Optical transport

Optical modules

Small Form factor Pluggable (SFP)

- Supported speed 100 ~ 2500M
- Supported by any modern equipment

Optical modules - 100/1000M

Form factor	Type	Max. speed	Operating wavelength, nm	Max. range, Km	Optical budget, dB	Connector	Standards
SFP	Copper	1Gb	-	0.1	-	RJ-45	Fe Gbe
	Dual fiber	155Mb	850	up to 2	up to 9	2 x LC	Fe STM-1
			1310	up to 80	up to 34		
			1550	up to 200	up to 47		
		1.25Gb	850	up to 0.55	up to 9		Fe Gbe STM-1 STM-4 FC1x
			1310	up to 40	up to 22		
			1550	up to 160	up to 40		

Optical modules - 100/1000M

Form factor	Type	Max. speed	Operating wavelength, nm	Max. range, Km	Optical budget, dB	Connector	Standards
SFP	WDM	155Mb	1310/1490	up to 80	up to 21	1 x SC*	Fe STM-1
			1310/1550		up to 28		
		1.25Gb	1310/1490	up to 40	up to 21		Fe Gbe STM-1 STM-4 FC1x
			1310/1550				
			1490/1550	up to 80	up to 24		
			1510/1570	up to 140	up to 34		
	CWDM		1270-1450	up to 120	up to 40	2 x LC	
			1470-1610	up to 160			
	DWDM		1528-1564				

Optical modules – 2.5Gb

Form factor	Type	Max. speed	Operating wavelength, nm	Max. range, Km	Optical budget, dB	Connector	Standards
SFP	Dual fiber	2.5Gb	1310	up to 40	up to 22	2 x LC	Fe Gbe STM-1 STM-4 STM-16 FC1x FC2x CPRI 2.5 FC1x
			1550	up to 120	up to 28		
	WDM		1310/1490	up to 40	up to 18	1 x SC*	
			1310/1550				
			1490/1550	up to 80	up to 26		
	CWDM		1270-1610	up to 120	up to 34	2 x LC	
	DWDM		1528-1564	up to 160	up to 41		

Small Form factor Pluggable Plus (SFP+)

- Supported speed 1~16G
- Supported by any modern equipment

X Form factor Pluggable Plus (XFP)

- Supported 10G speed
- Currently, there is almost no use

10Gb optical modules

Form factor	Type	Max. speed	Operating wavelength, nm	Max. range, Km	Optical budget, dB	Connector	Standards
SFP+	DWDM	10Gb	-	0,02	-	RJ-45	10Gbe
	DWDM			0,003		-	Gbe, 10Gbe
	CWDM	11.1Gb	850	0,3	up to 5	2 x LC	Gbe 10Gbe OBSAI 3G OBSAI 6G CPRI 3G CPRI 6G FC 4x FC 8x FC 10G
			1310	60	up to 24		
			1550	100	up to 26		
	CWDM		1270/1330	up to 60	up to 21	1 x LC	
			1270-1350			2 x LC	
			1370-1390	up to 45			
			1410-1430	up to 20			
			1450	up to 10			
			1470-1610	up to 70	up to 23		
	WDM		1528-1564	up to 80	up to 24		
			Tunable				
XFP	Dual fiber	11.1Gb	850	0,3	up to 5	2 x LC	10Gbe FC 8x FC 10G OTU2
			1310	60	up to 24		
			1550	100	up to 26		
	WDM		1270/1330	up to 60	up to 21	1 x LC	
	CWDM		1270-1350		up to 23	2 x LC	
			1370-1390	up to 45			
			1410-1430	up to 20			
			1450	up to 10			
			1470-1610	up to 70			
	DWDM		1528-1564	up to 80	up to 24		
			Tunable				

Small Form factor Pluggable Plus 16G (SFP+16)

- Supported speed 10Gb / FC4x/8x/16x

Small Form factor Pluggable (SFP28)

- Supported speed 25G/FC 32x

SFP Writer

- Programmer for SFP/SFP+ modules

Optical modules 16/32GB

Form factor	Type	Max. speed	Operating wavelength, nm	Max. range, Km	Optical budget, dB	Connector	Standards
SFP+16	Dual fiber	14.025Gb	850	0.1	up to 14	2 x LC	10Gbe FC 4x FC 8x FC 16x
			1310	20			
	CWDM		1470-1610	up to 40	up to 23		
	DWDM		1528-1564		up to 24		
SFP28	Dual fiber	25G	1300	up to 80	up to 21		
	WDM		1270/1330	up to 40			
			1295/1309	up to 80			
	Dual fiber	32G	850	up to 0.1	up to 5		
			1310	up to 25	up to 9		OTU 32GFC 25Gbe CPRI 10
	CWDM	25G	1270-1610	up to 10	up to 5		25Gbe CPRI 10
	WDM		1270/1330	up to 40	up to 21		25Gbe CPRI 10
			1295/1309	up to 80	up to 31		25Gbe CPRI 1

Quad Small Form-Factor Pluggable Plus (QSFP+)

- Supported speed 10 / 40G / 56G
- The most common form factor for 40G

Direct Attach Cable (QSFP+DA)

- Supported speed 10 / 40G / 56G
- The most common form factor for 40G

Active Optical Cable (QSFP+AOC)

- Supported speed 10 / 40G / 56G
- The most common form factor for 40G

Optical modules 40-56GB

Form factor	Type	Max. speed	Operating wavelength, nm	Max. range, Km	Optical budget, dB	Connector	Standards
QSFP+	DAC	up to 40Gb	-	up to 0,003	-	-	10Gbe 40Gbe
	DAC -> 4 x SFP+						
	AOC	up to 56Gb	850	up to 0,1			
	AOC – 4 x SFP+	up to 40Gb					
	SR4			up to 0,4	up to 3	REM	
	PSM4		1264-1324	up to 10	up to 24		
	LR4			up to 20	up to 5	2 x LC	
	ER4-light			up to 25	up to 9		
	ER4			up to 40	up to 16		
	ZR4		1295.56-1309.14	up to 80	up to 28		

Quad Small Form factor Pluggable 28 (QSFP28)

- Supported speed 100G/OTU4

Direct Attach Cable (QSFP28-DA)

- Supported speed 100G/OTU4
- The most common form factor for 100G

Active Optical Cable (QSFP28-AOC)

- Supported speed 100G/OTU4
- The most common form factor for 100G

100GB/112GB optical modules

Form factor	Type	Max. speed	Operating wavelength, nm	Max. range, Km	Optical budget, dB	Connector	Standards
QSFP28	DAC	up to 112G	-	up to 0.003	-	-	100Gbe
	DAC -> 4 x SFP28						100Gbe 25Gbe
	AOC	up to 103G	850	up to 0.07			
	SR4			up to 0.1	up to 3	REM	
	CWDM4		1270-1330	up to 20	up to 8	2 x LC	100Gbe OTU4 25Gbe
	PSM4		1294-1308	up to 10			
	LR4	up to 112G		up to 20	up to 6		
	ER4-light			up to 30	up to 12		
	ER4			up to 40	up to 16		
	DWDM	up to 100G	1528-1564	up to 80	up to 7		
	ZR4		1294-1308		up to 31		
	DR1		1310	up to 0.5	up to 3.1		
	FR1			up to 2	up to 4.3		
	WDM		1270/1330	10	up to 6.3		
			1304/1309	30	up to 7.4		
			1309/1304	40	up to 15.5		

Quad Small Form factor Pluggable 56 (QSFP56)

- Supported speeds 200G

QSFP Double Density (QSFP-DD)

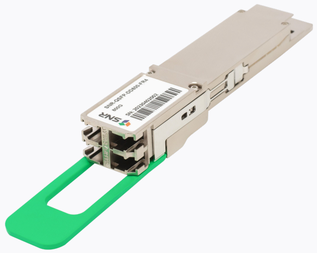
- Supported speeds 400G

Optical modules – 200GB

Form factor	Type	Max. speed	Operating wavelength, nm	Max. range, Km	Optical budget, dB	Connector	Standards
QSFP56	AOC	200G	-	0.03	-	-	200Gbe
	DAC			0.005			
	SR4		850	up to 0.1	up to 6.5	REM	
	FR4		1270-1330	up to 2	up to 4.8	LC	
	LR4		1310	up to 10	up to 7.3		

Optical modules - 400GB

Form factor	Type	Max. speed	Operating wavelength, nm	Max. range, Km	Optical budget, dB	Connector	Standards
QSFP-DD	AOC	400G	-	0.07	-	-	400Gbe
	SR8		850	up to 0.3	0.5	REM	
	DR4		1310	up to 0.5			
	FR4			up to 2	2	LC	
	CWDM4		1270	up to 10	10		
	ER4		1290	up to 30	-		
	COHERENT		1310	120			
			1330	480			
OSFP	AOC		-	up to 0.07	0.1	-	
	SR8		850	up to 0.1	0.5	REM	
	DR4		1310	up to 0.5			
	FR4			up to 2	2	LC	
	CWDM4			???	up to 10		



QSFP Double Density (QSFP-DD800)

- Supported speeds 800G

Optical modules - 800GB

Form factor	Type	Max. speed	Operating wavelength, nm	Max. range, Km	Optical budget, dB	Connector	Standards
QSFP-DD800	AOC	800G	-	0.03	-	-	800Gbe
	SR8		850	up to 0.1	0.5	REM/Dual REM	
	DR8		1310	up to 0.5	-		
	FR			up to 2	2		
	LR			up to 10	10		
	FR8		WDM	up to 2	-	LC	
	AOC		-	up to 0.03	0.1	-	
	SR8		850	up to 0.1	0.5	REM/Dual REM	
	DR8		1310	up to 0.5			
	LR			up to 10	2		
	FR8		WDM	up to 2	10	LC	

The advantages of SNR optical modules

Compatibility of transceivers with equipment from well-known global manufacturers

The networks of our clients include switches, routers, servers, and storage systems from a variety of different manufacturers. The SNR brand offers optical modules that are compatible with virtually any equipment brand, supporting different form factors and speeds

Reliability and high quality of the produced products

Product quality is our top priority. That's why we carefully select component suppliers, use fully automated assembly lines, and test every assembled module. From 2015 to 2018, the module failure rate was less than 0.06%

A vast and modern product range

It doesn't matter which equipment you prefer – whether it's the time-tested 10G or the latest innovations with 200G/400G/800G ports. We are ready to offer modules for any speeds and form factors, ranging from 100M to 800G

Extended standard warranty

For all SNR modules, we are ready to extend the standard 3-year warranty by an additional one or two years

Customization according to your requirements

Upon request, we can create modules with your labels and part numbers. For more details, please contact your manager

Inventory program and custom orders supply

The SNR warehouse stocks a large quantity of the most popular transceiver models, so in most cases, delivery times are relatively short. Models in limited supply can always be reserved from the next shipment

Media converters

CVT-100 Series Media Converters

- Supported speeds: 100base-FX, 10/100base-T

CVT-100 mini series media converters

- Supported speeds: 100base-FX, 10/100base-T

Media converters – 100MB

Series	Optical link speed, Mb	Copper link speed, Mb	Wavelengths, nm	Max. range, Km	Availability of LFP	MTU	DIP availability
SNR-CVT-100AB	100	10/100	1310, 1550	20	Yes	1600	Yes
SNR-CVT-100AB-V2					No	1520	No
SNR-CVT-100AB-V3							
SNR-CVT-100AB-mini							
BO-CVT-100A					Yes	1600	Yes
BO-CVT-100B							

CVT-1000 Series Media Converters

- Supported speed 1000base-FX, 100/1000base-T

CVT-1000 mini series media converters

- Supported speed 1000base-FX, 100/1000base-T

Medaconverters - 1000MB

Series	Optical link speed, Mb	Copper link speed, Mb	Wavelengths, nm	Max. range, Km	Availability of LFP	MTU	DIP availability
SNR-CVT-1000SFP	100/1000	10/100/1000	Depends on SFP	Depends on SFP	Yes	9000	Yes
SNR-CVT-1000SFP-V2	1000						
SNR-CVT-1000SFP-I							
SNR-CVT-1000SFP-POE	100/1000						
SNR-CVT-1000A			1310	20 km			
SNR-CVT-1000B			1550				
SNR-CVT-2SFP	100/1000/2500	-	Depends on SFP	Depends on SFP	No		No
BO-CVT-1000SFP	100/1000	100/1000			Yes		Yes
BO-CVT-1000A-LFP			1310	20 km			
BO-CVT-1000B-LFP			1550				

Media Converters - Chassis

- Accommodates up to 14 media converters, supplied with one or two power supply units

Unmanaged 10G media converters SNR-CVT-SFP+

- Supported 10Gbase-FX speed
- Made in a reduced format for easy installation

Medaconverters - 10GB

Series	Ports	Control availability	Regeneration	Max. range, km	Availability of LFP
SNR-CVT-SFP+	2 x SFP+	Yes	3R	Depends on SFP	Yes
SNR-CVT-SFP+V2		No	2R		
SNR-CVT-SFP+UTP-V2	SFP+ RJ45				

Advantages of SNR media converters

Reliability and high quality of the produced products

Product quality is our top priority. This is why our converters are equipped with protection for copper ports against lightning strikes and other electrical discharges

A vast and modern product range

We can offer any converters from 100Mb to 10G, ranging from standard to industrial models

Extended standard warranty

For all SNR converters, we are ready to extend the standard 3-year warranty by an additional one or two years

Inventory program and custom order supplies

All 100Mb/1G models are always in stock. Industrial or 10G series are available for delivery in the shortest possible time

Compatibility with SFP modules from any manufacturer

Our 1000Mb or 10G media converters can be used with modules from any manufacturer

xWDM solutions

Thin film filters

- A passive device designed for operation in CWDM networks
- The filter allows for the removal or addition of a single wavelength
- Two filters are required to raise a duplex channel

MUX/DMUX

- A passive device designed for operation in CWDM networks
- It allows for the combining/separating of channels with different wavelengths for transmission through one or two optical fibers (OF)
- It allows for the transmission of up to 9 duplex channels through a single optical fiber (OF)
- The insertion loss will depend on the number of channels

OADM (Optical ADD/DROP Module)

- A passive device designed for the input/output of a single duplex channel
- It is manufactured for single-fiber and dual-fiber lines

Model range

Part number	Type of equipment	Quantity OF	Operating wavelength, nm	Max. number of channels	Typical attenuation	
SNR-CWDM-MDM-X/M	Multiplexer/ Demultiplexer	1	1270~1610	9	2	1.6dB
					3	2.2dB
SNR-CWDM2-MDM-X/Y		2		18	8	3dB
					4	1.5dB
SNR-CWDM-DRP1-10GR XXXX/YYYY	OADM	1		1	8	2.6dB
					16	3.2dB
SNR-CWDM2-DRP1-10GR XXXX/YYYY		2			1	1.5dB

Optical modules

- Wavelength range: 1270~1610 nm
- Transmission speeds: Ethernet:1/10G; FC: x1/4/8/16; STM: 1/4/16/16
- Versions: SFP/SFP+/SFP16
- Operating temperature: -5~+70C

MUX/MDM

- A passive device designed for operation in DWDM networks
- It allows for the combining/separating of channels with different wavelengths for transmission through one or two optical fibers (OF)
- The insertion loss will depend on the number of channels

OADM (Optical ADD/DROP Module)

- A passive device designed for the input/output of a single duplex channel
- It is manufactured for single-fiber or dual-fiber lines

Model range

Part number	Type of equipment	Quantity OF	Operating wavelength, nm	Maximum number of channels	Typical attenuation	
SNR-DWDM1-MDM-X	MUX/DMUX	1	1563~1564	48	1	3.2dB
					8	4.2dB
SNR-DWDM2-MDM-X		2		96	8	3.5dB
					16	4.6dB
SNR-DWDM-OADM2-X					32	5.7dB
					48	6dB
SNR-CWDM2-DRP1-10GR	OADM	1	-	1	1	1.5dB
SNR-DWDM-B/R	B/R filter	-		-	-	1.5dB

Passive chromatic dispersion compensators

- Wavelength operating range: 1563.86-1563.86 nm
- Chromatic dispersion compensation from 20 to 160 km
- Low attenuation level
- Operating temperature: -10 ~ +70C

Model range

Part number	Type	Compensated dispersion (ps/nm)	Range, km	Typical attenuation, dB
SNR-DCM-20	Fiber with negative dispersion	-330	20	3.4
SNR-DCM-40		-658	40	5.2
SNR-DCM-60		-985	60	6.8
SNR-DCM-80		-1315	80	8.3
SNR-DCM-100		-1644	100	9.7
SNR-DCM-120		-1980	120	10.9
SNR-DCM-160		-2670	160	13.1

EDFA power amplifiers

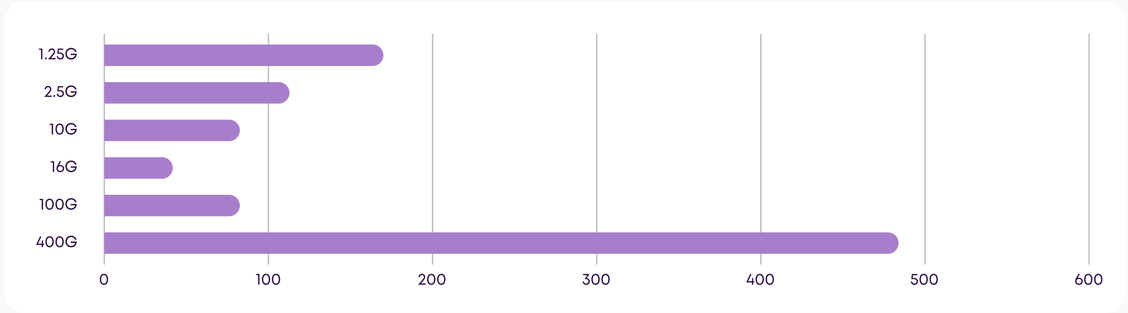
- Wavelength range: 1529 ~ 1563 nm
- Operating mode: APC and AGC
- Power supply units: 2 x AC (DC)
- Cooling: Passive

Optical modules

- Wavelength range: 1270~1610 nm
- Transmission speeds: Ethernet:1/10G; FC: x1/4/8/16; STM: 1/4/16/16
- Versions: SFP/SFP+/SFP16
- Operating temperature: -5~+70C

Model range

Part number	Type of equipment	Input power, dBm	Power output, dBm	Gain coefficient, dB
BO-EDFA-DB	Booster	-6 ~ +3	+10 ~ +17	14 ~ 23
BO-EDFA-DA	Pre-amplifier	-8 ~ -30 dB		19 ~ 29 dB



Advantages of our xWDM solutions

Over 10 years of experience in project development for network densification

Preparation of a technical solution tailored to your requirements.

Competitive product pricing

Reliability and high quality of the produced products

Compatibility with various customer equipment

Prompt and highly qualified TAC (Technical Assistance Center)

About the company

Since its establishment in 2006, the company has become one of the leading global suppliers of networking and switching equipment, with its own research and development (R&D) and manufacturing facilities.

SNR offer a wide range of our own products and turnkey solutions to meet the needs of clients.

- Data transmission networks and corporate IT infrastructure
- Solutions for mobile operators
- Optical transport networks (DWDM)
- Data center solutions
- Cloud solutions and network security
- Voice and unified communication solutions

Commitment to continuous development and innovation enables us to provide our clients with the most modern and efficient solutions.

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