

**IESP-M082C(E)****Industrial Managed PoE Switch**

10-port: 8\* 10/100TX 802.3af PoE Injector + 2\* Combo(10/100/1000T or 100/1000 SFP)

**Benefits**

<ul style="list-style-type: none"> <li>■ System Interface/Performance           <ul style="list-style-type: none"> <li>➢ RJ-45 port support Auto MDI/MDI-X Function</li> <li>➢ Embedded 8-port PoE inject function</li> <li>➢ SFP(Mini-GBIC) supports 100/1000 Dual Mode</li> <li>➢ Store-and-Forward Switching Architecture</li> <li>➢ Back-plane (Switching Fabric): 5.6Gbps</li> <li>➢ 1Mbits Packet Buffer</li> <li>➢ 8K MAC Address Table</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Case/Installation           <ul style="list-style-type: none"> <li>➢ IP-30 Protection</li> <li>➢ DIN Rail and Wall Mount Design</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>■ Power Supply           <ul style="list-style-type: none"> <li>➢ Redundant Power Design</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Spanning Tree           <ul style="list-style-type: none"> <li>➢ Support IEEE802.1w Rapid Spanning Tree</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>■ VLAN           <ul style="list-style-type: none"> <li>➢ Port Based VLAN</li> <li>➢ Support 802.1 Q Tag VLAN</li> <li>➢ GVRP</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ X-Ring           <ul style="list-style-type: none"> <li>➢ X-Ring, Dual Homing and Couple Ring Topology</li> <li>➢ Provide redundant backup feature and the recovery time below 20ms</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>■ Port Trunk with LACP</li> </ul>	<ul style="list-style-type: none"> <li>■ Support 802.1ab LLDP</li> </ul>
<ul style="list-style-type: none"> <li>■ QoS (Quality of Service)           <ul style="list-style-type: none"> <li>➢ Support IEEE 802.1p Class of Service,</li> <li>➢ Per port provides 4 priority queues</li> <li>➢ Port Base, Tag Base and Type of Service Priority</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Bandwidth Control           <ul style="list-style-type: none"> <li>➢ Ingress Packet Filter and Egress Rate Limit</li> <li>➢ Broadcast/Multicast/Flooded Unicst Packet Filter Control</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>■ Port Mirror: Monitor traffic in switched networks.           <ul style="list-style-type: none"> <li>➢ TX Packet only</li> <li>➢ RX Packet only</li> <li>➢ Both of TX and RX Packet</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ System Event Log           <ul style="list-style-type: none"> <li>➢ System Log Server/Client</li> <li>➢ SMTP e-mail Alert</li> <li>➢ Relay Alarm Output System Events</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>■ Security           <ul style="list-style-type: none"> <li>➢ Port Security : MAC address entries/filter</li> <li>➢ IP Security : IP address security management to prevent unauthorized intruder.</li> <li>➢ Login Security: IEEE802.1X/RADIUS</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ SNMP Trap           <ul style="list-style-type: none"> <li>➢ Device cold start</li> <li>➢ Authentication failure</li> <li>➢ X-Ring topology changed</li> <li>➢ Port Link up/Link down</li> <li>➢ PoE port events</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>■ Provides EFT protection 3000 VDC for power line</li> </ul>	<ul style="list-style-type: none"> <li>■ Supports 6000 VDC Ethernet ESD protection</li> </ul>
<ul style="list-style-type: none"> <li>■ IGMP           <ul style="list-style-type: none"> <li>➢ Query mode for Multi Media Application</li> <li>➢ Support multicast filter</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ TFTP Firmware Update and System Configure Restore and Backup</li> </ul>

## Standard Compliance

IEEE Standard	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX/ FX 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 IEEE 802.1x User Authentication (Radius) IEEE802.1ab LLDP
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## Hardware Specification

Switch Architecture	Back-plane (Switching Fabric): 5.6Gbps Packet throughput ability(Full-Duplex): 8.3Mpps @64bytes
Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Ethernet port
Packet Buffer	1Mbits
Mac Address	8K MAC address table
Flash ROM	4Mbytes
DRAM	32Mbytes
Connector	10/100TX: 8 x RJ-45 10/100/1000T/ Mini-GBIC Combo: 2 x RJ-45 + 2 x 100/1000 SFP sockets RS-232 connector: RJ-45 type
Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/ 5E cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5/ 5E cable EIA/TIA-568 100-ohm (100m) 1000Base-TX: 2-pair UTP/STP Cat. 5/ 5E cable EIA/TIA-568 100-ohm (100m)
Optical Fiber	<b>Distance:</b> Multi mode: 0 to 5 km, 1300 nm (50/125 $\mu$ m, 800 MHz*km) 0 to 4 km, 1300 nm (62.5/125 $\mu$ m, 500 MHz*km) Single mode: 0 to 40 km, 1310 nm (9/125 $\mu$ m, 3.5 PS/(nm*km)) 0 to 80 km, 1550 nm (9/125 $\mu$ m, 19 PS/(nm*km)) <b>Min. TX Output:</b> Multi mode: -20 dBm Single mode: 0 to 40 km, -5 dBm; 0 to 80 km, -5 dBm <b>Max. TX Output:</b> Multi mode: -14 dBm Single mode: 0 to 40 km, 0 dBm; 0 to 80 km, 0 dBm <b>Sensitivity:</b> -36 to -32 dBm (Single mode); -34 to -30 dBm (Multi mode)
PoE pin assignment	RJ-45 port # 1~# 8 support IEEE 802.3af End-point, Alternative A mode. Per port provides 15.4W ability. Positive (VCC+): RJ-45 pin 1,2. Negative (VCC-): RJ-45 pin 3,6.
Protocol	CSMA/CD
LED	Per unit: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Red), Master (Green), FWD (Green) 8 port 10/100: Link/Activity (Green), Full duplex/Collision (Yellow) SFP port: LNK/ACT(Green), 1000T: LNK/ACT(Green), 1000M(Green)
Power Supply	External Power Supply: DC 48V, Redundant power DC 48V and connective removable terminal block for master and slave power

Power Consumption	9.7 Watts(Full Load w/o PoE)
Operating Humidity	5% to 95% (Non-condensing)
Operating Temperature	IESP-M082C: -10°C ~60°C ; IESP-M082CE: -40°C ~75°C
Storage Temperature	-40°C to 85°C
Case Dimension	IP-30, 72mm (W) x 105mm (D) x 152mm (H)
Installation	Provide DIN rail kit and wall mount ear for wall mount or DIN-type cabinet install
EMI	FCC Class A, CE EN61000-4-2, CE EN61000-4-3, CE EN-61000-4-4, CE EN61000-4-5, CE EN61000-4-6, CE EN61000-4-8, EN61000-4-11, 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)

## Software Feature

Management	SNMP v1 v2c, v3/ Web/Telnet/CLI
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, LLDP 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 4094.) GVRP (256 Groups)
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 IEEE802.1w Rapid Spanning Tree
X-Ring	Support X-ring, Dual Homing and Couple Ring Topology. Provide redundant backup feature and the recovery time below 20ms
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 50 entries of MAC address for static MAC and another 50 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 Support 50 entries for multicast filter
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~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)
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
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	1. Cold start, 2. Link up/down 3. X-Ring topology changed 4. Authorization fail, 5. PD disconnect trap-PoE port event
DHCP	Provide DHCP Client/ DHCP Server/ Port and IP Binding
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 format configuration file for system quick installation
ifAlias	Each port allows importing 128bit of alphabetic string of word on SNMP and CLI interface.

## Order Information

Product Name	Description
IESP-M082C	8 10/100TX + 2 10/100/1000T/ Mini-GBIC Combo w/ 8 PoE Injector Managed Industrial Switch -10°C ~60°C
IESP-M082CE	8 10/100TX + 2 10/100/1000T/ Mini-GBIC Combo w/ 8 PoE Injector & Wide Operating Temperature (-40°C ~75°C) Managed Industrial Switch

X-Ring ( For X-Ring, Couple Ring and Dual Homing details, please look up to user Manual )

