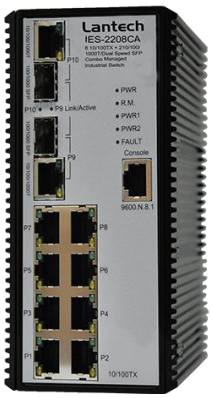
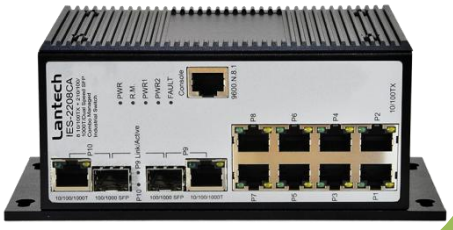
IES-2208CA

8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Industrial Managed Ethernet Switch

- *UL Class I Division II for Group A,B,C and D certified (-C1D2/ATEX model)*
- *ATEX Directive 94/9/EC certified (-C1D2/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 Ethernet 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.

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-C1D2/ATEX 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 / -C1D2/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,

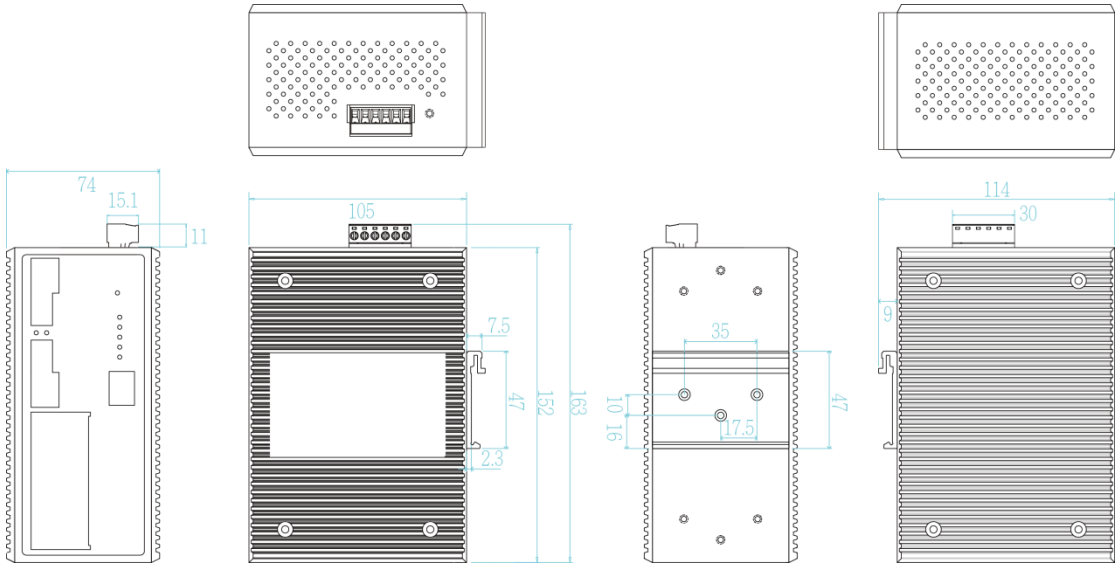
high voltage, compass safe distance, salt mist tests, humidity etc are conducted to ensure the switch sustaining the harsh on-board environments often founded in Ships, Crafts and Offshore platforms.

FEATURES & BENEFITS

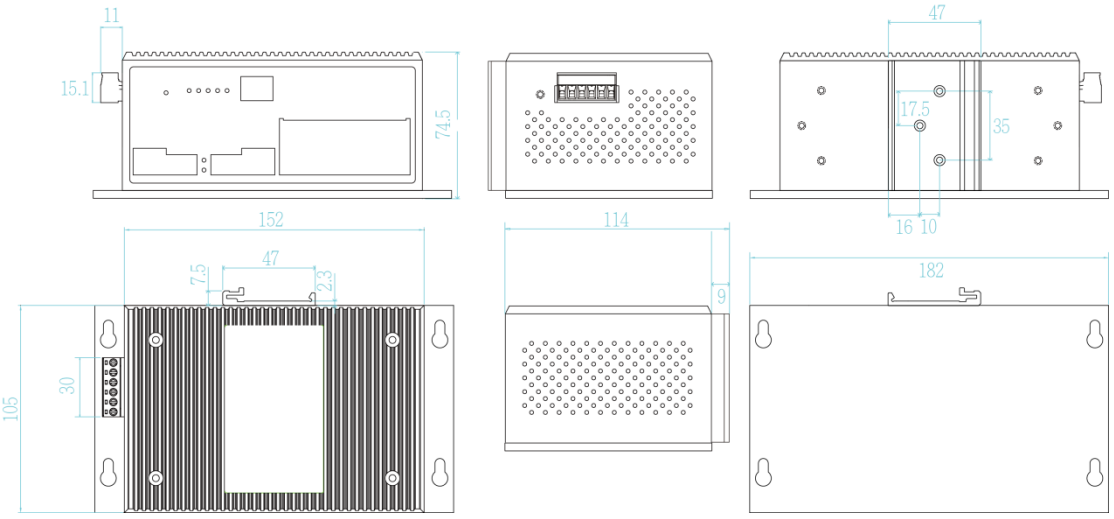
- **Pro-Ring2se for self-recovery scheme in less than 20ms for single-ring with one setup**
- **Support Modbus/TCP** for device management and monitoring**
- **SFP slot supports 100/1000 Dual Mode with DDM*** for SFP diagnostic and monitoring**
- **Back-plane (Switching Fabric): 5.6Gbps**
- **1Mbits 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 (-C1D2/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**
- **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 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 IEEE802.1x User Authentication (Radius) IEEE802.1ab LLDP
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 Ethernet / Gigabit Fiber port
Packet Buffer	1Mbits
MAC Address	8K MAC address table
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
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) **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)
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) **Combo port:** SFP LNK/ACT (Green), 1000T: LNK/ACT(Green), 1000M (Yellow) R.M. indicator (Green)
Power Supply	12V~48VDC(9.5V~60VDC);Dual power connector removable terminal block for master and slave power
Overload current protection	Present
Operating Humidity	5% ~ 95% (Non-condensing)
Operating Temperature	Standard: -20°C~60°C / -4°F~140°F Wide Operating Temperature for -E model/ -C1D2/ATEX model/ -DNV model: -40°C~75°C / -40°F~167°F
Storage Temperature	-40°C~85°C / -40°F~185°F
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)
Weight	850 g (non-DNV model) 1000 g (DNV model)
Fan Number	0
Installation	DIN Rail and Wall Mount** Design
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 EN55032 Class A, CE EN55024
Safety	UL UL Class I Division II for Group A,B,C and D hazardous location; ATEX Directive 94/9/EC (-C1D2/ATEX model)
Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Power Consumption	9.86 W at full load
MTBF	1,221,554 hours
Warranty	5 years

Software Specification

Management	SNMP v1 v2c, v3/ Web/Telnet/CLI
SNMP MIB	RFC 1215 Traps MIB, RFC 1213 MIBII RFC 1158 MIBII RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 1573 IF MIB RFC 2674 VLAN MIB, Partial RFC 1757 RMON, RFC 2790 Host Resource MIB LLDP MIB* RSTP MIB* Private MIB
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
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.
Modbus/TCP**	Supports Modbus/TCP to manage and monitor switch under SCADA system
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.)
Port Trunk with LACP	LACP Port Trunk: 4 Trunk groups/Maximum 4 trunk members
LLDP	Supports LLDP to allow switch to advise its identification and capability on the LAN
Spanning Tree	Supports IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree
Quality of Service	The quality of service determined by port, Tag and IPv4 Type of service, IPv4/IPv6 Different Service
Class of Service	Supports IEEE802.1p class of service, per port provides 4 priority queues
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 unauthorized intruder.
Login Security	Supports IEEE802.1X Authentication/RADIUS/Telnet
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
SMTP	Supports SMTP Server and 6 e-mail accounts for receiving event alert
SNTP	Supports SNTP to synchronize system clock to Internet
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
DHCP	Provides DHCP Client/ DHCP Server/ Port and IP Binding
DNS	Provide DNS client feature and support Primary and Secondary DNS server.
Firmware Update	Supports TFTP/Web firmware update, TFTP backup and restore. White list for TFTP upgrade and configuration editable file
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

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

ORDERING INFOMATION

- **IES-2208CA……..……..P/N: 8350-451**
  8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Industrial Managed Ethernet Switch; -20°C to 60°C
- **IES-2208CA-E…….....P/N: 8350-452**
  8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Industrial Managed Ethernet Switch; -40°C to 75°C
- **IES-2208CA-C1D2/ATEX……..P/N: 8350-452-C1D2/ATEX**
  8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo Industrial Managed Ethernet 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 Industrial Managed Ethernet 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 Industrial Managed Ethernet 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 Industrial Managed Ethernet Switch; -40°C to 75°C; DNV Type Approval*

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)

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

All part no. with D are with DDM function

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