I(P)ES-5208DF

8 10/100TX + 2 100/1000FX Dual Speed Fiber L2+ (8 PoE at/af) EN50155

Managed Ethernet Switch w/ enhanced G.8032 Ring ; 24V/WV model

- *EN50155/EN61373/EN45545-2 verification*
- *Built-in IEC 61375-3-4 ECN (Ethernet Consist Network) to work with IEC61375-2-5 ETBN*
- *PoE model: IEEE802.3at/af up to 30W per port; PoE management incl. detection and scheduling*
- *PoE model: 24V input boost to 54V output for IEEE802.3at/af max.80W*
- *PoE model: WV input steps down to 54V output for IEEE 802.3at/af max.80W*
- *Galvanic isolation from power input/Ethernet ports to system 1.5KV*
- *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*
- *Support LACP link aggregation, 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*
- *Environmental Monitoring for temp., voltage, current and total PoE load (PoE model)*
- *N-key configurator** for upgrading, auto/editable configuration back up and restoration without computer*

IPES-5208DF IP67

IES-5208DF IP67

CE | FC | (WEEE) | RoHS2 | EN50155 | EN 45545-2 | ITU G.8032 | PoE AT 30W | Train Ring | M Environmental Monitoring | 12V booster 48V

OVERVIEW

Lantech I(P)ES-5208DF (IP67/IP54) is a high performance L2+ (Gigabit uplink) Ethernet switch with 8 10/100TX + 2 100/1000FX Dual Speed Fiber (w/8 PoE 802.3af/at ports by M12) 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 mode 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.

Up to 8 PoE at/af ports w/advanced PoE management (PoE model)
Lantech IPES-5208DF (IP67/IP54) supports IEEE802.3at/af

standard which can feed HI-power up to 30W at each PoE port for big power consumption devices like PTZ IP camera, High power wireless AP etc. The advanced PoE management includes PoE detection and scheduling besides the regular PoE per port status. 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. Per port PoE status can remotely On/Off the power and display information of voltage, current, watt and PoE temperature.

Dual power Input: 24V/WV model
The Lantech I(P)ES-5208 DF (IP54/IP67) series is designed with various dual power input from 12~56VDC input (24V model) to provide PoE budget 80W (PoE model), The WV model can accept dual 16.8~137.5V to feed 54V POE at PoE budget max 80W (PoE model). Featured with relay contact alarm function, the IPES-5208T (IP54/IP67) is able to connect with alarm system in case of power failure or port disconnection

events

Miss-wiring avoidance, Loop protection, Node failure protection

The I(P)ES-5208DF (IP67/IP54) 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 I(P)ES-5208DF (IP67/IP54) 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.

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 I(P)ES-5208DF (IP67/IP54) 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 I(P)ES-5208DF (IP67/IP54) 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 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; Optional N-key auto backup, Exported text file

The configuration file of Lantech I(P)ES-5208DF (IP67/IP54) can be exported in text file so that it can be edited and configured back to switch with ease for mass deployment. The optional N-key configurator offers firmware upgrade, auto/editable configuration back up and restoration without computer by adjusting the DIP switch.

Built-in IEC 61375-3-4 ECN (Ethernet Consist Network) to work with IEC61375-2-5 TBN

Lantech OS1 Ethernet switches comply with IEC 61375-3-4 (ECN) standard. The support of Ethernet Consist Network allows interconnection between end devices located in single consist of train and interoperability with IEC61375-2-5 (TBN).

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; 1 DI + 1 DO

In case of event, the I(P)ES-5208DF (IP67/IP54) is able to send an email** to pre-defined addresses as well as SNMP Traps out immediately. It provides 1DI and 1DO. 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.

Environmental monitoring for switch inside information

The environmental monitoring can detect switch overall temperature, total PoE load (PoE model), voltage and current where can send the SNMP traps and email when abnormal.

EN50155, EN45545-2, EN61373 verification; High ESD protection

Lantech I(P)ES-5208DF (IP67/IP54) 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.
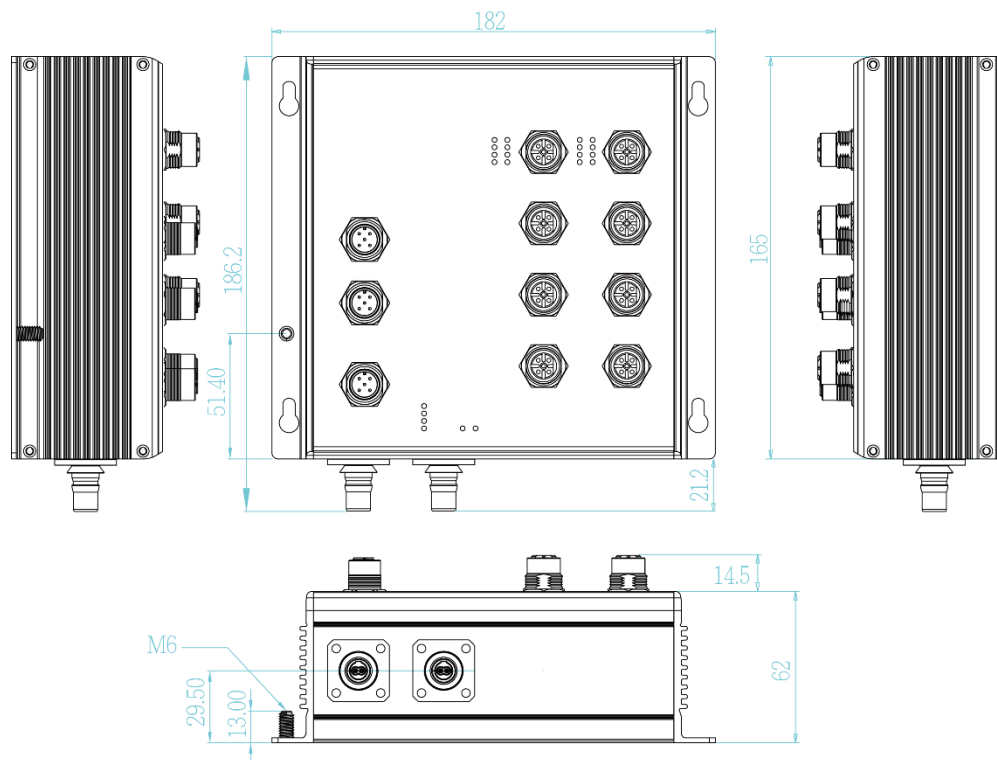
The I(P)ES-5208DF (IP67/IP54) is designed to meet with critical network environment with IP67/IP54 aluminum enclosure and M12 connectors for water proof. With EN45545-2 Fire & Smoke, and EN50155 & EN61373 verification, the I(P)ES-5208DF (IP67/IP54) is best for railway in train/track side, vehicle and mining applications. For more usage flexibilities, I(P)ES-5208DF (IP67/IP54) supports wide operating temperature from -40°C to 75°C.
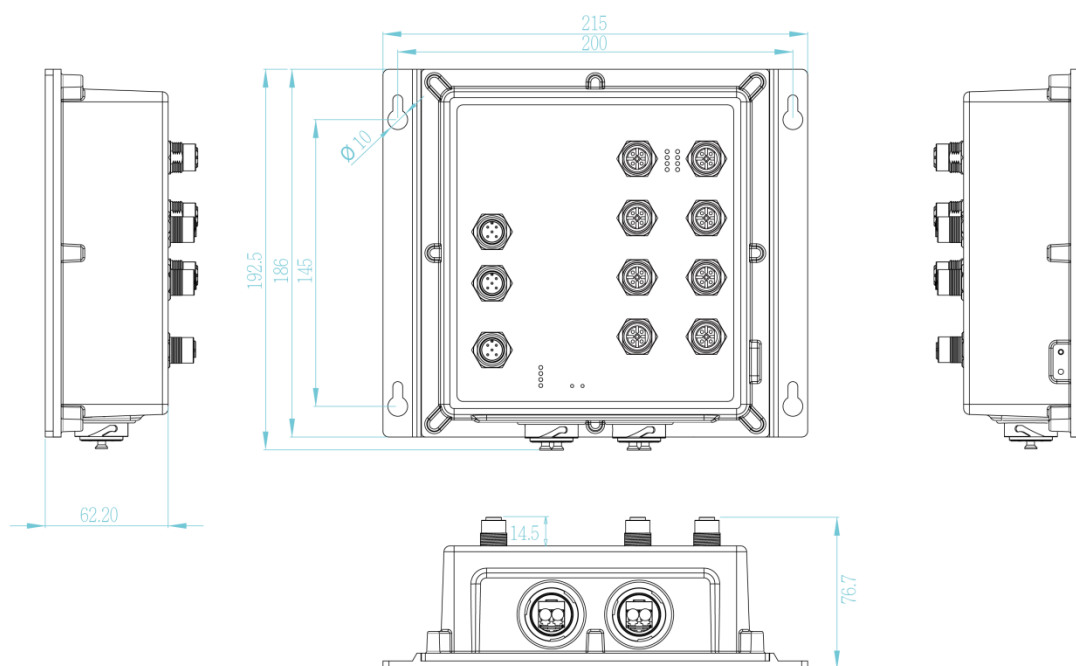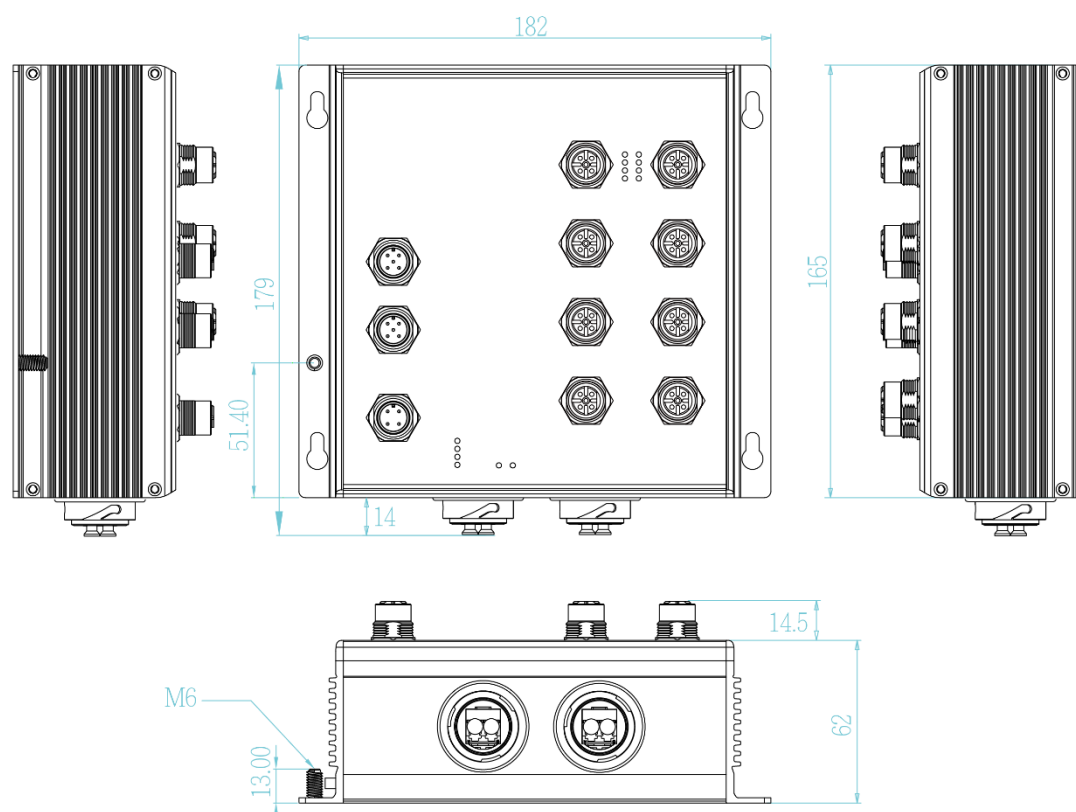
The I(P)ES-5208DF (IP67/IP54) also provides ±2000V EFT and±4000 VDC (Contact) / ±8000 VDC (Air) Ethernet ESD protection, which can reduce unstable situation caused by

power line and Ethernet.

FEATURES & BENEFITS

- 8 10/100TX + 2 100/1000FX Dual Speed Fiber (w/8 PoE 802.3af/at ports) EN50155 Managed IP67/IP54 M12 Ethernet Switch (Total 10 Ports Switch)
- EN45545-2 Fire & Smoke, EN50155 and EN61373 shock/vibration verification
- PoE model: IEEE802.3at/af feeding power up to 30W per PoE port at 45~56VDC at port 1-8
- PoE model: PoE management including PoE detection and scheduling for PD (power devices)
- Galvanic isolation from power input/Ethernet ports to system 1.5KV
- PoE 24V model can accept dual 12~56VDC power input and boost to 54V for PoE 802.3at/af max 80W budget
- PoE WV model can accept dual 16.8~137.5VDC power input and feed 54V for PoE at/af at max 80W budget
- Back-plane (Switching Fabric): 5.6Gbps
- 16K MAC address table
- 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 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
  - Train ring for auto coupling topology
- 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
- MLD Snooping for IPv6 Multicast stream
- 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; 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
- Configuration backup and restoration
  - Supports editable configuration file for system quick installation
  - N-key** for mass configuration auto-backup, editable restoration and auto firmware upgrade
- 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
- IGMPv1,v2,v3 with Query mode for multimedia; GMRP
- Watchdog design to auto reboot switch CPU is found dead
- Built-in environmental monitoring for system input voltage, current, ambient temperature
- Supports 1DI + 1DO (Digital Input/Digital Output)
- IP67/IP54 aluminum housing with DIN rail** and wall mount design
- Diagnostic including Ping / DDM information
- Built-in IEC 61375-3-4 ECN (Ethernet Consist Network) to work with IEC61375-2-5 TBN
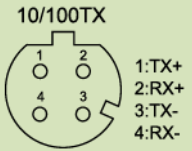- Auto Provision to verify switch firmware with the latest or certain version

DIMENSIONS (unit=mm)

IPES-5208DF IP67 model
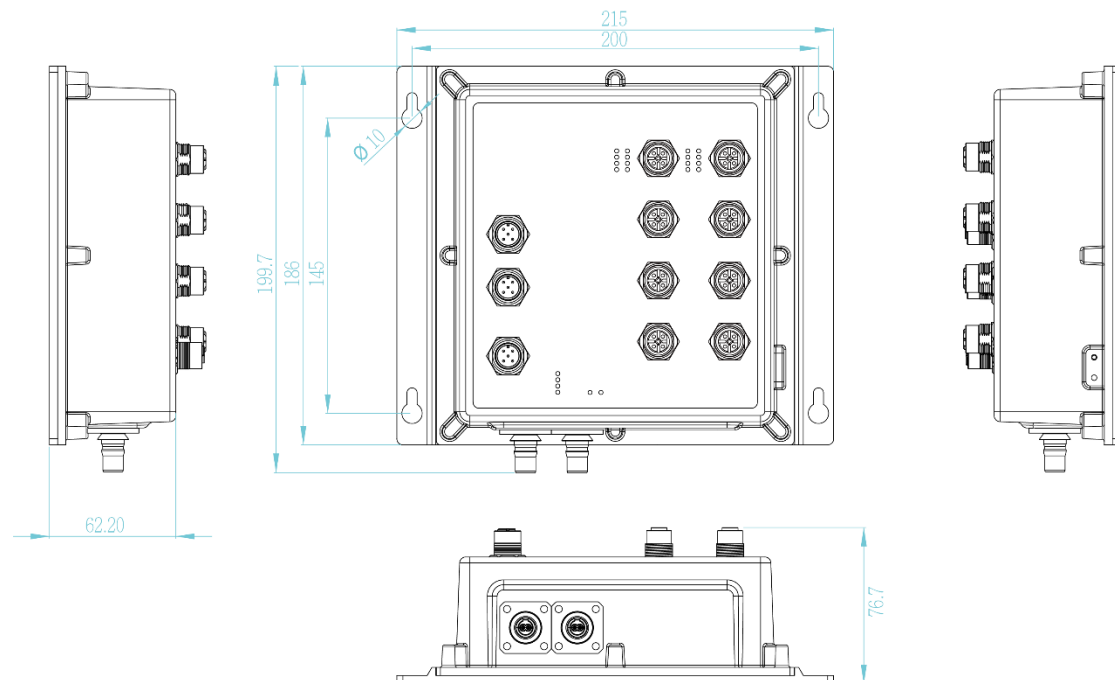
IPES-5208DF IP54 model

IES-5208DF IP67 model

IES-5208DF IP54 model

SPECIFICATION

Hardware Specification

Standards	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX
	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
	IEEE 802.3ad Link Aggregation Control Protocol (LACP)
	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	IEEE 802.1X User Authentication (Radius)
	IEEE802.1p Class of Service
	IEEE802.1Q VLAN Tag
	IEEE802.3at/af Power over Ethernet
Switch Architecture	Back-plane (Switching Fabric): 5.6Gbps
Transfer Rate	14,880pps for Ethernet port
	148,800pps for Fast Ethernet port
	1,488,000pps for Gigabit Fiber Ethernet port
Mac Address	16K MAC address table
Jumbo frame	10KB
Connectors	10/100TX: 8 x ports M12 4-pole D-coded with Auto MDI/MDI-X function
	100/1000FX Dual Speed Fiber: 2 x LC connector for single-mode or multi-mode type fiber cable
	RS-232 connector: 1 x M12 5-pole A-coded
	Power Input connector: 1 x M12 5-pole A-coded
	Relay contact: 1 x M12 5-pole A-coded
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)
Giga Optical Cable	Multi-mode: 50/125um~62.5/125um
	Single mode: 9/125um
	Available distance: 550m (Multi-mode)/10km (Single-mode)
	Wavelength: 850nm (Multi-mode)/1310nm (Single-mode)
100M Optical Cable	Multi-mode: 50/125um~62.5/125um
	Single mode: 9/125um
	Available distance: 2km (Multi-mode)/10km (Single-mode)
	Wavelength: 850nm (Multi-mode)/1310nm (Single-mode)
LED	Per unit: Power 1 (Green), Power 2 (Green),FAULT (Red)
	Ethernet port: Link/Activity (Green), Speed (Green);
	Optical fiber: Link/Activity (Green)
	R.M. indicator (Green)
	PoE : (Green, PoE model)
DI/DO	1 Digital Input (DI) :
	Level 0: -30~2V / Level 1: 10~30V
	Max. input current:8mA
	1 Digital Output(DO): Open collector to 80 VDC, 50mA
Operating Humidity	5% ~ 95% (Non-condensing)
Operating Temperature	-40°C~75°C / -40°F~167°F
Storage Temperature	-40°C~85°C / -40°F~185°F
Power Supply	12~56VDC on 24V model

	16.8~137.5VDC on WV model (Ethernet galvanic isolation for all models)
PoE Budget (PoE model)	Total 80W @ 24 VDC and above
	Higher PoE budget can be applied upon request. **
	Note: This is a non-PoE galvanic isolated model.
PoE pin assignment (PoE model)	M12 port # 1~ # 8 support IEEE 802.3at/af End-point. Per port provides up to 30W.
	10/100TX 1:TX+ 2:RX+ 3:TX- 4:RX-
Power Consumption	Max. 13W 24V input
	Max. 16W WV input
Dimensions	**IPES-5208DF**
	IP67 model: Aluminum case
	215mm(W)x193mm(H)x91.2mm(D)
	IP54 model: Aluminum case
	182mm(W)x179mm(H)x91mm(D)
	IES-5208DF
	IP67 model: Aluminum case
	215mm(W)x192.5mm(H)x76.7mm(D)
	IP54 model: Aluminum case
	182mm(W)x179mm(H)x76.5mm(D)
Weight	1.4kgs (IP67); 1.1kgs(IP54)
Installation	DIN Rail** and Wall Mount Design
EMI & EMS	FCC Class A,
	EN55032 Class A,
	EN55024 , CE EN55011
	CE EN61000-4-2 (ESD) Level 3
	CE EN61000-4-3 (RS) Level 3
	CE EN-61000-4-4 (EFT) Level 3
	CE EN61000-4-5 (Surge) Level 3
	CE EN61000-4-6 (CS) Level 3
	CE EN61000-4-8 (Magnetic Field) Level 3
Stability Testing	EN61373 (Shock and Vibration)
MTBF	652,576 hours (standards: IEC 62380)
Verifications & report	EN50155/EN50121-3-2/EN50121-4 verification
	EN45545-2 R13/R22/R23/R24/R25 (EN ISO 4589-2, EN ISO 5659-2, NF X70-100-1 & 2) Fire & Smoke verification
Warranty	5 years

Software Specification

Management	SNMP v1 v2c, v3/ Web/Telnet/CLI
SNMP MIB	MIB
	MIBII
	SNMP MIB
	Bridge 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 ring enhanced mode)
	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
	Cover multicast & data packets protection
PoE	■ PoE Detection to check if PD hangs then

Management (PoE model)	restart the PD ■ PoE Scheduling to On/OFF PD upon routine time table ■ On/ Off, voltage, current, watts, temperature
User friendly UI	■ Auto topology drawing ■ Topology demo ■ Auto configuration for G.8032 (auto mode) for single ring and train ring ■ 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, total PoE load (PoE model) and ambient temperature to be shown in GUI and sent alerting if any abnormal status
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, QinQ, QoS, Protocol based VLAN; IPv4 Subnet based VLAN
Spanning Tree	Supports IEEE802.1d Spanning Tree and IEEE802.1w Rapid Spanning Tree, IEEE802.1s Multiple Spanning Tree 16 MSTI
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
MLD Snooping	Support IPv6 Multicast stream
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 ● Typology change (ITU ring) ● Power failure ● Environmental abnormal
DHCP	Provide DHCP Client/ DHCP Server/DHCP Option 82/Port based DHCP; DHCP Snooping; DHCP Option 66; Basic IPv6 DHCP server
Mac based DHCP Server	Assign IP address by Mac
DNS	Provide DNS client feature
ECN	Complies with IEC 61375-3-4 (ECN) standard. The support of Ethernet Consist Network allows interconnection between end devices located in single consist of train and interoperability with IEC61375-2-5 (TBN).
SNTP	Supports SNTP to synchronize system clock in Internet
Firmware Update	Supports TFTP firmware update, TFTP backup and restore; HTTP firmware upgrade
Diagnostic	Support Ping and DDM information
N-Key Configurator**	RJ45 dongle for firmware upgrade, auto / editable configuration backup/restoration
Configuration upload and download	Supports editable configuration file for system quick installation
Auto Provision	To verify switch firmware with the latest or certain version

*Future release

**Optional

ORDERING INFORMATION

All model packages include M12 caps and wall mount bracket. All standard models are non-coating, optional coating models are available with –C model name

■ **IPES-5208DF-67-QMM-24V......………....P/N: 8360-654**
8 10/100TX + 2 100/1000FX PoE at/af up to 30W + 2 100M 2KM / Giga multimode 550M Q-ODC EN50155 M12 IP67 L2+ PoE Managed Ethernet Switch; -40°C to 75°C; dual 12V-56V input

■ **IPES-5208DF-67-QSM-24V…..………....P/N: 8360-655**
8 10/100TX + 2 100/1000FX PoE at/af up to 30W + 2 100M 10KM / Giga single mode 10KM Q-ODC EN50155 M12 IP67 L2+ PoE Managed Ethernet Switch; -40°C to 75°C; dual 12V-56V input

■ **IPES-5208DF-67-QMM-WV......…..…….....P/N: 8360-7801**

8 10/100TX + 2 100/1000FX PoE at/af up to 30W + 2 100M 2KM / Giga multimode 550M Q-ODC EN50155 M12 IP67 L2+ PoE Managed Ethernet Switch; -40°C to 75°C; dual 16.8~137.5V input

■ **IPES-5208DF-67-QSM-WV…..…..….…P/N: 8360-781**

8 10/100TX + 2 100/1000FX PoE at/af up to 30W + 2 100M 10KM / Giga single mode 10KM Q-ODC EN50155 M12 IP67 L2+ PoE Managed Ethernet Switch; -40°C to 75°C; dual 16.8~137.5V input

■ **IPES-5208DF-54-QMM-24V.....…....…...P/N: 8360-6541**

8 10/100TX + 2 100/1000FX PoE at/af up to 30W + 2 100M 2KM / Giga multimode 550M Q-ODC EN50155 M12 IP54 L2+ PoE Managed Ethernet Switch; -40°C to 75°C; dual 12V-56V input

■ **IPES-5208DF-54-QSM-24V…..…......…P/N: 8360-6551**

8 10/100TX + 2 100/1000FX PoE at/af up to 30W + 2 100M 10KM / Giga single mode 10KM Q-ODC EN50155 M12 IP54 L2+ PoE Managed Ethernet Switch; -40°C to 75°C; dual 12V-56V input

■ **IPES-5208DF-54-QMM-WV.....…..…....P/N: 8360-7812**

8 10/100TX + 2 100/1000FX PoE at/af up to 30W + 2 100M 2KM / Giga multimode 550M Q-ODC EN50155 M12 IP54 L2+ PoE Managed Ethernet Switch; -40°C to 75°C; dual 16.8~137.5V input

■ **IPES-5208DF-54-QSM-WV…..….…...P/N: 8360-7811**

8 10/100TX + 2 100/1000FX PoE at/af up to 30W + 2 100M 10KM / Giga single mode 10KM Q-ODC EN50155 M12 IP54 L2+ PoE Managed Ethernet Switch; -40°C to 75°C; dual 16.8~137.5V input

■ **IES-5208DF-67-MM-24V….…..……….P/N: 8360-7121**

8 10/100TX + 2 100M 2KM / Giga SX 0.5KM EN50155 M12 IP67 L2+ Managed Ethernet Switch; -40°C to 75°C; dual 12~56VDC

■ **IES-5208DF-67-SM-24V…….....…..…..P/N: 8360-7131**

8 10/100TX + 2 100M 10KM / Giga LX 10KM EN50155 M12 IP67 L2+ Managed Ethernet Switch; -40°C to 75°C; dual 12~56VDC

■ **IES-5208DF-67-MM-WV…….....….…...P/N: 8360-754**

8 10/100TX + 2 100M 2KM / Giga SX 0.5KM EN50155 M12 IP67 L2+ Managed Ethernet Switch; -40°C to 75°C; dual 16.8~137.5VDC

■ **IES-5208DF-67-SM-WV...…….….…....P/N: 8360-755**

8 10/100TX + 2 100M 10KM / Giga LX 10KM EN50155 M12 IP67 L2+ Managed Ethernet Switch; -40°C to 75°C; dual 16.8~137.5VDC

■ **IES-5208DF-54-MM-24V………….…...P/N: 8360-7122**

8 10/100TX + 2 100M 2KM / Giga SX 0.5KM EN50155 M12 IP67 L2+ Managed Ethernet Switch; -40°C to 75°C; dual 12~56VDC

■ **IES-5208DF-54-SM-24V...……..…......P/N: 8360-7132**

8 10/100TX + 2 100M 10KM / Giga LX 10KM EN50155 M12 IP67 L2+ Managed Ethernet Switch; -40°C to 75°C; dual 12~56VDC

■ **IES-5208DF-54-MM-WV………….…....P/N: 8360-7541**

8 10/100TX + 2 100M 2KM / Giga SX 0.5KM EN50155 M12 IP67 L2+ Managed Ethernet Switch; -40°C to 75°C; dual 16.8~137.5VDC

■ **IES-5208DF-54-SM-WV...…….………P/N: 8360-7551**

8 10/100TX + 2 100M 10KM / Giga LX 10KM EN50155 M12 IP67 L2+ Managed Ethernet Switch; -40°C to 75°C; dual 16.8~137.5VDC

■ **N-key Configurator………………….....P/N: 8850-100**

RJ45 connector dongle for firmware upgrade, auto/editable configuration backup and restoration; -20°C to 60°

OPTIONAL ACCESSORIES

M12 Connector & Cable

Connector

■ **ECONM12-05A(M)-C-180**　　5 pin M12 (Male) A-coded 180 degree crimp type connector for DI/DO

■ **ECONM12-04D(M)-C-180**　　4 pin M12 (Male) D-coded 180 degree crimp type connector for data

■ **CON09000030**　　Fiber optical connector ASSY type

Cable

■ **ECONM12-5P(F)1.5M CABLE**　　5 Pin M12 Power Female 90° angle Connector+ 1.5 M CABLE

■ **ECAB124030MJS**　　4 pin M12 (Male) D-coded 180 degree RJ45 STP cable for data, 300cm

■ **ECABMO02-QOP2-3.0-MM-OM3**　　Q-ODC 2 plug/LC multi-mode fiber, MM-OM3, 300cm

■ **ECABMO02-QOP2-3.0-SM-OS2**　　Q-ODC 2 plug/LC single-mode fiber, SM-OS2, 300cm