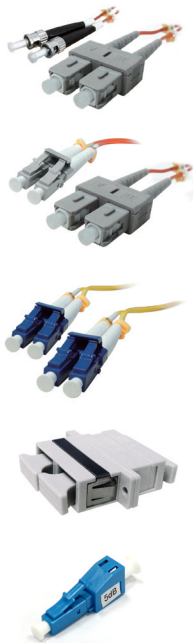


# Product Selection Guide

## Accessories

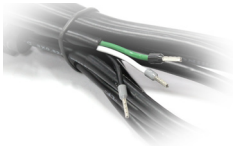


Fiber Patch Cord(FPC)/ Fiber Patch Adapter(FCA)/ Fiber Attenuator(FAT)					
Model Name	Optical Connector	Multi-mode	Single-mode	Diameter	Specification
FPC-SCSC-MM3M	SC / SC	•		62.5/125 μm	3 m
FPC-SCSC-SS3M	SC / SC		•	9/125 μm	3 m
FPC-SCLC-MM3M	SC / LC	•		62.5/125 μm	3 m
FPC-SCLC-SS3M	SC / LC		•	9/125 μm	3 m
FPC-SCST-MM3M	SC / ST	•		62.5/125 μm	3 m
FPC-SCST-SS3M	SC / ST		•	9/125 μm	3 m
FPC-LCLC-MM3M	LC / LC	•		62.5/125 μm	3 m
FPC-LCLC-SS3M	LC / LC		•	9/125 μm	3 m
FCA-SC-MM	SC / SC	•		62.5/125 μm	-
FCA-SC-SS	SC / SC		•	9/125 μm	-
FAT-LC-SS05	LC / LC		•	9/125 μm	5 db
FAT-LC-SS10	LC / LC		•	9/125 μm	10 db
FAT-LC-SS15	LC / LC		•	9/125 μm	15 db
FAT-LC-SS20	LC / LC		•	9/125 μm	20 db



DIN-Rail Power Supply	
Regular Type	
Model Name	Description
NDR-75-12	75W DIN-Rail 12VDC/6.3A (voltage adjustable 12~14VDC) Power Supply with universal 100 to 240VAC input, -20~70°C
NDR-75-24	75W DIN-Rail 24VDC/3.2A (voltage adjustable 24~28VDC) Power Supply with universal 100 to 240VAC input, -20~70°C
NDR-75-48	75W DIN-Rail 48VDC/1.6A (voltage adjustable 48~55VDC) Power Supply with universal 100 to 240VAC input, -20~70°C
NDR-120-12	120W DIN-Rail 12VDC/10A (voltage adjustable 12~14VDC) Power Supply with universal 100 to 240VAC input, -20~70°C
NDR-120-24	120W DIN-Rail 24VDC/5A (voltage adjustable 24~28VDC) Power Supply with universal 100 to 240VAC input, -20~70°C
NDR-120-48	120W DIN-Rail 48VDC/2.5A (voltage adjustable 48~55VDC) Power Supply with universal 100 to 240VAC input, -20~70°C
SDR-240-48	240W DIN-Rail 48VDC/5A Power Supply with 100 to 240VAC input , -25~70°C
SDR-480-48	480W DIN-Rail 48VDC/10A Power Supply with 100 to 240VAC input , -25~70°C
Extended Type	
Model Name	Description
DRP024V060W1BN	60W DIN-Rail 24VDC/2.5A Power Supply with universal 100 to 240VAC input, extended type, -25~80°C
DRP024V120W1BN	120W DIN-Rail 24VDC/5A Power Supply with universal 100 to 240VAC input, extended type, -25~80°C
DRP024V240W1BN	240W DIN-Rail 24VDC/10A Power Supply with universal 100 to 240VAC input, extended type, -25~80°C
DRP024V480W1BN	480W DIN-Rail 24VDC/20A Power Supply with universal 100 to 240VAC input, extended type, -25~80°C
DRP048V060W1BN	60W DIN-Rail 48VDC/1.25A Power Supply with universal 100 to 240VAC input, extended type, -25~80°C
DRP048V120W1BN	120W DIN-Rail 48VDC/2.5A Power Supply with universal 100 to 240VAC input, extended type, -25~80°C
DRP048V240W1BN	240W DIN-Rail 48VDC/5A Power Supply with universal 100 to 240VAC input, extended type, -25~80°C
DRP048V480W1BN	480W DIN-Rail 48VDC/10A Power Supply with universal 100 to 240VAC input, extended type, -25~75°C

# Product Selection Guide



Power Cord with Ferrule terminal (For Din-Rail Power Supply)	
Model Name	Description
PCF-AU	Power Cord with Ferrule terminal, AU plug
PCF-UK	Power Cord with Ferrule terminal, UK plug
PCF-US	Power Cord with Ferrule terminal, US plug
PCF-EU	Power Cord with Ferrule terminal, EU plug
PCF-JP	Power Cord with Ferrule terminal, JP plug

Power Adapter	
Model Name	Description
PAA-121000	12VDC/1000mA 12W Power Adapter with universal 100 to 240VAC input, US plug, 0~40°C
PAE-121000	12VDC/1000mA 12W Power Adapter with universal 100 to 240VAC input, EU plug, 0~40°C
PAA-482500	48VDC/2500mA 120W Power Adapter with universal 100 to 240VAC input, US power cord, -30~70°C
PAE-482500	48VDC/2500mA 120W Power Adapter with universal 100 to 240VAC input, EU power cord, -30~70°C
PAX-482500	48VDC/2500mA 120W Power Adapter with universal 100 to 240VAC input, without power cord, -30~70°C
PAA-502400	50VDC/2400mA 120W Power Adapter with universal 100 to 240VAC input, US power cord, -10~50°C
PAE-502400	50VDC/2400mA 120W Power Adapter with universal 100 to 240VAC input, EU power cord, -10~50°C

\*Note: Other plugs upon request.



M-Series Cables and connectors		
Model Name	Description	Cable Length
M12C-4M4M-300	4-pin M12 Male to 4-pin M12 Male IP-67 Ethernet Cable, 3m, A-coding	3 m
M12C-4M4F-1000	4-pin M12 Male to 4-pin M12 Female IP-67 Ethernet Cable, 10m, A-coding	10 m
M12C-4M4F-3000	4-pin M12 Male to 4-pin M12 Female IP-67 Ethernet Cable, 30m, A-coding	30 m
M12C-4MRJ-300	4-pin M12 Male to RJ45 plug Ethernet Cable, 3m, A-coding	3 m
M12C-4M4M-300D	4-pin M12 Male to 4-pin M12 Male IP-67 Ethernet Cable, 3m, D-coding	3 m
M12C-4M4F-1000D	4-pin M12 Male to 4-pin M12 Female IP-67 Ethernet Cable, 10m, D-coding	10 m
M12C-4M4F-3000D	4-pin M12 Male to 4-pin M12 Female IP-67 Ethernet Cable, 30m, D-coding	30 m
M12C-4MRJ-300D	4-pin M12 Male to RJ45 Plug Ethernet Cable, 3m, D-coding	3 m
M12C-5MDB9-300	5-pin M12 Male to DB9 console Cable, 3m, A-coding	3 m
M12C-5M00-300	5-pin M12 Male to Tin-plated Bare Wire Power Cable, 3m, A-coding	3 m
M12C-5M5F-1000	5-pin M12 Male to 5-pin M12 Female IP-67 Cable, 10m, A-coding	10 m
M12C-5M5F-3000	5-pin M12 Male to 5-pin M12 Female IP-67 Cable, 30m, A-coding	30 m
M12C-8M8M-300	8-pin M12 Male to 8-pin M12 Male IP-67 Ethernet Cable, 3m, A-coding	3 m
M12C-8M8F-1000	8-pin M12 Male to 8-pin M12 Female IP-67 Ethernet Cable, 10m, A-coding	10 m
M12C-8M8F-3000	8-pin M12 Male to 8-pin M12 Female IP-67 Ethernet Cable, 30m, A-coding	30 m
M12C-8MRJ-300	8-pin M12 Male to RJ45 plug Ethernet Cable, 3m, A-coding	3 m
M12C-8M8M-300X	8-pin M12 Male to 8-pin M12 Male IP-67 Ethernet Cable, 3m, X-coding	3 m
M12C-8M8F-1000X	8-pin M12 Male to 8-pin M12 Female IP-67 Ethernet Cable, 10m, X-coding	10 m
M12C-8M8F-3000X	8-pin M12 Male to 8-pin M12 Female IP-67 Ethernet Cable, 30m, X-coding	30 m
M12C-8MRJ-300X	8-pin M12 Male to RJ45 plug Ethernet Cable, 3m, X-coding	3 m
M23C-5M00-300	5-pin M23 Male to Tin-plated Bare Wire Power Cable, 3m, A-coding	3 m
7/8C-5F00-300	5-pin 7/8 inch Female to Tin-plated Bare Wire Power Cable, 3m, A-coding	3 m
M12P-4MD	4-pin M12 Male Assembled Plug, Soldering type, D-coding	-
M12P-4MD-C	4-pin M12 Male Assembled Plug, IDC type, D-coding	-
M12P-4FS-S	4-pin M12 Female Assembled Plug, Screw type, S-coding	-
M12P-5MA	5-pin M12 Male Assembled Plug, Soldering type, A-coding	-

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M12P-5MA-C	5-pin M12 Male Assembled Plug, IDC type, A-coding	-
M12P-5FA	5-pin M12 Female Assembled Plug, Soldering type, A-coding	-
M12P-5FA-C	5-pin M12 Female Assembled Plug, IDC type, A-coding	-
M12P-8MA	8-pin M12 Male Assembled Plug, Soldering type, A-coding	-
M12P-8MA-C	8-pin M12 Male Assembled Plug, IDC type, A-coding	-
M12P-8FA	8-pin M12 Female Assembled Plug, Soldering type, A-coding	-
M12P-8FA-C	8-pin M12 Female Assembled Plug, IDC type, A-coding	-
M12P-8MX-C	8-pin M12 Male Assembled Plug, IDC type, X-coding	-
M23P-5MA	5-pin M23 Male Assembled Plug, Soldering type, A-coding	-
M23P-5MAR-S	5-pin M23 Male Assembled Plug, Screw type, A-coding, right angled	-
7/8P-5FA	5-pin 7/8 inch Female Assembled Plug, Soldering type, A-coding	-
7/8P-5FAR-S	5-pin 7/8 inch Female Assembled Plug, Screw type, A-coding, right angled	-



RF Antenna Base (Magnetic)		
Model Name	Description	Cable Length
RFB-M2-150	N Female Magnetic WLAN RF Antenna Base, Cable length 1.5m, with SMA Male RS connector	1.5 m
RFB-M2-1000	N Female Magnetic WLAN RF Antenna Base, Cable length 10m, with SMA Male RS connector	10 m
RFB-M3-150	SMA Female RS Magnetic WLAN RF Antenna Base, Cable length 1.5m, with SMA Male RS connector	1.5m



RF Cable		
Model Name	Description	Cable Length
RFC-SFR-SMR-1000	Low loss RF Cable, Cable length 10m, RP-SMA Female to RP-SMA Male connector	10 m
RFC-SF-SMR-150	Low loss RF Cable, Cable length 1.5m, SMA Female to RP-SMA Male connector	1.5 m
RFC-SM-SMR-150	Low loss RF Cable, Cable length 1.5m, SMA Male to RP-SMA Male connector	1.5 m
RFC-NM-SMR-150	Low loss RF Cable, Cable length 1.5m, N Male to RP-SMA Male connector	1.5 m
RFC-NM-SMR-500	Low loss RF Cable, Cable length 5m, N Male to RP-SMA Male connector	5m
RFC-NM-SMR-1000	Low loss RF Cable, Cable length 10m, N Male to RP-SMA Male connector	10 m
RFC-NF-NM-50	Low loss RF Cable, Cable length 0.5m, N Female to N Male connector	0.5 m
RFC-NF-NM-500	Low loss RF Cable, Cable length 5m, N Female to N Male connector	5 m
RFC-NF-NM-1000	Low loss RF Cable, Cable length 10m, N Female to N Male connector	10 m
RFC-NM-NM-150	Low loss RF Cable, Cable length 1.5m, N Male to N Male connector	1.5m



RF Surge Protector	
Model Name	Description
RFP-NF-NM-WAG	High-power RF Surge Protector, 0~6GHz, N Female to N Male connector



RF Adapter	
Model Name	Description
RFC-SF-SM-OR	RF Right Angle Adapter, SMA Female to SMA Male connector
RFC-SFR-SM-0	RF Adapter, RP SMA Female to SMA Male connector
RFC-SFR-SMR-OR	RF Right Angle Adapter, RP-SMA Female to RP-SMA Male connector
RFC-SM-NF-0	RF Adapter, SMA Male to N Female connector
RFC-SMR-NF-0	RF Adapter, RP-SMA Male to N Female connector
RFC-SM-NM-0	RF Adapter, SMA Male to N type Male connector

# Product Selection Guide



## WLAN RF Antenna (Outdoor Panel Type)

Model Name	Description
RFA-P14-NF2-WA	Outdoor High-gain Panel Antenna, MIMO,5GHz, 14dbi max., N Female connector x2
RFA-P12-NF-WG	Outdoor High-gain Panel Antenna, 2.4GHz, 12dbi max., N Female connector
RFA-P14-NF-WA	Outdoor High-gain Panel Antenna, 5GHz, 14dbi max., N Female connector
RFA-P13-NF2-WG	Outdoor High-gain Panel Antenna, 2.4GHz, 13dBi max, N-Female connector X2



## WLAN RF Antenna (Omni - Directional)

Model Name	Description
RFA-O7-NM-WG	Omni-directional High-gain Dipole Antenna, 2.4GHz, 7dBi max, N Male connector
RFA-O9-NM-WG	Omni-directional High-gain Dipole Antenna, 2.4GHz, 9dBi max, N Male connector
RFA-O5-NM-WA	Omni-directional High-gain Dipole Antenna, 5GHz, 5dBi max, N Male connector
RFA-O10-NM-WA	Omni-directional High-gain Dipole Antenna, 5GHz, 10dBi max, N Male connector
RFA-O12-NF-WA	Omni-directional High-gain Dipole Antenna, 5GHz, 12dBi max, N Female connector with wall-mount bracket



## RF Antenna (Dome Type)

Model Name	Description
RFA-D9-SM-WG	WLAN RF Dome Antenna 2.4GHz, 9dbi max, 2.4GHz, SMA Male connector
RFA-D28-SM-AG-3M	GPS Active Antenna,1575 MHz, 28dBi max, Magnetic with 3m SMA Male cable



## RF Antenna (Roof Type)

Model Name	Description
RFA-O5-SM-W4G	Rooftop/Outdoor High Performance Omni Antenna for 3G/4G applications 5dBi max, SMA Male connector
RFA-O4-SMR-WG	Rooftop/Outdoor High Performance Omni Antenna, 2.4GHz, 4dBi max, RP-SMA Male connector
RFA-O5-SMR-WA	Rooftop/Outdoor High Performance Omni Antenna, 5 GHz, 5dBi max, RP-SMA Male connector
RFA-O4-SMR2-WG	Rooftop/Outdoor High Performance Omni Antenna, MIMO 2.4GHz, 4dBi max, RP-SMA Male connector x2
RFA-O5-SMR2-WA	Rooftop/Outdoor High Performance Omni Antenna, MIMO 5GHz, 5dBi max.,RP-SMA Male connector x2
RFA-O5-NF3-W3GGS-028	Rooftop/Outdoor High Performance Omni Antenna, 3G/4G, GPS/GLONASS applications, 5dBi max, N Female connector

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# Product Selection Guide

## Accessories Fast Ethernet SFP modules



### Specifications

Characteristics	Model name				
	SFP100-MM/-I	SFP100-SS30/-I	SFP100-SS60/-I	SFP100-SS100/-I	* SFP100-SS120/-I
Fiber mode	multi-mode	single-mode	single-mode	single-mode	single-mode
Typical Distance	2 km	30 km	60 km	100 km	120 km
Operating Temperature	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)
Wavelength	1310 nm	1310 nm	1310 nm	1550 nm	1550 nm
Optical Output Power 9/125 μm fiber (Max. TX)	-	-8 dBm	0 dBm	0 dBm	5 dBm
Optical Output Power 9/125 μm fiber (Min. TX)	-	-15 dBm	-5 dBm	-5 dBm	0 dBm
Optical Output Power 62.5/125 μm fiber (Max. TX)	-14 dBm	-	-	-	-
Optical Output Power 62.5/125 μm fiber (Min. TX)	-20 dBm	-	-	-	-
Optical Output Power 50/125 μm fiber (Max. TX)	-14 dBm	-	-	-	-
Optical Output Power 50/125 μm fiber (Min. TX)	-23.5 dBm	-	-	-	-
Optical Input Power-minimum (Sensitivity)	-31 dBm	-34 dBm	-35 dBm	-35 dBm	-35 dBm
Optical Input Power-maximum (Saturation)	-8 dBm	0 dBm	0 dBm	0 dBm	0 dBm
Link Budget	7.5 dB	19 dB	30 dB	30 dB	35 dB

\* If two SFP transceivers are connected to each other in a short distance and the received optical power is greater than the listed specification of the received SFP transceiver, please add an optical attenuator (Please refer to FAT-LC series accessories) to avoid any possible damages.

### Ordering Information

Model Name	Description
SFP100-MM	100Mbps SFP optical transceiver, multi-mode / 2km, 1310nm, 0 ~ 70°C
SFP100-MM-I	100Mbps SFP optical transceiver, multi-mode / 2km, 1310nm, industrial grade, -40 ~ 85°C
SFP100-SS30	100Mbps SFP optical transceiver, single-mode / 30km, 1310nm, 0 ~ 70°C
SFP100-SS30-I	100Mbps SFP optical transceiver, single-mode / 30km, 1310nm, industrial grade, -40 ~ 85°C
SFP100-SS60	100Mbps SFP optical transceiver, single-mode / 60km, 1310nm, 0 ~ 70°C
SFP100-SS60-I	100Mbps SFP optical transceiver, single-mode / 60km, 1310nm, industrial grade, -40 ~ 85°C
SFP100-SS100	100Mbps SFP optical transceiver, single-mode / 100km, 1550nm, 0 ~ 70°C
SFP100-SS100-I	100Mbps SFP optical transceiver, single-mode / 100km, 1550nm, industrial grade, -40 ~ 85°C
SFP100-SS120	100Mbps SFP optical transceiver, single-mode / 120km, 1550nm, 0 ~ 70°C
SFP100-SS120-I	100Mbps SFP optical transceiver, single-mode / 120km, 1550nm, industrial grade, -40 ~ 85°C

# Product Selection Guide

## Accessories Fast Ethernet BIDI-SFP modules



### Specifications

Characteristics	Model Name							
	SFP100B3-MM/-I	SFP100B5-MM/-I	SFP100B3-SS20/-I	SFP100B5-SS20/-I	SFP100B3-SS40/-I	SFP100B5-SS40/-I	SFP100B3-SS60/-I	SFP100B5-SS60/-I
Fiber mode	Multi-mode	Multi-mode	single-mode	single-mode	single-mode	single-mode	single-mode	single-mode
Typical Distance	2 km	2 km	20 km	20 km	40 km	40 km	60 km	60 km
Operating Temperature	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)
Wavelength	TX : 1310 nm RX : 1550 nm	TX : 1550 nm RX : 1310 nm	TX : 1310 nm RX : 1550 nm	TX : 1550 nm RX : 1310 nm	TX : 1310 nm RX : 1550 nm	TX : 1550 nm RX : 1310 nm	TX : 1310 nm RX : 1550 nm	TX : 1550 nm RX : 1310 nm
Optical Output Power 9/125 μm fiber (Max. TX)	0 dBm	0 dBm	-8 dBm	-8 dBm	0 dBm	0 dBm	0 dBm	0 dBm
Optical Output Power 9/125 μm fiber (Min. TX)	-10 dBm	-10 dBm	-14 dBm	-14 dBm	-8 dBm	-8 dBm	-5 dBm	-5 dBm
Optical Input Power-minimum (Sensitivity)	-28 dBm	-28 dBm	-32 dBm	-32 dBm	-34 dBm	-34 dBm	-34 dBm	-34 dBm
Optical Input Power-maximum (Saturation)	0 dBm	0 dBm	0 dBm	0 dBm	0 dBm	0 dBm	0 dBm	0 dBm
Link Budget	18 dB		18 dB		26 dB		29 dB	

### Ordering Information

Model Name	Description
SFP100B3-MM	100Mbps SFP optical Transceiver, Multi-mode BIDI / 2KM, TX1310nm / RX1550nm, 0 ~ 70°C
SFP100B3-MM-I	100Mbps SFP optical Transceiver, Multi-mode BIDI / 2KM, TX1310nm / RX1550nm, industrial grade, -40 ~ 85°C
SFP100B5-MM	100Mbps SFP optical Transceiver, Multi-mode BIDI / 2KM, TX1550nm / RX1310nm, 0 ~ 70°C
SFP100B5-MM-I	100Mbps SFP optical Transceiver, Multi-mode BIDI / 2KM, TX1550nm / RX1310nm, industrial grade, -40 ~ 85°C
SFP100B3-SS20	100Mbps SFP optical transceiver, single-mode BIDI / 20km, TX1310nm, RX1550nm, 0 ~ 70°C
SFP100B3-SS20-I	100Mbps SFP optical transceiver, single-mode BIDI / 20km, TX1310nm, RX1550nm, industrial grade, -40 ~ 85°C
SFP100B5-SS20	100Mbps SFP optical transceiver, single-mode BIDI / 20km, TX1550nm, RX1310nm, 0 ~ 70°C
SFP100B5-SS20-I	100Mbps SFP optical transceiver, single-mode BIDI / 20km, TX1550nm, RX1310nm, industrial grade, -40 ~ 85°C
SFP100B3-SS40	100Mbps SFP optical transceiver, single-mode BIDI / 40km, TX1310nm, RX1550nm, 0 ~ 70°C
SFP100B3-SS40-I	100Mbps SFP optical transceiver, single-mode BIDI / 40km, TX1310nm, RX1550nm, industrial grade, -40 ~ 85°C
SFP100B5-SS40	100Mbps SFP optical transceiver, single-mode BIDI / 40km, TX1550nm, RX1310nm, 0 ~ 70°C
SFP100B5-SS40-I	100Mbps SFP optical transceiver, single-mode BIDI / 40km, TX1550nm, RX1310nm, industrial grade, -40 ~ 85°C
SFP100B3-SS60	100Mbps SFP optical transceiver, single-mode BIDI / 60km, TX1310nm, RX1550nm, 0 ~ 70°C
SFP100B3-SS60-I	100Mbps SFP optical transceiver, single-mode BIDI / 60km, TX1310nm, RX1550nm, industrial grade, -40 ~ 85°C
SFP100B5-SS60	100Mbps SFP optical transceiver, single-mode BIDI / 60km, TX1550nm, RX1310nm, 0 ~ 70°C
SFP100B5-SS60-I	100Mbps SFP optical transceiver, single-mode BIDI / 60km, TX1550nm, RX1310nm, industrial grade, -40 ~ 85°C

# Product Selection Guide

## Accessories

### Gigabit Ethernet SFP modules



#### Specifications

Characteristics	Model Name									
	SFP1G-SX/-I	SFP1G-MLX/-I	SFP1G-LX10/-I	*SFP1G-LX20/-I	*SFP1G-LHX30/-I	*SFP1G-LHX40/-I	*SFP1G-XD50/-I	*SFP1G-ZX70/-I	*SFP1G-ZX80/-I	*SFP1G-EZX120/-I
Fiber mode	multi-mode	multi-mode	single-mode	single-mode	single-mode	single-mode	single-mode	single-mode	single-mode	single-mode
Typical Distance	550 m	62.5/125 : 2km 50/125 : 1km	10 km	20 km	30 km	40 km	50 km	70 km	80 km	120 km
Operating Temperature	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)
Wavelength	850 nm	1310 nm	1310 nm	1310 nm	1310 nm	1310 nm	1550 nm	1550 nm	1550 nm	1550 nm
Optical Output Power 9/125 μm fiber (Max. TX)	-	-	-3 dBm	-2 dBm	1 dBm	1 dBm	1 dBm	5 dBm	5 dBm	5 dBm
Optical Output Power 9/125 μm fiber (Min. TX)	-	-	-9.5 dBm	-8 dBm	-4 dBm	-4 dBm	-4 dBm	0 dBm	0 dBm	0 dBm
Optical Output Power 62.5/125 μm fiber (Max. TX)	-4 dBm	-1 dBm	-	-	-	-	-	-	-	-
Optical Output Power 62.5/125 μm fiber (Min. TX)	-9.5 dBm	-9 dBm	-	-	-	-	-	-	-	-
Optical Output Power 50/125 μm fiber (Max. TX)	-4 dBm	-1 dBm	-	-	-	-	-	-	-	-
Optical Output Power 50/125 μm fiber (Min. TX)	-9.5 dBm	-9 dBm	-	-	-	-	-	-	-	-
Optical Input Power-minimum (Sensitivity)	-18 dBm	-19 dBm	-20 dBm	-23 dBm	-24 dBm	-24 dBm	-24 dBm	-24 dBm	-24 dBm	-32 dBm
Optical Input Power-maximum(Saturation)	0 dBm	-1 dBm	-3 dBm	-3 dBm	-3 dBm	-3 dBm	-3 dBm	-3 dBm	-3 dBm	-8 dBm
Link Budget	8.5 dB	10 dB	10.5 dB	15 dB	20 dB	20 dB	20 dB	24 dB	24 dB	32 dB

\* If two SFP transceivers are connected to each other in a short distance and the received optical power is greater than the listed specification of the received SFP transceiver, please add an optical attenuator(Please refer to FAT-LC series accessories) to avoid any possible damages.

#### Ordering Information

Model Name	Description
SFP1G-SX	1Gbps SFP optical transceiver, multi-mode / 550m, 850nm, 0 ~ 70°C
SFP1G-SX-I	1Gbps SFP optical transceiver, multi-mode / 550m, 850nm, industrial grade, -40 ~ 85°C
SFP1G-MLX	1Gbps SFP optical transceiver, multi-mode / 2km, 1310nm, 0 ~ 70°C
SFP1G-MLX-I	1Gbps SFP optical transceiver, multi-mode / 2km, 1310nm, industrial grade, -40 ~ 85°C
SFP1G-LX10	1Gbps SFP optical transceiver, single-mode / 10km, 1310nm, 0 ~ 70°C
SFP1G-LX10-I	1Gbps SFP optical transceiver, single-mode / 10km, 1310nm, industrial grade, -40 ~ 85°C
SFP1G-LX20	1Gbps SFP optical transceiver, single-mode / 20km, 1310nm, 0 ~ 70°C
SFP1G-LX20-I	1Gbps SFP optical transceiver, single-mode / 20km, 1310nm, industrial grade, -40 ~ 85°C
SFP1G-LHX30	1Gbps SFP optical transceiver, single-mode / 30km, 1310nm, 0 ~ 70°C
SFP1G-LHX30-I	1Gbps SFP optical transceiver, single-mode / 30km, 1310nm, industrial grade, -40 ~ 85°C
SFP1G-LHX40	1Gbps SFP optical transceiver, single-mode / 40km, 1310nm, 0 ~ 70°C
SFP1G-LHX40-I	1Gbps SFP optical transceiver, single-mode / 40km, 1310nm, industrial grade, -40 ~ 85°C
SFP1G-XD50	1Gbps SFP optical transceiver, single-mode / 50km, 1550nm, 0 ~ 70°C
SFP1G-XD50-I	1Gbps SFP optical transceiver, single-mode / 50km, 1550nm, industrial grade, -40 ~ 85°C
SFP1G-ZX70	1Gbps SFP optical transceiver, single-mode / 70km, 1550nm, 0 ~ 70°C
SFP1G-ZX70-I	1Gbps SFP optical transceiver, single-mode / 70km, 1550nm, industrial grade, -40 ~ 85°C
SFP1G-ZX80	1Gbps SFP optical transceiver, single-mode / 80km, 1550nm, 0 ~ 70°C
SFP1G-ZX80-I	1Gbps SFP optical transceiver, single-mode / 80km, 1550nm, industrial grade, -40 ~ 85°C
SFP1G-EZX120	1Gbps SFP optical transceiver, single-mode / 120km, 1550nm, 0 ~ 70°C
SFP1G-EZX120-I	1Gbps SFP optical transceiver, single-mode / 120km, 1550nm, industrial grade, -40 ~ 85°C

# Product Selection Guide

## Accessories

### Gigabit Ethernet BIDI-SFP modules



### Specifications

Characteristics	Model Name									
	SFP1GB3-LX10/-I	SFP1GB5-LX10/-I	SFP1GB3-LX20/-I	SFP1GB5-LX20/-I	* SFP1GB3-LX40/-I	* SFP1GB5-LX40/-I	* SFP1GB3-LX60/-I	* SFP1GB5-LX60/-I	* SFP1GB4-LX80/-I	* SFP1GB5-LX80/-I
Fiber mode	single-mode	single-mode	single-mode	single-mode	single-mode	single-mode	single-mode	single-mode	single-mode	single-mode
Typical Distance	10 km	10 km	20 km	20 km	40 km	40 km	60 km	60 km	80 km	80 km
Operating Temperature	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)
Wavelength	TX : 1310 nm RX : 1550 nm	TX : 1550 nm RX : 1310 nm	TX : 1310 nm RX : 1550 nm	TX : 1550 nm RX : 1310 nm	TX : 1310 nm RX : 1550 nm	TX : 1550 nm RX : 1310 nm	TX : 1310 nm RX : 1550 nm	TX : 1550 nm RX : 1310 nm	TX : 1490 nm RX : 1550 nm	TX : 1550 nm RX : 1490 nm
Optical Output Power 9/125 μm fiber (Max. TX)	-3 dBm	-3 dBm	-2 dBm	-2 dBm	2 dBm	2 dBm	5 dBm	4 dBm	4 dBm	4 dBm
Optical Output Power 9/125 μm fiber (Min. TX)	-9 dBm	-9 dBm	-8 dBm	-8 dBm	-3 dBm	-3 dBm	0 dBm	-2 dBm	-2 dBm	-2 dBm
Optical Input Power-minimum (Sensitivity)	-21 dBm	-21 dBm	-23 dBm	-23 dBm	-23 dBm	-23 dBm	-24 dBm	-25 dBm	-25 dBm	-25 dBm
Optical Input Power-maximum (Saturation)	-1 dBm	-1 dBm	-1 dBm	-1 dBm	-1 dBm	-1 dBm	-1 dBm	-1 dBm	-3 dBm	-3 dBm
Link Budget	12 dB		15 dB		20 dB		22 dB		23 dB	

\* If two SFP transceivers are connected to each other in a short distance and the received optical power is greater than the listed specification of the received SFP transceiver, please add an optical attenuator (Please refer to FAT-LC series accessories) to avoid any possible damages.

### Ordering Information

Model Name	Description
SFP1GB3-LX10	1Gbps SFP optical transceiver, single-mode BIDI / 10km, TX1310nm, RX1550nm, 0 ~ 70°C
SFP1GB3-LX10-I	1Gbps SFP optical transceiver, single-mode BIDI / 10km, TX1310nm, RX1550nm, industrial grade, -40 ~ 85°C
SFP1GB5-LX10	1Gbps SFP optical transceiver, single-mode BIDI / 10km, TX1550nm, RX1310nm, 0 ~ 70°C
SFP1GB5-LX10-I	1Gbps SFP optical transceiver, single-mode BIDI / 10km, TX1550nm, RX1310nm, industrial grade, -40 ~ 85°C
SFP1GB3-LX20	1Gbps SFP optical transceiver, single-mode BIDI / 20km, TX1310nm, RX1550nm, 0 ~ 70°C
SFP1GB3-LX20-I	1Gbps SFP optical transceiver, single-mode BIDI / 20km, TX1310nm, RX1550nm, industrial grade, -40 ~ 85°C
SFP1GB5-LX20	1Gbps SFP optical transceiver, single-mode BIDI / 20km, TX1550nm, RX1310nm, 0 ~ 70°C
SFP1GB5-LX20-I	1Gbps SFP optical transceiver, single-mode BIDI / 20km, TX1550nm, RX1310nm, industrial grade, -40 ~ 85°C
SFP1GB3-LX40	1Gbps SFP optical transceiver, single-mode BIDI / 40km, TX1310nm, RX1550nm, 0 ~ 70°C
SFP1GB3-LX40-I	1Gbps SFP optical transceiver, single-mode BIDI / 40km, TX1310nm, RX1550nm, industrial grade, -40 ~ 85°C
SFP1GB5-LX40	1Gbps SFP optical transceiver, single-mode BIDI / 40km, TX1550nm, RX1310nm, 0 ~ 70°C
SFP1GB5-LX40-I	1Gbps SFP optical transceiver, single-mode BIDI / 40km, TX1550nm, RX1310nm, industrial grade, -40 ~ 85°C
SFP1GB3-LX60	1Gbps SFP optical transceiver, single-mode BIDI / 60km, TX1310nm, RX1550nm, 0 ~ 70°C
SFP1GB3-LX60-I	1Gbps SFP optical transceiver, single-mode BIDI / 60km, TX1310nm, RX1550nm, industrial grade, -40 ~ 85°C
SFP1GB5-LX60	1Gbps SFP optical transceiver, single-mode BIDI / 60km, TX1550nm, RX1310nm, 0 ~ 70°C
SFP1GB5-LX60-I	1Gbps SFP optical transceiver, single-mode BIDI / 60km, TX1550nm, RX1310nm, industrial grade, -40 ~ 85°C
SFP1GB4-LX80	1Gbps SFP optical transceiver, single-mode BIDI / 80km, 1490nm, 1550nm, 0 ~ 70°C
SFP1GB4-LX80-I	1Gbps SFP optical transceiver, single-mode BIDI / 80km, 1490nm, 1550nm, industrial grade, -40 ~ 85°C
SFP1GB5-LX80	1Gbps SFP optical transceiver, single-mode BIDI / 80km, 1550nm, 1490nm, 0 ~ 70°C
SFP1GB5-LX80-I	1Gbps SFP optical transceiver, single-mode BIDI / 80km, 1550nm, 1490nm, industrial grade, -40 ~ 85°C



# Product Selection Guide

## Accessories

### 10G Ethernet SFP+ modules with Diagnostic Monitoring



#### Specifications

Characteristics	Model Name				
	SFP10G-MM/-I	SFP10G-LR10/-I	SFP10G-LR20/-I	*SFP10G-ER40/-I	*SFP10G-ZR80/-I
Fiber mode	multi-mode	single-mode	single-mode	single-mode	single-mode
Typical Distance	62.5/125um : 33m 50/125um(OM2) : 82m 50/125um(OM3) : 300m	10 km	20 km	40 km	80 km
Operating Temperature	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)	0~70°C -40~85°C (-I model)
Wavelength	850 nm	1310 nm	1310 nm	1550 nm	1550 nm
Optical Output Power 9/125 μm fiber (Max. TX)	-	0.5 dBm	0.5 dBm	4 dBm	4 dBm
Optical Output Power 9/125 μm fiber (Min. TX)	-	-6 dBm	-4 dBm	-4.7 dBm	0 dBm
Optical Output Power 62.5/125 μm fiber (Max. TX)	-1 dBm	-	-	-	-
Optical Output Power 62.5/125 μm fiber (Min. TX)	-6.5 dBm	-	-	-	-
Optical Output Power 50/125 μm fiber (Max. TX)	-1 dBm	-	-	-	-
Optical Output Power 50/125 μm fiber (Min. TX)	-6.5 dBm	-	-	-	-
Optical Input Power-minimum (Sensitivity)	-9.9 dBm	-14.4 dBm	-15 dBm	-15.8 dBm	-23 dBm
Optical Input Power-maximum (Saturation)	-1 dBm	0.5 dBm	0.5 dBm	-1 dBm	-7 dBm
Link Budget	3.4 dB	8.4 dB	11 dB	11.1 dB	23 dB

⚠ If two SFP transceivers are connected to each other in a short distance and the received optical power is greater than the listed specification of the received SFP transceiver, please add an optical attenuator (Please refer to FAT-LC series accessories) to avoid any possible damages.

#### Ordering Information

Model Name	Description
SFP10G-MM	10Gbps SFP+ optical transceiver, multi-mode / 300m, 850nm, 0 ~ 70°C
SFP10G-MM-I	10Gbps SFP+ optical transceiver, multi-mode / 300m, 850nm, industrial grade, -40 ~ 85°C
SFP10G-LR10	10Gbps SFP+ optical transceiver, single-mode / 10km, 1310nm, 0 ~ 70°C
SFP10G-LR10-I	10Gbps SFP+ optical transceiver, single-mode / 10km, 1310nm, industrial grade, -40 ~ 85°C
SFP10G-LR20	10Gbps SFP+ optical transceiver, single-mode / 20km, 1310nm, 0 ~ 70°C
SFP10G-LR20-I	10Gbps SFP+ optical transceiver, single-mode / 20km, 1310nm, industrial grade, -40 ~ 85°C
SFP10G-ER40	10Gbps SFP+ optical transceiver, multi-mode / 40km, 1550nm, 0 ~ 70°C
SFP10G-ER40-I	10Gbps SFP+ optical transceiver, multi-mode / 40km, 1550nm, industrial grade, -40 ~ 85°C
SFP10G-ZR80	10Gbps SFP+ optical transceiver, single-mode / 80km, 1550nm, 0 ~ 70°C
SFP10G-ZR80-I	10Gbps SFP+ optical transceiver, single-mode / 80km, 1550nm, industrial grade, -40 ~ 85°C

# Product Selection Guide

## Accessories

### Gigabit Ethernet SFP-RJ45 modules



#### Specifications

Characteristics	Model Name		
	SFP1GRJ	SFP1GRJ-I	SFP10GRJ
Operating Temperature	0~70°C	-40~85°C	0~70°C
RJ45 Operation mode	1000Base-T*	1000Base-T*	10GBase-T*
SFP Interface	SERDES, 1000Base-X	SERDES, 1000Base-X	SERDES, 10GBase-X

- \* 1. Please notice 10/100Base-T(X) modes are not supported.  
2. Link length up to 100m with Cat5 UTP cable or better.
- \* 1. Please notice 10/100/1000Base-T modes are not supported.  
2. Link length up to 30m with Cat6a/7 cable.

#### Ordering Information

Model Name	Description
SFP1GRJ	1Gbps SFP to 1000 Base-T transceiver, 0 ~ 70°C
SFP1GRJ-I	1Gbps SFP to 1000 Base-T transceiver, industrial grade, -40 ~ 85°C
SFP10GRJ	10Gbps SFP+ to 10G - Base-T transceiver, 0 ~ 70°C



### 10G Ethernet SFP+ Copper Cable

#### Specifications

Characteristics	Model Name			
	SFPC10G-50	SFPC10G-100	SFPC10G-300	SFPC10G-500
Max.Speed	10 Gbps	10 Gbps	10 Gbps	10 Gbps
Wire Gauge	30 AWG	30 AWG	30 AWG	24 AWG
Low Smoke Zero Halogen	•	•	•	•
Cable length	0.5 m	1 m	3 m	5 m
Operating temperature	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C	-40 ~ 85°C

#### Ordering Information

Model Name	Description	Cable length
SFPC10G-50	10Gbps SFP+ copper cable 30AWG, 0.5 m, -40 ~ 85°C	0.5 m
SFPC10G-100	10Gbps SFP+ copper cable 30AWG, 1 m, -40 ~ 85°C	1 m
SFPC10G-300	10Gbps SFP+ copper cable 30AWG, 3 m, -40 ~ 85°C	3 m
SFPC10G-500	10Gbps SFP+ copper cable 24AWG, 5 m, -40 ~ 85°C	5 m

Industrial Ethernet Switch

Industrial Media Converter

Industrial Device Server

Industrial Wireless Access Point

Industrial Cellular VPN Router

Industrial M2M Gateway

Network Management Software & Device

Accessories