

IES-5408DSFP

4 100/1000 SFP + 8 10/100TX L2+ Industrial Managed Ethernet Switch w/

Enhanced G.8032 Ring

- Enhanced G.8032 ring protection < 20ms for single ring. Supports auto mode, enhanced mode, train mode, multi-VLAN and basic mode; Enhanced G.8032 ring covers multicast packets; MSTP 16MSTI /RSTP; support MRP ring
- Miss-wiring avoidance & node failure protection
- User friendly UI, including auto topology drawing; Complete CLI
- Support LACP link aggregation, MLD snooping, IGMP v3/router port, DHCP server & DHCP Option82; DHCP Snooping; Port based DHCP distribution, Mac based DHCP server, QoS by VLAN, SSH v2/SSL, HTTPS, INGRESS/EGRESS ACL L2/L3, TACACS+**, QinQ
- Protocol based VLAN; IPv4 Subnet based VLAN
- Optional Environmental Monitoring for temp., voltage and current (-M















OVERVIEW

Lantech IES-5408DSFP is a high performance L2+ (Gigabit uplink) switch with 8 10/100TX + 4 Dual Speed SFP which provides L2 wire speed and advanced security function for network aggregation deployment. It delivers ITU G.8032 enhanced ring recovery less than 20ms in single ring while also supports train ring, enhanced mode, multiple VLAN model with easy configuration.

The comprehensive QoS, QoS by VLAN, advanced security including INGRESS/EGRESS ACL L2/L3. TACACS+**. SSH v2/SSL, Mac based DHCP server, DHCP Option 82, DHCP server, IGMPv1/v2/v3/router port, QinQ are supported and also required in large network. It also supports Cisco Discovery Protocol (CDP) for Ciscoworks to detect the switch info and show on L2 map topology.

Miss-wiring avoidance, Node failure protection, Loop protection

The IES-5408DSFP 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 IES-5408DSEP 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

Loop protection is also available to prevent the generation of broadcast storm when a dumb switch is inserted in a closed loop connection.

DHCP option 82 & Port based, Mac based DHCP, Option66; DHCP Snooping, IPv6 DHCP server

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. For the ending device which need to download file from TFTP server, DHCP Option66 server can offer IP address of TFTP server to DHCP client. Basic IPv6 DHCP service can be supported.

Auto-provisioning for firmware/configuration update

The switch supports auto-provisioning for switch to auto-check the latest software image and configuration through TFTP server.

User friendly GUI, Auto topology drawing

The user friendly UI, innovative auto topology drawing and topology demo makes IES-5408DSFP much easier to get hands-on. The complete CLI enables professional engineer to configure setting by command line.

Enhanced G.8032 ring, 16 MSTI MSTP; MRP ring

Lantech IES-5408DSFP 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 double ring, multi-chain (under enhanced ring), train ring, basic ring multiple-VLAN ring and auto-ring by easy setup than others. The innovative auto-Ring configurator (auto mode) can calculate owner and neighbor in one step. It supports MSTP that allows each spanning tree for each VLAN for redundant links with 16 MSTI.

MRP (Media Redundancy Protocol) can be supported for industrial automation networks.

Editable configuration file



The configuration file of Lantech IES-5408DSFP can be exported and edited with word processor for the other switches configuration with ease. The 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.

QoS by VLAN for legacy device

QoS by VLAN can allow switch to tag QoS by VLAN regardless the devices acknowledge QoS or not in which greatly enhance the bandwidth management in a network.

QinQ, QoS and GVRP supported

It supports the QinQ, QoS and GVRP for large VLAN segmentation.

IGMPv3, GMRP, router port, MLD Snooping, 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, MLD snooping and static multicast forwarding binding by ports for video surveillance application.

802.1X security by MAC address

MAC-based port authentication is an alternative approach to 802.1x for authenticating hosts connected to a port. By authenticating based on the host's source MAC address, the host is not required to run a user for the 802.1x protocol. The RADIUS server that performs the authentication will inform the switch if this MAC can be registered in the MAC address table of switch.

Event log & message; 2DI / 2DO

In case of event, the IES-5408DSFP 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.

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 when abnormal.

Wide range dual DC powered input with galvanic isolation; Relay contact alarm

The Lantech IES-5408DSFP is designed with dual power supply at 18~56VDC or single power supply at 90~305VAC/120~430VDC. Featured with relay contact alarm function, the IES-5408DSFP is able to connect with alarm system in case of power failure. The IES-5408DSFP also provides ±2000V EFT/SURGE and ±4000 VDC (Contact) / ±8000 VDC (Air) Ethernet ESD protection, which can reduce unstable situation caused by power line and Ethernet.

Industrial hardened design for extended temperature operation

Lantech IES-5408DSFP features high reliability and robustness coping with extensive EMI/RFI phenomenon, environmental vibration and shocks usually found in factory, substation, steel automation, aviation, mining and process control. It is the best solution for 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°.

FEATURES & BENEFITS

- 8 10/100TX + 4 Dual Speed SFP (Total 12 Ports Switch)
- Back-plane (Switching Fabric): 9.6Gbps
- 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
- Galvanic isolation from power input/Ethernet ports to system 1.5KV
- Enhanced G.8032 Ring protection in 20ms for single ring
 - Support various ring/chain topologies, including train ring, enhanced ring, basic ring, auto ring & multiple VLAN ring
 - Enhanced G.8032 ring configuration with ease
 - Auto ring configuration(auto mode) for single ring
 - · Cover multicast and data packets protection

- Dual DC input from 18V~56VDC, HV model with single 90~305VAC or 120~430VDC power input
- Provides EFT protection ±2000 VDC for power line.
- Supports ±4000 VDC (Contact) and ±8000 VDC (Air)
 Ethernet ESD 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 16 MSTI
- 4K 802.1Q VLAN, Port based VLAN, GVRP, QinQ, QoS
- 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 Option 66; DHCP Snooping; Basic IPv6 DHCP server
- Mac based DHCP server to assign IP address
- Bandwidth Control
 - Ingress packet filter and egress rate limit
 - Broadcast/multicast packet filter control
- Relay alarm output system events

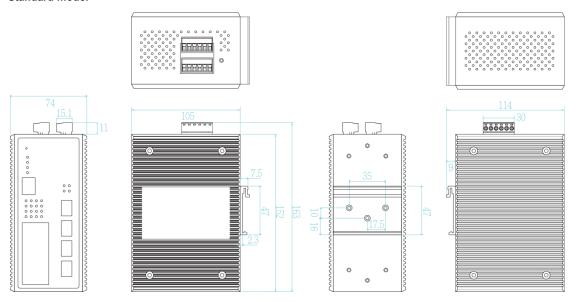


- Miss-wiring avoidance
 - LED indicator
- Node failure protection
 - Ensure the switches in a ring to survive after power breakout is back
 - The status can be shown in NMS when each switch is back
- TFTP/HTTP firmware upgrade
- System Event Log and SNMP Trap for alarm support; 32 RMON counters
- Security
 - SSL/SSH v2/INGRESS/EGRESS ACL L2/L3
 - MAC address table: MAC address entries/Filter/MAC-Port binding
 - IP Security: IP address security management to prevent unauthorized intruder.
 - TACACS+**
 - 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
- Multicast VLAN registration* for metro video
- IGMPv1,v2,v3 with Query mode for multimedia; GMRP**
- Factory reset button to restore setting to factory default
- Watchdog design to auto reboot switch CPU is found dead
- Environmental monitoring for system input voltage, current and ambient temperature. (-M model)
- Supports 2DI /2DO (Digital Input/Digital Output)
- MLD Snooping for IPv6 Multicast stream
- Diagnostic including Ping / DDM information
- Configuration backup and restoration
 - Supports editable configuration file for system quick installation
- IP30 metal housing with DIN rail and Wall-mount**
- Auto Provision to verify switch firmware with the latest or certain version

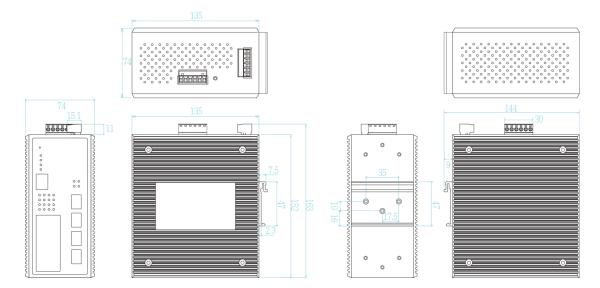
DIMENSIONS (unit=mm)

Standard model





HV model



SPECIFICATION

Hardware Spec	cification		Multi mode: 0 to 550 m, 850 nm (50/125
Standards	IEEE802.3 10Base-T Ethernet		μm); 0 to 2 km, 1310 nm (50/125 μm)
	IEEE802.3u 100Base-TX		Single mode: 0 to 10 km/ 30 km/ 40 km,
	IEEE802.3z Gigabit fiber		1310 nm (9/125 μm); 0 to 50 km/ 60 km/
	IEEE802.3x Flow Control and Back		80km/ 120 km, 1550 nm (9/125 μm)
	Pressure		125Mbps:
	IEEE802.3ad Port trunk with LACP		Multi mode: 0 to 2 km/ 5 km, 1310 nm
	IEEE802.1d Spanning Tree		(62.5/125 μm)
	IEEE802.1w Rapid Spanning Tree		Single mode: 0 to 30 km, 1310 nm
	IEEE802.1s Multiple Spanning Tree		(62.5/125 μm)
	IEEE802.3ad Link Aggregation Control		WDM 1.25Gbps:
	Protocol (LACP)		Single mode: 0 to 10 km/ 20 km/ 40 km/
	IEEE802.1AB Link Layer Discovery		60 km, 1310 nm (9/125 μm); 0 to 80 km,
	Protocol (LLDP)		1490 nm (9/125 μm); 0 to 10 km/ 20 km/
	IEEE802.1X User Authentication		40 km/ 60 km/ 80 km, 1550 nm (9/125
	(Radius)		μm)
	IEEE802.1p Class of Service		WDM 125Mbps:
	IEEE802.1Q VLAN Tag		Single mode: 0 to 20 km/ 40 km/ 60 km/
Switch Architecture	Back-plane (Switching Fabric): 9.6Gbps		80 km, 1310 nm (9/125 μm); 0 to 20 km/
Transfer Rate	14,880pps for Ethernet port		40 km/ 60 km/ 80 km, 1550 nm (9/125
	148,800pps for Fast Ethernet port		μm)
	1,488,000pps for Gigabit Fiber Ethernet	LED	Per unit: Power 1 (Green), Power 2
	port		(Green), FAULT (Red)
Mac Address	16K MAC address table		Ethernet port: Link/Activity (Green),
Jumbo frame	10KB		Speed (Green); Mini-GBIC: Link/Activity
Connectors	10/100TX: 8 x ports RJ-45 with Auto		(Green)
	MDI/MDI-X function		R.M. indicator (Green)
	Mini-GBIC: 4 x 100/1000 SFP socket	DI/DO	2 Digital Input (DI):
	with DDM		Level 0: -30~2V / Level 1: 10~30V
	RS-232 connector: RJ-45 type		Max. input current:8mA
	Power & Relay connector: 1 x 6-pole		2 Digital Output(DO): Open collector to
	terminal block		40 VDC, 200mA
	DIDO : 1 x 6-pole terminal block	Operating Humidity	5% ~ 95% (Non-condensing)
Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/	Operating Temperature	-20°C~60°C / -4°F~140°F (Standard
	5E/ 6 cable		model)
	EIA/TIA-568 100-ohm (100m)	Otana na Tananana	-40°C~75°C / -40°F~167°F(-E model)
	100Base-TX: 2-pair UTP/STP Cat. 5/	Storage Temperature	-40°C~85°C / -40°F~185°F
	5E/ 6 cable	Power Supply	Dual 18~56VDC (Standard model)
	EIA/TIA-568 100-ohm (100m)		Single 90~305VAC/120~430VDC (HV
Optical Cable	1.25Gbps:		model)



Metal case. IP-30,	Power Consumption	10W			
(Standard model) 74 (W) x 135 (D) x 152 (H) mm (HV model) Weight 900 g Installation DIN Rail and Wall Mount** Design EMI & EMS FCC Class A, CE EN55032, CE EN55011, CE EN61000-4-2, CE EN61000-4-3, CE EN61000-4-2, CE EN61000-4-3, CE EN61000-4-4, CE EN61000-4-6, CE EN61000-4-6, CE EN61000-6-4 IEC60068-2-32 (Free fall), IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-64 (Vibration) Safety IEC/BS EN IEC 62368-1 2020/A11:2020 MTBF 216,065 hrs (standards: IEC 62380) 5 years Software Specification Management SNMP V1 v2c, v3/ Web/Teinet/CLI SNMP MIB MIB IF MIB RMON MIB Private MIB ITU G.8032 Support ITU G.8032 v2/2012 for Ring protection in less than 20ms for self- heal recovery (single rice) Support various ring/chain topologies Includes train ring, auto ring, basic single ring, enhanced ring, multiple- VLAN ring Enhanced G.8032 ring configuration with ease Protect multicast & unicast data User friendly UI Auto topology drawing Topology demo DDM threshold 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 Environmental Monitoring** System status for input voltage, current, and ambient temperature to be shown in GUI and sent alerting if any abnormal status (-M model) VLAN ID (Up to 4K, VLAN ID can be assigned from 1 to 4096.) GVRP, QinQ, Protocol based VLAN; IPV4 Subnet based VLAN IEEE 802.10 Tag VLAN (256 entries)/ VLAN ID (Up to 4K, VLAN ID can be assigned from 1 to 4096.) GVRP, QinQ, Protocol based VLAN; IPV4 Subnet based VLAN IEEE802.10 Rapid Spanning Tree and IEEE802.11 Rapid Spanning Tree and IEEE802.12 Rapid Spanning Tree and IEEE802.13 Multiple Spanning Tree and IEEE802.15 Multiple Spanning Tree and IEEE802.15 Multiple Spanning Tree		Metal case. IP-30,			
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and IEEE802.1w Rapid Spanning Tree, IEEE802.1s Multiple Spanning Tree with	Spanning Tree	Supports IEEE802.1d Spanning Tree			
16 MSTI		IEEE802.1s Multiple Spanning Tree with			
		16 MSTI			

MLD Snooping	Support IPv6 Multicast stream		
Quality of Service	The quality of service determined by		
,	port / CoS / ToS / VLAN / 61375-3-4		
Class of Service	Support IEEE802.1p class of service,		
	per port provides 8 priority queues		
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 for port based		
	and MAC based authentication/MAC-		
	Port binding		
	Management access control with priority		
	Ingress/Egress ACL L2/L3		
	SSL/ SSH v2 for Management HTTPS for secure access to the web interface		
	TACACS+** for Authentication		
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 and egress		
	packet limit.		
	The egress rate control supports all of		
	packet type.		
	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 and		
	the egress packet limit.		
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		
Relay Alarm	Provides one relay output for port		
	breakdown, power fail and alarm.		
	Alarm Relay current carry ability: 1A @		
5	DC24V		
Protection	Miss-wiring avoidance		
	Node failure protectionLoop 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		
	Typology change(ITU ring)		
	Power failure Environmental abnormal**		
	environmental abnormál^^		



DHCP	Provide DHCP Client/ DHCP Server/DHCP Option 82/Port based DHCP; DHCP Option 66; DHCP Snooping; basic IPv6 DHCP server		
Mac based DHCP	Assign IP address by Mac		
Server			
DNS	Provide DNS client feature		
SNTP	Supports SNTP to synchronize system		
	clock in Internet		
Diagnostic	Support Ping and DDM information		
Firmware Update	Supports TFTP firmware update, TFTP		
	backup and restore; HTTP firmware		

	upgrade	
Configuration	Supports text configuration file for	
upload and download	system quick installation; Support	
	factory reset button to restore all	
	settings back to factory default.	
Auto Provision	To verify switch firmware with the latest	
	or certain version	

*Future release **Optional ***Optional DDM SFP required

ORDERING INFORMATION

IES-5408DSFP......P/N: 8350-500

4 100/1000 SFP + 8 10/100TX L2+ Industrial Managed Ethernet Switch w/ isolation; -20°C to 60°C; Dual 18~56VDC

IES-5408DSFP-M...... P/N: 8350-501

4 100/1000 SFP + 8 10/100TX L2+ Industrial Managed Ethernet Switch w/environmental monitoring; -20°C to 60°C; Dual 18~56VDC

IES-5408DSFP-E......P/N: 8350-506

4 100/1000 SFP + 8 10/100TX L2+ Industrial Managed Ethernet Switch w/ isolation; -40°C to 75°C; Dual 18~56VDC

IES-5408DSFP-M-E......P/N:8350-511

4 100/1000 SFP + 8 10/100TX L2+ Industrial Managed Ethernet Switch w/environmental monitoring; -40°C to 75°C; Dual 18~56VDC

IES-5408DSFP-HV......P/N: 8350-560

4 100/1000 SFP + 8 10/100TX L2+ Industrial Managed Ethernet Switch w/ isolation; -20°C to 60°C; Single 90~305VAC/120~430VDC

IES-5408DSFP-HV-E.....P/N: 8350-5601

4 100/1000 SFP + 8 10/100TX L2+ Industrial Managed Ethernet Switch w/ isolation; -40°C to 75°C; Single 90~305VAC/120~430VDC

OPTIONAL ACCESSORIES

DIN Rail Power

MDR-40 Series 40W Single Output Industrial Din Rail Power; 85-264VAC / 120-370VDC Input Range; Cooling by free air convection; RoHS2;

Operating Temp. -20°C~70°C (ambient, derating each output at 4% per degree from 60° C ~ 70° C)

20W Single Output Industrial Din Rail Power; 85-264VAC / 120-370VDC Input Range; Cooling by free air convection; RoHS2; ■ MDR-20 Series

Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50° C ~ 70° C)

Mini GBIC (SFP)

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8330-162-V1	MINI GBIC 1000SX (LC/MM/0.5KM) Transceiver	8330-187-V1	1.25Gbps BiDi SFP 20KM Transceiver (WDM 1550)
8330-163-V1	MINI GBIC 1000SX2 (LC/MM/2KM) Transceiver	8330-180-V1	1.25Gbps BiDi SFP 40KM Transceiver (WDM 1310)
8330-165-V1	MINI GBIC 1000LX (LC/SM/10KM) Transceiver	8330-182-V1	1.25Gbps BiDi SFP 40KM Transceiver (WDM 1550)
8340-0591-V1	MINI GBIC 1000LHX (LC/SM/40KM) Transceiver	8330-181-V1	1.25Gbps BiDi SFP 60KM Transceiver (WDM 1310)
8330-166-V1	MINI GBIC 1000XD (LC/SM/50KM) Transceiver	8330-183-V1	1.25Gbps BiDi SFP 60KM Transceiver (WDM 1550)
8330-169-V1	MINI GBIC 1000XD (LC/SM/60KM) Transceiver	8330-184-V1	1.25Gbps BiDi SFP 80KM Transceiver (WDM 1490)
8330-167-V1	MINI GBIC 1000ZX (LC/SM/80KM) Transceiver	8330-185-V1	1.25Gbps BiDi SFP 80KM Transceiver (WDM 1550)
8330-170-V1	MINI GBIC 1000EZX (LC/SM/120KM) Transceiver	8330-071-V1	125Mbps BiDi SFP 2KM (WDM 1310) Transceiver
8330-168-V1	MINI GBIC 10/100/1000T (100m) Transceiver	8330-072-V1	125Mbps BiDi SFP 2KM (WDM 1550) Transceiver
8330-060-V1	MINI GBIC 100Base (LC/MM/2KM) Transceiver	8330-069-V1	125Mbps BiDi SFP 20KM (WDM 1310) Transceiver
8330-065-V1	MINI GBIC 100Base (LC/MM/5KM) Transceiver	8330-068-V1	125Mbps BiDi SFP 20KM (WDM 1550) Transceiver
8330-061-V1	MINI GBIC 100Base (LC/SM/30KM) Transceiver	8330-080-V1	125Mbps BiDi SFP 40KM (WDM 1310) Transceiver
8330-197-V1	1.25Gbps BiDi SFP 0.5KM Transceiver (WDM 1310)	8330-082-V1	125Mbps BiDi SFP 40KM (WDM 1550) Transceiver
8330-198-V1	1.25Gbps BiDi SFP 0.5KM Transceiver (WDM 1550)	8330-081-V1	125Mbps BiDi SFP 60KM (WDM 1310) Transceiver
8330-195-V1	1.25Gbps BiDi SFP 2KM Transceiver (WDM 1310)	8330-083-V1	125Mbps BiDi SFP 60KM (WDM 1550) Transceiver
8330-196-V1	1.25Gbps BiDi SFP 2KM Transceiver (WDM 1550)	8330-084-V1	125Mbps BiDi SFP 80KM (WDM 1310) Transceiver
8330-188-V1	1.25Gbps BiDi SFP 10KM Transceiver (WDM 1310)	8330-085-V1	125Mbps BiDi SFP 80KM (WDM 1550) Transceiver
8330-189-V1	1.25Gbps BiDi SFP 10KM Transceiver (WDM 1550)	8330-191-V1	Dual Speed SFP 100M/1000M-LX 10KM Transceiver
8330-186-V1	1.25Gbps BiDi SFP 20KM Transceiver (WDM 1310)	All SFP# ended	with D are with DDM function

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