I(P)GS-H7848XF-TX

48 GE + 8 10G SFP+ (w/48 PoE) Managed Ethernet Security Switch

w/optional L3L/L3 & Cybersecurity



OVERVIEW

Lantech I(P)GS-H7848XF-TX is a high-performance OS5 Managed Ethernet security Switch with 48 10/100/1000T + 8 1G/2.5G/5G/10G SFP switch (total 56 ports) w/(48 PoE 802.3af/at ports). The OS5 platform supports L3**/L2, IPv6/v4, NAT**, standardized ITU G.803 ring, IEC62443-4-2 certified cybersecurity, SNMPv3, Macsec**, PTP v2** as well as ETBN TTDP** protocol suitable for the future-proof modern network.

SNMP v3 Security Models

SNMPv3 enhances security with three key models. The User-based Security Model (USM) provides authentication and encryption, verifying the sender's identity and protecting data. The View-based Access Control Model (VACM) manages user access to specific objects based on their security level. The Transport Security Model (TSM) uses secure protocols like TLS or DTLS for communication encryption. Together, these models make SNMPv3 implementations highly secure, meeting modern cybersecurity standards for large-scale and high-security projects.

Comprehensive Network Protection Against DDoS and Layer 2 Threats

Lantech OS5 generation integrates advanced security mechanisms to safeguard both switches and networks. Key features include DDoS attack mitigation, 802.1X port-based authentication, Dynamic ARP Inspection (DAI), IP Source Guard, and Port Security, providing multi-layer protection against spoofing, unauthorized access, and traffic floods. These security capabilities ensure stable, resilient network operation.

Support Restful API for better switch performance; Auto-provisioning for firmware/configuration update

The switch supports Restful API that uses JSON format to access and use data for GET, PUT, POST and DELETE types to avoid traditional SNMP management occupying CPU utilization. It also supports auto-provisioning for switch to auto-check the latest software image and configuration through TFTP server.

Dying Gasp Configuration on Lantech OS5 Switches Using CLI

Dying Gasp ensures critical messages are sent during power loss. This feature can be configured on Lantech OS5 switches using the CLI, maintaining network stability.

DCI / AC inputs with redundancy & load sharing (2AC/2DCI) plus dedicated PoE power source input

The switch is designed for easy maintenance and installation. It supports dual DCI power supplies (galvanic isolated DC 16.8~137.5V) or dual isolated AC 90~264VAC IEC320 power input to increase system reliability. In addition, the system incorporates a simultaneous load sharing mechanism between the two power sources.

Up to 48 PoE at/af ports w/advanced PoE management and PoE galvanic isolation with max PoE budget

Compliant with 802.3 at/af standard, the PoE model is able to feed 48 PoE ports up to 30 Watt@ for various PD devices. It 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 a pre-set power feeding schedule upon a routine timetable. Each PoE port can be Enabled/disabled, get the voltage, current, Watt, and temperature info displayed on WebUI.

The PoE galvanic isolation provides insulation between the power input to PoE Ethernet ports, preventing cabling and grounding incidents from damaging the Ethernet switch. The efficiency of the galvanically decoupled voltage converters can reach above 90%.

Implementing Perpetual and Fast PoE

Perpetual PoE provides uninterrupted power to devices during PSE switch reboots. Fast PoE rapidly restores power settings when power is plugged in, bypassing the host switch boot-up process.

Support RTC (Real Time Clock) with longevity golden capacitor

Our switch supports RTC which is powered by a golden capacitor, ensuring accurate real-time event logs for all times. Unlike traditional batteries, golden capacitors offer superior reliability, and longevity, without a need to change battery.

User-friendly GUI, Auto topology drawing, Enhanced Environmental Monitoring

The user-friendly UI, innovative auto topology drawing, and topology demo make the Lantech switch much easier to use. The complete CLI enables professional engineers to configure settings via the command line. The configuration file can be exported as a text file, allowing it to be easily edited and reconfigured for mass deployment. It supports enhanced environmental monitoring of actual input voltage, current, ambient temperature, and total power load (including PoE if any) where user can set threshold to trigger an alert or event log.

Out-Of-Band management

The switch can be accessed via the out-of-band (OOB) management port, also known as the service port, without the need to use the console port. OOB management allows a separate and secure method to access and manage the switch even when the primary network is inaccessible.

Editable configuration file; USB port for import/export configuration

The configuration file of the switch can be imported and edited with a word processor for the following switches to configure with ease. The USB data port can import/export the configuration from/to the USB dongle and also to upgrade firmware. It supports USB console port that allows CLI access.

OPTIONAL FEATURES

Lantech OS5 platform is equipped with complete L2 management and is L3Lite/L3 upgradable supporting protocols incl. dynamic routing, multicast routing, hardware NAT and ETBN TTDP/ TRDP; VRRP aware PIM under VRRP, optional PTP, optional MacSec to be upgradable

The switch runs on the Lantech OS5 platform and features major L3L**/L3** protocols inclusive of RIPv2(L3), OSPF, PIM, DVMRP(L3), IEC61375-2-5 (ETBN), TRDP and hardware-based NAT and VRRP aware PIM under VRRP. It also supports optional Macsec for authentication and encryption between two Macsec devices. The optional PTP V2 supports transparent clock, boundary clock and ordinary clocks with 2-step processing that synchronizes network time accuracy to sub-microseconds. To learn more about the Lantech OS5 Platform, please refer to **Lantech OS5 Software Datasheet**

Optional Certified IEC 62443-4-2 with Physical Tamper Resistance and a Variety of Security Measures

For enhanced cybersecurity, the optional certified IEC 62443-4-2** model is available. This includes over 90 security measures such as vulnerability checking, encrypted files, public key management, strong password enforcement, account management, and both penetration and stress testing. It emphasizes protection against unauthorized access, tampering, and malware through detailed log events and roots of trust security IC. To learn more about Lantech cybersecurity software solutions, please refer to
https://www.lantechcom.tw/global/eng/download/datasheet/D-OS5.pdf

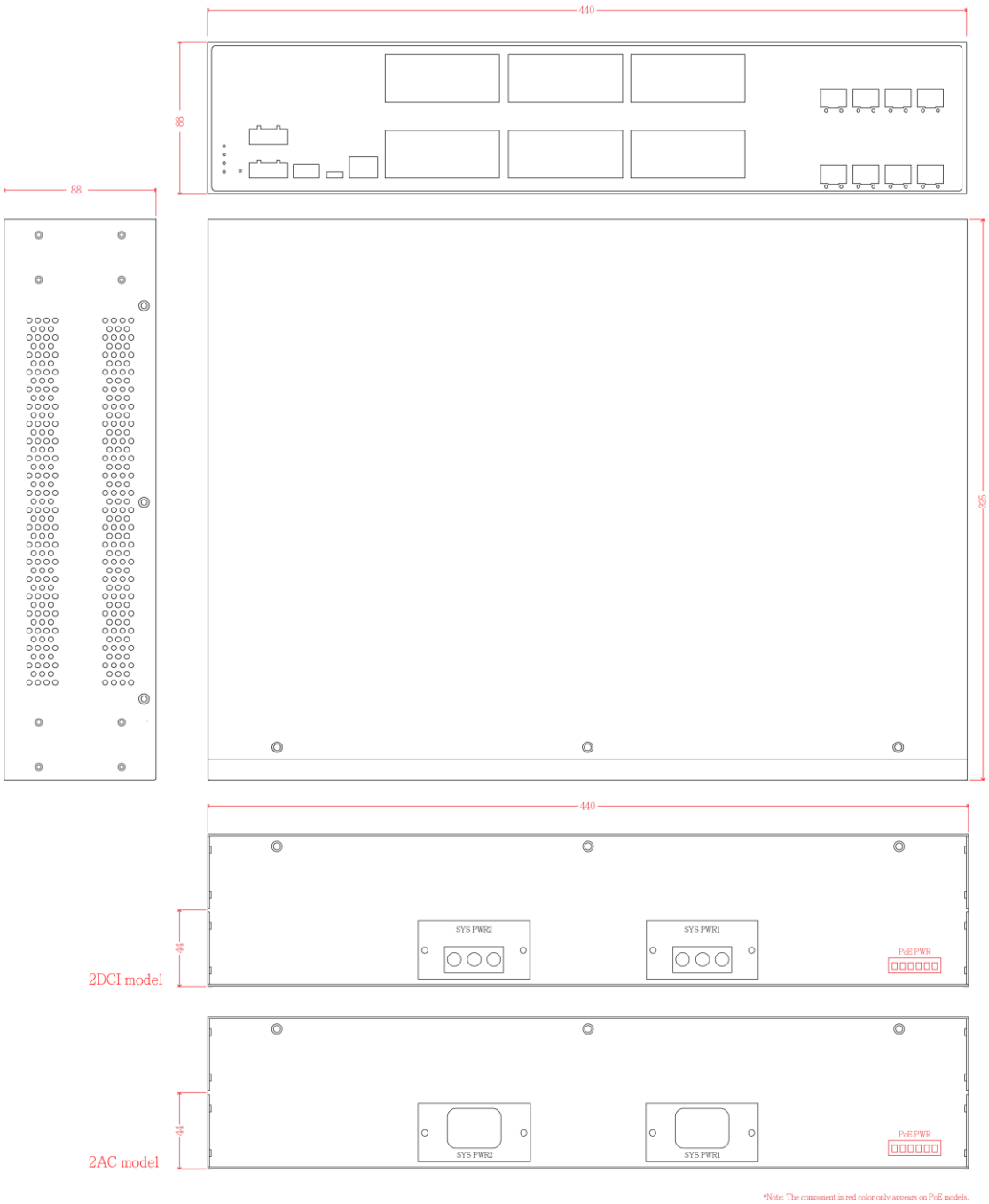
Optional LantechView for Lantech devices maintenance

LantechView** can automatically discover Lantech devices on the network, providing seamless configuration management across multiple IP subnets and VLAN areas (single device and batch). It also supports firmware management, allowing single and batch verification and simultaneous upgrades to the latest firmware versions. To learn more about Lantech LantechView** software solutions, please refer to
https://www.lantechcom.tw/global/eng/download/datasheet/D-LantechView.pdf

OS5 vs. OS5 - SEC models comparison

	OS5	OS5 - SEC
IEC 62443-4-2 Cyber Security	NA	Y, need optional license
Boot up time	Around 100 sec.	Around 135 sec.

DIMENSIONS (unit=mm)



*Note: The component in red color only appears on PoE models.

SPECIFICATIONS

Hardware Specification

Standards	IEEE 802.3u 100BASE-FX IEEE 802.3z 1000BASE-SX / 1000BASE-LX IEEE 802.3ae 10GBASE-SR (850nm multi-mode) /10GBASE-LR (1310nm single-mode) / 10GBASE-ER (1550nm single-mode) IEEE802.3 10Base-T Ethernet IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T IEEE802.3an 10Gbase-T IEEE802.3x Flow Control and Back Pressure
	IEEE802.3ax 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 (PoE models)
Switch Architecture	Back-plane (Switching Fabric): 256Gbps
Mac Address	16K MAC address table
Jumbo frame	10KB
Connectors	48 10/100/1000T RJ-45 with auto MDI/MDI-X function 8 1G/2.5G/5G/10G Mini-GBIC: SFP+ sockets Console: USB type C USB type A slot for upload/download config file Out-Of-Band connector: RJ45 *1 DIDO and Relay: 2x 4 pin terminal blocks
DI/DO	2 Digital Input (DI) : Level 0: -30~2V / Level 1: 10~30V Max. input current:8mA 2 Digital Output(DO): Open collector to 40 VDC, 200mA
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) **2.5Gbps** Multi-mode: 0 to 300 m, 850 nm (50/125 µm); Single mode: 0 to 2 km/ 15 km/ 40 km, 1310 nm (9/125 µm); 0 to 40 km/ 80 km/ 100km, 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) **WDM 2.5Gbps** Single mode: 0 to 5 km/ 20 km/ 40 km/ 60 km, 1310 /1550nm (9/125 µm); 0 to 80 km, 1490/1550 nm (9/125 µm) **10Gbps** Multi-mode: 0 to 300 m, 850 nm (OM3 50/125 µm); Single mode: 0 to 10 km/ 20 km, 1310 nm (9/125 µm); 0 to 40 km/ 80km/ 100 km, 1550 nm (9/125 µm) **WDM 10Gbps** Single mode: 0 to 10 km/ 20 km/ 40 km/ 60 km, 1270/1330 nm (9/125 µm); 0 to 80km, 1490/1550 nm (9/125 µm)
LED	Per unit: Power 1 (Green), Power 2 (Green), FAULT (Red) R.M. indicator (Green) 100M/1G Mini-GBIC: Link/Active (Green); Speed (Orange)
	2.5G/5G/10G Mini-GBIC: Link/Activity (Green); Speed (Orange) 100M/1G Copper port: Link/Active (Green); Speed (100M/1G: Green; 2.5G/5G/10G: Orange) PoE: Link/Act (Green) (PoE model)
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	2DCI model: Galvanic isolated 16.8~137.5VDC 2AC model: 90~264VAC IEC320 socket
PoE Budget (PoE model)	Max 1,440W (from separate PoE power supply) (50-57VDC input is recommended for 802.3at 30W applications)
PoE pin assignment (PoE model)	RJ-45 port #1~#24 & #29~#52 supports IEEE 802.3at/af End-point, Alternative A mode. (IPGS-H7848XF-TX-48) Positive (VCC+): RJ-45 pin 1,2. Negative (VCC-): RJ-45 pin 3,6.
PoE Type (PoE model)	IEEE802.3af/at (Type 1, PoE) IEEE802.3at (Type 2, PoE+)
Power Consumption	Max. 65W
Dimensions	Metal case. IP-30 440mm(W)x88mm(H)x325mm(D)
Weight	5.8kgs
Installation	Rackmount Design
EMI & EMS	FCC Part 15 Class A EN61000-6-2 EN61000-6-4 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
MTBF	114,831 hrs. (standards: IEC 62380)

Software Specification

Lantech OS5 Platform
Download Software Datasheet
(https://www.lantechcom.tw/global/eng/download/datasheet/D-OS5.pdf)

*Future release
**Optional

ORDERING INFORMATION

2AC; 2DCI are fixed configurations for ordering, user cannot add or remove the power supply on their own.
Add -PTP for PTP models; add -MacSec for MacSec models; add -SEC for Cybersecurity models For LantechView, L3 Lite (L3L), or L3 software, please refer to the corresponding software part numbers as listed in the software datasheet.
https://www.lantechcom.tw/global/eng/download/datasheet/D-OS5.pdf

- **IGS-H7848XF-TX-2DCI-OOB ……..P/N: 8361-0461**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ Managed Ethernet Switch; Built-in x2 galvanic isolated DC 16.8~137.5VDC power supply; IP30 rackmount design; -20°C to 60°C；w/Out-of-band
- **IGS-H7848XF-TX-2DCI-E-OOB ……..P/N: 8361-04601**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ Managed Ethernet Switch; Built-in x2 galvanic isolated DC 16.8~137.5VDC power supply; IP30 rackmount design; -40°C to 75°C；w/Out-of-band
- **IGS-H7848XF-TX-2AC-EU-OOB……P/N: 8361-046**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion; IP30 rackmount design; -20°C to 60°C, EU power cords；w/Out-of-band
- **IGS-H7848XF-TX-2AC-EU-E-OOB……..P/N: 8361-04611**

48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion; IP30 rackmount design; -40°C to 75°C, EU power cords；w/Out-of-band

- **IGS-H7848XF-TX-2AC-UK-OOB……P/N: 8361-0462**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion; IP30 rackmount design; -20°C to 60°C, UK power cords；w/Out-of-band
- **IGS-H7848XF-TX-2AC-UK-E-OOB……P/N: 8361-04621**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion; IP30 rackmount design; -40°C to 75°C, UK power cords；w/Out-of-band
- **IGS-H7848XF-TX-2AC-US-OOB……P/N: 8361-0464**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion; IP30 rackmount design; -20°C to 60°C, US power cords；w/Out-of-band
- **IGS-H7848XF-TX-2AC-US-E-OOB……P/N: 8361-04641**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion; IP30 rackmount design; -40°C to 75°C, US power cords；w/Out-of-band
- **IPGS-H7848XF-TX-48-2DCI-OOB ……P/N: 8361-0467**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ with 48 PoE at/af Managed Ethernet Switch; Built-in x2 galvanic isolated DC 16.8~137.5VDC power supply w/ 1x 48VDC PoE power input; IP30 rackmount design; -20°C to 60°C；w/Out-of-band
- **IPGS-H7848XF-TX-48-2DCI-E-OOB ……P/N: 8361-0463**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ with 48 PoE at/af Managed Ethernet Switch; Built-in x2 galvanic isolated DC 16.8~137.5VDC power supply w/ 1x 48VDC PoE power input; IP30 rackmount design; -40°C to 75°C；w/Out-of-band
- **IPGS-H7848XF-TX-48-2AC-EU-OOB……P/N: 8361-0465**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ with 48 PoE at/af Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion w/ 1x 48VDC PoE power input; IP30 rackmount design; -20°C to 60°C, EU power cords；w/Out-of-band
- **IPGS-H7848XF-TX-48-2AC-EU-E-OOB……P/N: 8361-04651**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ with 48 PoE at/af Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion w/ 1x 48VDC PoE power input; IP30 rackmount design; -40°C to 75°C, EU power cords；w/Out-of-band
- **IPGS-H7848XF-TX-48-2AC-UK-OOB……P/N: 8361-0466**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ with 48 PoE at/af Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion w/ 1x 48VDC PoE power input; IP30 rackmount design; -20°C to 60°C, UK power cords；w/Out-of-band
- **IPGS-H7848XF-TX-48-2AC-UK-E-OOB……P/N: 8361-04661**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ with 48 PoE at/af Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion w/ 1x 48VDC PoE power input; IP30 rackmount design; -40°C to 75°C, UK power cords；w/Out-of-band
- **IPGS-H7848XF-TX-48-2AC-US-OOB……P/N: 8361-0468**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ with 48 PoE at/af Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion w/ 1x 48VDC PoE power input; IP30 rackmount design; -20°C to 60°C, US power cords；w/Out-of-band
- **IPGS-H7848XF-TX-48-2AC-US-E-OOB……P/N: 8361-04681**
  48 10/100/1000T+ 8 1G/2.5G/5G/10G SFP+ with 48 PoE at/af Managed Ethernet Switch; Built-in 2x isolated 90~264VAC IEC320 power conversion w/ 1x 48VDC PoE power input; IP30 rackmount design; -40°C to 75°C, US power cords；w/Out-of-band

*For all detailed part nos. and model names, please refer to
https://www.lantechcom.tw/global/eng/download/datasheet/P-I(P)GS-H7848XF-TX.pdf

OPTIONAL ACCESSORIES

Software package

Please refer to the software datasheet (https://www.lantechcom.tw/global/eng/download/datasheet/D-OS5.pdf)

Power cords (2AC models)

- **EUROPE AC POWER CORDS…… P/N: 4106-00000014-001**
- **USA AC POWER CORDS …… P/N: 4106-00000012-001**
- **UK AC POWER CORDS …… P/N: 4106-00000015-001**

Mini GBIC (SFP)

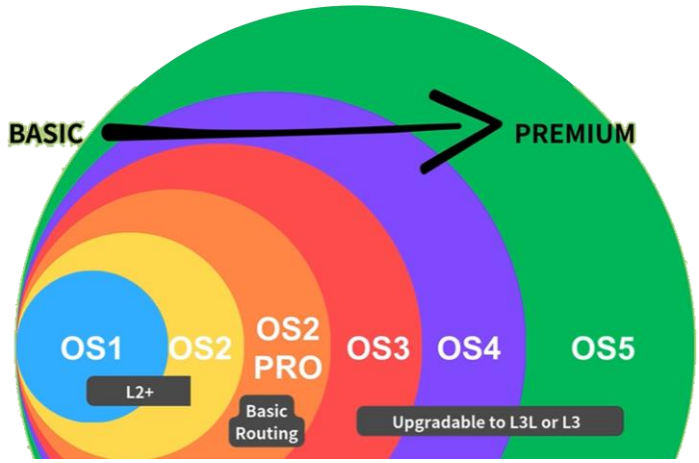
- **8330-162D-V1** MINI GBIC 1000SX (LC/0.5km) Transceiver
- **8330-163D-V1** MINI GBIC 1000SX2 (LC/2km) Transceiver
- **8330-165D-V1** MINI GBIC 1000LX (LC/10km) Transceiver
- **8340-0591D-V1** MINI GBIC 1000LHX (LC/40km) Transceiver
- **8330-166D-V1** MINI GBIC 1000XD (LC/50km) Transceiver
- **8330-169D-V1** MINI GBIC 1000XD (LC/60km) Transceiver
- **8330-167D-V1** MINI GBIC 1000ZX (LC/80km) Transceiver
- **8330-170D-V1** MINI GBIC 1000EZX (120km) Transceiver
- **8330-168-V1** MINI GBIC 1000T (100m) Transceiver
- **8330-188D-V1** LTSFP-1000BX-10KM Transceiver (WDM 1310)
- **8330-189D-V1** LTSFP-1000BX-10KM Transceiver (WDM 1550)
- **8330-186D-V1** LTSFP-1000BX-20KM Transceiver (WDM 1310)
- **8330-187D-V1** LTSFP-1000BX-20KM Transceiver (WDM 1550)
- **8330-180D-V1** LTSFP-1000BX-40KM Transceiver (WDM 1310)
- **8330-182D-V1** LTSFP-1000BX-40KM Transceiver (WDM 1550)
- **8330-181D-V1** LTSFP-1000BX-60KM Transceiver (WDM 1310)
- **8330-183D-V1** LTSFP-1000BX-60KM Transceiver (WDM 1550)
- **8330-184D-V1** LTSFP-1000BX-80KM Transceiver (WDM 1490)

- **8330-185D-V1** LTSFP-1000BX-80KM Transceiver (WDM 1550)
- **8330-262D-V1** MINI GBIC 2.5G 850nm VCSEL (LC/0.3km) Transceiver
- **8330-263D-V1** MINI GBIC 2.5G 1310nm FP (LC/2km) Transceiver
- **8330-265D-V1** MINI GBIC 2.5G 1310nm DFB (LC/15km) Transceiver
- **8330-193D-V1** 10G Base SFP+ SR, Multi-mode (LC/300m) Transceiver
- **8330-194D-V1** 10G Base SFP+ LR, Single-mode (LC/10km) Transceiver
- **8330-223D-V1** 10G Base SFP+ LR, Single-mode (LC/1310nm/20km) DDM Transceiver
- **8330-225D-V1** 10G Base SFP+ LR , Single-mode (LC/1310nm /40km) DDM Transceiver
- **8330-205D-V1** 10G Base SFP+ LR , Single-mode (LC/1550nm/40km) DDM Transceiver
- **8330-209D-V1** 10G Base SFP+ , Single-mode(10km) Transceiver (WDM 1270)
- **8330-210D-V1** 10G Base SFP+ , Single-mode(10km) Transceiver (WDM 1330)
- **8330-200D-V1** 10G Base SFP+ , Single-mode(20km) Transceiver (WDM 1270)
- **8330-201D-V1** 10G Base SFP+ , Single-mode(20km) Transceiver (WDM 1330)
- **8330-202D-V1** 10G Base SFP+ , Single-mode(40km) Transceiver (WDM 1270)
- **8330-203D-V1** 10G Base SFP+ , Single-mode(40km) Transceiver (WDM 1330)
- **8330-206-V1** 10G/5G/2.5G/1000Base-T SFP, 3.3V,30m (10G) 50m (2.5G/5G) 100m (1G); -10~70°

All SFPs ended with D are with Diagnostic function

Managed Switch OS Generations

We offer a comprehensive range of managed switches, from OS1 and OS2 with rich L2+ management features, to OS2 PRO with basic routing functionality, and OS3, OS4, and OS5, which can be upgraded with optional Layer 3 Lite or Layer 3 capabilities to meet diverse customer needs. Note: Model differences include both software features and hardware specifications.



[LEARN MORE]

→ OS2PRO Generation

→ OS3/OS4 Generation

→ OS5 Generation

[CHECK THE DIFFERENCES]

→ Generation Comparison Table

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