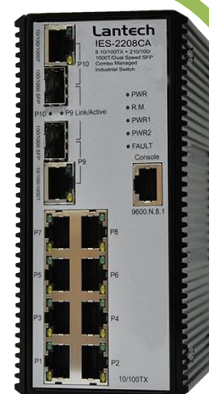


IES-2208CA

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*
- *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*



Non-DNV model



DNV model

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, SNMP and SMTP etc.

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 found 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.

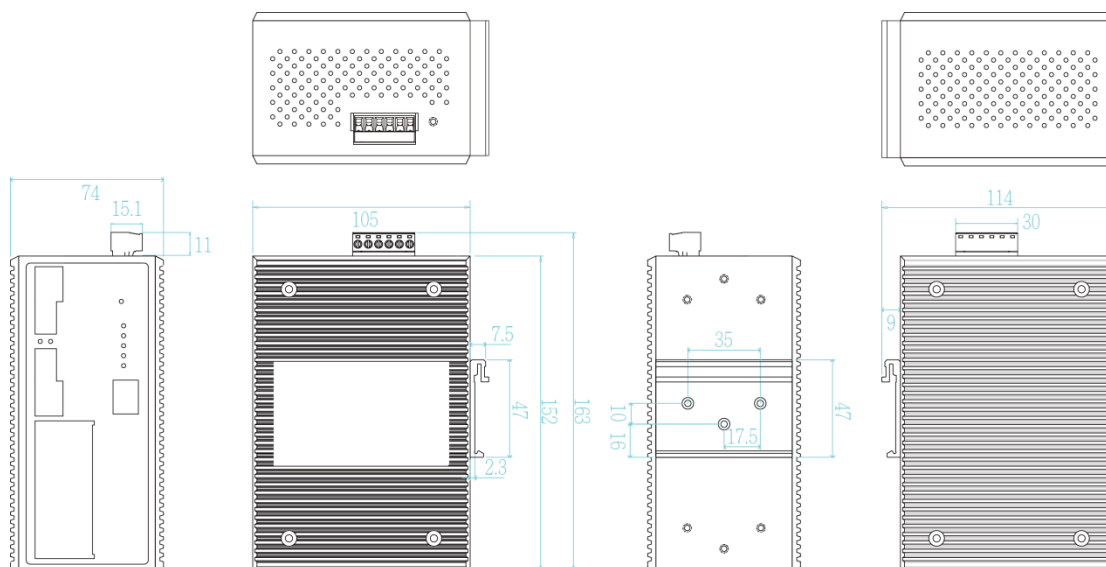
The Lantech IES-2208CA-DNV meets with the most critical test criteria in DNV Type* test directives consisting of MED (Marine Equipment Directive), EMC (Electromagnetic Compatibility Directive) and LVD (Low Voltage Directive) in which vibration, high voltage, compass safe distance, salt mist tests, humidity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

FEATURES & BENEFITS

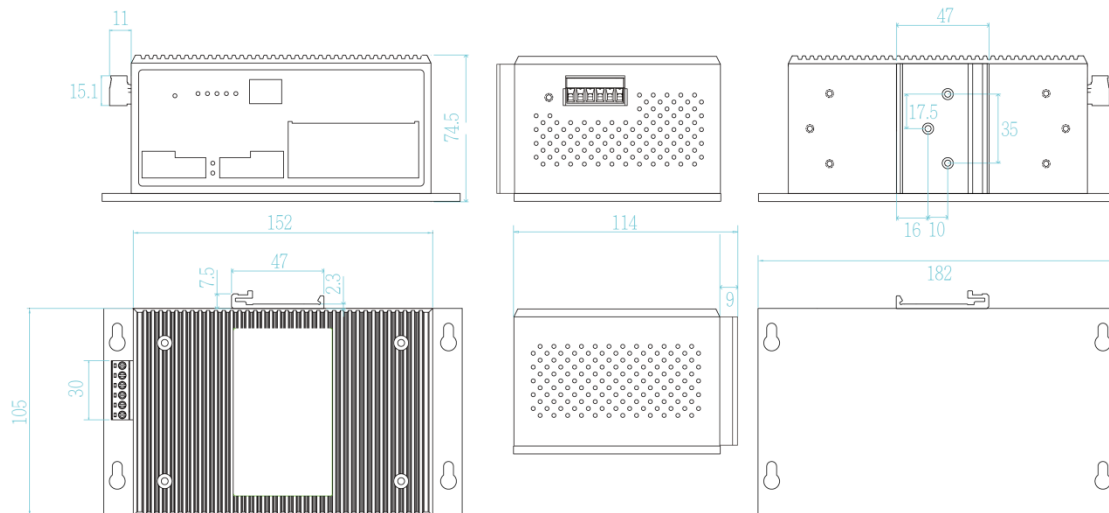
- Pro-Ring2se for self-recovery scheme in less than 20ms for single-ring with one setup
- Support Modbus/TCP** for device management and monitoring
- SFP slot supports 100/1000 Dual Mode with DDM*** for SFP diagnostic and monitoring
- Back-plane (Switching Fabric): 5.6Gbps
- 1Mbits Packet Buffer / 8K MAC address table
- UL Class I Division II for Group A,B,C and D certified
- ATEX Directive 94/9/EC certified (-ATEX model)
- IP30 metal housing 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)

Non-DNV model



DNV model



SPECIFICATION

Hardware Specification			
IEEE Standards	IEEE802.3 10Base-T Ethernet	Protocol	CSMA/CD
	IEEE802.3u 100Base-TX	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)
	IEEE802.3ab 1000Base-T	Power Supply	Combo port: SFP LNK/ACT (Green), 1000T: LNK/ACT (Green), 1000M (Yellow)
	IEEE802.3z Gigabit fiber		
	IEEE802.3x Flow Control and Back Pressure	Overload current protection	Present
	IEEE802.3ad Port trunk with LACP	Operating Humidity	5% ~ 95% (Non-condensing)
	IEEE802.3af Power over Ethernet	Operating Temperature	Standard: -20°C~60°C / -4°F~140°F Wide Operating Temperature for -E model/ -ATEX model/ -DNV model: -40°C~75°C / -40°F~167°F
	IEEE802.1d Spanning Tree		
	IEEE802.1w Rapid Spanning Tree	Storage Temperature	-40°C~85°C / -40°F~185°F
	IEEE802.1p Class of Service	Case Dimension	IP-30, 74(W) x 105 (D) x 152 (H) mm (non-DNV model) 74.5(W) x 105 (D) x 182 (H) mm (DNV model)
Switch Architecture	Back-plane (Switching Fabric): 5.6Gbps	Weight	850 g (non-DNV model) 1000 g (DNV model)
Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Ethernet / Gigabit Fiber port	Fan Number	0
Packet Buffer	1Mbits	Installation	DIN Rail and Wall Mount** Design
MAC Address	8K MAC address table	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 EN55022 Class A, CE EN55024
Flash ROM	4Mbytes	Safety	UL UL Class I Division II for Group A,B,C and D hazardous location ATEX Directive 94/9/EC (-ATEX model)
DRAM	32Mbytes	Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
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	Power Consumption	9.86 W at full load
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)		
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)		

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MTBF	1,221,554 hours		unauthorized intruder.
Warranty	5 years	Login Security	Supports IEEE802.1X Authentication/RADIUS/Telnet
Software Specification		Flow Control	Supports Flow Control for Full-duplex and Back Pressure for Half-duplex
Management	SNMP v1 v2c, v3/ Web/Telnet/CLI	System Log	Supports System log record and remote system log server
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	SMTP	Supports SMTP Server and 6 e-mail accounts for receiving event alert
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	SNTP	Supports SNTP to synchronize system clock to Internet
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.	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)
Modbus/TCP**	Supports Modbus/TCP to manage and monitor switch under SCADA system	Relay Alarm	Provides one relay output for port breakdown, power fail alarm. Alarm Relay current carry ability: 1A @ DC24V
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)	SNMP Trap	1. Cold start 2. Link down 3. Link up 4. Authorization fail
Port Trunk with LACP	LACP Port Trunk: 4 Trunk groups/Maximum 4 trunk members	DHCP	Provides DHCP Client/ DHCP Server/ Port and IP Binding
LLDP	Supports LLDP to allow switch to advise its identification and capability on the LAN	DNS	Provide DNS client feature and support Primary and Secondary DNS server.
Spanning Tree	Supports IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree, IEEE 802.1s MSTP*	Firmware Update	Supports TFTP/Web firmware update, TFTP backup and restore. White list for TFTP upgrade and configuration editable file
Quality of Service	The quality of service determined by port, Tag and IPv4 Type of service, IPv4/IPv6 Different Service	Factory reset & Watchdog design	Factory reset bottom can restore all setting back to factory default and Watchdog design to automatically reboot switch when CPU loading is too high
Class of Service	Supports IEEE802.1p class of service, per port provides 4 priority queues	ifAlias	Each port allows importing 128bits of alphabetic string of word on SNMP and CLI interface
Port Security	Supports 100 entries of MAC address for static MAC and another 100 for MAC filter		
Port Mirror	Supports 3 mirroring types: *RX, TX and Both packet"		
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		
IP Source Guard	Supports 10 IP addresses that have permission to access the switch management and to prevent		

*Future Release

**Optional

***Optional DDM SFP required

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-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

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- (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)

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

All part no. with D are with DDM function

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