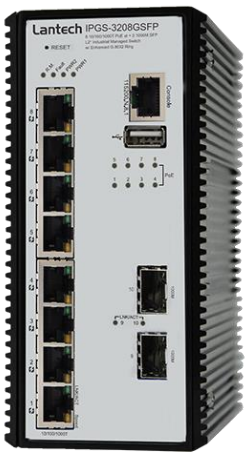
IPGS-3208GSFP

8 10/100/1000T + 2 1000M SFP L2+ w/8 PoE at/af Industrial Managed Switch w/ Enhanced G.8032 Ring; Optional 12V input model

- *SFP cage support 1G Mbps SFP*
- *Support IEEE802.3at/af up to 30W per port*
- *PoE management incl. Detection and Scheduling*
- *Enhanced G.8032 ring protection < 20ms for single ring. Supports enhanced mode and basic mode; Enhanced G.8032 ring covers multicast packets; MSTP 8 MSTI /RSTP*
- *Miss-wiring avoidance & node failure protection*
- *User friendly UI, including auto topology drawing and DDM threshold monitoring with DB values***; Complete CLI*
- *Support LACP link aggregation, IGMP v3/router port, DHCP server & DHCP Option82; DHCP Snooping; Port based DHCP distribution, Mac based DHCP server, SSH v2/SSL, HTTPS, INGRESS ACL L2/L3*
- *Optional Environmental Monitoring** for temp., voltage ,current and PoE load*
- *Dual 12V/48V input voltage selection; Max PoE budget 120W @24V; 240W@48V*
- *USB port for backup, restore the configuration file*
- *Wide range operation temperature (-E model):-40~75C/-40~167F*



PoE AT 30W | 12V booster 48V | ITU G.8032 | Environmental Monitoring | USB Restore &Backup | FC | CE | RoHS2

OVERVIEW

Lantech IPGS-3208GSFP is a high performance L2+ all Gigabit switch with 8 10/100/1000T + 2x 1G multi-Giga rate SFP w/8 PoE 802.3af/at Injectors which provides L2 wire speed and advanced security function for network aggregation deployment. It delivers ITU G.8032 enhanced ring recovery less than 20ms for single ring, comprehensive QoS, VLAN, GVRP, advanced security SSH v2/SSL, INGRESS ACL L2/L3, IGMPv1/v2/v3/router port, DHCP server/relay, jumbo frame which are important features required in mid and large network. It also supports Cisco Discovery Protocol (CDP) and LLDP for Ciscoworks to detect the switch info and to be shown on L2 map topology.

PoE at/af up to 8 Giga Ports with detection and scheduling

Lantech IPGS-3208GSFP supports advanced PoE management including PoE detection and scheduling. PoE detection can detect if the connected PD hangs then restart the PD; PoE scheduling is to allow pre-set power feeding schedule upon routine time table. Each PoE ports can be Enabled/disabled, get the voltage, current, Watt, and temperature info displayed on WebUI.

Miss-wiring avoidance, Node failure protection, Loop protection

The IPGS-3208GSFP also embedded several features for stronger and reliable network protection in an easy and intuitive way. When the pre-set ring configuration failed or looped by miss-wiring, Lantech IPGS-3208GSFP is able to alert with the LED indicator and disable ring automatically. Node failure protection ensures the switches in a ring to survive after power breakout is back. The status can be shown in NMS when each switch is back. This feature prevents the broken ring and keep ring alive without any re-configuration needed. Loop protection is also available to prevent the generation of broadcast storm when a dumb switch is inserted in a closed loop connection.

User friendly GUI, Auto topology drawing

The user friendly UI, innovative auto topology drawing and topology demo makes IPGS-3208GSFP much easier to get hands-on. The complete CLI enables professional engineer to configure setting by command line.

Enhanced G.8032 ring, 8 MSTI MSTP

Lantech IPGS-3208GSFP features enhanced G.8032 ring which can be self-healed in less than 20ms for single ring topology protection covering multicast packets. It also supports various ring topologies that covers enhanced ring and basic ring by easy setup than others. It supports MSTP that allows each spanning tree for each VLAN for redundant links with 8 MSTI.

DHCP option 82 & Port based, Mac based DHCP, Option66, DHCP Snooping

DHCP server can assign dedicated IP address by MAC or by port (Port based for single switch), it also can assign IP

address by port for multiple switches with single DHCP option82 server. DHCP Snooping is supported. DHCP Option66 server can offer IP address of TFTP server to DHCP client for VOIP application.

GVRP supported
It supports the GVRP for large VLAN segmentation.

IGMPv3, GMRP, router port, static multicast forwarding and multicast Ring protection
The unique multicast protection under enhanced G.8032 ring can offer immediate self-recovery instead of waiting for IGMP table timeout. It also supports IGMPv3, GMRP, router port and static multicast forwarding binding by ports for video surveillance application.

Editable configuration text file; Factory reset button; CPU watchdog
The configuration file of Lantech IPGS-3208GSFP can be exported in text file so that it can be edited and configured back to switch with ease for mass deployment. Factory reset button can restore the setting back to factory default and built-in watchdog design can automatically reboot the switch when CPU is found dead. IPGS-3208GSFP also supports dual image firmware function.

USB port for back up, restore configuration and upgrade firmware
The built-in USB port can upload/download the firmware through USB dongle for switch replacement.

Event log & message; 2 DI + 2DO
In case of event, the IPGS-3208GSFP is able to send an email to pre-defined addresses as well as SNMP Traps out immediately. It provides 2DI and 2DO. When disconnection of the specific port was detected; DO will activate the signal LED to alarm. DI can integrate the sensors for events and DO will trigger the alarm while sending alert information to IP network with email and traps.

Relay alarm and email/trap alerting
Featured with relay contact alarm function, the IPGS-3208GSFP is able to connect with alarm system in case of power failure and port disconnection. In case of such event, it will send out email, trap alerting to predefined users.

Optional environmental monitoring** for switch inside information (-M model)
The environmental monitoring can detect switch overall temperature, voltage and current where can send the SNMP traps, and email alert when abnormal.

Dual 12V~48V input with boost technology to 54V PoE output for 12V model, PoE budget 80W
Lantech IPGS-3208GSFP-12V is designed with dual input power at 9.5V~56VDC while IPGS-3208GSFP-48V allows 44~56VDC input. The PoE budget for 12V input is 80W and 24V input is 120W.

Industrial hardened design for extended temperature operation
Lantech IPGS-3208GSFP provides ±4000V EFT/SURGE and ±8000V contact ESD protection, which can reduce unstable situation caused by power line and Ethernet. It has high reliability and robustness coping with extensive EMI/RFI phenomenon, environmental vibration and shocks usually found in Automation, transportation, surveillance, Wireless backhaul, Semi-conductor factory and assembly lines.

The -E model can be used in extreme environments with an operating temperature range of -40°C to 75°C.

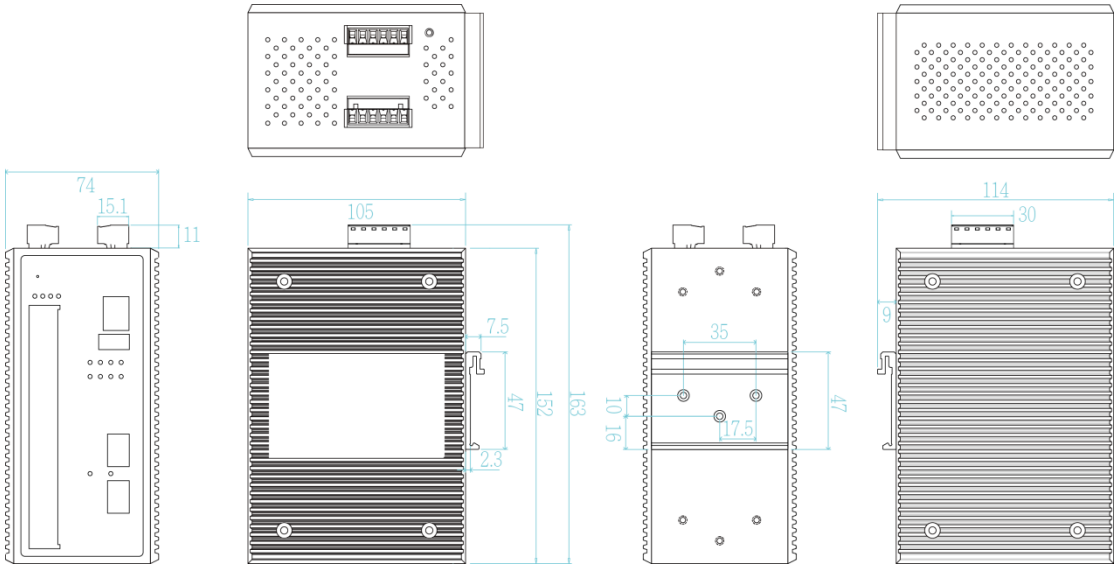
FEATURES & BENEFITS

- **8 10/100/1000T + 2 1G SFP w/8 PoE 802.3af/at Injectors (Total 10 Ports Switch)**
- **Support 10K bytes jumbo frames**
- **Embedded 8 PoE Injectors IEEE802.3af/at function to feed power up to 30W per port for active operation**
- **Dual 12V input (9.5V~56VDC) for PoE budget 80W/ 24V input for PoE budget 120W**
- **Dual 48V input (44V~56VDC to offer 240W PoE budget**
- **PoE management including PoE detection and scheduling for PD (power devices)**
- **Back-plane (Switching Fabric): 20Gbps**
- **16K MAC address table**
- **DDM to support SFP diagnostic function*****
  - *Automatically convert the raw data into dB values for TX power/RX power, making it easier to measure the fiber distance*
- **10KB Jumbo frame**
- **User friendly UI, auto topology drawing, topology demo, complete CLI for professional setting**
- **Enhanced G.8032 Ring protection in 20ms for single ring**
  - *Support various ring/chain topologies, including enhanced ring and basic ring*
  - *Enhanced G.8032 ring configuration with ease*
  - *Cover multicast and data packets protection*
- **Provides EFT/SURGE protection ±2000 VDC for power line**
- **Supports ±6000 VDC ESD contact protection**
- **Supports IEEE 802.1p Class of Service, per port provides 8 priority queues Port base, Tag Base and Type of Service Priority**
- **IEEE 802.1d STP, IEEE 802.1w RSTP,802.1s MSTP VLAN redundancy with 8 MSTI**
- **4K 802.1Q VLAN, Port based VLAN, GVRP**
- **Supports IEEE 802.1ab LLDP, Cisco CDP; LLDP info can be viewed via Web/ Console**
- **DHCP server / client / DHCP Option 82 relay / DHCP Option 82 server; Port based DHCP server; DHCP Snooping; DHCP option 66**
- **Bandwidth Control**

- *Ingress packet filter*
- *Broadcast/multicast packet filter control*

- **Relay alarm output system events**
- **Miss-wiring avoidance**
  - *LED indicator*
- **Node failure protection**
  - *Ensure the switches in a ring to survive after power breakout is back*
  - *The status can be shown in NMS when each switch is back*
- **System Event Log, SMTP Email alert and SNMP Trap for alarm support; 32 RMON counters**
- **Security**
  - *SSL/SSH v2/INGRESS ACL L2/L3*
  - *Port Security: MAC address entries/Filter/static MAC-Port binding*
  - *Remote Admin: IP address security management to prevent unauthorized intruder.*
  - *Login Security: IEEE802.1X/RADIUS*
  - *HTTPS for secure access to the web interface*
- **Static multicast forwarding forward reversed IGMP flow with multicast packets binding with ports for IP surveillance application**
- **IGMP router port to assign query in ring for reversed multicast video flow**
- **IGMPv1,v2,v3 with Query mode for multimedia; GMRP**
- **Dual image firmware support**
- **Factory reset button to restore setting to factory default**
- **Optional environmental monitoring for system input voltage, current, ambient temperature**
- **Configuration backup and restoration**
  - *Supports editable configuration file for system quick installation*
  - *USB port for upload / download configuration by USB dongle*
- **TFTP/ HTTP firmware upgrade**
- **Watchdog design to auto reboot switch CPU is found dead**
- **IP30 metal housing with DIN rail and Wall-mount** design**
- **Supports ±4000 VDC (Contact) and ±8000 VDC (Air) Ethernet ESD protection**

DIMENSIONS (unit=mm)



SPECIFICATION

Hardware Specification

Standards	IEEE802.3 10Base-T Ethernet IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T Ethernet IEEE802.3z Gigabit fiber IEEE802.3x Flow Control and Back Pressure IEEE802.3ad Port trunk with LACP IEEE802.1d Spanning Tree IEEE802.1w Rapid Spanning Tree IEEE802.1s Multiple Spanning Tree IEEE802.3ad Link Aggregation Control Protocol (LACP)
	IEEE802.1AB Link Layer Discovery Protocol (LLDP) IEEE802.1X User Authentication (Radius) IEEE802.1p Class of Service IEEE802.1Q VLAN Tag IEEE802.3at/af Power over Ethernet
Switch Architecture	Back-plane (Switching Fabric): 20Gbps
Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Fiber / Gigabit Ethernet port
CPU	1600 MHz
Flash	256M Byte
RAM	512M Byte

Mac Address	16K MAC address table
Jumbo frame	10KB
Connectors	10/100/1000T: 8 x ports RJ-45 with Auto MDI/MDI-X function SFP port: 2 x 1G SFT cage by software with DDMI supported RS-232 connector: RJ-45 type; USB x 1 Power & Relay connector: 1 x 6-pole terminal block
Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m) 1000Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m)
Optical Cable	**1Gbps:** Multi mode: 0 to 550 m, 850 nm (50/125 µm); 0 to 2 km, 1310 nm (50/125 µm) Single mode: 0 to 10 km/ 30 km/ 40 km, 1310 nm (9/125 µm); 0 to 50 km/ 60 km/ 80km/ 120 km, 1550 nm (9/125 µm) **WDM 1Gbps:** Single mode: 0 to 10 km/ 20 km/ 40 km/ 60 km, 1310 nm (9/125 µm); 0 to 80 km, 1490 nm (9/125 µm); 0 to 10 km/ 20 km/ 40 km/ 60 km/ 80 km, 1550 nm (9/125 µm)
LED	Per unit: Power 1 (Green), Power 2 (Green), FAULT (Red); RM(Green) Ethernet port: Link/Activity (Green), Speed (Amber); PoE : Link/Act (Green); Mini-GBIC: Link/Activity (Green)
Operating Humidity	5% ~ 95% (Non-condensing)
Operating Temperature	-20°C~60°C / -4°F~140°F (Standard model) -40°C~75°C / -40°F~167°F(-E model)
Storage Temperature	-40°C~85°C / -40°F~185°F
Power Supply	44~56VDC(48V model); 9.5V~56VDC(12V model)
PoE Budget	240W for 44~56V input(48V model) (54V input is recommended for PTZ or heater applications) 80W at 12V input; 120W at 24V input(12V model)
PoE pin assignment	RJ-45 port # 1~ # 8 support IEEE 802.3at/af End-point. Per port provides up to 30W Positive (VCC+): RJ-45 pin 1,2. Negative (VCC-): RJ-45 pin 3,6.
Power Consumption	10W
Case Dimension	IP-30, 74 (W) x 114 (D) x 152 (H) mm
Weight	900g
Installation	DIN Rail and Wall Mount** Design
EMI & EMS	FCC Part 15 Class A CE EN55011, CE EN55032 Class A CE EN55024: CE EN61000-4-2 (ESD) Level 3 CE EN61000-4-3 (RS) Level 3 CE EN61000-4-4 (EFT) Level 3 CE EN61000-4-5 ED3 (Surge) Level 3 CE EN61000-4-6 (CS) Level 3 CE EN61000-4-8 (Magnetic field) Level 3
Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Safety	EN62368 (LVD)
MTBF	12V: 661,155 (Hrs) 48V: 683,567 (Hrs) (standards: IEC 62380)
Warranty	5 years

Software Specification

Management	SNMP v1 v2c, v3/ Web/Telnet/CLI
SNMP MIB	RFC 1213 MIBII RFC 1158 MIBII RFC 1157 SNMP MIB, RFC 1573 IF MIB Partial RFC 1757 RMON, Bridge MIB, LLDP MIB Private MIB
Enhanced G.8032 ring	Support ITU G.8032 v2/2012 for Ring protection in less than 20ms for self-heal recovery (single ring enhanced mode) Support various ring/chain topologies Includes basic single ring and enhanced ring Enhanced G.8032 ring configuration with ease Cover multicast & data packets protection
PoE Management	1. PoE Detection to check if PD is hang up then restart the PD 2. PoE Scheduling to On/OFF PD upon routine time table
Per Port PoE Status	On/ Off, voltage, current, watts, temperature
User friendly UI	■ Auto topology drawing ■ Topology demo ■ DDM threshold monitoring with dB values*** ■ Complete CLI for professional setting
Port Trunk with LACP	LACP Port Trunk: 8 Trunk groups
LLDP	Supports LLDP to allow switch to advise its identification and capability on the LAN
CDP	Cisco Discovery Protocol for topology mapping
VLAN	Port Based VLAN IEEE 802.1Q Tag VLAN (256 entries)/ VLAN ID (Up to 4K, VLAN ID can be assigned from 1 to 4096.) GVRP
IPv6/4	Present
RSTP/MSTP	Supports IEEE802.1d Spanning Tree and IEEE802.1w Rapid Spanning Tree, IEEE802.1s Multiple Spanning Tree 8 MSTI
Quality of Service	The quality of service determined by port, Tag and IPv4 Type of service, IPv4 Differentiated Services Code Points - DSCP
Class of Service	Support IEEE802.1p class of service, per port provides 8 priority queues
Remote Admin	Supports 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.
Login Security	Supports IEEE802.1X Authentication/RADIUS
Port Mirror	Support 3 mirroring types: “RX, TX and Both packet”
Network Security	Support 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder. 802.1X access control/MAC-Port binding INGRESS ACL L2/L3 SSL/ SSH v2 for Management HTTPS for secure access to the web interface
IGMP	Support IGMP snooping v1,v2,v3; 1024 multicast groups; IGMP router port ; IGMP query; GMRP
Static MAC-Port bridge	Static multicast forwarding forward reversed IGMP flow with multicast packets binding with ports for IP surveillance application
Bandwidth Control	Support ingress packet filter. Ingress filter packet type combination rules are Broadcast/Multicast/Flooded Unicast packet, Broadcast/Multicast packet, Broadcast packet only and all types of packet. The packet filter rate can be set an accurate value through the pull-down menu for the ingress packet filter.
Flow Control	Supports Flow Control for Full-duplex and Back Pressure for Half-duplex
System Log	Supports System log record and remote system log server
SMTP	Supports SMTP Server and 8 e-mail accounts for receiving event alert
Relay Alarm	Provides one relay output for port breakdown, power fail and alarm. Alarm Relay current carry ability: 1A @ DC24V
Protection	■ Miss-wiring avoidance ■ Node failure protection ■ Loop protection
SNMP Trap	Up to 10 trap stations; trap types including: ● Device cold start ● Authorization failure ● Port link up/link down

	• DI/DO open/close • Topology change (ITU ring) • Power failure • Environmental abnormal
DHCP	Provide DHCP Client/ DHCP Server/DHCP Option 82 (Client & Server)/Port based DHCP; DHCP Snooping; DHCP option 66
DNS	Provide DNS Client feature and support Primary and Secondary DNS server.
SNTP	Supports SNTP to synchronize system clock in Internet
Environmental Monitoring**	System status for input voltage, current, consumption and ambient temperature to be shown in GUI and sent alerting if any abnormal status (-M models)
Firmware Update	Supports TFTP firmware update, TFTP backup and restore; HTTP firmware upgrade
Configuration upload and download	Supports editable configuration file for system quick installation; Support factory reset button to restore all settings back to factory default; USB port for upload/download configuration by USB dongle
Dual Image Firmware	Support dual image firmware function

*Future Release
**Optional
***Optional DDM SFP required

ORDERING INFORMATION

- **IPGS-3208GSFP-48V…….. …..…...P/N: 8350-9903**
  8 10/100/1000T + 2 1Gbps SFP w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch; dual 44~56VDC input; -20°C to 60°C
- **IPGS-3208GSFP-48V-E…….…..P/N: 8350-9904**
  8 10/100/1000T + 2 1Gbps SFP w/8 .PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch; dual 44~56VDC input; -40°C to 75°C
- **IPGS-3208GSFP-12V…….. ….....P/N: 8350-9923**
  8 10/100/1000T + 2 1Gbps SFP w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch, dual 9.5V~56VDC input; -20°C to 60°C
- **IPGS-3208GSFP-12V-E……..P/N: 8350-9924**
  8 10/100/1000T + 2 1Gbps SFP w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch, dual 9.5V~56VDC input, -40°C to 75°C
- **IPGS-3208GSFP-M-48V…..……..……..P/N: 8350-9913**
  8 10/100/1000T + 2 1Gbps SFP w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch w/Environmental monitoring; dual 44~56VDC input; -20°C to 60°C
- **IPGS-3208GSFP-M-48V-E…….…..P/N: 8350-9914**
  8 10/100/1000T + 2 1Gbps SFP w/8 .PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch w/Environmental monitoring; dual 44~56VDC input; -40°C to 75°C
- **IPGS-3208GSFP-M-12V…….…..P/N: 8350-9925**
  8 10/100/1000T + 2 1Gbps SFP w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch w/Environmental monitoring, dual 9.5V~56VDC input; -20°C to 60°C
- **IPGS-3208GSFP-M-12V-E……..P/N: 8350-9926**
  8 10/100/1000T + 2 1Gbps SFP w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch w/Environmental monitoring, dual 9.5V~56VDC input, -40°C to 75°C

OPTIONAL ACCESSORIES

DIN Rail Power

- **NDR-480 Series** 480W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)
- **NDR-240 Series** 240W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)
- **NDR-120 Series** 120W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C; For 115VAC, please refer to derating curve on NDR-120 Series datasheet)
- **NDR-75 Series** 75W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ; Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C; For 115VAC, please refer to derating curve on NDR-120 Series datasheet)

Mini GBIC (SFP)

- **8330-162X** MINI GBIC 1000SX (LC/0.5km) Transceiver
- **8330-163X** MINI GBIC 1000SX2 (LC/2km) Transceiver
- **8330-165X** MINI GBIC 1000LX (LC/10km) Transceiver
- **8340-0591** MINI GBIC 1000LHX (LC/40km) Transceiver
- **8330-166** MINI GBIC 1000XD (LC/50km) Transceiver
- **8330-169** MINI GBIC 1000XD (LC/60km) Transceiver
- **8330-167** MINI GBIC 1000ZX (LC/80km) Transceiver
- **8330-170** MINI GBIC 1000EZX (120km) Transceiver
- **8330-168** MINI GBIC 1000T (100m) Transceiver
- **8330-188** LTSFP-1000BX-10KM Transceiver (WDM 1310)
- **8330-189** LTSFP-1000BX-10KM Transceiver (WDM 1550)
- **8330-186** LTSFP-1000BX-20KM Transceiver (WDM 1310)
- **8330-187** LTSFP-1000BX-20KM Transceiver (WDM 1550)
- **8330-180** LTSFP-1000BX-40KM Transceiver (WDM 1310)
- **8330-182** LTSFP-1000BX-40KM Transceiver (WDM 1550)
- **8330-181** LTSFP-1000BX-60KM Transceiver (WDM 1310)
- **8330-183** LTSFP-1000BX-60KM Transceiver (WDM 1550)
- **8330-184** LTSFP-1000BX-80KM Transceiver (WDM 1490)
- **8330-185** LTSFP-1000BX-80KM Transceiver (WDM 1550)

All SFP ended with D are with Diagnostic function

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