IGS-3204MGSFP

4 10/100/1000T + 2 1G/2.5G SFP L2+ Industrial Managed Switch w/ Enhanced G.8032 Ring

- *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*
- *Dual 9.5V~60VDC input*
- *USB port for backup, restore the configuration file*
- *Optional Environmental monitoring function to display inside switch info incl. temperature, voltage, current, power consumption*

OVERVIEW

Lantech IGS-3204MGSFP is a high performance L2+ all Gigabit switch with 4 10/100/1000T + 2x 1G/2.5G selectable multi-Giga- rate 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 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.

Miss-wiring avoidance, Node failure protection, Loop protection
The IGS-3204MGSFP 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 IGS-3204MGSFP 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. 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 IGS-3204MGSFP 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 IGS-3204MGSFP 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 IGS-3204MGSFP 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. IGS-3204MGSFP 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; 2DI / 2DO
In case of event, the IGS-3204MGSFP is able to send 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 IGS-3204MGSFP 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; High reliability and extended working temperature
Lantech IGS-3204MGSFP is designed with dual input power at 9.5V~60VDCinput; Lantech IGS-3204MGSFP 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. 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

- **4 10/100/1000T + 2 1G/2.5G selectable SFP (Total 6 Ports Switch)**
- **Support 10K bytes jumbo frames**
- **Dual 9.5V~60VDC power input**
- **Back-plane (Switching Fabric): 18Gbps**
- **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 & 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 ±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 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*
- **TFTP/ HTTP firmware upgrade**
- **Configuration backup and restoration**
  - *Supports editable configuration file for system quick installation*

- · *USB port for upload / download configuration by USB dongle*
- **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**
- **Watchdog design to auto reboot switch CPU is found dead**
- **IP30 metal housing with DIN rail and Wall-mount** design**

DIMENSIONS (unit=mm)
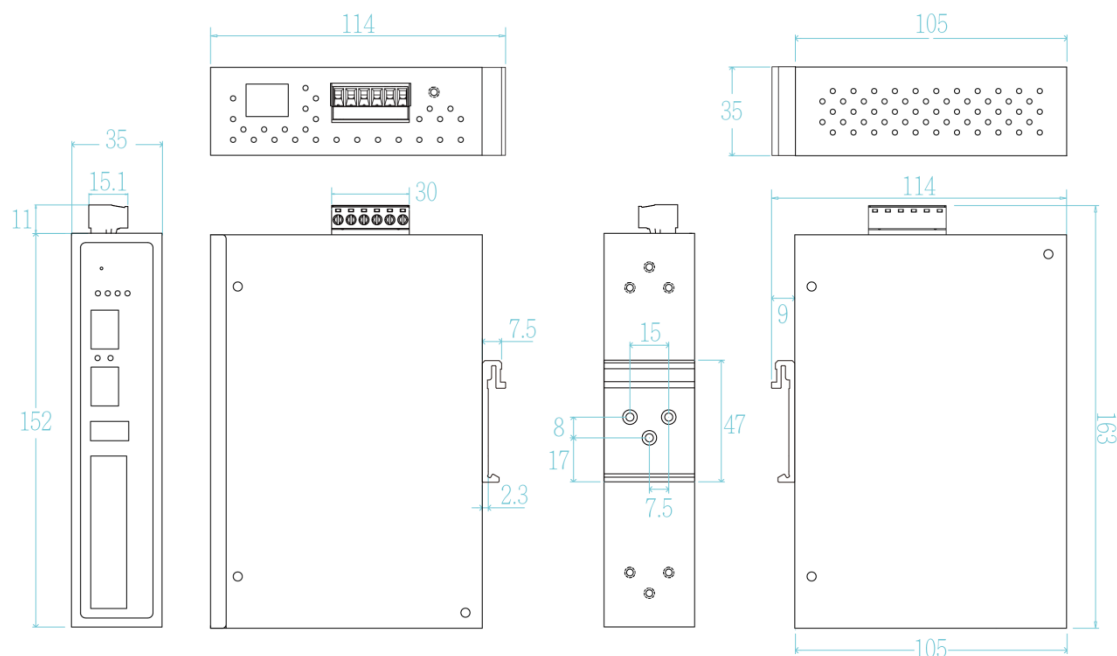
SPECIFICATION

Hardware Specification

Standards	IEEE802.3 10Base-T Ethernet		148,800pps for Fast Ethernet port
	IEEE802.3u 100Base-TX		1,488,000pps for Gigabit Fiber / Gigabit Ethernet port
	IEEE802.3ab 1000Base-T Ethernet	Mac Address	16K MAC address table
	IEEE802.3z Gigabit fiber	Jumbo frame	10KB
	IEEE802.3x Flow Control and Back Pressure	Connectors	10/100/1000T: 4 x ports RJ-45 with Auto MDI/MDI-X function
	IEEE802.3ad Port trunk with LACP		SFP port: 2 x 2.5G/1G selectable cage by software with DDMI supported
	IEEE802.1d Spanning Tree		RS-232 connector: RJ-45 type; USB x 1
	IEEE802.1w Rapid Spanning Tree		Power & Relay connector: 1 x 6-pole terminal block
	IEEE802.1s Multiple Spanning Tree	Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m)
	IEEE802.3ad Link Aggregation Control Protocol (LACP)		100Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m)
	IEEE802.1AB Link Layer Discovery Protocol (LLDP)		1000Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m)
	IEEE802.1X User Authentication (Radius)	Optical Cable	**1Gbps:**
	IEEE802.1p Class of Service		Multi mode: 0 to 550 m, 850 nm (50/125 μm); 0 to 2 km, 1310 nm (50/125 μm)
	IEEE802.1Q VLAN Tag		
	IEEE802.3at/af Power over Ethernet		
Switch Architecture	Back-plane (Switching Fabric): 18Gbps		
Transfer Rate	14,880pps for Ethernet port		

	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)		identification and capability on the LAN
		CDP	Cisco Discovery Protocol for topology mapping
		VLAN	Port Based VLAN
	2.5Gbps		IEEE 802.1Q Tag VLAN (256 entries)/ VLAN ID (Up to 4K, VLAN ID can be assigned from 1 to 4096.) GVRP
	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)		
		IPv6/4	Present
	WDM 1Gbps:	RSTP/MSTP	Supports IEEE802.1d Spanning Tree and IEEE802.1w Rapid Spanning Tree, IEEE802.1s Multiple Spanning Tree 8 MSTI
	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)		
		Quality of Service	The quality of service determined by port, Tag and IPv4 Type of service, IPv4 Differentiated Services Code Points - DSCP
	WDM 2.5Gbps	Class of Service	Support IEEE802.1p class of service, per port provides 8 priority queues
	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)	Remote Admin	Supports 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.
LED	Per unit: Power 1 (Green), Power 2 (Green), FAULT (Red); RM(Green)	Login Security	Supports IEEE802.1X Authentication/RADIUS
	Ethernet port: Link/Activity (Green), Speed (Amber);	Port Mirror	Support 3 mirroring types: "RX, TX and Both packet"
	Mini-GBIC: Link/Activity (Green)	Network Security	Support 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.
Operating Humidity	5% ~ 95% (Non-condensing)		
Operating Temperature	-20°C~60°C / -4°F~140°F (Standard model)		802.1X access control for port based and MAC based authentication/static MAC-Port binding
	-40°C~75°C / -40°F~167°F(-E model)		Ingress ACL L2/L3
Storage Temperature	-40°C~85°C / -40°F~185°F		SSL/ SSH v2 for Management
			HTTPS for secure access to the web interface
Power Supply	9.5V~60VDC	IGMP	Support IGMP snooping v1,v2,v3; Supports IGMP static route; 1024 multicast groups; IGMP router port ; IGMP query; GMRP
Power Consumption	7W		
Case Dimension	IP-30, 35(W) x 105(D) x 152(H) mm	Static MAC-Port bridge	Static multicast forwarding forward reversed IGMP flow with multicast packets binding with ports for IP surveillance application
Weight	660 g		
Installation	DIN Rail and Wall Mount** Design		
EMI & EMS	FCC Part 15 Class A	Bandwidth Control	Support ingress packet filter.
	IEC/EN61000-6-2		Ingress filter packet type combination rules are Broadcast/Multicast/Flooded Unicast packet, Broadcast/Multicast packet, Broadcast packet only and all types of packet.
	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		The packet filter rate can be set an accurate value through the pull-down menu for the ingress packet filter.
	CE EN61000-4-6 (CS) Level 3		
	CE EN61000-4-8 (Magnetic field) Level 3		
Safety	EN60950 (LVD)	Flow Control	Supports Flow Control for Full-duplex and Back Pressure for Half-duplex
Stability Testing	IEC60068-2-32 (Free fall),		
	IEC60068-2-27 (Shock),	System Log	Supports System log record and remote system log server
	IEC60068-2-6 (Vibration)		
MTBF	982,659 Hrs	SMTP	Supports SMTP Server and 8 e-mail accounts for receiving event alert
	(IEC62380 standards)		
Warranty	5 years	Relay Alarm	Provides one relay output for port breakdown, power fail and alarm.
CPU Clock	1.6Ghz		
RAM	512MB		Alarm Relay current carry ability: 1A @ DC24V
NAND flash	512MB	Protection	■ Miss-wiring avoidance

Software Specification

Management	SNMP v1 v2c, v3/ Web/Telnet/CLI		■ Node failure protection
			■ Loop protection
SNMP MIB	RFC 1213 MIBII	SNMP Trap	Up to 10 trap stations; trap types including:
	RFC 1158 MIBII		● Device cold start
	RFC 1157 SNMP MIB,		● Authorization failure
	RFC 1573 IF MIB		● Port link up/link down
	Partial RFC 1757 RMON,		● DI/DO open/close
	Bridge MIB,		● Topology change(ITU ring)
	LLDP MIB		● Power failure
	Private MIB		● Environmental abnormal
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)	DHCP	Provide DHCP Client/ DHCP Server/DHCP Option 82 (Client & Server)/Port based DHCP; DHCP Snooping; DHCP option 66
	Support various ring/chain topologies	Mac based DHCP Server	Assign IP address by Mac that can include dumb switch in DHCP network
	Includes basic single ring & enhanced ring		
	Enhanced G.8032 ring configuration with ease	DNS	Provide DNS Client feature and support Primary and Secondary DNS server.
	Cover multicast & data packets protection		
User friendly UI	■ Auto topology drawing	SNTP	Supports SNTP to synchronize system clock in Internet
	■ Topology demo		
	■ DDM threshold monitoring with dB values***	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)
	■ Complete CLI for professional setting		
Port Trunk with LACP	LACP Port Trunk: 8 Trunk groups/Maximum 10 trunk members		
LLDP	Supports LLDP to allow switch to advise its		

Firmware Update	Supports TFTP firmware update, TFTP backup and restore; HTTP firmware upgrade	Dual Image Firmware	Support dual image firmware function
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		

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

ORDERING INFORMATION

- **IGS-3204MGSFP……………... ..…………......P/N: 8351-007**
  4 10/100/1000T + 2 1G/2.5G SFP L2+ Industrial Managed Ethernet Switch, dual 9.5V~60VDC input; -20°C to 60°C

- **IGS-3204MGSFP-E………….…...................P/N: 8351-008**
  4 10/100/1000T + 2 1G/2.5G SFP L2+ Industrial Managed Ethernet Switch, dual 9.5V~60VDC input, -40°C to 75°C

- **IGS-3204MGSFP-M…………... ..·...............P/N: 8351-0071**
  4 10/100/1000T + 2 1G/2.5G SFP L2+ Industrial Managed Ethernet Switch + environmental monitoring, dual 9.5V~60VDC input; -20°C to 60°C

- **IGS-3204MGSFP-M-E………….…................P/N: 8351-0081**
  4 10/100/1000T + 2 1G/2.5G SFP L2+ Industrial Managed Ethernet Switch + environmental monitoring, dual 9.5V~60VDC input, -40°C to 75°C

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)
- **MDR-20 Series**   20W 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 2.5% per degree from 50°C ~ 70°C)

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)
- **8330-262**   MINI GBIC 2.5G 850nm VCSEL (LC/0.3km) Transceiver
- **8330-263**   MINI GBIC 2.5G 1310nm FP (LC/2km) Transceiver
- **8330-265**   MINI GBIC 2.5G 1310nm DFB (LC/15km) Transceiver

All SFP ended with D are with Diagnostic function