

IES-3082GP

>> Industrial 10-port Managed Ethernet Switch with 8x10/100Base-T(X) Ports and 2x100/1000Base-X SFP Ports

- Supports **O-Ring** (recovery time < 10ms over 250 units of connection), **Open-Ring**, **O-RSTP**, **MSTP/RSTP/STP** (IEEE 802.1s/w/D) for Ethernet Redundancy
- Supports SNMP v1/v2c/v3 & RMON & Port based/ 802.1Q VLAN Network Management
- Multiple notification for warning of unexpected events
- Web-based ,Telnet, Console, CLI, and Windows utility (**Open-Vision**) configuration
- Supports two SFP 100/1000Base-X ports
- Triple Redundant DC power inputs



> Features

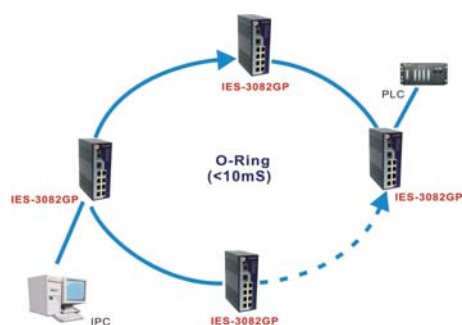
- World's fastest Redundant Ethernet Ring: **O-Ring** (recovery time < 10ms over 250 units of connection)
- **Open-Ring** supports the other vendor's ring technology in open architecture
- **O-RSTP** supports applications with complex topology
- MSTP/RSTP/STP(IEEE 802.1s/w/D)
- IGMP snooping for filtering multicast traffic
- Port Trunking for easy bandwidth management
- SNMP v1/v2c/v3 support for secured network management
- RMON for traffic monitoring
- Event notification through Syslog, Email, SNMP trap, and Relay Output
- Port lock to prevent access from unauthorized MAC address
- Windows utility (**Open-Vision**) supports centralized management and configuration by Web-based ,Telnet, Console, CLI
- Triple redundant DC power inputs of terminal block and power jack
- Support two SFP slots for 100/1000Base-X SFP Fiber
- Very wide operating temperature range from -40°C to 70°C
- Rigid IP-30 housing design
- DIN-Rail and panel mounting enabled

> Introduction

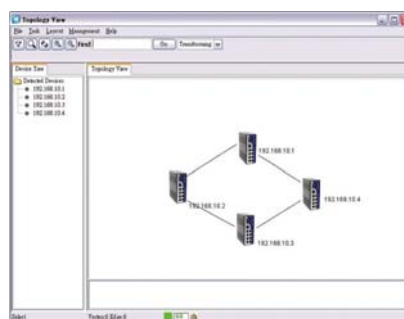
IES-3082GP is managed Redundant Ring Ethernet switch with 8x10/100Base-T(X) ports and 2x100/1000Base-X SFP ports. With complete support of Ethernet Redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection), Open-Ring, O-RSTP and MSTP/RSTP/STP (IEEE 802.1s/w/D) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. IES-3082GP can be managed centralized and convenient by a powerful windows utility — Open-Vision. In addition, the wide operating temperature range from -40°C to 70°C can satisfy most of operating environment. Therefore, the switch is one of the most reliable choices for highly-managed and Fiber Ethernet application.

> Open-Vision

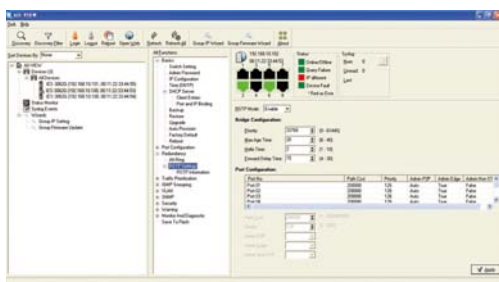
ORing's switches are intelligent switches. Being different from other traditional redundant switches, ORing provide a set of Windows utility (**Open-Vision**) for users to manage and monitor all of industrial Ethernet switches on the industrial network.



Network connection

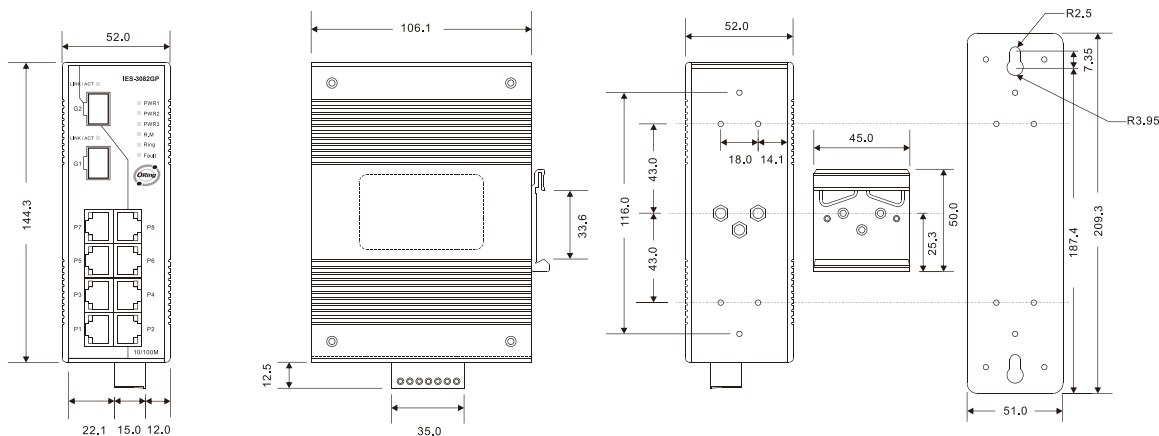


Topology View



Monitoring and Configuration interface

> Dimension



(Unit=mm)

> Specifications

ORing Switch Model	IES-3082GP
Physical Ports	
10/100Base-T(X) Ports in RJ45 Auto MDI/MDIX	8
100/1000Base-X with SFP Slots	2
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-T(X) and 100Base-FX IEEE 802.3z for 1000Base-X IEEE 802.3x for Flow control IEEE 802.3ad for LACP (Link Aggregation Control Protocol) IEEE 802.1D for STP (Spanning Tree Protocol) IEEE 802.1p for COS (Class of Service) IEEE 802.1Q for VLAN Tagging IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) IEEE 802.1X for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)
MAC Table	8192 MAC addresses
Priority Queues	4
Processing	Store-and-Forward
Switch Properties	Switching latency: 7 us Switching bandwidth: 5.6Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 1024 Port rate limiting: User Define
Security Feature	Enable/disable ports, MAC based port security Port based network access control (802.1x) VLAN (802.1Q) to segregate and secure network traffic Radius centralized password management SNMPv3 encrypted authentication and access security
Software Features	STP/RSTP/MSTP (IEEE 802.1D/w/s) Redundant Ring (O-Ring) with recovery time less than 10ms over 250 units TOS/Diffserv supported Quality of Service (802.1p) for real-time traffic VLAN (802.1Q) with VLAN tagging and GVRP supported IGMP Snooping for multicast filtering Port configuration, status, statistics, monitoring, security
Network Redundancy	O-Ring Open-Ring O-RSTP STP RSTP MSTP
RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. Baud rate setting: 9600bps, 8, N, 1
LED Indicators	
Power Indicator	Green : Power LED x 3
R.M. Indicator	Green : Flashing to indicate system operated in O-Ring Master mode
O-Ring Indicator	Green : Indicate system operated in O-Ring mode
Fault Indicator	Amber : Indicate unexpected events occurred
10/100Base-T(X) RJ45 Port Indicator	Green for port Link/Act. Amber for Duplex/Collision
1000Base-T / Fiber Port Indicator	Green for port Link/Act. Amber for Link

Fault Contact	
Relay	Relay output to carry capacity of 1A at 24VDC
Power	
Redundant Input Power	Triple DC inputs. 12-48VDC on 7-pin terminal block, 12-45VDC on power jack
Power Consumption (Typ.)	9 Watts
Overload Current Protection	Present
Reverse Polarity Protection	Present on terminal block
Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	52(W)x106(D)x144(H) mm (2.05x4.17x5.67 inch.)
Weight (g)	730 g
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 70°C (-40 to 158°F)
Operating Humidity	5% to 95% Non-condensing
Regulatory approvals	
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11
Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950
Warranty	5 years

> Ordering Information

IES-3 AA B CC

Code definition	10/100Base-T(X) Port Number	Additional Port Number	Additional Port Type
Option	- 08: 8 ports	- 2: 2 ports	- GP: 100/1000Base-X in SFP

Available Model	Model Name	Description
	IES-3082GP	Industrial 10-port Managed Ethernet Switch with 8x 10/100Base-T(X) and 2x100/1000Base-X SFP Ports

SFP100 LC Series

1-port Fast Ethernet SFP modules

Accessories Web Link ~ http://www.oring-networking.com/Industrial_Accessories.html

> Specifications

Spec	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℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)
Output Optical Power 9/125 μm fiber (Max. TX)	-	-8 dBm	0 dBm	0 dBm	5 dBm
Output Optical Power 9/125 μm fiber (Min. TX)	-	-15 dBm	-5 dBm	-5 dBm	0 dBm
Output Optical Power 62.5/125 μm fiber (Max. TX)	-14 dBm	-	-	-	-
Output Optical Power 62.5/125 μm fiber (Min. TX)	-20 dBm	-	-	-	-
Output Optical Power 50/125 μm fiber (Max. TX)	-14 dBm	-	-	-	-
Output Optical Power 50/125 μm fiber (Min. TX)	-23.5 dBm	-	-	-	-
Wavelength	1310 nm	1310 nm	1310 nm	1550 nm	1550 nm
Optical Input Power-minimum (Sensitivity)	-31 dBm	-34 dBm	-35 dBm	-35 dBm	-35 dBm
Loss of Signal-Asserted	-31 dBm	-34 dBm	-35 dBm	-35 dBm	-35 dBm
Loss of Signal-Deasserted	-47 dBm	-45 dBm	-45 dBm	-45 dBm	-45 dBm
Loss of Signal-Hysteresis	1 dB	1 dB	1 dB	1 dB	1 dB

> Ordering Information

Available Model	Model Name	Description	Operating Temperature
	SFP100-MM	100Mbps SFP optical Transceiver, Multi-mode / 2KM, 1310nm,	0 ~ 70℃
	SFP100-MM-I	100Mbps SFP optical Transceiver, Multi-mode / 2KM, 1310nm, Industrial Grade	-40 ~ 85℃
	SFP100-SS30	100Mbps SFP optical Transceiver, Single-mode / 30KM, 1310nm,	0 ~ 70℃
	SFP100-SS30-I	100Mbps SFP optical Transceiver, Single-mode / 30KM, 1310nm, Industrial Grade	-40 ~ 85℃
	SFP100-SS60	100Mbps SFP optical Transceiver, Single-mode / 60KM, 1310nm,	0 ~ 70℃
	SFP100-SS60-I	100Mbps SFP optical Transceiver, Single-mode / 60KM, 1310nm, Industrial Grade	-40 ~ 85℃
	SFP100-SS100	100Mbps SFP optical Transceiver, Single-mode / 100KM, 1550nm,	0 ~ 70℃
	SFP100-SS100-I	100Mbps SFP optical Transceiver, Single-mode / 100KM, 1550nm, Industrial Grade	-40 ~ 85℃
	SFP100-SS120	100Mbps SFP optical Transceiver, Single-mode / 120KM, 1550nm,	0 ~ 70℃
	SFP100-SS120-I	100Mbps SFP optical Transceiver, Single-mode / 120KM, 1550nm, Industrial Grade	-40 ~ 85℃

SFP100-BIDI LC Series

1-port Fast Ethernet BIDI-SFP modules

Accessories Web Link ~ http://www.oring-networking.com/Industrial_Accessories.html

> Specifications

Spec	Model Name					
	SFP100B3-SS20/-I	SFP100B5-SS20/-I	SFP100B3-SS40/-I	SFP100B5-SS40/-I	SFP100B3-SS60/-I	SFP100B5-SS60/-I
Fiber mode	Single-mode	Single-mode	Single-mode	Single-mode	Single-mode	Single-mode
Typical Distance	20 m	20 m	40 km	40 km	60 km	60 km
Operating Temperature	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)
Output Optical Power 9/125 μm fiber (Max. TX)	-8 dBm	-8 dBm	0 dBm	0 dBm	0 dBm	0 dBm
Output Optical Power 9/125 μm fiber (Min. TX)	-14 dBm	-14 dBm	-8 dBm	-8 dBm	-5 dBm	-5 dBm
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
Optical Input Power-minimum (Sensitivity)	-32 dBm	-32 dBm	-34 dBm	-34 dBm	-34 dBm	-34 dBm
Loss of Signal-Asserted	-32 dBm	-32 dBm	-34 dBm	-34 dBm	-34 dBm	-34 dBm
Loss of Signal-Deasserted	-45 dBm	-45 dBm	-45 dBm	-45 dBm	-45 dBm	-45 dBm

> Ordering Information

Available Model	Model Name	Description	Operating Temperature
	SFP100B3-SS20	100Mbps SFP optical Transceiver, Single-mode BIDI / 20KM, TX-1310nm, RX-1550nm	0 ~ 70℃
	SFP100B3-SS20-I	100Mbps SFP optical Transceiver, Single-mode BIDI / 20KM, TX-1310nm, RX-1550nm, Industrial Grade	-40 ~ 85℃
	SFP100B5-SS20	100Mbps SFP optical Transceiver, Single-mode BIDI / 20KM, TX-1550nm, RX-1310nm	0 ~ 70℃
	SFP100B5-SS20-I	100Mbps SFP optical Transceiver, Single-mode BIDI / 20KM, TX-1550nm, RX-1310nm, Industrial Grade	-40 ~ 85℃
	SFP100B3-SS40	100Mbps SFP optical Transceiver, Single-mode BIDI / 40KM, TX-1310nm, RX-1550nm	0 ~ 70℃
	SFP100B3-SS40-I	100Mbps SFP optical Transceiver, Single-mode BIDI / 40KM, TX-1310nm, RX-1550nm, Industrial Grade	-40 ~ 85℃
	SFP100B5-SS40	100Mbps SFP optical Transceiver, Single-mode BIDI / 40KM, TX-1550nm, RX-1310nm	0 ~ 70℃
	SFP100B5-SS40-I	100Mbps SFP optical Transceiver, Single-mode BIDI / 40KM, TX-1550nm, RX-1310nm, Industrial Grade	-40 ~ 85℃
	SFP100B3-SS60	100Mbps SFP optical Transceiver, Single-mode BIDI / 60KM, TX-1310nm, RX-1550nm	0 ~ 70℃
	SFP100B3-SS60-I	100Mbps SFP optical Transceiver, Single-mode BIDI / 60KM, TX-1310nm, RX-1550nm, Industrial Grade	-40 ~ 85℃
	SFP100B5-SS60	100Mbps SFP optical Transceiver, Single-mode BIDI / 60KM, TX-1550nm, RX-1310nm	0 ~ 70℃
	SFP100B5-SS60-I	100Mbps SFP optical Transceiver, Single-mode BIDI / 60KM, TX-1550nm, RX-1310nm, Industrial Grade	-40 ~ 85℃

SFP1G LC Series

1-port Gigabit Ethernet SFP modules

Accessories Web Link ~ http://www.oring-networking.com/Industrial_Accessories.html

> Specifications

Model Name								
Spec	SFP1G-SX/-I	SFP1G-MLX/-I	SFP1G-LX10/-I	SFP1G-LX20/-I	SFP1G-LHX30/-I	SFP1G-LHX40/-I	SFP1G-XD50/-I	SFP1G-ZX70/-I
Fiber mode	Multi-mode	Multi-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
Operating Temperature	0~70℃ -20~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)
Output Optical Power 9/125 μm fiber (Max. TX)	-	-	-3 dBm	-2 dBm	1 dBm	1 dBm	1 dBm	5 dBm
Output Optical Power 9/125 μm fiber (Min. TX)	-	-	-9.5 dBm	-8 dBm	-4 dBm	-4 dBm	-4 dBm	0 dBm
Output Optical Power 62.5/125 μm fiber (Max. TX)	-4 dBm	-1 dBm	-	-	-	-	-	-
Output Optical Power 62.5/125 μm fiber (Min. TX)	-9.5 dBm	-9 dBm	-	-	-	-	-	-
Output Optical Power 50/125 μm fiber (Max. TX)	-4 dBm	-1 dBm	-	-	-	-	-	-
Output Optical Power 50/125 μm fiber (Min. TX)	-9.5 dBm	-9 dBm	-	-	-	-	-	-
Wavelength	850 nm	1310 nm	1310 nm	1310 nm	1310 nm	1310 nm	1550 nm	1550 nm
Optical Input Power-minimum (Sensitivity)	-18 dBm	-19 dBm	-20 dBm	-23 dBm	-24 dBm	-24 dBm	-24 dBm	-24 dBm
Loss of Signal-Asserted	-18 dBm	-19 dBm	-20 dBm	-23 dBm	-24 dBm	-24 dBm	-24 dBm	-24 dBm
Loss of Signal-Deasserted	-35 dBm	-35 dBm	-35 dBm	-35 dBm	-35 dBm	-35 dBm	-35 dBm	-35 dBm

> Ordering Information

Available Model	Model Name	Description	Operating Temperature
	SFP1G-SX	1Gbps SFP optical Transceiver, Multi-mode / 550m, 850nm	0 ~ 70℃
	SFP1G-SX-I	1Gbps SFP optical Transceiver, Multi-mode / 550m, 850nm, Industrial Grade	-20 ~ 85℃
	SFP1G-MLX	1Gbps SFP optical Transceiver, Multi-mode / 2km, 1310nm	0 ~ 70℃
	SFP1G-MLX-I	1Gbps SFP optical Transceiver, Multi-mode / 2km, 1310nm, Industrial Grade	-40 ~ 85℃
	SFP1G-LX10	1Gbps SFP optical Transceiver, Single-mode / 10km, 1310nm	0 ~ 70℃
	SFP1G-LX10-I	1Gbps SFP optical Transceiver, Single-mode / 10km, 1310nm, Industrial Grade	-40 ~ 85℃
	SFP1G-LX20	1Gbps SFP optical Transceiver, Single-mode / 20km, 1310nm	0 ~ 70℃
	SFP1G-LX20-I	1Gbps SFP optical Transceiver, Single-mode / 20km, 1310nm, Industrial Grade	-40 ~ 85℃
	SFP1G-LHX30	1Gbps SFP optical Transceiver, Single-mode / 30km, 1310nm	0 ~ 70℃
	SFP1G-LHX30-I	1Gbps SFP optical Transceiver, Single-mode / 30km, 1310nm, Industrial Grade	-40 ~ 85℃
	SFP1G-LHX40	1Gbps SFP optical Transceiver, Single-mode / 40km, 1310nm	0 ~ 70℃
	SFP1G-LHX40-I	1Gbps SFP optical Transceiver, Single-mode / 40km, 1310nm, Industrial Grade	-40 ~ 85℃
	SFP1G-XD50	1Gbps SFP optical Transceiver, Single-mode / 50km, 1550nm	0 ~ 70℃
	SFP1G-XD50-I	1Gbps SFP optical Transceiver, Single-mode / 50km, 1550nm, Industrial Grade	-40 ~ 85℃
	SFP1G-ZX70	1Gbps SFP optical Transceiver, Single-mode / 70km, 1550nm	0 ~ 70℃
	SFP1G-ZX70-I	1Gbps SFP optical Transceiver, Single-mode / 70km, 1550nm, Industrial Grade	-40 ~ 85℃

SFP1G-BIDI LC Series

1-port Gigabit Ethernet BIDI-SFP modules

Accessories Web Link ~ http://www.oring-networking.com/Industrial_Accessaries.html

> Specifications

Model Name								
Spec	SFP1GB3-LX10/-I	SFP1GB5-LX10/-I	SFP1GB3-LX20/-I	SFP1GB5-LX20/-I	SFP1GB3-LX40/-I	SFP1GB5-LX40/-I	SFP1GB3-LX60/-I	SFP1GB5-LX60/-I
Fiber mode	Single-mode	Single-mode	Single-mode	Single-mode	Single-mode	Single-mode	Single-mode	Single-mode
Typical Distance	10 m	10 m	20 km	20 km	40 km	40 km	60 km	60 km
Operating Temperature	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)	0~70℃ -40~85℃ (-I model)
Output Optical Power 9/125 μm fiber (Max. TX)	-3 dBm	-3 dBm	-2 dBm	-2 dBm	2 dBm	2 dBm	5 dBm	4 dBm
Output Optical Power 9/125 μm fiber (Min. TX)	-9 dBm	-9 dBm	-8 dBm	-8 dBm	-3 dBm	-3 dBm	0 dBm	-2 dBm
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 Input Power-minimum (Sensitivity)	-21 dBm	-21 dBm	-23 dBm	-23 dBm	-23 dBm	-23 dBm	-24 dBm	-25 dBm
Loss of Signal-Asserted	-21 dBm	-21 dBm	-23 dBm	-23 dBm	-23 dBm	-23 dBm	-24 dBm	-25 dBm
Loss of Signal-Deasserted	-35 dBm	-35 dBm	-35 dBm	-35 dBm	-35 dBm	-35 dBm	-35 dBm	-35 dBm

> Ordering Information

Available Model	Model Name	Description	Operating Temperature
	SFP1GB3-LX10-I	1Gbps SFP optical Transceiver, Single-mode BIDI / 10KM, TX-1310nm, RX-1550nm	0 ~ 70℃
	SFP1GB5-LX10	1Gbps SFP optical Transceiver, Single-mode BIDI / 10KM, TX-1310nm, RX-1550nm, Industrial Grade	-40 ~ 85℃
	SFP1GB5-LX10-I	1Gbps SFP optical Transceiver, Single-mode BIDI / 10KM, TX-1550nm, RX-1310nm	0 ~ 70℃
	SFP1GB3-LX20	1Gbps SFP optical Transceiver, Single-mode BIDI / 10KM, TX-1550nm, RX-1310nm, Industrial Grade	-40 ~ 85℃
	SFP1GB3-LX20-I	1Gbps SFP optical Transceiver, Single-mode BIDI / 20KM, TX-1310nm, RX-1550nm	0 ~ 70℃
	SFP1GB5-LX20	1Gbps SFP optical Transceiver, Single-mode BIDI / 20KM, TX-1310nm, RX-1550nm, Industrial Grade	-40 ~ 85℃
	SFP1GB5-LX20-I	1Gbps SFP optical Transceiver, Single-mode BIDI / 20KM, TX-1550nm, RX-1310nm	0 ~ 70℃
	SFP1GB3-LX40	1Gbps SFP optical Transceiver, Single-mode BIDI / 20KM, TX-1550nm, RX-1310nm, Industrial Grade	-40 ~ 85℃
	SFP1GB3-LX40-I	1Gbps SFP optical Transceiver, Single-mode BIDI / 40KM, TX-1310nm, RX-1550nm	0 ~ 70℃
	SFP1GB5-LX40	1Gbps SFP optical Transceiver, Single-mode BIDI / 40KM, TX-1310nm, RX-1550nm, Industrial Grade	-40 ~ 85℃
	SFP1GB5-LX40-I	1Gbps SFP optical Transceiver, Single-mode BIDI / 40KM, TX-1550nm, RX-1310nm	0 ~ 70℃
	SFP1GB3-LX60	1Gbps SFP optical Transceiver, Single-mode BIDI / 40KM, TX-1550nm, RX-1310nm, Industrial Grade	-40 ~ 85℃
	SFP1GB3-LX60-I	1Gbps SFP optical Transceiver, Single-mode BIDI / 60KM, TX-1310nm, RX-1550nm	0 ~ 70℃
	SFP1GB5-LX60	1Gbps SFP optical Transceiver, Single-mode BIDI / 60KM, TX-1310nm, RX-1550nm, Industrial Grade	-40 ~ 85℃
	SFP1GB5-LX60-I	1Gbps SFP optical Transceiver, Single-mode BIDI / 60KM, TX-1550nm, RX-1310nm	0 ~ 70℃
	SFP1G-ZX70-I	1Gbps SFP optical Transceiver, Single-mode BIDI / 60KM, TX-1550nm, RX-1310nm, Industrial Grade	-40 ~ 85℃