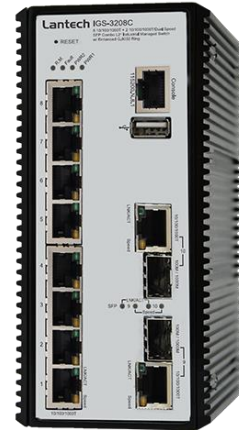


# IGS-3208C

## 8 10/100/1000T + 2 10/100/1000T Dual Speed Combo L2+ Industrial Managed Ethernet 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*
- *Galvanic isolation between input power and system power; output power and case*
- *USB port backup, restore the configuration file.*
- *Optional Environmental monitoring function to display inside switch info incl. temperature, voltage, current, power consumption*



## OVERVIEW

Lantech IGS-3208C is a high performance L2+ all Gigabit switch with 8 10/100/1000T + 2 x 10/100/1000T Dual Speed 100/1000M SFP combo 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-3208C 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-3208C 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-3208C 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-3208C 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-3208C 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-3208C 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-3208C 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-3208C 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-3208C is designed with dual input power at 9.5V~60VDCinput; Lantech IGS-3208C provides  $\pm 2000V$  EFT/SURGE and  $\pm 4000$  VDC (Contact) /  $\pm 8000$  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 EM/RFI phenomenon, environmental vibration and shocks usually found in Automation, transportation, surveillance, Wireless backhaul, Semi-conductor factory and assembly lines.

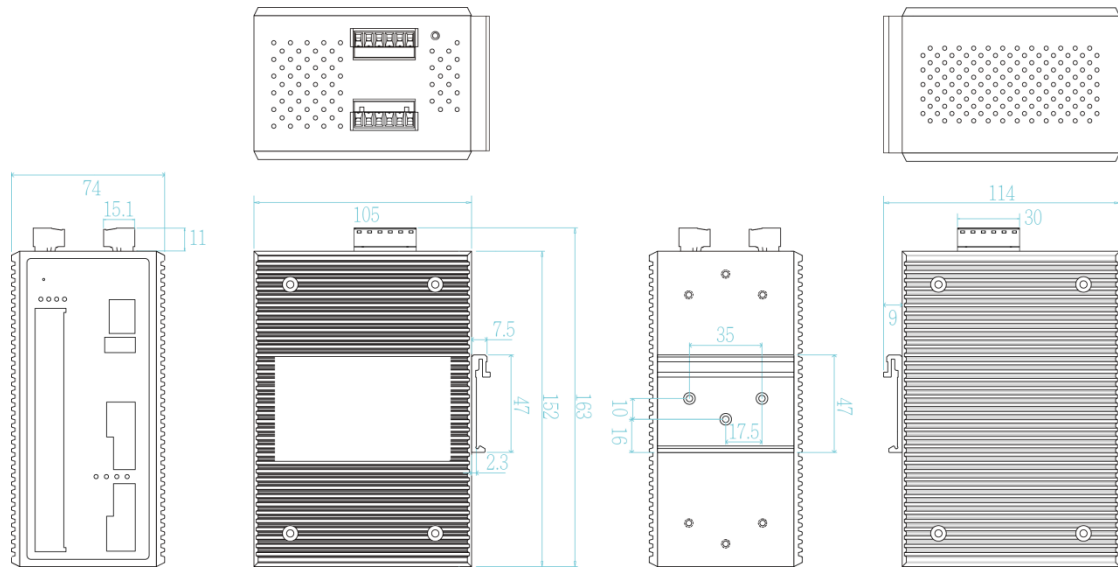
The -E model can be used in extreme environments with an operating temperature range of -40°C to 75°C.

## FEATURES & BENEFITS

- **8 10/100/1000T + 2 x 10/100/1000T Dual Speed 100/1000M SFP combo (Total 10 Ports Switch)**
- **Support 10K bytes jumbo frames**
- **Dual 9.5V~60VDC power input**
- **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 (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  $\pm 2000$  VDC for power line**
- **Supports  $\pm 4000$  VDC (Contact) and  $\pm 8000$  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*
- **Repowered auto ring restore**
  - *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 t editable configuration file for system quick installation
- USB port to upload/download firmware 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**
- **Galvanic isolation between input power and system power; output power and case**
- **IP30 metal housing with DIN rail and Wall-mount\*\* design**

**DIMENSIONS (unit=mm)**



**SPECIFICATION**

Hardware Specification		Connectors
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	10/100/1000T: 8 x ports RJ-45 with Auto MDI/MDI-X function 10/100/1000T/SFP Combo port: 2 x 10/100/1000T/Dual Speed 100/1000M SFP combo RS-232 connector: RJ-45 type; USB x 1 Power & Relay connector: 1 x 6-pole terminal block
Switch Architecture	Back-plane (Switching Fabric): 20Gbps	Network Cable
Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Fiber / Gigabit Ethernet port	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)
Mac Address	16K MAC address table	Optical Cable
Jumbo frame	10KB	<b>1.25Gbps:</b> 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) <b>125Mbps:</b> Multi-mode: 0 to 2 km/ 5 km, 1310 nm (62.5/125 μm) Single mode: 0 to 30 km, 1310 nm (62.5/125 μm) <b>WDM 1.25Gbps:</b> 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) <b>WDM 125Mbps:</b> Single mode: 0 to 20 km/ 40 km/ 60 km/ 80 km, 1310 nm (9/125 μm); 0 to 20 km/ 40 km/ 60 km/ 80 km, 1550 nm (9/125 μm)		access the switch management and to prevent unauthorized intruder.
LED	Per unit: Power 1 (Green), Power 2 (Green), Fault (Red); RM(Green) Ethernet port: Link/Activity (Green), Speed (Amber);	Login Security	Supports IEEE802.1X Authentication/RADIUS
Operating Humidity	5% ~ 95% (Non-condensing)	Port Mirror	Support 3 mirroring types: "RX, TX and Both packet"
Operating Temperature	-20°C~60°C / -4°F~140°F (Standard model) -40°C~75°C / -40°F~167°F(-E model)	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/static MAC-Port binding Ingress ACL L2/L3 SSL/ SSH v2 for Management HTTPS for secure access to the web interface
Storage Temperature	-40°C~85°C / -40°F~185°F	IGMP	Support IGMP snooping v1,v2,v3; 1024 multicast groups; IGMP router port ; IGMP query; GMRP
Power Supply	9.5V~60VDC	Static MAC-Port Bridge	Static multicast forwarding forward reversed IGMP flow with multicast packets binding with ports for IP surveillance application
Power Consumption	10W	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.
Case Dimension	IP-30, 74 (W) x 114 (D) x 152 (H) mm	RTC	Built-in Real Time Clock to keep track of time always
Weight	900 g	Flow Control	Supports Flow Control for Full-duplex and Back Pressure for Half-duplex
Installation	DIN Rail and Wall Mount** Design	System Log	Supports System log record and remote system log server
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	SMTMP	Supports SMTP Server and 8 e-mail accounts for receiving event alert
Safety	EN62368 (LVD)	Relay Alarm	Provides one relay output for port breakdown, power fail and alarm. Alarm Relay current carry ability: 1A @ DC24V
Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)	Protection	<ul style="list-style-type: none"> <li>■ Miss-wiring avoidance</li> <li>■ Node failure protection</li> <li>■ Loop protection</li> </ul>
MTBF	NA	SNMP Trap	Up to 10 trap stations; trap types including: <ul style="list-style-type: none"> <li>● Device cold start</li> <li>● Authorization failure</li> <li>● Port link up/link down</li> <li>● DI/DO open/close</li> <li>● Topology change(ITU ring)</li> <li>● Power failure</li> <li>● Environmental abnormal</li> </ul>
Warranty	5 years	DHCP	Provide DHCP Client/ DHCP Server/DHCP Option 82 (Client & Server)/Port based DHCP; DHCP Snooping; DHCP option 66
<b>Software Specification</b>		DNS	Provide DNS Client feature and support Primary and Secondary DNS server.
Management	SNMP v1 v2c, v3/ Web/Telnet/CLI	SNTP	Supports SNTP to synchronize system clock in Internet
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	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)
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 basic single ring & enhanced ring Enhanced G.8032 ring configuration with ease Cover multicast & data packets protection	Firmware Update	Supports TFTP firmware update, TFTP backup and restore; HTTP firmware upgrade
User friendly UI	<ul style="list-style-type: none"> <li>■ Auto topology drawing</li> <li>■ Topology demo</li> <li>■ DDM threshold monitoring with dB values***</li> <li>■ Complete CLI for professional setting</li> </ul>	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
Port Trunk with LACP	LACP Port Trunk: 8 Trunk groups/Maximum 10 trunk members	Dual Image Firmware	Support dual image firmware function
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		

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

## ORDERING INFORMATION

■ **IGS-3208C.....P/N: 8351-011**

8 10/100/1000T + 2 10/100/1000T Dual Speed SFP combo L2+ Industrial Managed Ethernet Switch, dual 9.5V~60VDC input w/ isolation, -20°C to 60°C

- **IGS-3208C-E.....P/N: 8351-012**  
8 10/100/1000T + 2 10/100/1000T Dual Speed SFP combo L2+ Industrial Managed Ethernet Switch, dual 9.5V~60VDC input w/ isolation, -40°C to 75°C
- **IGS-3208C-M.....P/N: 8351-0111**  
8 10/100/1000T + 2 10/100/1000T Dual Speed SFP combo L2+ Industrial Managed Ethernet Switch w/Environmental monitoring; dual 9.5~60VDC input w/ isolation, -20°C to 60°C
- **IGS-3208C-M-E.....P/N: 8351-0112**  
8 10/100/1000T + 2 10/100/1000T Dual Speed SFP combo L2+ Industrial Managed Ethernet Switch w/Environmental monitoring; dual 9.5~60VDC input w/ isolation, -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)

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

All part no. with D are with DDM function

### Lantech Communications Global Inc.

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