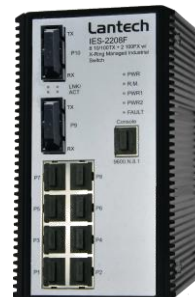# IES-2208F

8 10/100TX + 2 100FX w/ Pro-Ring Managed Industrial Switch

■ *DNV Type Approval for Ships, Craft and Off-shore Platforms**

■ *Wide operating temperature range from -40℃~75℃ (-E model)*

■ *Pro-Ring system covers X-Ring, Dual Homing, Couple Ring topology*

■ *Wide range redundant power with polarity reverse protection*

FCC   CE   cULus   RoHS   DNV   cULus Class I Division II for Group A,B,C,D

OVERVIEW

The Lantech IES-2208F is an 8-port 10/100 Base-TX + 2-port 100FX Industrial Switch with managed functionality. It supports full management, including QoS for 4 queues, 801.q VLAN, IGMP snooping and query mode as well as SNTP and SMTP.

The Lantech IES-2208F supports Pro-Ring system, which includes X-Ring, the fast network recovery scheme in less than 10ms for up to 250 switches in a ring. Couple Ring and Dual-Homing are able to ensure network recovery protection between X-Ring groups. Dual homing is to back up the X-Ring groups when connect to upper layer or the core switch.

The IES-2208F is designed to meet the demands of Industrial environments, comes packaged in a robust IP30 housing and has been tested extensively to meet Industrial EMI and EMC standards. Rigorous mechanical testing has also been undertaken to comply with free fall, shock and vibration stability test requirements.
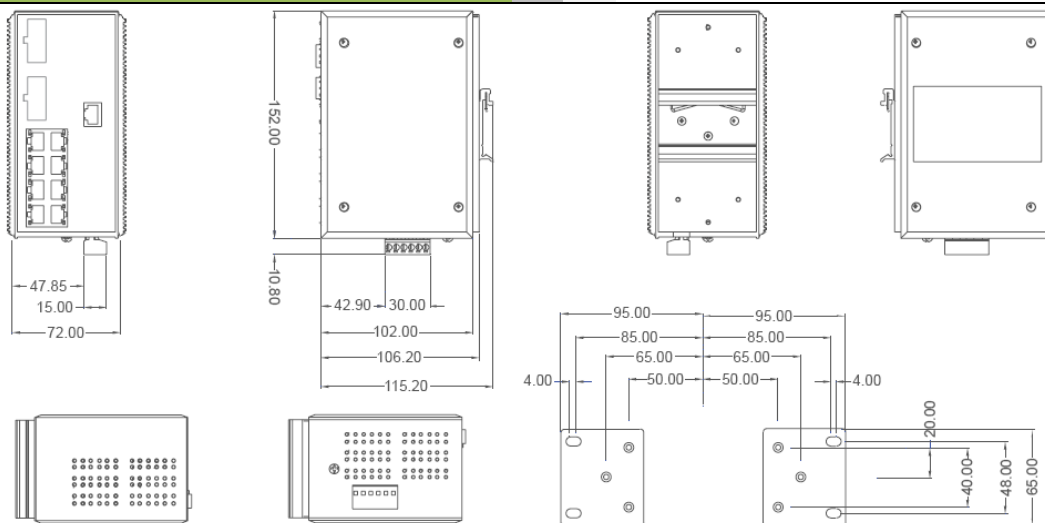
The Lantech IES-2208F is the best to use in Industrial automation, Transportation, Semi-conductor factory, Heavy Industrial factory and other factory assembly lines. Furthermore, UL Class I Division II safety certification makes IES-2208F your best choice to be installed in inflammable environment where the liquid, gas and vapor etc might present the hazardous condition which generally to be find in mining, oil & gas, chemical, processing automation areas.

Lantech DNV-Type Approval IES-2208F-DNV* model meets with the most critical test criteria in DNV Type test directives consisting of MED (Marine Equipment Directive), EMC (Electromagnetic Compatibility Directive) and LVD (Low Voltage Directive) in which vibration, high voltage, compass safe distance, salt mist tests, humidity etc are conducted to ensure the switch sustaining the harsh on-board environments often founded in Ships, Crafts and Offshore platforms.

FEATURES & BENEFITS

■ **System Interface/Performance**
- · *RJ-45 port support Auto MDI/MDI-X Function*
- · *Store-and-Forward Switching Architecture*
- · *Back-plane (Switching Fabric): 1.6Gbps*
- · *1Mbits Packet Buffer*
- · *8K MAC Address Table*
- · *Wide operating temperature (-40℃~75℃)*

■ **Case/Installation**
- · *IP-30 Protection with DIN Rail and Wall Mount Design*

■ **Power Supply**
- · *Input Power Isolation design for Telcom application, Pass Hi-Pot test~1.5KV*
- · *Wide-range Redundant Power Design*
- · *Power Polarity Reverse Protect*

■ **Supports STP & RSTP**

■ **VLAN: Port Based VLAN, 802.1 Q Tag VLAN, GVRP**

■ **Pro-Ring**
- · *X-Ring, Dual Homing, Couple Ring Topology*
- · *Provides recovery time below 10ms*

■ **Port Trunk with LACP**

■ **Support 802.1ab LLDP**

■ **QoS (Quality of Service)**
- · *Supports IEEE 802.1p Class of Service, Per port provides 4 priority queues*
- · *Port Base, Tag Base and Type of Service Priority*

■ **Bandwidth Control**
- · *Ingress Packet Filter and Egress Rate Limit*
- · *Broadcast/Multicast Packet Filter Control*

■ **Port Mirror for monitoring traffic in switched networks**

■ **System Event Log**
- · *System Log Server/Client*
- · *SMTP e-mail Alert*
- · *Relay Alarm Output System Events*

■ **Security**
- · *Port Security, IP Security, and Login Security*

■ **Supports IGMP Query mode for Multi Media Application**

■ **TFTP Firmware Update and System Configure Restore and Backup**

DIMENSIONS (unit=mm)

SPECIFICATION

Hardware Specification

Switch Architecture	Back-plane (Switching Fabric): 1.6Gbps; Packet throughput ability (Full-Duplex): 2.38Mpps @64bytes
Transfer Rate	14,880pps for Ethernet port; 148,800pps for Fast Ethernet port
Packet Buffer	1Mbits
Mac Address	8K MAC address table
Connector	10/100TX: 8 x RJ-45 with auto MDI/MDI-X function; 100M fiber: 2 x SC type connector for single-mode or multi-mode type fiber cable; RS-232 connector: RJ-45 type
Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5, 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)
Optical Cable	Multi-mode: 50/125um~62.5/125um; Single mode: 9/125um; Available distance: 2km (Multi-mode)/30km (Single-mode); Wavelength: 1310nm (Multi-mode/Single-mode)
Protocol	CSMA/CD
LED	Per unit: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Yellow), Master (Green); 8 10/100: Link/Activity (Green), Full duplex/Collision (Yellow); Fiber: Link/Activity (Green)
Power Supply	Input Power Isolation design for Telcom application, Pass Hi-Pot test~1.5KV; DC 12V~48V / DC -48V, Redundant power with polarity reverse protect function and removable terminal block.
Power Consumption	11.28 Watts
Operating Humidity	5% to 95% (Non-condensing)
Operating Temperature	Standard: -10℃~60℃; Wide Operating Temperature (-40℃~75℃)*
Storage Temperature	-40℃ to 85℃
Case Dimension	IP-30, 72mm (W) x 105mm (D) x 152mm (H)
Installation	DIN rail and wall mount ear.
MTBF	232,194 hrs
EMI	FCC Class A, CE EN61000-4-2 (ESD), CE EN61000-4-3 (RS), CE EN-61000-4-4 (EFT), CE EN61000-4-5 (Surge), CE EN61000-4-6 (CS), CE EN61000-4-8, CE EN61000-4-11, CE EN61000-4-12, CE EN61000-6-2, CE EN61000-6-4
Safety	UL, cUL, CE/EN60950-1
Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Warranty	5 years

Software Specification

Management	SNMP v1 v2c, v3/ Web/Telnet/CLI/NS-View Management
SNMP MIB	RFC 1215 Trap, RFC1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643 , RFC 1757, RSTP MIB, Private MIB
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 (256 Groups); Double Tag VLAN (Q in Q)*; Private VLAN**
Port Trunk with LACP	LACP Port Trunk: 4 Trunk groups/Maximum 4 trunk members
LLDP	Support LLDP to allow switch to advise its identification and capability on the LAN
Spanning Tree	Support IEEE802.1d Spanning Tree and IEEE802.1w Rapid Spanning Tree
Pro-Ring	Support X-Ring, Dual Homing, Couple Ring Topology; Provide redundant backup feature and the recovery time below 10ms.
Quality of Service	The quality of service determined by port, Tag and IPv4 Type of service, IPv4/IPv6 Different Service
Class of Service	Support IEEE802.1p class of service, per port provides 4 priority queues
Port Security	Support 100 entries of MAC address for static MAC and another 100 for MAC filter
Port Mirror	Support 3 mirroring types: "RX, TX and Both packet".
IGMP	Support IGMP snooping v1,v2; 256 multicast groups and IGMP query
IP Security	Support 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.
Login Security	Support IEEE802.1X Authentication/RADIUS
Bandwidth Control	Support ingress packet filter and egress packet limit; The egress rate control supports all of packet type and the limit rates are 100K~250Mbps; Ingress filter packet type combination rules are Broadcast/Multicast/Unknown Unicast packet, Broadcast/Multicast packet, Broadcast packet only and all of packet. The packet filter rate can be set from 100k to 250Mbps
Flow Control	Support Flow Control for Full-duplex and Back Pressure for Half-duplex
System Log	Support System log record and remote system log server

Datasheet Version 1.1

SMTP	Support SMTP Server and 6 e-mail accounts for receiving event alert
Relay Alarm	Provides one relay output for port breakdown, power fail and alarm Alarm Relay current carry ability: 1A @ DC24V
SNMP Trap	Up to 3 Trap stations Cold start, Port link up, Port link down, Authentication Failure, Private Trap for power status, Port Alarm configuration, Fault alarm, X-Ring topology change
DHCP	Provide DHCP Client/ DHCP Server/ IP Relay functions
DNS	Provide DNS client feature and support Primary and Secondary DNS server.

SNTP	Support SNTP to synchronize system clock in Internet
Firmware Update	Support TFTP firmware update, TFTP backup and restore.
Configuration upload and download	Support binary configuration file for system quick installation
ifAlias	Each port allows importing 128bit of alphabetic string of word on SNMP and CLI interface.

*Future Release
**Optional

ORDERING INFOMATION

- **IES-2208F-SC-MM...………........P/N: 8350-410**
  8 10/100TX + 2 100FX Industrial Managed Switch, SC, MM, 2KM; (-20°C to 60°C)

- **IES-2208F-ST-MM...………........P/N: 8350-412**
  8 10/100TX + 2 100FX Industrial Managed Switch, ST, MM, 2KM; (-20°C to 60°C)

- **IES-2208F-SC-SM...………........P/N: 8350-415**
  8 10/100TX + 2 100FX Industrial Managed Switch, SC, SM, 30KM; (-20°C to 60°C)

- **IES-2208F-ST-SM...………........P/N: 8350-414**
  8 10/100TX + 2 100FX Industrial Managed Switch, ST, SM, 30KM; (-20°C to 60°C)

- **IES-2208F-SC-MM-AC...………....P/N: 8350-410-AC**
  8 10/100TX + 2 100FX Industrial Managed Switch, SC, MM, 2KM; (-20°C to 60°C); 18~36VAC

- **IES-2208F-ST-MM-AC...………....P/N: 8350-412-AC**
  8 10/100TX + 2 100FX Industrial Managed Switch, ST, MM, 2KM; (-20°C to 60°C); 18~36VAC

- **IES-2208F-SC-SM-AC...………....P/N: 8350-415-AC**
  8 10/100TX + 2 100FX Industrial Managed Switch, SC, SM, 30KM; (-20°C to 60°C); 18~36VAC

- **IES-2208F-SC-MM-E...………......P/N: 8350-411**
  8 10/100TX + 2 100FX Industrial Managed Switch, SC, MM, 2KM; (-40°C to 75°C)

- **IES-2208F-ST-MM-E...………......P/N: 8350-413**
  8 10/100TX + 2 100FX Industrial Managed Switch, ST, MM, 2KM; (-40°C to 75°C)

- **IES-2208F-SC-SM-E...………......P/N: 8350-416**
  8 10/100TX + 2 100FX Industrial Managed Switch, SC, SM, 30KM; (-40°C to 75°C)

- **IES-2208F-SC-MM-E-AC............P/N: 8350-411-AC**
  8 10/100TX + 2 100FX Industrial Managed Switch, SC, MM, 2KM; (-40°C to 75°C); 18~36VAC

- **IES-2208F-ST-MM-E-AC...………..P/N: 8350-413-AC**
  8 10/100TX + 2 100FX Industrial Managed Switch, ST, MM, 2KM; (-40°C to 75°C); 18~36VAC

- **IES-2208F-SC-SM-E-AC...………..P/N: 8350-416-AC**
  8 10/100TX + 2 100FX Industrial Managed Switch, SC, SM, 30KM; (-40°C to 75°C); 18~36VAC

- **IES-2208F-SC-MM-DNV...............P/N: 8350-411DNV**
  8 10/100TX + 2 100FX Industrial Managed Switch, SC, MM, 2KM; (-40°C to 75°C); DNV Approval
  *Redundant power without polarity reverse protect function

- **IES-2208F-SC-SM-DNV...………P/N: 8350-416DNV**
  8 10/100TX + 2 100FX Industrial Managed Switch, SC, SM, 30KM; (-40°C to 75°C); DNV Approval
 *Redundant power without polarity reverse protect function

OPTIONAL ACCESSORIES

DIN Rail Power

- **AD1048-24FS** 24VDC, 2A, Wide AC Input, Convection Cooled, DIN Rail or Wall Mounted, RoHS, Operating Temp. -20°C~50°C (ambient, derating each output at 2.5% per degree from 50°C ~ 75°C, which means the output is 18 Watts at 75°C.)

- **AD1024-24F** 24VDC, 1A, Wide AC Input, Convection Cooled, DIN Rail or Wall Mounted, RoHS, Operating Temp. -20°C~50°C (ambient, derating each output at 2.5% per degree from 50°C ~ 75°C, which means the output is 9 Watts at 75°C.)

- **AD1240-48S** 48VDC, 5A, Wide AC Input, Build-in fan Cooled, DIN Rail or Wall Mounted, RoHS, Operating Temp. -20°C~50°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)

- **AD1120-48F** 48VDC, 2.5A, Wide AC Input, Build-in fan Cooled, DIN Rail or Wall Mounted, RoHS, Operating Temp. -20°C~50°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)

Rack Mounting Kit

- **MBAK19001** 19" Rack Mounting Kit for 72x105x152mm Industrial Switch
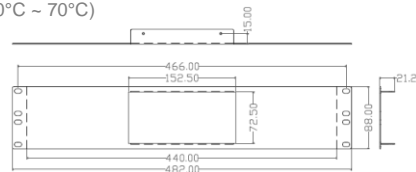
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