

IES-2208CA

8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo

Industrial Managed Switch

- *UL Class I Division II for Group A,B,C and D certified*
- *ATEX Directive 94/9/EC certified (-ATEX model)*
- *Pro-Ring2se for self-heal ring<20ms*
- *DLR** (Device Level Ring) for self-heal ring<10ms*
- *Support Modbus/TCP** for device management and monitoring*
- *Support Advanced SNMP including QoS, IGMP query & source only, DDM***, CPU load monitoring*
- *Factory Default Button to restore setting*
- *DNV Type Approved* for Ships, Craft and Off-shore Platforms*



OVERVIEW

The Lantech IES-2208CA is an 8-port 10/100BaseTX + 2-port 10/100/1000T/Dual Speed SFP Combo industrial switch with Pro-Ring2se self-recovery scheme in 20ms. The SFP connection is suitable with 100M or 1000M Dual Speed. The advanced SNMP management features include QoS for 4 queues, 802.1q VLAN, IGMP snooping, query and source only for multicast IP surveillance, DDM*** as well as Web Ping,CPU load monitoring, SNTP and SMTP etc.

The IES-2208CA supports DLR** (Device Level Ring) that followed Ethernet/IP standard for industrial automation. The DLR can recover Ring network in less than 10ms with single ring up to 50 switches to form a ring topology. The Ethernet enabled PLCs can also connect to the IES-2208CA.

Modbus/TCP** protocol is supported. It's used for communications over TCP/IP networks for factory automation.

The Pro-Ring2se self-recovery scheme can recover Ring network in less than 20ms with single ring up to 50 switches with one step setup. Lantech IES-2208CA builds all the important management features required in large network like DHCP Client/Server, 802.1X authentication, IGMP Query / Snooping, and advanced QoS. The exclusive source only function is good for reverse multicast flow which can automatically select the query (router port) in a ring for IP surveillance application. It also supports Ping commands via Web to detect whether a specific device is still connected for easy trouble-shooting.

The IES-2208CA has the relay contact that is able to connect with alarm system and send Email and SNMP trap alert in case of power or port failure. It also has the built-in factory reset button can restore all setting back to factory default.

The IES-2208CA is designed to meet with critical network environment with IP 30 enclosure and test under extensive Industrial EMI and Safety standards. With UL Class I Division II / ATEX Directive 94/9/EC approval, the IES-2208CA can be implemented in hazardous or explosive condition without accelerating the damage. It's the best choice for 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. It's also suitable for surveillance, factory automation, transportation, telecom / ISP outside terminal, heavy industrial factory and other factory assembly lines.

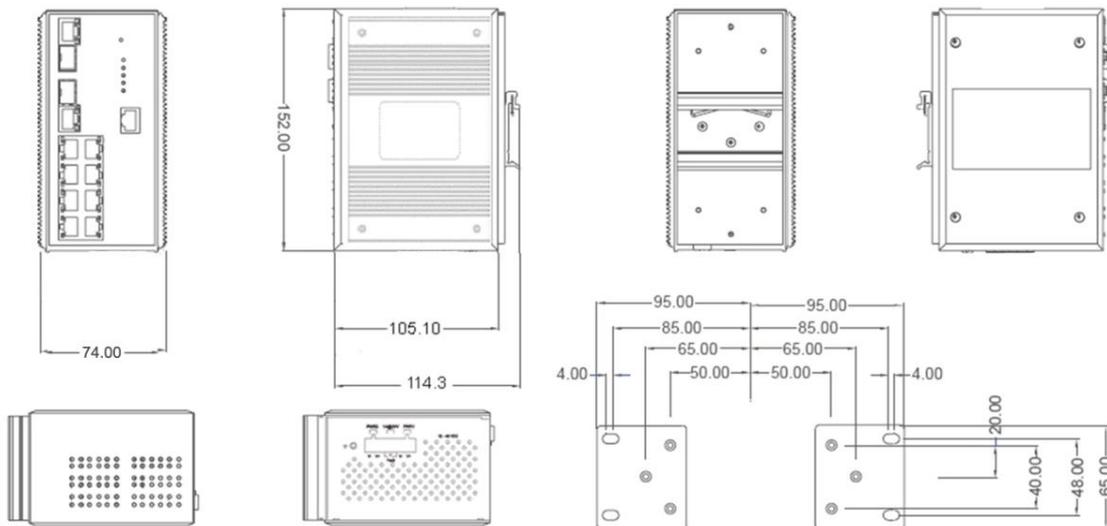
The -E / -ATEX / -DNV model can be used in extreme environments with an operating temperature range of -40°C to 75°C.

The Lantech IES-2208CA-DNV 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

- Pro-Ring2se for self-recovery scheme in less than 20ms for single-ring with one setup
- DLR** (Device Level Ring): Followed Ethernet/IP standard for network recovery in less than 10ms up to 50 switches
- Support Modbus/TCP** for device management and monitoring
- SFP slot supports 100/1000 Dual Mode with DDM*** for SFP diagnostic and monitoring
- Back-plane (Switching Fabric): 5.6Gbps
- 1Mbits Packet Buffer / 8K MAC address table
- UL Class I Division II for Group A,B,C and D certified
- ATEX Directive 94/9/EC certified (-ATEX model)
- IP-30 Protection with DIN rail and wall mount design
- Provides EFT protection ±2000 VDC for power line
- Supports ±6000 VDC for ESD protection
- Support CPU load monitoring and Web Ping to check if the connected device is alive
- IEEE 802.1d Spanning Tree & IEEE 802.1w RSTP
- IGMP with Snooping and Query mode for Multi Media Application
- IGMP source only for reverse multicast application
- Static Multicast Route for non-IGMP application
- Port Based VLAN, 802.1Q Tag VLAN, GVRP
- Port Trunk with LACP
- Supports IEEE 802.1ab LLDP
- Supports IEEE 802.1p CoS, 4 priority queues per port
- Port base, Tag Base and Type of Service Priority
- Supports Ingress Packet Filter and Egress Rate Limit
- Supports Broadcast/Multicast Packet Filter Control
- Port Mirror: Monitor traffic in switched networks
 - TX, RX, Both of TX and RX Packet
- System Log Server/Client
- SMTP e-mail Alert up to 6 emails
- Security
 - Port Security: MAC address entries/Filter
 - IP Source Guard: IP address security management to prevent unauthorized intruder
 - Login Security: IEEE802.1X/RADIUS;SSH* / SSL*
- SNMP Trap
 - Device cold start, Power status, Authentication failure, Port Link up/Link down
- Relay Alarm Output System Events
- TFTP & Web Firmware Update & System Configure Restore/Backup;
- Factory reset bottom can restore all setting back to factory default
- DNV Type Approved* for Ships, Craft and Off-shore Platforms

DIMENSIONS (unit=mm)



SPECIFICATION

Hardware Specification

IEEE Standards	IEEE802.3 10Base-T Ethernet IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T IEEE802.3z Gigabit fiber IEEE802.3x Flow Control and Back Pressure	IEEE802.3ad Port trunk with LACP IEEE802.3af Power over Ethernet IEEE802.1d Spanning Tree IEEE802.1w Rapid Spanning Tree IEEE802.1p Class of Service IEEE802.1Q VLAN Tag
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Datasheet Version 2.1

	IEEE802.1x User Authentication (Radius) IEEE802.1ab LLDP	MTBF	281,224 hrs
Switch Architecture	Back-plane (Switching Fabric): 5.6Gbps	Warranty	5 years
Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Fiber Ethernet port	Software Specification	
Packet Buffer	1Mbits	Management	SNMP v1 v2c, v3/ Web/Telnet/CLI
MAC Address	8K MAC address table	SNMP MIB	RFC 1215 Traps MIB, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643 EtherLike, RFC 1757 Rmon, RSTP MIB, Private MIB, LLDP MIB
Flash ROM	4Mbytes	System Information	Show detail info incl.Name, Version CPU load monitoring for every 1,5,15 minutes Display network parameters incl. Mac, IP, Gateway, Netmask Allow adding port description
DRAM	32Mbytes	Pro-Ring2se	Pro-Ring 2se system Topologies for network recovery in less than 20ms up to 50 switches. Note:Pro-Ring2s is not compatible with Pro-Ring2s/Pro-RingII/Pro-Ring I; 20ms recovery is on fiber port.
Connectors	10/100TX: 8 x ports RJ-45 with Auto MDI/MDI-X function 10/100/1000T/SFP Combo port: 2 x RJ-45 + 2 x 100/1000 SFP socket with DDM RS-232 connector: RJ-45 type	DLR** (Device Level Ring)	Followed Ethernet/IP standard for network recovery in less than 10ms up to 50 switches
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) 1000Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m)	Modbus/TCP**	Supports Modbus/TCP to manage and monitor switch under SCADA system
Optical Fiber	1.25Gbps: 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) 125Mbps: 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) WDM 1.25Gbps: 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 125Mbps: 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)	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)
Protocol	CSMA/CD	Port Trunk with LACP	LACP Port Trunk: 4 Trunk groups/Maximum 4 trunk members
LED	Per unit: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Yellow), Master (Green) 8 port 10/100: Link/Activity (Green), Full duplex/Collision (Yellow) SFP port: LNK/ACT(Green), 1000T: LNK/ACT(Green), 1000M(Green)	LLDP	Supports LLDP to allow switch to advise its identification and capability on the LAN
Power Supply	12V~48VDC(9V~56VDC);Dual power connector removable terminal block for master and slave power	Spanning Tree	Supports IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree, IEEE 802.1s MSTP*
Overload current protection	Present	Quality of Service	The quality of service determined by port, Tag and IPv4 Type of service, IPv4/IPv6 Different Service
Operating Humidity	5% ~ 95% (Non-condensing)	Class of Service	Supports IEEE802.1p class of service, per port provides 4 priority queues
Operating Temperature	Standard: -20°C~60°C / -4°F~140°F Wide Operating Temperature for -E model/ -ATEX model/ -DNU model: -40°C~75°C / -40°F~167°F	Port Security	Supports 100 entries of MAC address for static MAC and another 100 for MAC filter
Storage Temperature	-40°C~85°C / -40°F~185°F	Port Mirror	Supports 3 mirroring types: "RX, TX and Both packet"
Case Dimension	IP-30, 74(W) x 114 (D) x 152 (H) mm	IGMP & Static Multicast Forwarding	Supports IGMP snooping v1,v2 and Query 256 static multicast forwarding groups for non-IGMP cameras IGMP source to auto learn multicast stream and forward the traffic only to multicast router ports
Weight	850 g	IP Source Guard	Supports 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.
Fan Number	0	Login Security	Supports IEEE802.1X Authentication/RADIUS/Telnet
Installation	Wall mount or DIN-type cabinet install	Flow Control	Supports Flow Control for Full-duplex and Back Pressure for Half-duplex
EMI & EMS	FCC Class A, CE EN61000-4-2, CE EN61000-4-3, CE EN61000-4-4, CE EN61000-4-5, CE EN61000-4-6, CE EN61000-4-8, CE EN61000-4-11, CE EN61000-4-12,CE EN61000-6-2, CE EN61000-6-4	System Log	Supports System log record and remote system log server
Safety	UL UL Class I Division II for Group A,B,C and D hazardous location ATEX Directive 94/9/EC (-ATEX model)	SMTTP	Supports SMTP Server and 6 e-mail accounts for receiving event alert
Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)	SNTP	Supports SNTP to synchronize system clock to Internet
Power Consumption	9.86 W at full load	Bandwidth Control & Storm Control	Support ingress packet filter and egress packet limit The egress rate control supports all of packet type and the limit rates are 100K~102400Kbps(10/100), 100K~256000Kbps(1000) 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~102400Kbps(10/100), 100K~256000Kbps(1000)
		Relay Alarm	Provides one relay output for port breakdown, power fail alarm. Alarm Relay current carry ability: 1A @ DC24V
		SNMP Trap	1. Cold start 2. Link down

	3. Link up 4. Authorization fail	Watchdog design	factory default and Watchdog design to automatically reboot switch when CPU loading is too high
DHCP	Provides DHCP Client/ DHCP Server/ Port and IP Binding	ifAlias	Each port allows importing 128bits of alphabetic string of word on SNMP and CLI interface
DNS	Provide DNS client feature and support Primary and Secondary DNS server.		*Future Release **Optional
Firmware Update	Supports TFTP/Web firmware update, TFTP backup and restore. White list for TFTP upgrade and configuration editable file		***Optional DDM SFP required
Factory reset &	Factory reset bottom can restore all setting back to		

ORDERING INFORMATION

- **IES-2208CA.....P/N: 8350-451**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Managed Industrial Switch; -20°C to 60°C
- **IES-2208CA-E.....P/N: 8350-452**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Managed Industrial Switch; -40°C to 75°C
- **IES-2208CA-DLR.....P/N: 8350-451-DLR**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Managed Industrial Switch; -20°C to 60°C; DLR
- **IES-2208CA-DLR-E.....P/N: 8350-452-DLR**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Managed Industrial Switch; -40°C to 75°C; DLR
- **IES-2208CA-ATEX.....P/N: 8350-452-ATEX**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Managed Industrial Switch; -40°C to 75°C; ATEX Directive 94/9/EC
- **IES-2208CA-MOD.....P/N: 8350-451-MOD**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Managed Industrial Switch; -20°C to 60°C; Modbus/TCP
- **IES-2208CA-MOD-E.....P/N: 8350-452-MOD**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Managed Industrial Switch; -40°C to 75°C; Modbus/TCP
- **IES-2208CA-DNV*.....P/N: 8350-452-DNV**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Managed Industrial Switch; -40°C to 75°C; DNV Type Approval*

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)

Mini GBIC (SFP)

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| ■ 8330-162 MINI GBIC 1000SX (LC/0.5km) Transceiver | ■ 8330-188 LTSFP-1000BX-10KM Transceiver (WDM 1310) |
| ■ 8330-163 MINI GBIC 1000SX2 (LC/2km) Transceiver | ■ 8330-189 LTSFP-1000BX-10KM Transceiver (WDM 1550) |
| ■ 8330-165 MINI GBIC 1000LX (LC/10km) Transceiver | ■ 8330-186 LTSFP-1000BX-20KM Transceiver (WDM 1310) |
| ■ 8340-0591 MINI GBIC 1000LHX (LC/40km) Transceiver | ■ 8330-187 LTSFP-1000BX-20KM Transceiver (WDM 1550) |
| ■ 8330-166 MINI GBIC 1000XD (LC/50km) Transceiver | ■ 8330-180 LTSFP-1000BX-40KM Transceiver (WDM 1310) |
| ■ 8330-169 MINI GBIC 1000XD (LC/60km) Transceiver | ■ 8330-182 LTSFP-1000BX-40KM Transceiver (WDM 1550) |
| ■ 8330-167 MINI GBIC 1000ZX (LC/80km) Transceiver | ■ 8330-181 LTSFP-1000BX-60KM Transceiver (WDM 1310) |
| ■ 8330-170 MINI GBIC 1000EZ (120km) Transceiver | ■ 8330-183 LTSFP-1000BX-60KM Transceiver (WDM 1550) |
| ■ 8330-168 MINI GBIC 1000T (100m) Transceiver | ■ 8330-184 LTSFP-1000BX-80KM Transceiver (WDM 1490) |
| ■ 8330-061 100Base LX 30KM, Single-mode, LC Transceiver | ■ 8330-185 LTSFP-1000BX-80KM Transceiver (WDM 1550) |
| ■ 8330-060 100Base FX 2KM, Multi-mode, LC Transceiver | All part no. with D are with DDM function |

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