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DATASHEET

BG5-1204-SFP Series

12-Port Industrial Gigabit IEEE 802.3bt PoE++ Managed Ethernet Switch
-8*10/100/1000BASE-T with 4*bt PoE-PSE (90W/Port) & 4*at PoE-PSE(30W/Port) + 4*100/1000BASE-X SFP Slots

Managed Gigabit BT PoE

- 8-port 10/100/1000BASE-T Ethernet with 4*IEEE 802.3bt compliant PoE, 90W/port & 4*IEEE 802.3at compliant PoE, 30W/port
- 4-port 100/1000BASE-X SFP slots
- Persistent PoE, Safe PoE Disable, PoE Ping Alive
- Multiusers account for security
- Configuration: HTTP, HTTPS, CLI Command, Telnet, SNMP, SSH
- Network redundancy support: G.8032 ERPS v2/ STP/ RSTP/ MSTP
- Supports Static Routes for routing function
- Supports RADIUS, TACACS+ authentication protocol
- Supports QoS, LACP bandwidth control
- Supports VLAN, SNMP v1/v2c/v3, ACL, IP Source Guard for Ethernet security
- Redundant power inputs design
- Operating Temperature range - STD: -10°C ~ 65°C, EOT: -40°C ~ 75°C

CE FC UL NEMA-TS2 ISA12.12.01 LEAD FREE RoHS COMPLIANT 5 YEAR GUARANTEE

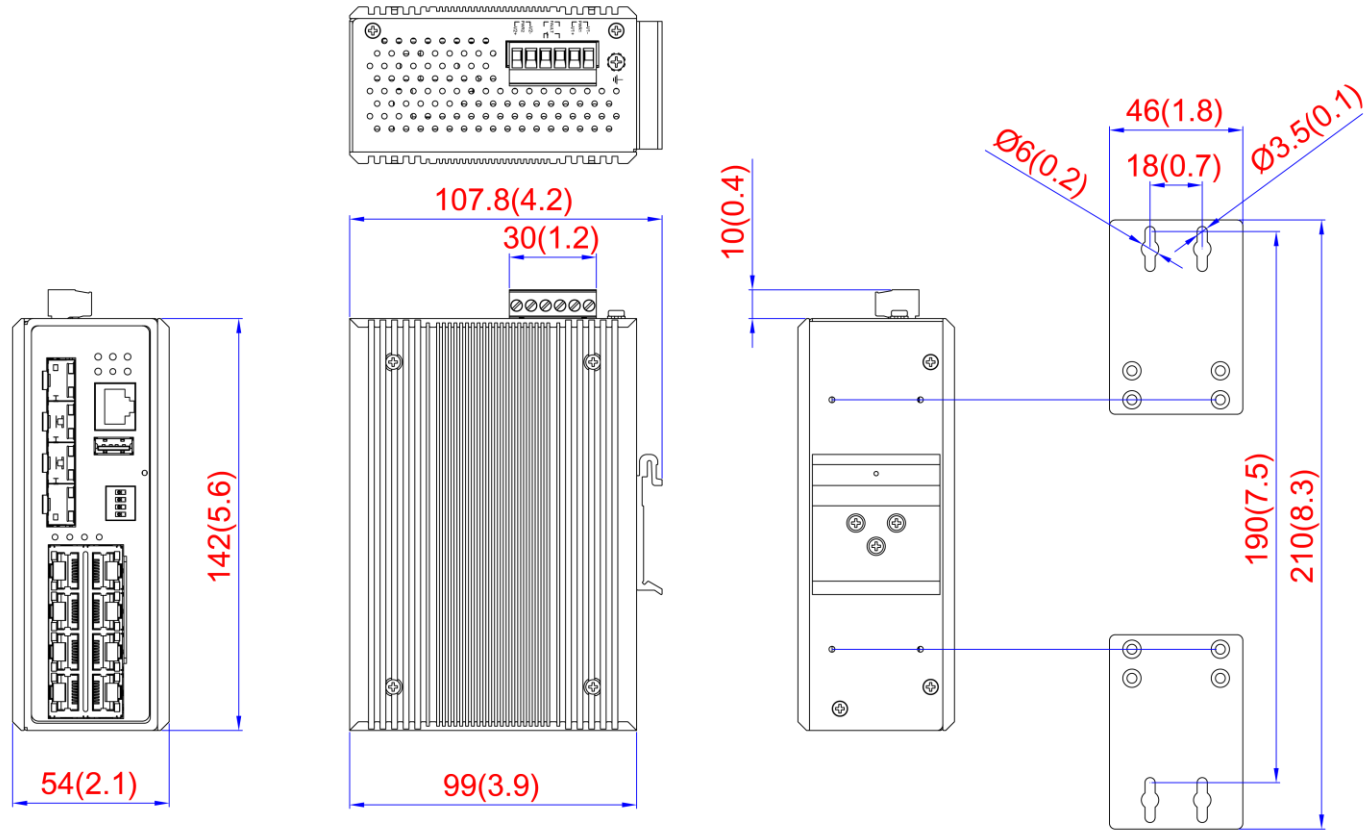
Introduction

Leonton's BG5-1204-SFP Series is a 12-port managed Gigabit PoE Ethernet switch, which provides 8*10/100/1000BASE-T with 4*IEEE 802.3bt compliant PoE, 90W/port + 4*IEEE 802.3at compliant PoE, 30W/port, and 4*100/1000 Fiber Slot. BG5-1204-SFP Series is fully manageable Layer-2 Ethernet switch series, and supports power input redundancy. BG5-1204-SFP Series offers standardized network redundancy ITU-T G.8032 ERPS v2 (Ethernet Ring Protection Switch) protocol, providing <50ms recovery time to the network, to give user the chance to choose your Ethernet switch but not tied up with particular brand's product.

BG5-1204-SFP Series provides comprehensive network security and management capability by supporting Multiusers account, IGMP, GVRP, VLAN, QoS, SNMP, RADIUS, TACACS+, Aggregation (Static, LACP), SSH, SSL, IP Source Guard to create a highly-secured network environment. For power saving purpose, assuring PD priority and enhancing security level of the network, BG5-1204-SFP Series also supports PoE scheduling and PoE output limit function to set up PoE output duration and watt at will.

BG5-1204-SFP Series as an industrial Ethernet switch product line is designed to withstand harsh and extreme environment conditions. With a fan less design, BG5-1204-SFP Series still manage to be applied in extremely polarized temperature, from -40˚C to 75˚C, making it the best choice in various industrial applications.

Dimension

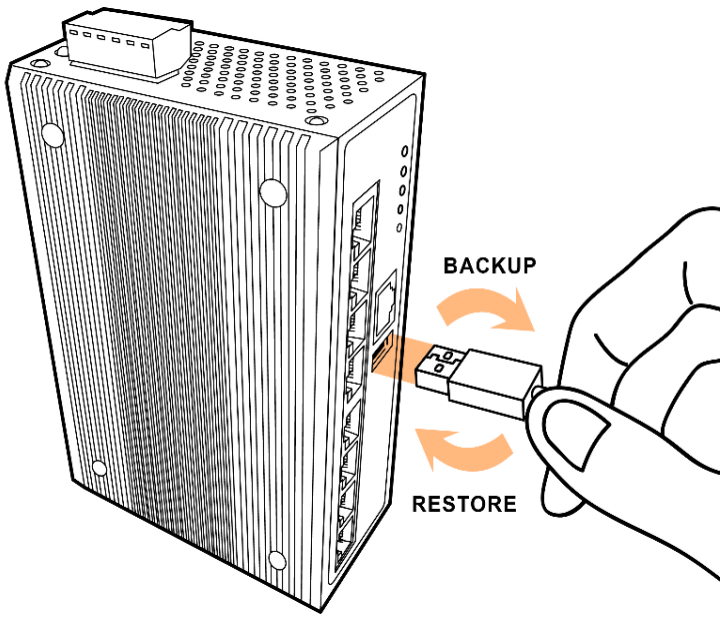


Unit: mm (inch)

Din-rail

Wall-mount

USB Backup/Restore Function



Leonton's Managed Ethernet switch series supports USB 2.0 flash drive, which allows user to backup and restore the device configuration to meet the need of quick device swap. And USB port on Managed Ethernet switch series is applicable to the most common USB flash drives, hugely elevating convenience for user.

Specification

Technology	
Standards	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3z 1000BASE-X Gigabit Fiber IEEE 802.3af/at Power over Ethernet IEEE 802.3bt compliant PoE, 90W/port IEEE 802.3x Flow Control IEEE 802.1D STP (Spanning Tree Protocol) IEEE 802.1w RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s MSTP (Multiple Spanning Tree Protocol) ITU-T G.8032 / Y.1344 ERPS v1/v2(Ethernet Ring Protection Switch) IEEE 802.1Q Virtual Local Area Network (VLAN) IEEE 802.1p QoS/CoS Protocol for Traffic Prioritization IEEE 802.1X Network Authentication IEEE 802.1AB Link Layer Discovery Protocol (LLDP) IEEE 802.3ad Link Aggregation (LACP)
Processing Type	Store and Forward
Flow Control	IEEE 802.3x flow control, back pressure flow control
Network Management	
Management	IPv4/IPv6, SNMP v1/v2c/v3, LLDP, LLDP-MED, HTTP, HTTPS, SSHv2 Telnet, DHCP Client, DHCPv6 Client, DHCP server, Port Mirror, DNS Client/Proxy, IP Based Access Filter, ICMPv6, Syslog, Time Zone /Daylight Saving, NTP Client, RMON, sFlow, Loop Detection, DDMI, Modbus TCP, Console Port, USB configuration backup/restore, Power Lost Warning, Relay Trigger
Security	Port Based 802.1X, Access Control List (ACL), MAC Based Authentication, VLAN assignment, QoS Assignment, Private VLAN, Guest VLAN, RADIUS Accounting, TACACS+, IP MAC Binding, Web/CLI Authentication, Authorization (15 levels), Port Security, ACLs for filtering/policing/port copy, IP Source Guard, ARP Inspection
L2 Switching	Port/MAC/Protocol/IP Subnet Based VLAN, GARP/GVRP, Loop Guard, Link Aggregation Protocol (LACP), BPDU Guard, Error Disable Recovery, IGMP Snooping v2/v3, MLD Snooping v1/v2, IGMP Filtering, IPMC Throttling / Filtering Leave Proxy, DHCP Snooping, G.8032 v1/v2, DHCP option82
L3 Switching	Static Routes
QoS	802.1p Queueing, Input Priority Mapping, Storm Control for Unicast/Multicast/Broadcast, Port/Queue/ACL Policer, Port Egress Shaper, Queue Egress Shaper, DiffServ (DSCP), Tag Remarking, Scheduler Mode
Power Saving	ActiPHY, PerfectReach, IEEE 802.3az Energy Efficient Ethernet (EEE)
Network Redundancy	STP/RSTP/MSTP, ERPS v1/v2 (<50ms)
PoE	PoE/PoE+/bt PoE, Power Budget Protection, PoE Output Scheduling, PoE Alive Check and Persistent PoE
System / Diagnostics	Dual Image Protection, PING/PING6
SNMP MIBs & RFC Standards	RFC 2674 VLAN MIB IEEE-802.1Q bridge MIB 2008 RFC 2819 RMON (group 1, 2, 3, and 9) RFC 1213 MIB II RFC 1215 TRAPS RFC 4188 bridge RFC 4292 IP forwarding table RFC 4293 management information base for the Internet Protocol (IP) RFC 5519 multicast group membership discovery RFC 4668 RADIUS auth. client RFC 4670 RADIUS accounting RFC 3635 Ethernet-like RFC 2863 interface group MIB using SMI v2 RFC 3636 802.3 MAU RFC 4133 entity MIB v3

	RFC 3411 SNMP management frameworks RFC 3414 user-based security model for SNMPv3 RFC 3415 view-based access control model for SNMP RFC 2613 SMON – PortCopy IEEE 802.1 MSTP IEEE 802.1AB LLDP-MIB (LLDP MIB included in a clause of the STD) IEEE 802.3ad (LACP MIB included in a clause of the STD) IEEE 802.1X (PAE MIB included in a clause of the STD) TIA 1057 LLDP-MED (MIB is part of the STD) RFC 3621 LLDP-MED Power (PoE) (No specific MIB for PoE+ exists)
Switch Properties	
Switching Fabric (Back-Plane)	24Gbps
Priority Queues	8
Max. Number of VLANs	4095
VLAN ID Range	VID 1 to 4095
Memory Buffer	4Mbits
Jumbo Frame	9.6Kbytes
MAC Table Size	8K
IGMP Group	1024
Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Ethernet port
Interface	
RJ45 Ports	8*10/100/1000 BASE-T with 4*bt PoE-PSE (90W/Port) & 4*at PoE-PSE(30W/Port) Auto-Negotiation, Full/Half Duplex, Auto-MDI/MDI-X
PoE Pin Out	V-, V-, V+, V+, for pin 1, 2, 3, 6; V+, V+, V-, V-, for pin 4, 5, 7, 8 *Support Modes: Mode A, Mode B, and 4-Pair Mode
Dip Switch	Control PoE function for bt PoE port
Fiber Port	4*100/1000BASE-X SFP slots
Wavelength	Depends on SFP modules
LED Indicators	System: Power 1, Power 2, Master (M), Ring (R), Status, PoE Load (P/L) Ethernet ports: Speed/Link/Active PoE: On-connected to PD devices SFP: Link/Active
RS232 Serial Console	1*RS232 in RJ45 connector with console cable, baud rate 115,200bps,8,N,1
Configuration Backup	1*USB 2.0 host (type-A) for configuration backup/restore
Relay Contact	24 VDC, 1A resistive
Network Cable	10BASE-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) 100BASE-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m) 1000BASE-T: 4-pair UTP/STP Cat.5/5E cable; EIA/TIA-568 100-ohm (100m)
Optical Cable	Multi-mode cable - 50/125um or 62.5/125um, Single-mode cable - 9/125um or 10/125um
Power Requirements	
Input Voltage	BG5-1204-SFP Series: Dual 48-55VDC redundant power inputs * For IEEE802.3 bt application, power supply not less than 53V is recommended BG5-1204-SFP-24 Series: Dual 12-55VDC redundant power inputs
Power Connection	1*removable 6-contact terminal block
Overload Current Protection	Present (Slow-Blow Fuse)
Reverse Polarity Protection	Present
System Power Consumption	Max. 12.5W full loading
Max. PoE Power Budget	BG5-1204-SFP Series: 240W@48-55VDC BG5-1204-SFP-24 Series: 90W@12VDC, 180W@24VDC, 240W@36-55VDC
Mechanical Characteristics	
Housing	Metal, IP30 protection
Dimensions (W x H x D)	54 x 142 x 99 mm (2.1x 5.6 x 3.9 inch)
Weight	BG5-1204-SFP Series: Unit weight: 1.080 kg (2.38 lb), Shipping weight: 1.382 kg (3.05 lb)

	BG5-1204-SFP-24 Series: Unit weight: 1.146 kg (2.53 lb), Shipping weight: 1.45 kg (3.2 lb)
Mounting	DIN-Rail Mounting, Wall Mounting
Environmental Limits	
Operating Temperature	STD: -10°C ~ 65°C (14°F ~ 149°F) EOT: -40°C ~ 75°C (-40°F ~ 167°F)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Ambient Relative Humidity	5 to 95%, (non-condensing)
Regulatory Approvals	
EMI	FCC Part 15 Subpart B Class A, CE EN55032/EN61000-6-4 Class A
EMS	CE EN55035/EN61000-6-2 Class IEC61000-4-2 (ESD), IEC61000-4-3 (RS), IEC61000-4-4 (EFT), IEC61000-4-5 (Surge), IEC61000-4-6 (CS), IEC61000-4-8 (Magnetic Field)
Free Fall	IEC60068-2-32
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Green	RoHS Compliant
Safety	UL61010-1, UL61010-2-201, ISA 12.12.01
Compliance	NEMA TS2 (ITS)
MTBF (Telcordia SR-332, Issue 3, GB, 25°C)	BG5-1204-SFP Series: 342,877 hrs. BG5-1204-SFP-24 Series: 332,002 hrs.
Warranty	5 Years
NOTE: Due to continuous improvement, all product specifications are subject to change without further notice.	

Packet Contents

	pcs
BG5-1204-SFP(-24) (-T) Ethernet switch	1
RJ45 (Male) to DB-9 RS-232 (Female) serial console cable	1
Wall-mount installation kits	2
Quick installation guide (printed)	1

Comparison Table

Model Name	10/100/1000 PoE+	10/100/1000 bt PoE++	100/1000 SFP	Power Inputs	PoE Max. Power Budget	Operating Temperature
BG5-1204-SFP	4	4	4	48-55VDC	240W	-10˚C ~ 65˚C
BG5-1204-SFP-T	4	4	4	48-55VDC	240W	-40˚C ~ 75˚C
BG5-1204-SFP-24	4	4	4	12-55VDC	90W@12VDC, 180W@24VDC, 240W@48-55VDC	-10˚C ~ 65˚C
BG5-1204-SFP-24-T	4	4	4	12-55VDC	90W@12VDC, 180W@24VDC, 240W@48-55VDC	-40˚C ~ 75˚C

Ordering Information

BG5-1204-SFP	12-Port Industrial Gigabit PoE++ Managed Ethernet Switch -8*10/100/1000BASE-T with 4*bt PoE-PSE (90W/Port) & 4*at PoE-PSE (30W/Port) + 4*100/1000BASE-X SFP Slots, 48-55VDC, -10˚C ~ 65˚C
BG5-1204-SFP-T	12-Port Industrial Gigabit PoE++ Managed Ethernet Switch -8*10/100/1000BASE-T with 4*bt PoE-PSE (90W/Port) & 4*at PoE-PSE (30W/Port) + 4*100/1000BASE-X SFP Slots, 48-55VDC, -40°C ~ 75°C
BG5-1204-SFP-24	12-Port Industrial Gigabit PoE++ Managed Ethernet Switch

	-8*10/100/1000BASE-T with 4*bt PoE-PSE (90W/Port) & 4*at PoE-PSE (30W/Port) + 4*100/1000BASE-X SFP Slots, 12-55VDC, -10°C ~ 65°C
BG5-1204-SFP-24-T	12-Port Industrial Gigabit PoE++ Managed Ethernet Switch -8*10/100/1000BASE-T with 4*bt PoE-PSE (90W/Port) & 4*at PoE-PSE (30W/Port) + 4*100/1000BASE-X SFP Slots, 12-55VDC, -40°C ~ 75°C

Optional Accessories - Power Supply Series

30W Power Supply Series	
HDR-30-24	36W Industrial DIN-Rail Power Supply, 24VDC/1.5A, Universal 85-264VAC/120-370VDC power input, Plastic, -30°C ~ 70°C
60W Power Supply Series	
HDR-60-24	60W Industrial DIN-Rail Power Supply, 24VDC/2.5A, Universal 88-264VAC/124-370VDC power input, Plastic, -30°C ~ 70°C
MDR-60-24	60W Industrial DIN-Rail Power Supply, 24VDC/2.5A, Universal 85-264VAC/120-370VDC power input, Plastic, -20°C ~ 70°C
75W Power Supply Series	
EDR-75-48	75W Industrial DIN-Rail Power Supply, 48VDC/1.6A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 60°C
NDR-75-48	75W Industrial DIN-Rail Power Supply, 48VDC/1.6A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 70°C
120W Power Supply Series	
EDR-120-48	120W Industrial DIN-Rail Power Supply, 48VDC/2.5A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 60°C
NDR-120-24	120W Industrial DIN-Rail Power Supply, 24VDC/5A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 70°C
NDR-120-48	120W Industrial DIN-Rail Power Supply, 48VDC/2.5A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 70°C
240W Power Supply Series	
NDR-240-48	240W Industrial DIN-Rail Power Supply w/ PFC, 48VDC/5A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 70°C
SDR-240-24	240W Industrial DIN-Rail Power Supply w/ PFC, 24VDC/10A, Universal 88-264VAC/124-370VDC power input, Metal, -25°C ~ 70°C
480W Power Supply Series	
NDR-480-48	480W Industrial DIN-Rail Power Supply w/ PFC, 48VDC/10A, Universal 90-264VAC/127-370VDC power input, Metal, -20°C ~ 70°C

OPTIONAL ACCESSORIES - SFP Transceiver Series

100Mbps Multi-mode SFP Transceiver Modules Series	
SFP-TM02	100Mbps SFP Transceiver/LC, MMF, 2KM, 1310nm, 0°C ~ 70°C
SFP-TM02-T	100Mbps SFP Transceiver/LC, MMF, 2KM, 1310nm, -40°C ~ 85°C
100Mbps Single-mode SFP Transceiver Modules Series	
SFP-TS20-WA	100Mbps BiDi SFP Transceiver/LC, SMF, 20KM, TX: 1310nm/RX: 1550nm, 0°C ~ 70°C
SFP-TS20-WA-T	100Mbps BiDi SFP Transceiver/LC, SMF, 20KM, TX: 1310nm/RX: 1550nm, -40°C ~ 85°C
SFP-TS20-WB	100Mbps BiDi SFP Transceiver/LC, SMF, 20KM, TX: 1550nm/RX: 1310nm, 0°C ~ 70°C
SFP-TS20-WB-T	100Mbps BiDi SFP Transceiver/LC, SMF, 20KM, TX: 1550nm/RX: 1310nm, -40°C ~ 85°C
SFP-TS30	100Mbps SFP Transceiver/LC, SMF, 30KM, 1310nm, 0°C ~ 70°C
SFP-TS30-T	100Mbps SFP Transceiver/LC, SMF, 30KM, 1310nm, -40°C ~ 85°C
1Gbps Multi-mode SFP Transceiver Modules Series	
SFP-GM00	1Gbps SFP Transceiver/LC, MMF, 550M, 850nm, 0°C ~ 70°C
SFP-GM00-T	1Gbps SFP Transceiver/LC, MMF, 550M, 850nm, -40°C ~ 85°C
SFP-GM02	1Gbps SFP Transceiver/LC, MMF, 2KM, 1310nm, 0°C ~ 70°C

SFP-GM02-T	1Gbps SFP Transceiver/LC, MMF, 2KM, 1310nm, -40˚C ~ 85˚C
1Gbps Single-mode SFP Transceiver Modules Series	
SFP-GS10	1Gbps SFP Transceiver/LC, SMF, 10KM, 1310nm, 0˚C ~ 70˚C
SFP-GS10-T	1Gbps SFP Transceiver/LC, SMF, 10KM, 1310nm, -40˚C ~ 85˚C
SFP-GS10-WA	1Gbps BiDi SFP Transceiver/LC, SMF, 10KM, TX: 1310nm/RX: 1550nm, 0˚C ~ 70˚C
SFP-GS10-WA-T	1Gbps BiDi SFP Transceiver/LC, SMF, 10KM, TX: 1310nm/RX: 1550nm, -40˚C ~ 85˚C
SFP-GS10-WB	1Gbps BiDi SFP Transceiver/LC, SMF, 10KM, TX: 1550nm/RX: 1310nm, 0˚C ~ 70˚C
SFP-GS10-WB-T	1Gbps BiDi SFP Transceiver/LC, SMF, 10KM, TX: 1550nm/RX: 1310nm, -40˚C ~ 85˚C
SFP-GS20	1Gbps SFP Transceiver/LC, SMF, 20KM, 1310nm, 0˚C ~ 70˚C
SFP-GS20-T	1Gbps SFP Transceiver/LC, SMF, 20KM, 1310nm, -40˚C ~ 85˚C
SFP-GS40	1Gbps SFP Transceiver/LC, SMF, 40KM, 1310nm, 0˚C ~ 70˚C
SFP-GS40-T	1Gbps SFP Transceiver/LC, SMF, 40KM, 1310nm, -40˚C ~ 85˚C
SFP-GS40-WA	1Gbps BiDi SFP Transceiver/LC, SMF, 40KM, TX: 1310nm/RX: 1550nm, 0˚C ~ 70˚C
SFP-GS40-WB	1Gbps BiDi SFP Transceiver/LC, SMF, 40KM, TX: 1550nm/RX: 1310nm, 0˚C ~ 70˚C
SFP-GS60	1Gbps SFP Transceiver/LC, SMF, 60KM, 1550nm, 0˚C ~ 70˚C
SFP-GS60-T	1Gbps SFP Transceiver/LC, SMF, 60KM, 1550nm, -40˚C ~ 85˚C
SFP-GS60-WA	1Gbps BiDi SFP Transceiver/LC, SMF, 60KM, TX: 1310nm/RX: 1550nm, 0˚C ~ 70˚C
SFP-GS60-WB	1Gbps BiDi SFP Transceiver/LC, SMF, 60KM, TX: 1550nm/RX: 1310nm, 0˚C ~ 70˚C
SFP-GS80	1Gbps SFP Transceiver/LC, SMF, 80KM, 1550nm, 0˚C ~ 70˚C
SFP-GS80-T	1Gbps SFP Transceiver/LC, SMF, 80KM, 1550nm, -40˚C ~ 85˚C
SFP-GSH2	1Gbps SFP Transceiver/LC, SMF, 120KM, 1550nm, 0˚C ~ 70˚C
SFP-GSH2-T	1Gbps SFP Transceiver/LC, SMF, 120KM, 1550nm, -40˚C ~ 85˚C
Copper SFP Transceiver Modules Series	
SFP-GC00-SG	SFP to 10/100/1000BASE-T copper Module, 0˚C ~ 70˚C
SFP-GC00-SE	SFP to 1000BASE-T copper Module, 0˚C ~ 70˚C