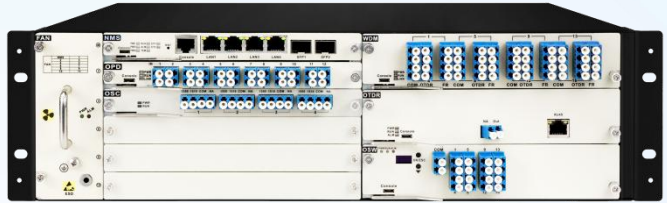
Function		Parameter	
Working wavelength range		850nm、1260nm ~ 1650nm	
OBP type		OBPA (dual fiber 1+1 protection)	OBPB (dual fiber 1:1 protection)
Switching time		<20ms	<20ms
Introduction loss	Cascade	<3.5dB (typical 50%: 50% splitter)	<1.5dB
	Bypass	<4.5dB (typical 50%: 50% splitter)	<1.5dB
Monitoring power range		-50 dBm ~+23dBm	
Working temperature range		-10℃~60℃	
Working temperature range		5%~95% no condensation	
Storage temperature		-40℃~85℃	
Equipment dimension		OSP2900 1RU: 442(W)×280 (D) ×44 (H) mm	
Network management		Support multi-kinds of graphical interface network management, such as SNMP, Web	
Optical interface		LC/UPC	
Power supply		AC: 90 ~ 260V or DC: -72~ -36 V(support 1+1 power input backup)	
Typical power consumption		Full configuration <25W	
Heat dissipation		Fan cooling	
MTBF		>100000 hours	

6.OLM Optical Line Monitoring System

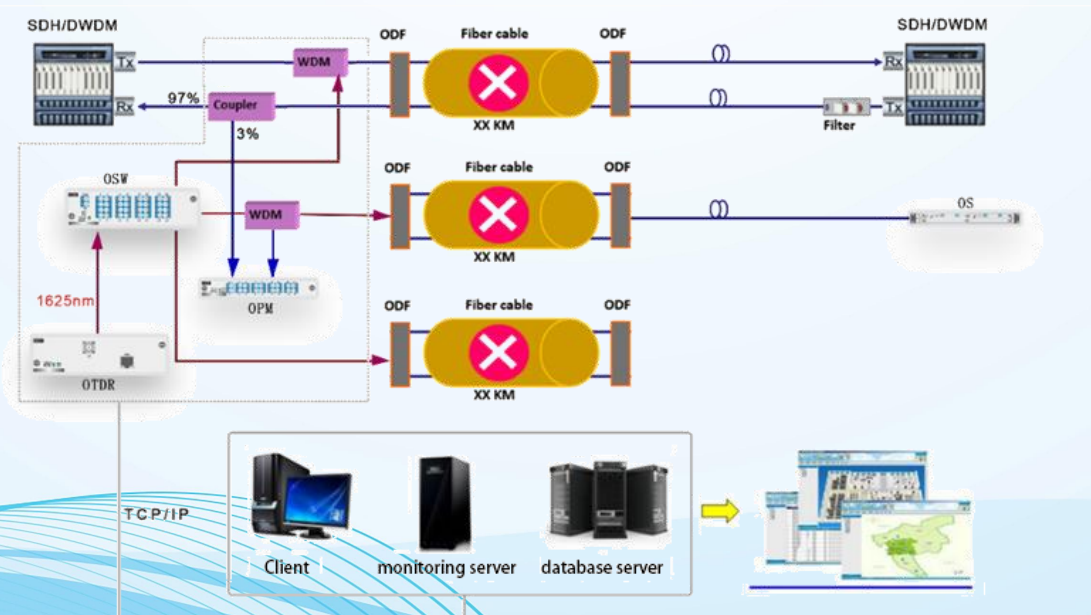
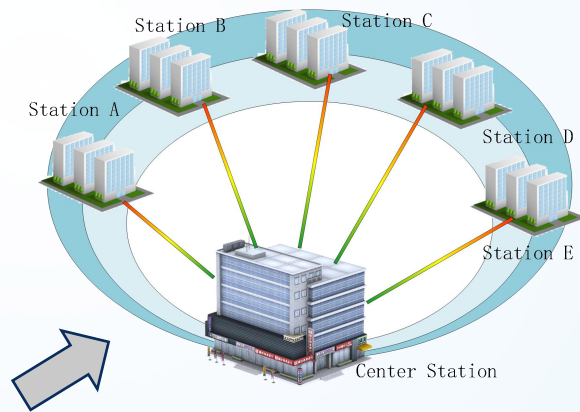
OSP3800 optical Line monitoring system combines optical cable monitoring, alarm, fault analysis, positioning, fault management, line maintenance and line management to ensure the safe and efficient operation of the optical cable network. It can automatically monitor the communication optical cable 24 hours a day and automatically switch and protect the optical fiber. It can timely and accurately report the sudden optical cable fault, effectively shorten the fault duration, and It is necessary to find the potential faults that are hidden and not yet detected, but will cause communication interruption, and give accurate early warning, so as to achieve active maintenance and take preventive measures.

Product Feature




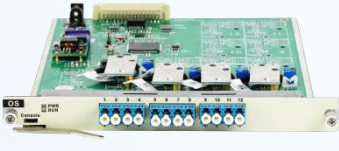
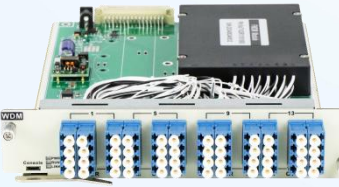

- **High integration**
Business card precision design, small size, high density.
- **Strong versatility**
It supports dozens of cards and is compatible with OTN and OLM.
- **Diversified product forms**
It can provide different product forms of 1RU, 2RU,3RU, 5RU, suitable for different application combinations.
- **Flexible upgrading and expansion**
It adopts plug and play design, easy to use, easy to upgrade, and short cycle of new function card.



Schematic Diagram

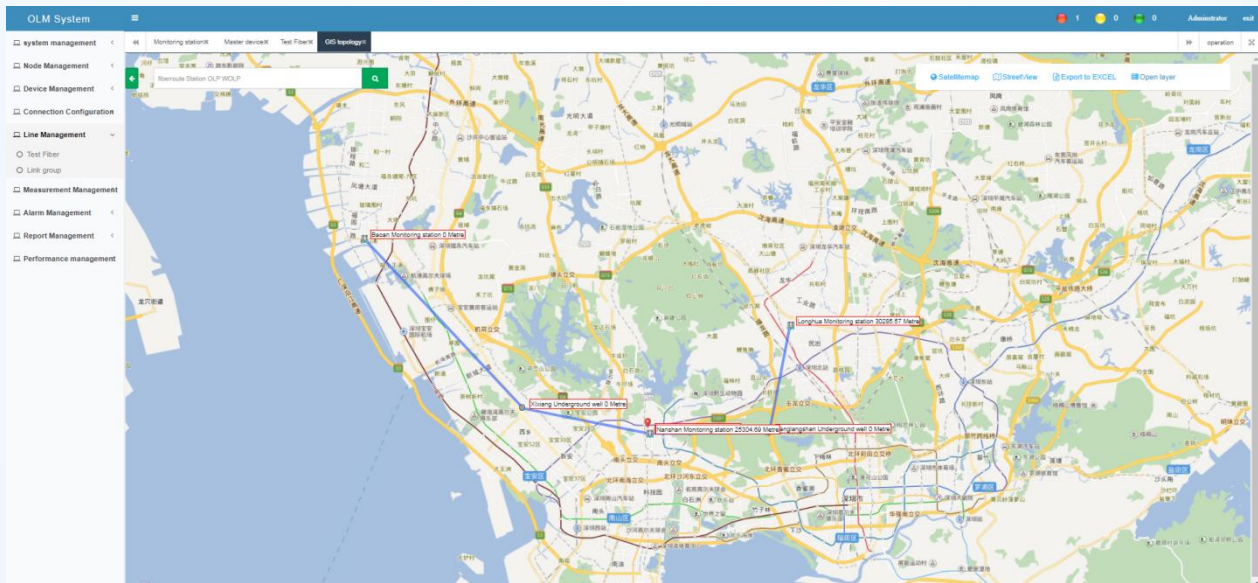
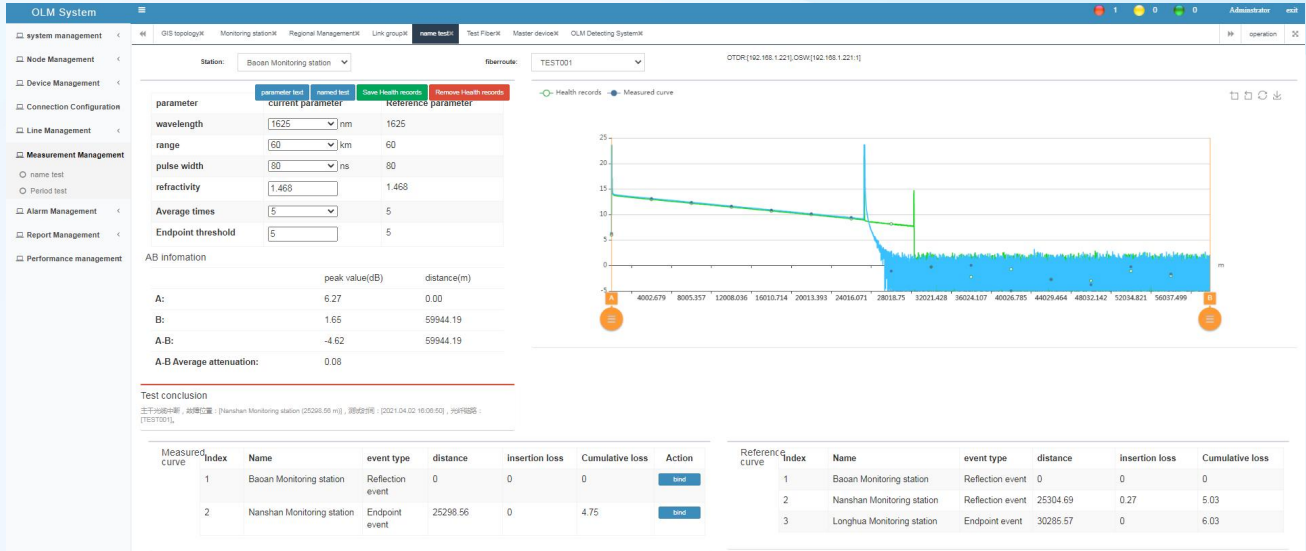


Main business card parameters

Diagram	Item	Parameter	
	OTDR	Central wavelength	1550nm±20nm/ 1625±20nm
		Event blind area	≤1.2m
		Attenuation blind area	≤6m
		Minimum sampling interval	0.125m
		dynamic range	32/36/38/40/42/45/50dB
		Maximum number of samples	32K
		Test accuracy	±(0.75+5×10 ⁻⁵ × distance + sampling resolution)m
		Pulse width	5, 10, 20, 40, 80, 160, 320, 64012 80, 2560, 5120, 10240, 20480
	OSW	IL	Type: = 0.8 dB, Max: <1.2 dB
		Repeatability	≤±0.05dB
		Operating Wavelength	1260~1650nm
		Switching time	≤10ms(Sequential)
	OPM (OPD/OPC)	Number of channels	2/4/8/12/16/24(OPC off-line) 2/4/8/12(OPD on-line)
		Calibration wavelength	1310nm / 1550 nm
		Power range	-70 ~ +3 dBm(OPC off-line) -50 ~ +23dBm(OPD on-line)
		Accuracy	±5%
			OS
Wavelength	1550 nm		
Output power	-7 ~ +3 dBm		
Short term output stability	±0. 03dB/15min		
Long term stability	±0.1dB/8h (20°C)		
Optical output mode	Continuous output		
	WDM	Number of channels	4/8/12/16
		Transmission wavelength	1625nm
		Reflection wavelength	1310/1490/1550nm
		Transmission bandwidth IL	≤1.0dB
		Reflection bandwidth IL	≤0.80dB
		Transmission bandwidth	≥30dB
		Reflection bandwidth isolation	≥15dB
	Filter	Optical interface	LC/SC
		Transmission wavelength	1260-1600nm
		Reflection wavelength	1625±5nm
		Transmission bandwidth IL	≤1.0dB
		Reflection bandwidth isolation	≥21dB

The Network Management Of OLM

Combined with the monitoring system software function, it provides powerful OTDR optical fiber real-time, online, automatic monitoring function, GIS map auxiliary resource management function, provides multiple alarm reporting mode, provides an effective means of optical fiber network monitoring and maintenance for relevant departments, assists managers to comprehensively grasp the quality status of optical fiber network, and greatly improves the operation and maintenance performance and communication quality.



Decision support information: provide core line deterioration analysis, time deterioration analysis, fault type and cause statistics and other decision support functions.

Index	event type	Event Source	Describe	Occurrence time	Creator
1	Equipment Edit	Equipment IP:192.168.1.221,Equipment Type:MAIN	Equipment Edit manually	2021-04-02 16:01:04	Administrator
2	UserLogin	Administrator	User[Administrator]Login Successful	2021-04-02 14:40:08	LoginModule
3	UserLogin	Administrator	User[Administrator]Login Successful	2021-04-02 13:36:31	LoginModule
4	UserLogin	Administrator	User[Administrator]Login Successful	2021-04-02 11:45:39	LoginModule
5	UserLogin	Administrator	User[Administrator]Login Successful	2021-04-02 11:45:37	LoginModule
6	UserLogin	超级管理员	User[超级管理员]Login Successful	2021-04-02 11:39:26	LoginModule
7	用户登录	超级管理员	用户[超级管理员]登录成功	2021-04-02 11:18:39	LoginModule
8	用户登录	超级管理员	用户[超级管理员]登录成功	2021-04-02 09:09:40	LoginModule

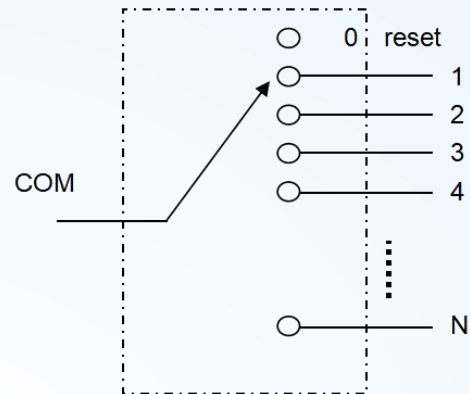
7.OSW Optical Switch

7.1 OSW Optical Switch Series

The optical switch is a type of optical path control device, primarily used for multiple optical control in optical transmission systems, LAN multiple light source detectors automatic switching, and optical sensing multi-point dynamic monitoring systems. It achieves full optical-level routing selection, wavelength selection, and self-healing protection functions. It is commonly used in optical path switching, automatic measurement, remote monitoring of fiber optic networks, and other fields.

Product Features

- Low insertion loss
- Wide wavelength range
- Low-channel crosstalk
- High stability, high reliability



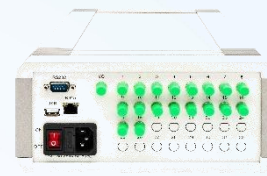
Optical Switching Devices

Name	illustration	
7201 Relay optical switch		
7202 Motor type optical switch		
7203 MEMS optical switch		

7206 Rack-Mount Optical Switch



7205 Desktop optical switch

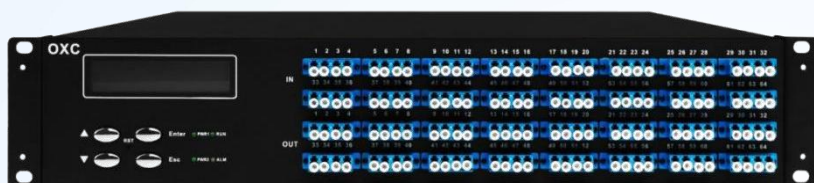
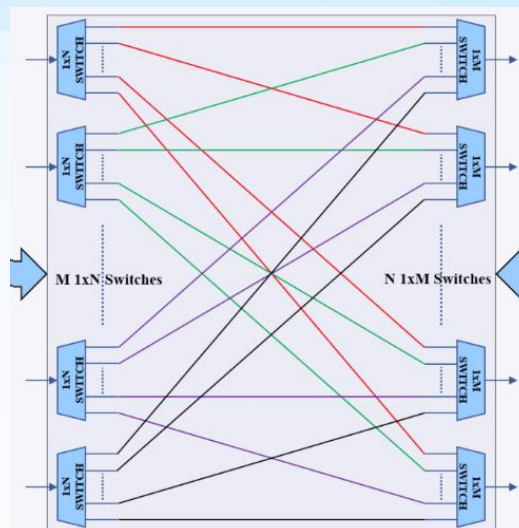


Function	Specification	
Operating Wavelength	1260~1650nm	850±40/1300nm±40
Test Wavelength	1310/1550nm	850nm
Insertion Loss	Type: <0.8dB,Max: <1.2 dB	
Repeatability	≤±0.05 dB	
Return Loss	SM≥50dB	MM≥30 dB
Crosstalk	SM≥55dB	MM≥35 dB
Wavelength-Dependent Loss	≤0.25	
Polarization-Dependent Loss	≤0.05	
Switching Time	≤10ms (Sequential Switching)	
Switching life	≥1*10 ⁷	
Fiber Type	SM(9/125um)	MM(50/125um OM3 or 62.5/125um OM1)
Connector Type	FC/PC or FC/APC or to be customized	
Monitoring Port	RJ45/RS232	
Operating Power Supply	AC: 85~264V(50/60Hz) or DC:-72~ -36V	
Operating Temperature	-10~+ 60℃	
Storage Temperature	-40~+ 80℃	

7.2 OXC Optical Cross-Connect

7.2.1 OXC Optical Cross-Connect

The N*M Intelligent Optical Cross-Connect (OXC) device is a product that utilizes an optical switch matrix to achieve optical path switching. The device provides serial and network interfaces, enabling local and remote control through client access. It ultimately achieves strict non-blocking bidirectional cross-connections for N (input)*M (output) optical fiber routes, playing a crucial role in optical communication applications. Optical switches are primarily used for multiple optical monitoring in optical transmission systems, LAN automatic switching for multiple light sources/detectors, and optical sensing in dynamic multi-point monitoring systems. They are also utilized in optical testing systems for fiber, optical devices, network, and field engineering cable testing, as well as in optical device installation and adjustment.



Function	Item	Specification	
Model	OXC	N*M	
Operating Wavelength		SM 1260~1650	MM 850±40
Insertion Loss	dB	4*4 ≤1.6	8*8 ≤1.8
		12*12 ≤2.0	16*16 ≤2.2
		24*24 ≤2.4	32*32 ≤2.6
		48*48 ≤2.8	64*64 ≤3.0
Polarization Loss	dB	16*16 ≤0.35, 64*64 ≤0.6	
Crosstalk	dB	> 50	
Return Loss	dB	> 45	
Wavelength Dependent Loss	dB	16*16 ≤0.6, 64*64 ≤0.8	
Temperature Dependent Loss	dB	16*16 ≤0.6, 64*64 ≤0.8	
Repeatability	dB	±0.1	
Switching Time	ms	<20	
Latching Type		Non-latching	
Max Input Optical Power	dBm	27	
Switching Lifetime	Times	≥1*10 ⁹	
Optical Interface		LC/UPC	
Operating Power Supply		AC: 85~264V(50/60Hz) or DC: -72~ -36V	
Operating Temperature		+5°C~ +45°C humidity <85%	
Control Interface		RJ45/RS232	
Chassis Structure		7221 rack mount: 2U 442mm(W)×500mm(D)×88mm(H)	

7.2.2 MEMS Optical Cross-connect Switch Series

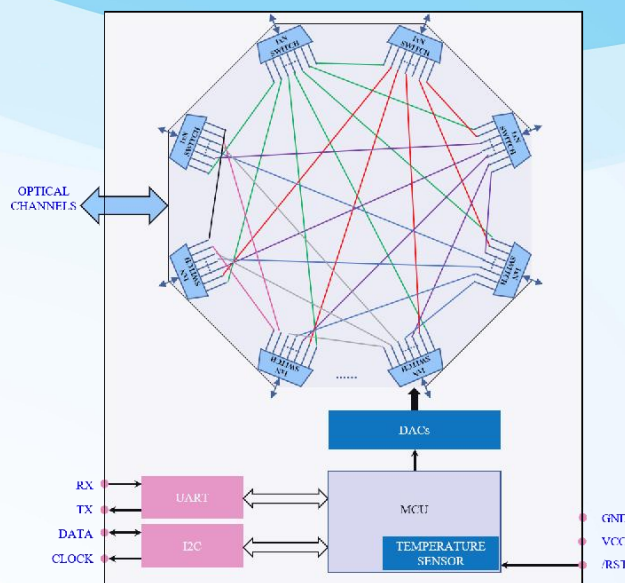
MEMS optical cross-connect switch(OXC) is switch matrix that allows the simultaneous connection of multiple input to output fibers in a fully non-blocking, all-optical, cross-connect configuration. Iseelink's OXC is based on industry proven, long-life, reliable MEMS 1xN optical switch components. An NF OXC is built by cascading N-1x(N-1) switches. The fibers of each 1x(N-1) are spliced to the other points of each M x1 to allow any two points to be connected.

Product Features

- Proven MEMS durability and reliability
- Compact form factor
- Fast switching time
- Qualified to Telcordia GR-1073-CORE and RoHS requirements

Product Applications

- Optical network routing
- Resource sharing in test & measurement applications
- Optical network protection and restoration



Parameter		Value	Unit	Note
Wavelength Range		13:1290~1330 15:1525~1568 16:1600~1650	nm	Single-band: 13 or 15 or 16 Dual-band: 13&15 or 15&16 Full-band: 1290~1650
Test Wavelength		1310/1550/1625	nm	Each test wavelength is the CWL of a specific wavelength range
MxN		4x4/8x8		M+N≤16 & 2≤M,N≤20
Insertion Loss	16F	≤2.0@1550 ≤2.2@1310	dB	1. IL is measured at CWL, 23°C 2. With connectors 3. If at -5~65°C, IL increases by 0.4dB
Return Loss		≥45	dB	Or customer specify
Repeatability		≤0.1	dB	Repeatability is defined after 100 cycles
Crosstalk		≥50	dB	Or customer specify
Polarization Dependent Loss		≤0.35	dB	
Wavelength Dependent Loss		≤0.6	dB	WDL is measured at CWL±20nm, 23°C
Temperature Dependent Loss		≤0.6	dB	
Switch Time		≤5	ms	1. One set of connection configurations 2. Excluding protocol transmission time 3. When using optimized voltage ramp
Durability		≥1x10 ⁹	cycle	
Maximum Optical Power		≤500	mW	

8. AAWG

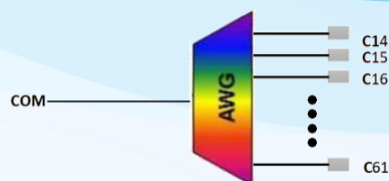
The AAWG is based on wave guide grating technology on silicon substrates. It adopts unique thermal-free package design and can achieve accurate channel coupling without power supply, software or temperature control. It has a series of advantages such as low insertion loss, high channel isolation and high stability. There are Gauss type and flat top type to be optional.

Product Feature

- Low insertion loss (IL)
- High channel isolation
- High stability and reliability
- Provide 40/48/80/96 channels to be used
- Conform to ITU-T G.694.1
- Conform to Telcordia GR-1209-CORE-2001 standard
- Conform to Telcordia GR-1221-CORE-1999 standard
- Conform to RoHS-6 (no lead)

Application Area

- DWDM system



48 waves Functional illustration



120(L)*70(W)*12(H)mm box



OSP3800 1RU: 442(W)*350(D)*44(H)mm

Product Specification

Function	AAWG DWDM MUX/DEMUX			
Channel spacing	50GHz		100GHz	
Channel type	Flat top	Gauss	Flat top	Gauss
Channel number	80/96		40/48	
Wavelength accuracy (nm)	±0.05			
-1dB bandwidth (nm)	>0.34	>0.24	>0.38	>0.2
-3dB bandwidth (nm)	>0.51	>0.3	>0.58	>0.4
Channel insertion loss (dB)	<7.0	<6.0	<5.5	<3.5
Adjacent channel isolation (dB)	>26		>23	>26
Non-adjacent channel isolation (dB)	>30			
Total isolation (dB)	>20		>21	
Flatness (dB)	<1.5			
Return loss (dB)	>40			
Directivity (dB)	>50			
Polarization-dependent loss (dB)	<0.5			
Polarization mode dispersion (ps)	<0.5			
Operating Temperature (°C)	-10~+70			
Storage Temperature (°C)	-40 ~+85			
Package type	120(L)*70(W)*12(H)mm box, OSP3800 1RU: 442(W)*350(D)*44(H)mm			

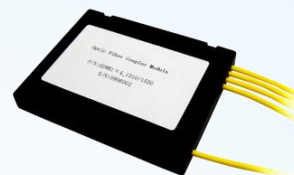
9. Optical Splitter

9.1 PLC Optical Splitter

The PLC optical splitter product launched is based on planar optical waveguide technology. It can realize the power distribution of optical signal with 1*N or 2*N spectral ratio. It has a series of advantages such as various packaging structures, low insertion loss, high return loss, and has excellent flatness and uniformity in the wavelength range of 1260 to 1650nm. Its working temperature can reach - 40 °C to + 85 °C and integration degree can be customized according to demand.

Product Feature

- Low insertion loss and polarization-dependent loss
- High stability and reliability
- High channel number
- Wide working wavelength range
- Wide operating temperature range
- Conform to Telcordia GR-1209-CORE-2001 standard
- Conform to Telcordia GR-1221-CORE-1999 standard
- Conform to RoHS-6 (no lead)



ABS box: 80(W)×120(D)×18(H)mm



Pluggable card



1RU: 442(W)×220(D)×44(H)mm

Application Area

- PON network
- CATV Network
- Optical network monitoring

Product Specification

Function	1:N PLC Splitters						2:N PLC Splitters					
	1x2	1x4	1x8	1x16	1x32	1x64	2x2	2x4	2x8	2x16	2x32	2x64
Port configuration	1x2	1x4	1x8	1x16	1x32	1x64	2x2	2x4	2x8	2x16	2x32	2x64
Maximum insertion loss (dB)	4.0	7.2	10.4	13.6	16.8	20.5	4.5	7.6	11.1	14.3	17.6	21.3
Uniformity (dB)	<0.6	<0.7	<0.8	<1.2	<1.5	<2.5	<1.0	<1.2	<1.5	<1.8	<2.0	<2.5
PDL (dB)	<0.2	<0.2	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.4	<0.4	<0.4	<0.4
WDL (dB)	<0.3	<0.3	<0.3	<0.5	<0.8	<0.8	<0.4	<0.4	<0.6	<0.6	<0.8	<1.0
TDL(dB)	<0.5											
Return loss (dB)	>55											
Directivity (dB)	>55											
Operating Wavelength (nm)	1260 ~ 1650											
Operating (°C)	-40~+85											
Storage (°C)	-40 ~+85											
Interface	LC/PC or to be customized											
Package type	ABS box: 80(W)×120(D)×18(H)mm											
	Integrated rack mount: 1RU 442(W)×220(D)×44(H)mm											

Note: The above specifications do not include loss of optical fiber connectors. The test temperature is room temperature.

9.2 FBT Optical Splitter

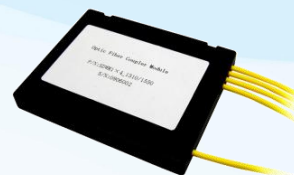
The FBT optical splitter adopts unique materials and manufacturing technology, which can realize the coupling of optical signals transmitted in optical fibers in the coupling area of special structures and redistribute optical power. It supports flexible configuration according to different spectral ratios, working wavelength, connector types and packaging forms. It is convenient for design and project planning of various products. It is widely used for optical signal replication in cable TV transmission and other optical communication systems.

Product Feature

- Low insertion loss and polarization-dependent loss
- High stability and reliability
- Wide working wavelength range
- Wide operating temperature range
- Conform to Telcordia GR-1209-CORE-2001 standard
- Conform to Telcordia GR-1221-CORE-1999 standard
- Conform to RoHS-6 (no lead)

Application Area

- CATV Network
- Optical network monitoring



ABS box: 80(W)×120(D)×18(H)mm



Pluggable card



1RU: 442(W)×220(D)×44(H)mm

Product Specification

Function		SM FBT Splitters	MM FBT Splitters
Operating wavelength (nm)		1260~1620	850
Insertion loss of various splitter ratio (dB)	50:50	50%≤3.50	50%≤4.10
	60:40	60%≤2.70 ; 40%≤4.70	60%≤3.20 ; 40%≤5.20
	70:30	70%≤1.90 ; 30%≤6.00	70%≤2.50 ; 30%≤6.50
	80:20	80%≤1.20 ; 20%≤7.90	80%≤1.80 ; 20%≤9.00
	90:10	90%≤0.80 ; 10%≤11.60	90%≤1.40 ; 10%≤12.00
	70:15:15	70%≤1.90 ; 15%≤9.50	70%≤2.50 ; 15%≤10.50
	80:10:10	80%≤1.20 ; 10%≤11.60	80%≤1.80 ; 10%≤12.00
	70:10:10:10	70%≤1.90 ; 10%≤11.60	70%≤2.50 ; 10%≤12.00
60:20:10:10	60%≤2.70 ; 20%≤7.90; 10%≤11.60	60%≤3.20 ; 20%≤9.00; 10%≤12.00	
Polarization-dependent loss (dB)		≤0.15	
Return loss (dB)		≥55	
Directivity (dB)		≥55	
Operating Temperature (°C)		-40 ~ +85	
Storage Temperature (°C)		-40 ~ +85	
Connector		LC/PC or to be customized	
Package type		ABS box: 80(W)×120(D)×18(H)mm Integrated rack mount: 1RU 442(W)×220(D)×44(H)mm	

Note: The above specifications do not include loss of optical fiber connectors. The test temperature is room temperature

10. 5G Semi-active CWDM Equipment

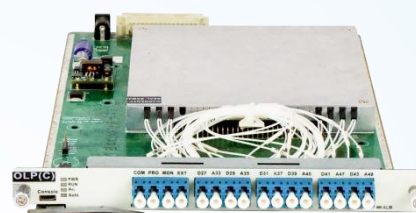
The 5G front-haul semi-active wavelength division equipment launched by ISEELINK address the problems of limited optical cable resources, long construction period, and high cost caused by direct drive of optical cables between DU-AAU in 5G front-haul. The DU side uses active WDM equipment, and the AAU side uses a passive wavelength division multiplexer plus colored optical modules to form a unified manageable front-haul network. Supporting IP-based Web management and Netconf/Yang-based unified management for operators, it provides a good solution to help reduce costs, achieve high reliability and quickly deploy 5G front-haul networks.

Product Feature

- Low insertion loss and polarization-dependent loss
- Support CWDM 12-wave
- High channel isolation
- High stability and reliability
- Wide working wavelength range
- Wide operating temperature range
- Support multi-kinds of graphical interface network management, such as Netconf/yang, Web
- Conform to ITU-T G.694.2
- Conform to Telcordia GR-1209-CORE-2001 standard
- Conform to Telcordia GR-1221-CORE-1999 standard
- Conform to RoHS-6 (no lead)



Remote chip box

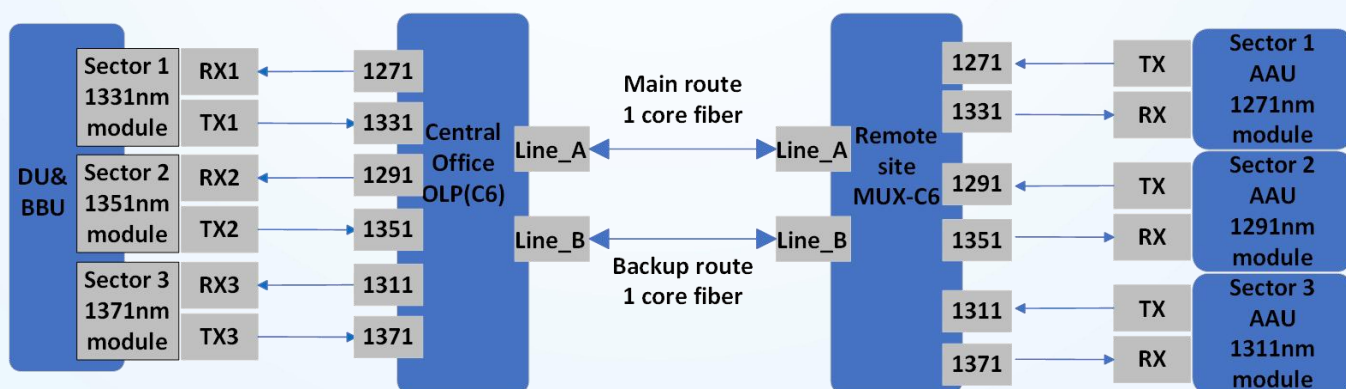


Pluggable card

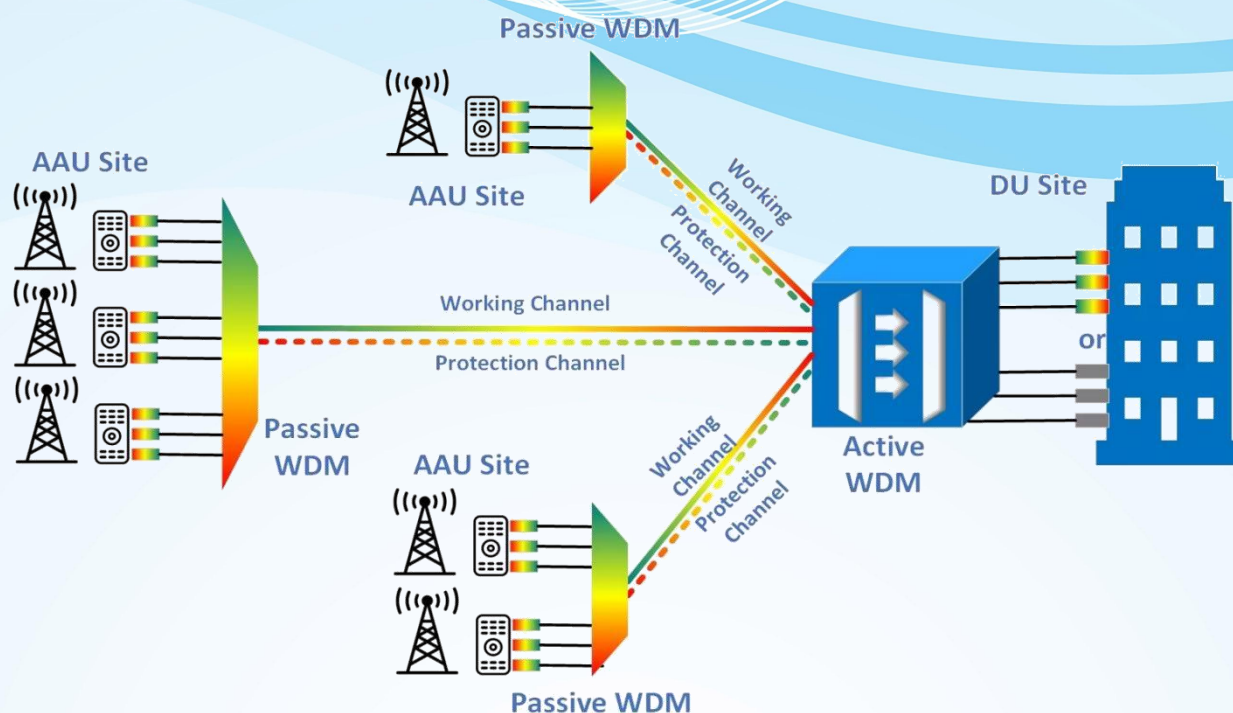


2RU: 483(D)×350(W)×88(H)mm

Application Topology



Application Scheme



10.1 Central office equipment

Product Specification

Function	Parameter			
	Model (DU&BBU side)	C6	C12	OLP-C6
Description	no protection		with protection	
Working wavelength	1271/1291/1311/1331/1351/1371nm	1271/1291/1311/1331/1351/1371/1471/1491/1511/1531/1551/1571nm	1271/1291/1311/1331/1351/1371nm	1271/1291/1311/1331/1351/1371/1471/1491/1511/1531/1551/1571nm
Insertion loss	≤2.0 dB	≤2.5dB	≤3.0 dB	≤3.5 dB
Channel insertion loss uniformity	≤1.0dB			
Channel bandwidth	ITU±6.5			
Adjacent channel isolation	> 25 dB			
Non-adjacent channel isolation	> 30 dB			
Polarization dependent loss	≤ 0.2dB			
Switching time	< 35ms			
Switch type	Latching			
Return loss	> 45 dB			
Connectors	LC/PC			
Operating voltage	DC-48V or AC220V			
Operating Temperature	-10 ~ 60 °C			
Storage Temperature	-40 ~ 85 °C			
Central Office Chassis Type	2RU standard 19"rack 442(W)×350(D)×88(H)mm 3RU standard 19"rack 442(W)×350(D)×132(H)mm 5RU standard 19"rack 442(W)×350(D)×220(H)mm			

10.2 Remote device



1U 3-slot chassis



Remote plug box

Product Specification

Function	Parameter			
	Model (AAU&RRU side)	C6	C12	C6P
Description	no protection		with protection	
Working wavelength	1271/1291/1311/1331/1351/1371nm	1271/1291/1311/1331/1351/1371/1471/1491/1511/1531/1551/1571nm	1271/1291/1311/1331/1351/1371nm	1271/1291/1311/1331/1351/1371/1471/1491/1511/1531/1551/1571nm
Insertion loss	≤2.0 dB	≤2.5dB	≤6.0 dB	≤6.5 dB
Channel insertion loss uniformity	≤1.0dB			
Channel bandwidth	ITU±6.5			
Adjacent channel isolation	> 25 dB			
Non-adjacent channel isolation	> 30 dB			
Polarization dependent loss	≤ 0.2dB			
Return loss	> 45 dB			
Connectors	LC/PC			
Operating Temperature	-40 ~ 85 °C			
Storage Temperature	-40 ~ 85 °C			
Working humidity	5% ~ 95% RH, no condensation			
Remote plug box size	Single layer size (suitable for C6 and C12): 130×100×25mm Double layer size (suitable for C18): 130×100×50mm			

11. Ethernet Switch Series

The ethernet switches series are 1RU standalone small-sized box switches launched for datacenters/campus/citynetworks. The series include two categories:1RU rack central switch and standalone din-rail industrial switch. This series switches adopts advanced hardware structure design and pass through dangerous environmental certification and comply with FCC and CE standards. The reliable industrial grade design could ensure continuous and stable operation of the automation system.

11.1 Standalone Din Rail Industrial Switch

Product Feature

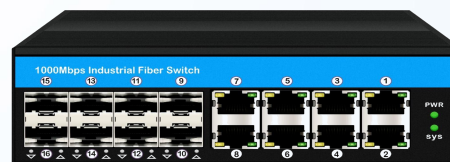
- 8 x 10/100/1000Base-T RJ-45 and 8 x 100/1000/2500Base-FX SFP Fiber Max
- Support POE Standard AF/AT/BT (15.4W/30W/60W/90W)
- Redundant input power 48-52VDC (POE) or 12-52VDC (Non-POE)
- Cable diagnostic, Measuring cable normal or broken point distance
- IP40 protection degree and EMC industrial grade
- Operating environment temperature is -40°C~75 ° c
- RTP, RSTP, MSTP, ITU-T G.8032 Ethernet Ring Protection Switching (ERPS) for redundant cabling
- Supports Green Ethernet IEEE802.3az EEE (Energy Efficient Ethernet) management to optimize the power consumption
- DHCP Server/Client/Relay/Snooping/Snooping option 82/Relay option 82
- QoS, Traffic classification QoS, CoS, bandwidth control for Ingress and Egress, Storm Control, DiffServ
- IEEE802.1q VLAN, MAC based VLAN, IP subnet based VLAN, Protocol based VLAN, VLAN translation, GVRP, MVR



IM4X88GW, Port type: 4*10GE/GE fiber ports
8*10/100/1000M network ports
Support Poe af/at/bt, Managed L2/L3



IM-21008GW, Port type:2*2.5GE/GE fiber ports
10*10/100/1000M network ports
Support Poe af/at/bt, Managed L2/L3



IM-FP888GW, Port type:8 *2.5GE/GE fiber ports
8*10/100/1000M Network ports
Support Poe af/at/bt, Managed L2/L3



IM-FP488GW, Port type:4 *2.5GE/GE fiber ports
8*10/100/1000M Network ports
Support Poe af/at/bt, Managed L2/L3

- Dynamic IEEE 802.3ad LACP Link Aggregation, Static Link Aggregation
- IGMP snooping V1/V2/V3, IGMP Filtering/ Throttling, IGMP query, IGMP proxy reporting, MLD snooping V1/V2
- Security : Port based and MAC based IEEE802.1X, RADIUS, ACL, TACACS+, HTTP/HTTPS, SSL/SSH v2
- Software upgrade via TFTP and HTTP, redundant firmware to avoid in case of upgrade failure
- Supports IEEE1588 PTP V2 for precise time synchronization to operate in Ordinary-Boundary, Peer to Peer Transparent Clock, End to End Transparent Clock, Master, Slave mode by each port
- RMON, MIB II, Port mirroring, Event syslog, DNS, NTP, IEEE802.1ab LLDP
- Supports IPv6 Telnet server /ICMP v6
- CLI, Web based management, SNMP v1/v2c/v3, Telnet server for management



IM-FP288BGW, Port type:2 *2.5GE/GE fiber ports
8*10/100/1000M Network ports
Support Poe af/at/bt, Support bypass D2*2B
Managed L2/L3



IM-FP244BGW, Port type:2 *2.5GE/GE fiber ports
4*10/100/1000M Network ports
Support Poe af/at/bt, Support bypass D2*2B
Managed L2/L3

11.2 Rack Central Switch

Product Feature

- Full Gigabit Ethernet Auto-sensing network ports(1-24ports)
- Flexible 10G/1000Mbps fiber port, available for multi ports (1-12ports)
- Support POE Standard AF/AT/BT (15.4W/30W/60W), total power is 340W max
- Redundant input power 110V-240VAC
- Cable diagnostic, Measuring cable normal or broken point distance
- IP30 protection degree and EMC industrial grade
- STP, RSTP, MSTP, ITU-T G.8032 Ethernet Ring Protection Switching (ERPS) for redundant cabling



OM4X2400
Port type: 4*10GE/GE
24*10/100/1000M Network ports
Managed L2/L3



OM042400
Port type: 4*1GE SFP fiber port
24*10/100/1000M Network ports
Managed L2/L3

- Supports Green Ethernet IEEE802.3az EEE (Energy Efficient Ethernet) management to optimize the power consumption
- DHCP Server/Client/Relay/Snooping/Snooping option 82/Relay option 82
- QoS, Traffic classification QoS, CoS, bandwidth control for Ingress and Egress, Storm Control, DiffServ
- IEEE802.1q VLAN, MAC based VLAN, IP subnet based VLAN, Protocol based VLAN, VLAN translation, GVRP, MVR
- Dynamic IEEE 802.3ad LACP Link Aggregation, Static Link Aggregation
- IGMP snooping V1/V2/V3, IGMP Filtering/ Throttling, IGMP query, IGMP proxy reporting, MLD snooping V1/V2
- Security : Port based and MAC based IEEE802.1X, RADIUS, ACL, TACACS+, HTTP/HTTPS, SSL/SSH v2
- Software upgrade via TFTP and HTTP, redundant firmware to avoid in case of upgrade failure
- Supports IEEE1588 PTP V2 for precise time synchronization to operate in Ordinary-Boundary, Peer to Peer Transparent Clock, End to End Transparent Clock, Master, Slave mode by each port
- RMON, MIB II, Port mirroring, Event syslog, DNS, NTP, IEEE802.1ab LLDP
- Supports IPv6 Telnet server /ICMP v6
- CLI, Web based management, SNMP v1/v2c/v3, Telnet server for management



IM122400

Port type: 14*1G SFP fiber ports
 24*10/100/1000M Network ports
 Managed L2/L3
 Industrial working temperature



OM4X24

Port type: 4*10GE SFP+ fiber port
 24*1GE SFP fiber port
 Managed L2/L3

12. Optical Module Series

Optical modules are used in telecommunications networks, data transmission networks, Ethernet, SDH/SONET, storage area networks (SAN), city area networks, wide area networks, CWDM/DWDM wavelength division transmission networks, and video surveillance fields. They meet corresponding industrial standards and specifications, and support speeds ranging from 155Mbps to 400Gbps, with optional transmission distances ranging from 550M to 120KM.

Coherent- Optical Module



100G-CFP



400G/200G/100G-CFP2



400G QSFP-DD ZR+

Package	Model	Speed	Wavelength
CFP	Acacia AC100-M01-250	100Gb/s	CFP,C Bad,COHERENT DWDM TUNABLE
CFP2	Acacia AC200-D13	200Gb/s	CFP2,C Bad,COHERENT DWDM TUNABLE
	HISILICON OM8669XX000	200Gb/s	CFP2,C Bad,Coherent,200G 1300 km & 100G 3000 km
	Acacia DP04CFP2-M30	400/200Gb/s	CFP2,C Bad,COHERENT DWDM TUNABLE
	Acacia DP04CFP2-M35	400/200Gb/s	CFP2,C Bad,COHERENT DWDM TUNABLE
	Acacia DP04CFP2-D15	400/200Gb/s	CFP2,C Bad,BIDI,COHERENT DWDM TUNABLE
	HISILICON OM8769XX200	400/200Gb/s	CFP2,C Bad,Coherent 400G 640 km & 200G 2000 km

5G Front-haul CWDM Transmission Optical Module

Product Name	Package	Wavelength	Interface	Model
25G SFP28 SR 100m	SFP28	850nm	Dual LC	GP-SP28-25G-85-100M
25G SFP28 LR 10km	SFP28	1310nm	Dual LC	GP-SP28-25G-31-10
25G SFP28 ER 40km	SFP28	1310nm	Dual LC	GP-SP28-25G-31-40
25G SFP28 BiDi LR 10km	SFP28	1270/1330nm	Single LC	GP-SP28-25G-B27/31-10
25G SFP28 BiDi ER 40km	SFP28	1270/1330nm	Single LC	GP-SP28-25G-B27/31-40
25G SFP28 CWDM LR 10km	SFP28	CWDM	Dual LC	GP-SP28-25G-Cxx-10
25G SFP28 CWDM ER 40km	SFP28	CWDM	Dual LC	GP-SP28-25G-Cxx-40
25G SFP28 DWDM LR 10km	SFP28	DWDM	Dual LC	GP-SP28-25G-Dxx-10
25G SFP28 DWDM ER 40km	SFP28	DWDM	Dual LC	GP-SP28-25G-Dxx-40

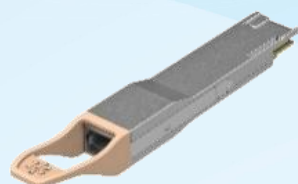


25G SFP28 C&DWDM



25G SFP28 BiDi

Data Center High Speed Optical Module



400G QSFP-DD SR8



200G QSFP-DD PSM8



100G QSFP28 LR4



100G CFP2 LR4



100G CFP4 LR4

Product Name	Package	Wavelength	Interface	Model
400G QSFP-DD SR8 100m	QSFP	850nm	MPO24	GP-QP-400G-85-100M
200G QSFP-DD SR8 100m	QSFP	850nm	MPO24	GP-QP-200G-85-100M
200G QSFP-DD PSM8 2km	QSFP-	1310nm	MPO24	GP-QP-200G-31-2
100G QSFP28 SR4 100m	QSFP28	850nm	MPO12	GP-QP28-100G-85-100M
100G QSFP28 PSM4 2km	QSFP28	1310nm	MPO12	GP-QP28-100G-31-2
100G QSFP28 PSM4 10km	QSFP28	1310nm	MPO12	GP-QP28-100G-31-10
100G QSFP28 CWDM4 2km	QSFP28	CWDM	Dual LC	GP-QP28-100G-Cxx-2
100G QSFP28 CWDM4 10km	QSFP28	CWDM	Dual LC	GP-QP28-100G-Cxx-10
100G QSFP28 LR4 10km	QSFP28	LWDM	Dual LC	GP-QP28-100G-Lxx-10
100G QSFP28 ER4 40km	QSFP28	LWDM	Dual LC	GP-QP28-100G-Lxx-40
100G CFP SR10 400m	CFP	850nm	MPO24	GP-CP-100G-85-400M
100G CFP LR4 10km	CFP	LWDM	Dual LC	GP-CP-100G-Lxx-10
100G CFP2 SR10 400m	CFP2	850nm	MPO24	GP-CP2-100G-85-400M
100G CFP2 LR4 10km	CFP2	LWDM	Dual LC	GP-CP2-100G-Lxx-10
100G CFP2 ER4 40km	CFP2	LWDM	Dual LC	GP-CP2-100G-Lxx-40
100G CFP4 SR4 100m	CFP4	850nm	MPO12	GP-CP4-100G-85-400M
100G CFP4 LR4 10km	CFP4	LWDM	Dual LC	GP-CP4-100G-Lxx-10
40G QSFP+ PSM4 2km	QSFP+	1310nm	MPO12	GP-QP1-40G-31-2
40G QSFP+ LR4 10km	QSFP+	CWDM	Dual LC	GP-QP1-40G-Cxx-10
40G QSFP+ ER4 40km	QSFP+	CWDM	Dual LC	GP-QP1-40G-Cxx-40

10G~16G Optical Module

Product Name	Package	Wavelength	Interface	Model
16G SFP+ SR 100m	SFP+	850nm	Dual LC	GP-SP1-16G-85-100M
16G SFP+ LR 10km	SFP+	1310nm	Dual LC	GP-SP1-16G-31-10
16G SFP+ ER 40km	SFP+	1550nm	Dual LC	GP-SP1-16G-55-40
16G SFP+ CWDM ER 40km	SFP+	CWDM	Dual LC	GP-SP1-16G-Cxx-40
16G SFP+ DWDM ER 40km	SFP+	DWDM	Dual LC	GP-SP1-16G-Dxx-40
10G SFP+ SR 300m	SFP+	850nm	Dual LC	GP-SP1-10G-85-300M
10G SFP+ LR 10km	SFP+	1310nm	Dual LC	GP-SP1-10G-31-10
10G SFP+ ER 40km	SFP+	1550nm	Dual LC	GP-SP1-10G-55-40
10G SFP+ ZR 80km	SFP+	1550nm	Dual LC	GP-SP1-10G-55-80
10G SFP+ BiDi LR 10km	SFP+	1270/1330nm	Single LC	GP-SP1-10G-B27/33-10
10G SFP+ BiDi ER 40km	SFP+	1270/1330nm	Single LC	GP-SP1-10G-B27/33-40
10G SFP+ BiDi ZR 60km	SFP+	1270/1330nm	Single LC	GP-SP1-10G-B27/33-60
10G SFP+ BiDi ZR 80km	SFP+	1490/1550nm	Single LC	GP-SP1-10G-B49/55-80
10G SFP+ CWDM LR 10km	SFP+	CWDM	Dual LC	GP-SP1-10G-Cxx-10
10G SFP+ CWDM ER 40km	SFP+	CWDM	Dual LC	GP-SP1-10G-Cxx-40



16G SFP+ C&DWDM



10G SFP+ Dual



10G SFP+ BiDi



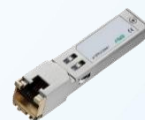
10G SFP+ C&DWDM

1.25G~2.5G Optical Module

Product Name	Package	Wavelength	Interface	Model
1.25G SFP 850nm 550m	SFP	850nm	Dual LC	GP-SP-1G-85-550M
1.25G SFP 1310nm 2km	SFP	1310nm	Dual LC	GP-SP-1G-31-2
1.25G SFP 1310nm 20km	SFP	1310nm	Dual LC	GP-SP-1G-31-20
1.25G SFP 1310nm 40km	SFP	1310nm	Dual LC	GP-SP-1G-31-40
1.25G SFP 1550nm 40km	SFP	1550nm	Dual LC	GP-SP-1G-55-40
1.25G SFP 1550nm 80km	SFP	1550nm	Dual LC	GP-SP-1G-55-80
1.25G SFP 1550nm 120km	SFP	1550nm	Dual LC	GP-SP-1G-55-120
1.25G SFP BiDi 2km	SFP	1310/1550nm	Single LC	GP-SP-1G-B31/55-2
1.25G SFP BiDi 20km	SFP	1310/1550nm	Single LC	GP-SP-1G-B31/55-20
1.25G SFP BiDi 40km	SFP	1310/1550nm	Single LC	GP-SP-1G-B31/55-40
1.25G SFP BiDi 40km	SFP	1490/1550nm	Single LC	GP-SP-1G-B49/55-40
1.25G SFP BiDi 80km	SFP	1310/1550nm	Single LC	GP-SP-1G-B31/55-80



1.25G&2.5G SFP Dual



10/100/1000Base-T SFP



1.25G&2.5G SFP BiDi



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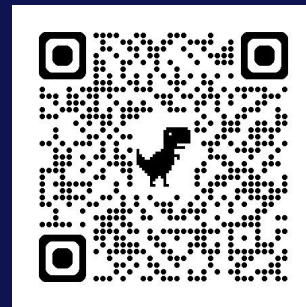
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