

Industrial Grade 1000 Series 16 Ports PoE+ Switch

Managed Layer2 10/100/1000 Ethernet PoE Switch, DIN Rail Mount

Infinique's IN1000M-16-240 is a ruggedized industrial Ethernet PoE+ switch of high performance. It's a Layer2 switch with 16x Ethernet PoE+ Ports. The maximum PoE power per port is 30W, making it an ideal choice for use in industrial environments. This switch has security features that are comprehensive and the fan-less design makes it suitable for dusty and harsh environments while adhering to overall IT network design, compliance, and performance requirements.

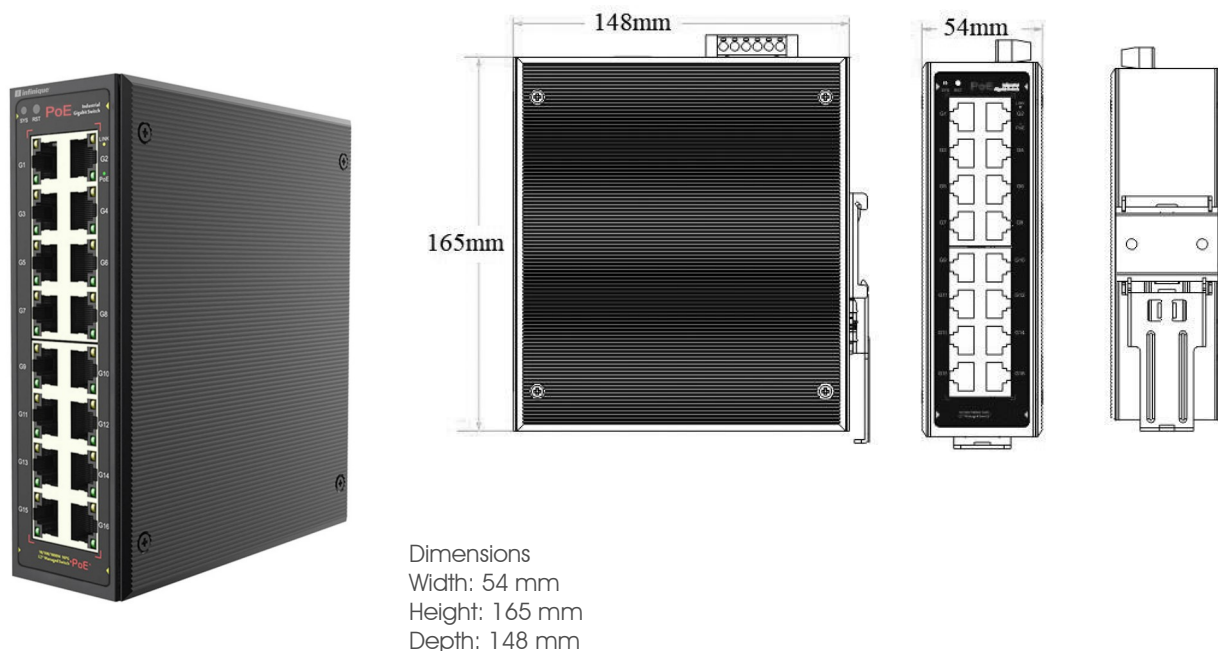
This switch has wide-ranging software feature, and with extended temperature range locations, it is suitable for smart buildings, utility, process control, Intelligent Transportation Systems (ITS), city surveillance programs, rail transit, power industry, mining, petroleum, shipping, metallurgy, and green energy construction and offers a cost-effective, stable and reliable communication network.

The IN1000M-16-240 Switch has the L2+ full network management function, supports IPV4/IPV6 management, static route full line-rate forwarding, security protection mechanism, ACL/QoS policy and rich VLAN functions, and is easy to manage and maintain. It supports multiple network redundancy protocols STP/RSTP/MSTP and ERPS to improve link backup and network reliability. When the one-way network fails, communication can be quickly restored to ensure important uninterrupted communication for applications. According to the actual application requirements, multiple applications can be configured, such as PoE power management, port traffic control, VLAN division, and SNMP through the web network management mode.

Features and Benefits

- High Density PoE+ Connectivity**
 Layer2 Managed Industrial Grade PoE+ Switch with 16x RJ45 10/100/1000Base-T PoE+ Ports with Max 30W power per port
- Excellent Performance**
 Switching capacity of 52 Gbps and forwarding speed of 23.81Mpps with 64 byte packets
- Robust Industrial Design**
 Galvanized Steel Casing, Fan-less, Industrial Grade, Shock, Vibration, and Surge Proof with electrical noise immunity, DIN Rail Mountable, IP40
- Intelligent PoE Power Management**
 Low Power Consumption, Port Prioritization, PoE Port Power Allocation, Network Management, Priority Setting, Power Status Viewing, Time Scheduling
- Standards**
 Supports QOS, MSTP, IGMP, RADIUS and complies with 802.3af/at, 802.3, 802.3u, 802.3x, 802.3ab, 802.1X, 802.1Q, 802.1P Standards

CONSTRUCTION



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FEATURES AND BENEFITS

Robust Industrial Design

Galvanized Steel Casing, Industrial grade, fully managed PoE+ Ethernet Switch, DIN Rail Mountable, IP40 Fan-less Design with operational temperature range from -40 to 80°C Shock, Vibration, and Surge Proof with electrical noise immunity Low Power Consumption with improved uptime, performance, and safety Complies with industry specifications for industrial automation, ITS, and challenging environments

High Density Gigabit Ethernet PoE+ Switch

8 x 10/100/1000Base-T RJ45 Ethernet PoE+ Ports, 30W per Port (IEEE802.3af/at), Total Power Budget of 120W Auto-sensing, Full Duplex (IEEE802.3x) or Half Duplex, MDI/MDI-X, Non-blocking Wire-Speed Forwarding Enables ready-to-use PoE devices, such as High Definition IP Cameras, Wireless Access Points, and IP Phones Delivers multiple rings; redundant ring topology for network configurations Extends geographical scalability where longer distance connectivity is required

Intelligent PoE Power Management

RJ45 Ports can support POE power supply to meet the needs of security monitoring, teleconferencing system, wireless coverage, and other scenarios. IEEE 802.3af/at PoE Standard, without damaging non-PoE devices Prioritization, supplies power first to port with high priority and manages allocation of power effectively Network Management, PoE Port Power Allocation, Priority Setting, Power Status Viewing, Time Scheduling, etc.

Wide-Ranging Features

802.1Q VLAN, flexible VLAN division, Voice VLAN, and QinQ configuration, QoS, Priority mode based on 802.1P, Port and DSCP, Queue scheduling algorithm including EQU, SP, WRR & SP+WRR ALC, filter data packet through configuring matching rules, processing operation & time permission, and provide flexible and safe access control IGMP V1/V2 and IGMP Snooping ERPS/STP/RSTP/MSTP, Static and Dynamic Aggregation.

Easy and User-friendly Operation

Allows easily configuration and monitoring via a web browser. Supports CLI Command Line (Console, Telnet), SNMP (V1/V2/V3) HTTPS, SSLV3, and SSHV1/V2 RMON, System Log, LLDP and Port Traffic Statistics CPU Monitoring, Memory Monitoring, Ping Test, and Cable Diagnose

Secure, Stable and Reliable

802.1X authentication, Port Isolation, Storm Control, IP-MAC-VLAN-Port Binding, Anti-DoS attack SSH 2.0,SSL, Port isolation, ARP inspection, ARP message speed limit AAA & RADIUS,MAC learning limit, Mac black holes,IP source protection, User hierarchical management and password protection Low Power Consumption, Fan-Less Design, Aluminum Casing High Redundancy Power Supply, to provide long term and stable PoE power output LED Indicators to show Power, Link and PoE Power Status CCC,CE, FCC, RoHS Compliant

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TECHNICAL SPECIFICATIONS	
10/100/1000 PoE+ Ports	16 x RJ-45 Ports
Console Port	RS232 port (115200,N,8,1)
PoE Standard	IEEE802.3af/at
PoE Ports	Ports 1-16
Network Protocols	IEEE 802.3, 10BASE-T Ethernet IEEE 802.3u, Fast Ethernet Standard IEEE 802.3ab, Gigabit Ethernet Standard IEEE 802.3z, Gigabit Ethernet Fiber Standard IEEE 802.3x, Full-Duplex Ethernet Data Link Layer Flow Control
Features	Half/Full-Duplex Operation at 10/100Mbps Full-duplex operation at 1000Mbps Auto-Negotiation for each port Auto MDI/MDIX
Host Support	IPv4 / IPv6 ready
LED Indicator Status	Power: PWR Yellow, System: SYS Yellow, Network: Link/Act Yellow, SFP: L/A Green, PoE: PoE Green
Factory Reset	Factory Reset Button; Continuous press (6 secs) for factory defaults, Short press twice at 1 sec interval to switch to unmanaged state
SWITCH PERFORMANCE	
Switching Bandwidth	52 Gbps
Forwarding Rate	23.81 Mpps with 64 byte packets
Number of Queues	8 Output Queues for each port
MAC Table Size	8K
IGMP Groups	1024 Multicast Groups
Number of VLANs	1024
MTBF	100,000 hours
Buffer Memory	4M
Jumbo Frame	9.2K
NETWORK MANAGEMENT	
Interface	IEEE802.3X Full Duplex, Broadcast Storm Control on Port Speed, Message Flow Speed Limit for Access Port, Minimum Particle Size 64Kbps Port Temperature Protection Setting, Port Green Ethernet Energy Saving Setting
Layer 3 Features	L3, L2+ Network Management, IPV4/IPV6 Management, L3 Full Line Speed Soft Routing, Forwarding, Static Route, Default Route @ 128 pcs, APR @ 1024 pcs
VLAN	4K VLAN based on Port, IEEE802.1q, VLAN based on protocol, VLAN based on MAC Voice VLAN, QinQ Tunneling, Port configuration of Access, Trunk, Hybrid
Port Aggregation	LACP, Static Aggregation, Max 8 Aggregation Groups, 8 Ports Per Group
Spanning Tree	STP (IEEE802.1d),RSTP (IEEE802.1w),MSTP (IEEE802.1s)
Industrial Ring Network Protocol	G.8032 (ERPS), Recovery time less than 20ms, 255 Ring, Max 250 Devices per Ring
Multicast	IGMP Snooping v1/v2, 1024 Multicast Groups, Fast log out, MLD Snooping v1/v2,Multicast VLAN
Port Mirroring	Bi-directional data mirroring based on port
Quality of Service (QoS)	Diff-Serv QoS, Priority Mark/Remark, 8 Output Queues per port, 802.1p/DSCP Priority Mapping, Queue Scheduling Algorithm (SP, WRR, SP+WRR), Flow-based Rate Limit, Packet Filter, Redirection
ACL	L2 to L4 Packet Filtering, matching first 80 bytes message, Provide ACL based on MAC, Destination MAC Address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port Range, VLAN, etc., VLAN and Port based ACL

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NETWORK MANAGEMENT	
Security	User Hierarchical Management and Password Protection, SSH 2.0,SSL, Port Isolation, ARP Message Speed Limit, Storm Control, Host Datum Backup, 802.1X Multi-Domain Authentication, MAC Address Authentication, Mac Black Holes, IP Source Protection AAA and RADIUS, MAC Learning Limit, ARP Inspection, Anti-DoS Attack, IP-MAC-VLAN-Port Binding
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	Console/AUX Modem/Telnet/SSH2.0 CLI, Web Management (HTTPS), Cable Diagnose, LLDP, FTP Download and Management, TFTP, Xmodem, SFTP, SNMP V1/V2C/V3, One-key Recovery, NTP, System Work Log, Ping Test, CPU Instant Utilization Status View, Smart Network Management System Platform
System	Web Browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Microsoft Internet Explorer10 or later Network Cable: Category 5 or Higher PC Operating System: Microsoft Windows, Linux, or Mac OS X
POE AND POWER MANAGEMENT	
PoE Management	Total Power limit of PoE power supply PoE Output power allocation, off& af &at PoE Output Priority Configuration PoE Working Status Delay start of power supply Scheduling of PoE operation and time
PoE Power Budget	240W, Max 30W Per Port, IEEE802.3af/at
Power Supply Pin	Default: 1/2 (+), 3/6 (-), Optional 4/5(+), 7/8(-)
Power Supply	No, Optional 48V/240W Industrial Power Supply
Power Consumption	Standby <10W, Full Load <240W
Power Input Interface	48-57VDC, 6 Pin industrial Phoenix Terminal, Supports anti-reverse protection.
Green Energy (EEE)	IEEE802.3az Energy Efficient Ethernet Task Force
ENVIRONMENT	
Operating Temperature	-40°C to 80°C
Operating Relative Humidity	10% - 90%, non-condensing
Storage Temperature	-40°C to 85°C
Storage Relative Humidity	5% - 90%, non-condensing
Working Altitude	up to 10,000 ft / 3000 m
Storage Altitude	up to 10,000 ft / 3000 m
PHYSICAL CHARACTERISTICS	
Dimensions (mm)	54 (w) x 148 (d) x 165 (h)
Weight (kg)	1.1 Net / 1.3 Gross
Enclosure	IP40 Aluminum Alloy, Desktop or 35mm DIN Rail mountable

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STANDARDS COMPLIANCE	
Safety	CE/LVD EN 62368-1, RoHS
Emissions	CE, FCC Part 15 Class B, VCCI Class B, EN 55022 (CISPR 22) Class B
Lightning Protection	Lightning protection: 6kV 8/20us; Protection level: IP40, IEC61000-4-2(ESD); ±8kV contact discharge, ±15kV air discharge IEC61000-4-3(RS):10V/m(80~1000MHz) IEC61000-4-4(EFT): power cable: ±4kV; data cable: ±2kV IEC61000-4-5(Surge):power cable:CM±4kV/DM±2kV; data cable: ±4kV IEC61000-4-6(radio frequency transmission):10V(150kHz~80MHz) IEC61000-4-8(power frequency magnetic field):100A/m;1000A/m ,1s to 3s IEC61000-4-9(pulsed magnet field):1000A/m IEC61000-4-10(damped oscillation):30A/m 1MHz IEC61000-4-12/18(shockwave):CM 2.5kV,DM 1kV IEC61000-4-16(common-mode transmission):30V; 300V,1s FCC Part 15/CISPR22(EN55022):Class B IEC61000-6-2(Common Industrial Standard)
Mechanical	IEC60068-2-6 - Anti Vibration IEC60068-2-27 - Anti Shock IEC60068-2-32 - Free Fall

ORDERING INFORMATION	
PART NUMBER	DESCRIPTION
IN1000M-16-240	Infinique IN1000M Series 16 Ports Managed Industrial PoE+ Switch, 16x 10/100/1000 PoE+ Ports, Switching Capacity 52Gbps, PoE Power Budget 240W, Max 30W Per Port, Plug and Play Configuration, IP40 Aluminum Alloy Enclosure, Desktop or DIN Rail Mount
IN-SFP-T1G-SMLCD	Infinique 1G SFP Module Transceiver, 1310nm, 20 KM, Dual Fiber, Singlemode LC Duplex
IN-SFP-T1G-MMLCD	Infinique 1G SFP Module Transceiver, 850nm, 500 M, Dual Fiber, Multimode LC Duplex
IMC-PWR-48-240	Infinique Industrial Grade Power Supply for PoE Switch, 48VDC, 240W, DIN-Rail Mount



Infinique, a Canadian company is a manufacturer of high performance end-to-end solutions in copper, fiber and video surveillance systems. For more information visit our website at www.infinique.com or email us at sales@infinique.com.

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Product specification, design and availability subject to change without prior notice.