

# ENP1M02216

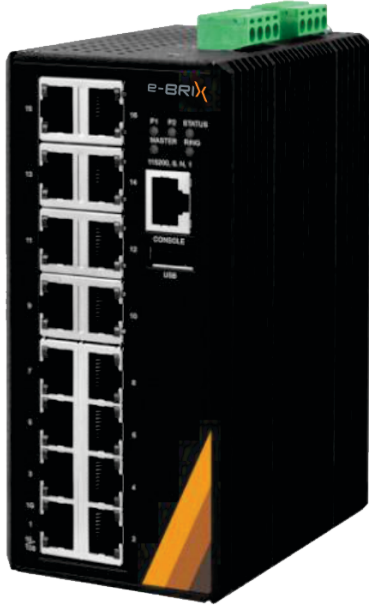
16-Port Industrial Gigabit Managed Ethernet Switch  
16\*10/100/1000Base-T(X)



Managed

Gigabit

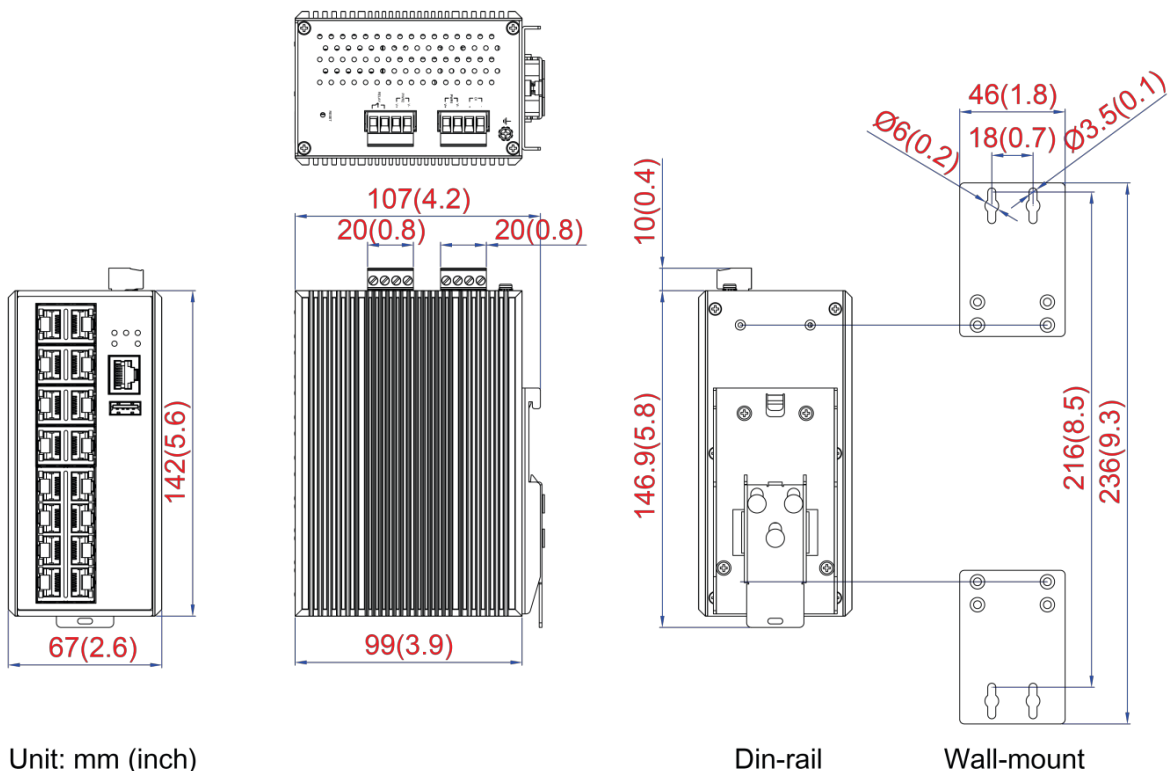
## Feature



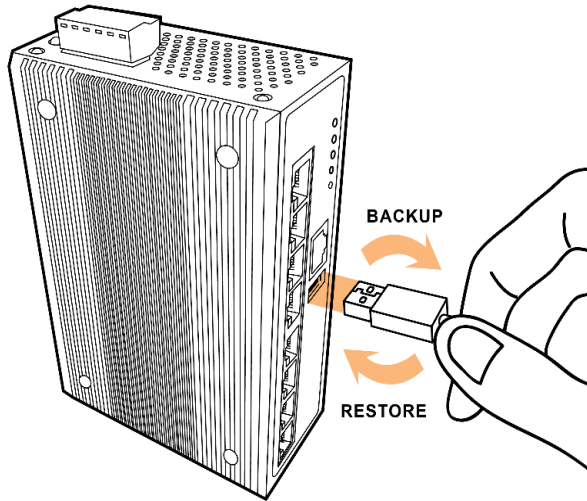
- 16-port 10/100/1000Base-T(X) Ethernet
- Multiusers account for security
- Configuration: http, https, CLI Command, Telnet, SNMP, SSH
- Network redundancy support: G.8032 ERPS v2/ STP/ RSTP/ MSTP
- Supports Static routes for routing function
- Supports RADIUS, TACACS+ authentication protocol
- Supports QoS, LACP bandwidth control
- Supports VLAN, SNMP v1/v2c/v3, ACL, IP source guard for Ethernet security
- Redundant power inputs design
- Operating temperature range - STD: -10°C ~ 65°C



## Dimensions (unit = mm)



## USB Backup/Restore Function



e-BRIX Managed Ethernet switch series supports USB 2.0 flash drive, which allows user to backup and restore the device configuration to meet the need of quick device swap. And USB port on Managed Ethernet switch series is applicable to the most common USB flash drives, hugely elevating convenience for user.

## Specifications

### Technology

#### Standards

IEEE 802.3 10Base-T Ethernet  
 IEEE 802.3u 100Base-TX Fast Ethernet  
 IEEE 802.3ab 1000Base-T Gigabit Ethernet  
 IEEE 802.3x Flow Control  
 IEEE 802.1d STP (Spanning Tree Protocol)  
 IEEE 802.1w RSTP (Rapid Spanning Tree Protocol)  
 IEEE 802.1s MSTP (Multiple Spanning Tree Protocol)  
 ITU-T G.8032 / Y.1344 ERPS v1/v2(Ethernet Ring Protection Switch)  
 IEEE 802.1Q Virtual Local Area Network (VLAN)  
 IEEE 802.1p QoS/CoS Protocol for Traffic Prioritization  
 IEEE 802.1X Network Authentication  
 IEEE 802.1AB Link Layer Discovery Protocol (LLDP)  
 IEEE 802.3ad Link Aggregation (LACP)

#### Processing Type

Store and Forward

#### Flow Control

IEEE 802.3x flow control, back pressure flow control

### Network Management

#### Management

IPv4/IPv6, SNMP v1/v2c/v3, LLDP, LLDP-MED, HTTP, HTTPS, SSHv2 telnet, DHCP client, DHCPv6 client, DHCP server, Port Mirror, DNS client/proxy, IP based Access Filter, ICMPv6, syslog, Time Zone /Daylight Saving, NTP client, RMON, sFlow, Loop detection, Console Port, USB configuration backup/restore, Power lost warning, relay trigger

#### Security

Port-based/Single/Multi 802.1X, ACL(Port/Rate Limiters/ACE), MAC-based Authentication, VLAN assignment, QoS Assignment, Private VLAN, Guest VLAN, RADIUS accounting, TACACS+, IP MAC binding, WEB/CLI authentication, Authorization (15 levels), Port Security Limit Control, ACLs for filtering/policing/port copy, IP source guard, ARP Inspection

#### L2 Switching

Port/MAC/Protocol/IP Subnet-based VLAN, GARP/GVRP, Loop Guard, Link Aggregation static/LACP, BPDU guard, Error disable recovery, IGMP snooping v2/v3, MLD snooping v1/v2, IGMP filtering, IPMC throttling / filtering leave proxy, DHCP snooping, G.8032 v1/v2

<b>L3 Switching</b>	DHCP option82, IP route
<b>Power Saving</b>	ActiPHY, PerfectReach, IEEE 802.3az EEE power management
<b>Network Redundancy</b>	STP/RSTP/MSTP, port trunk with LACP, ERPS v1/v2(<50ms)
<b>Configuration</b>	Http, Https, Telnet, SSH, CLI, TFTP, SNMP v3
<b>System / Diagnostics</b>	Dual Image Protection, PING, PING6

<b>SNMP MIBs &amp; RFC Standards</b>	<p>RFC 2674 VLAN MIB          IEEE-802.1Q bridge MIB 2008          RFC 2819 RMON (group 1, 2, 3, and 9)          RFC 1213 MIB II          RFC 1215 TRAPS          RFC 4188 bridge          RFC 4292 IP forwarding table          RFC 4293 management information base for the Internet Protocol (IP)          RFC 5519 multicast group membership discovery          RFC 4668 RADIUS auth. client          RFC 4670 RADIUS accounting          RFC 3635 Ethernet-like          RFC 2863 interface group MIB using SMI v2          RFC 3636 802.3 MAU          RFC 4133 entity MIB v3          RFC 3411 SNMP management frameworks          RFC 3414 user-based security model for SNMPv3          RFC 3415 view-based access control model for SNMP          RFC 2613 SMON – PortCopy          IEEE 802.1 MSTP          IEEE 802.1AB LLDP-MIB (LLDP MIB included in a clause of the STD)          IEEE 802.3ad (LACP MIB included in a clause of the STD)          IEEE 802.1X (PAE MIB included in a clause of the STD)          TIA 1057 LLDP-MED ( MIB is part of the STD)</p>
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## Switch Properties

<b>Switching Fabric (Back-Plane)</b>	32Gbps
<b>Priority Queues</b>	8
<b>Max. Number of VLANs</b>	4095
<b>VLAN ID Range</b>	VID 1 to 4095
<b>Memory Buffer</b>	4Mbits
<b>Jumbo Frame</b>	9.6Kbytes
<b>MAC Table Size</b>	8K
<b>IGMP Group</b>	1024
<b>Transfer Rate</b>	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Ethernet port

## Interface

<b>RJ45 Ports</b>	16x10/100/1000 Base-T(X) Auto-Negotiation, Full/Half Duplex, Auto-MDI/MDI-X
<b>LED Indicators</b>	System: Power 1, Power 2, Master, Ring, Status Ethernet ports: Speed/Link/Active
<b>Rs232 Serial Console</b>	1xRS232 in RJ45 connector with console cable, baud rate 115,200bps,8,N,1
<b>Configuration Backup</b>	1xUSB 2.0 host (type-A) for configuration backup/restore

<b>DI</b>	1xDigital Input (DI): State 0: -30~8VDC / State 1: 10~30VDC, Max. input current: 8mA
<b>Relay Contact</b>	24 VDC, 1A resistive
<b>Network Cable</b>	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m) 1000Base-T: 4-pair UTP/STP Cat.5/5E cable; EIA/TIA-568 100-ohm (100m)
<b>Power Requirements</b>	
<b>Input Voltage</b>	Dual 12-48VDC redundant power inputs
<b>Power Connection</b>	2 removable 4-contact terminal block
<b>Overload Current Protection</b>	Present (Slow-Blow Fuse)
<b>Reverse Polarity Protection</b>	Present
<b>System Power Consumption</b>	Max. 13.8W full loading
<b>Mechanical Characteristics</b>	
<b>Housing</b>	Metal, IP30 protection
<b>Dimensions (W x H x D)</b>	67 x 142 x 99 mm (2.64 x 5.59 x 3.9 inch)
<b>Weight</b>	Unit weight: 1.2kg (2.76 lb), Shipping weight: 1.4kg (3.31 lb)
<b>Mounting</b>	DIN-Rail Mounting, Wall Mounting
<b>Environmental Limits</b>	
<b>Operating Temperature</b>	STD: -10°C ~ 65°C (14°C ~ 149°F)
<b>Storage Temperature</b>	-40°C ~ 85°C (-40°C ~ 185°F)
<b>Ambient Relative Humidity</b>	5 to 95%, (non-condensing)
<b>Regulatory Approvals</b>	
<b>EMI</b>	FCC Part 15 Subpart B Class A, CE EN55022/EN61000-6-4 Class A
<b>EMS</b>	CE EN55024/EN61000-6-2 Class A: IEC61000-4-2 (ESD), IEC61000-4-3 (RS), IEC61000-4-4 (EFT), IEC61000-4-5 (Surge), IEC61000-4-6 (CS), IEC61000-4-8 (Magnetic Field)
<b>Free Fall</b>	IEC60068-2-32
<b>Shock</b>	IEC60068-2-27
<b>Vibration</b>	IEC60068-2-6
<b>Green</b>	RoHS Compliant
<b>Warranty</b>	5 Years
<b>Ordering Information</b>	
<b>ENP1M02216</b>	16-Port Industrial Gigabit Managed Ethernet Switch