

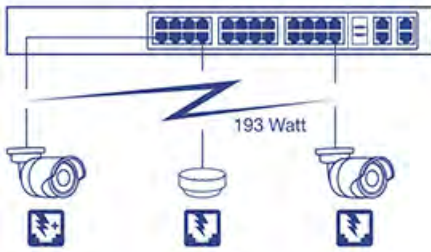


## 24-Port 10/100 Mbps Web Smart PoE+ Switch

### TPE-224WS (C1.1R)

- 20 x PoE ports (15.4 W/ port)
- 4 x PoE+ ports (30 W/ port)
- 4 x Gigabit ports and 2 x shared SFP slots
- 193 Watt PoE budget
- 12.8 Gbps switching capacity
- Rack mountable
- Smart fans reduce energy consumption
- Limited Lifetime Warranty

TRENDnet's 24-Port 10/100 Mbps Web Smart PoE+ Switch, model TPE-224WS, offers 24 x 10/100 Mbps PoE ports (Ports 1-4 support PoE+), 4 x Gigabit ports, 2 x shared SFP slots, and a PoE Power budget of 193 W. This IPv6 ready switch offers advanced traffic management, troubleshooting, access control, energy saving GREENnet, and monitoring features at a reduced cost.



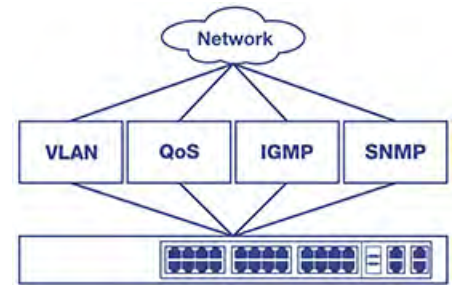
### Power over Ethernet

The 193 W PoE power budget supplies PoE+ (up to 30 W) to ports 1-4 and PoE (up to 15.4 W) to ports 5-24 along with PD (powered device) auto classification and over current / short circuit protection.



### Web Smart Management

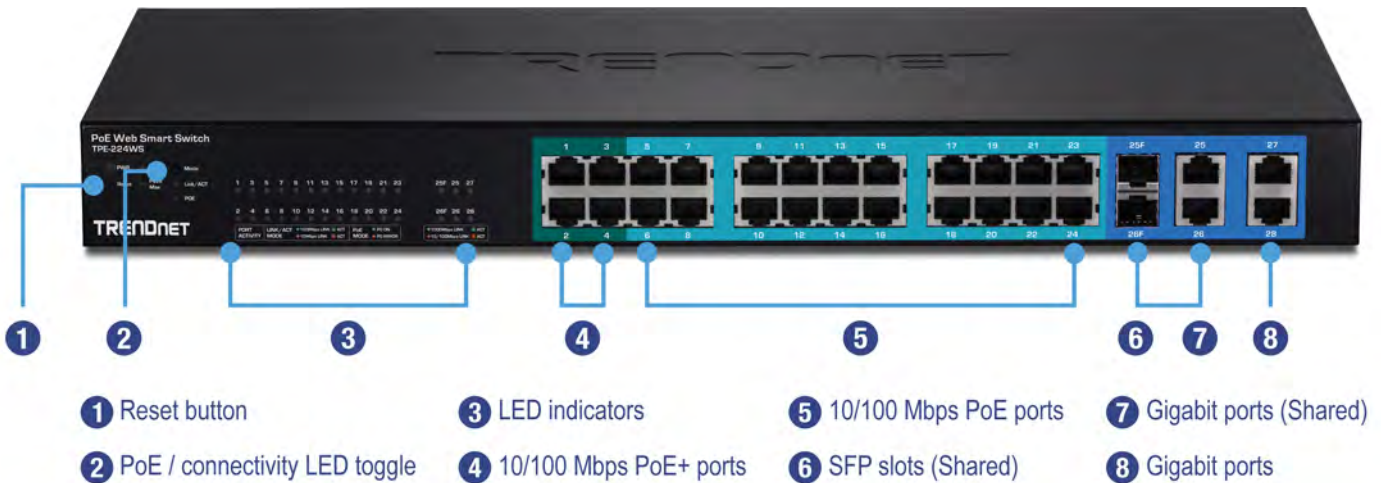
Provides an easy to use web-based GUI management for reduced switch configuration complexity and offers a combination of more commonly used SMB management features for easy deployment.



### Integration Flexibility

Managed features include access control lists, VLAN, IGMP snooping, QoS, RMON, SNMP trap and syslog for monitoring and flexible network integration.

## Networking Solution





### Hardware Design

Provides 24 x 10/100 Mbps PoE ports (Ports 1-4 support PoE+), 4 x Gigabit ports, 2 x shared SFP slots, a PoE Power budget of 193 W, and includes rackmount brackets.



### Smart Fan

Smart fan saves energy by varying fan speed and use based on cooling needs.



### IPv6 Ready

This switch supports IPv6 configuration and IPv6 neighbor discovery.



### Traffic Management

A broad range of network configurations are supported by: 802.3ad link aggregation, Asymmetric VLAN, 802.1Q VLAN, Voice VLAN, Private VLAN, Bandwidth Controls, GVRP, IGMP v1-v3, 802.1p Class of Service (CoS), Spanning Tree (STP, RSTP, and MSTP), and QoS queue scheduling.



### Troubleshooting

Real time traffic comparison charts, error group charts, and a convenient cable diagnostic test aid in rapid troubleshooting.



### Access Controls

Features such as ACL, SSL, MAC / port filtering, Denial of Service controls, 802.1X, TACACS+, and RADIUS are compatible with layered network access controls.



### Monitoring

RMON, SNMP, SNMP Trap, and Port Mirroring support administrator monitoring solutions.

## Specifications

### Standards

- IEEE 802.1d
- IEEE 802.1p
- IEEE 802.1Q
- IEEE 802.1s
- IEEE 802.1w
- IEEE 802.1X
- IEEE 802.1ab
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3x
- IEEE 802.3z
- IEEE 802.3ab
- IEEE 802.3ad
- IEEE 802.3af (15.4 W/ port)
- IEEE 802.3at (30 W/ port)
- IEEE 802.3az

### Device Interface

- 4 x 10/100 Mbps PoE+ ports,
- 20 x 10/100 Mbps PoE ports
- 4 x Gigabit ports
- 2 x Shared SFP slots
- LED indicators (Mode Button displays Link / Activity or PoE port status)
- Reset Button

### Data Transfer Rate

- Ethernet: 10 Mbps (half duplex), 20 Mbps (full duplex)
- Fast Ethernet: 100 Mbps (half duplex), 200 Mbps (full duplex)
- Gigabit Ethernet: 2000 Mbps (full duplex)

### Performance

- Switch fabric: 12.8 Gbps
- RAM buffer: 512 KB
- MAC Address Table: 8 K entries
- HOL Blocking Prevention
- Forwarding rates: 9.5 Mpps (64-byte packet size)

### Management

- HTTP / HTTPS (SSL v2 / 3 TLS) Web based GUI
- SNMP v1, v2c, v3
- RMON v1
- Static Unicast MAC Address
- Enable / disable 802.3az Power Saving
- LLDP
- Virtual Cable Test
- IPv6: IPv6 Neighbor Discovery, IPv6 Static IP, DHCPv6, Auto configuration

### MB

- MIB II RFC 1213
- Bridge MIB RFC 1493
- Bridge MIB Extension RFC 2674
- SNMPv2 MIB RFC 1907
- Ethernet Interface MIB RFC 1643

- Ethernet –like MIB RFC 2863
- Interface Group MIB RFC 2233
- MIB Traps Convention RFC 1215
- RMON MIB RFC 1757, RFC 2819
- 802.1p MIB RFC 2674
- RADIUS Client Authentication MIB RFC 2618
- LLDP-MIB IEEE 802.1ab
- Ping MIB RFC 2925, RFC 4560

### Spanning Tree

- IEEE 802.1D STP (Spanning Tree protocol)
- IEEE 802.1w RSTP (Rapid Spanning Tree protocol)
- IEEE 802.1s MSTP (Multiple Spanning Tree protocol)

### Link Aggregation

- Static Link Aggregation
- 802.3ad Dynamic LACP

### Quality of Service (QoS)

- 802.1p Class of Service (CoS)
- DSCP (Differentiated Services Code Point)
- Bandwidth Control per port
- Queue Scheduling: Strict Priority, Weighted Round Robin (WRR)

### VLAN

- Multiple management VLAN assignment
- Asymmetric VLAN
- 802.1Q Tagged VLAN
- Dynamic GVRP
- Up to 256 VLAN groups, ID Range 1-4094
- Private VLAN (Protected Ports)
- Voice VLAN (10 user defined OUIs)

### Multicast

- IGMP Snooping v1, v2, v3 (per VLAN)
- Static Multicast Address
- Up to 256 multicast entries

### Port Mirror

- RX, TX, or Both
- One to one
- Many to one

### Access Control

- 802.1X Port-Based Network Access Control, RADIUS, TACACS+
- Local Dial In User Authentication
- DHCP Snooping (per VLAN)
- Loopback Detection
- Duplicated Address Detection
- Denial of Service (DoS)

### ACL IPv4 L2-L4 & IPv6

- MAC Address
- VLAN ID
- Ether Type (IPv4 only)
- IP Protocol 0-255

- TCP / UDP Port 1-65535
- 802.1p
- DSCP (IPv4 only)
- IPv6 Address (IPv6 only)

### Compatibility

- Optional Software Utility: Windows® 10, 8.1, 8, 7, Vista, XP, Windows® 2003 / 2008 Server

### Special Features

- PoE+
- IPv6
- 802.3az power saving
- Rack mountable

### Power

- Input: 100 - 240 V AC, 50/60 Hz, internal power supply
- Consumption: 239.7 W (max.)

### PoE

- PoE budget: 193 W
- 802.3at: Up to 30 W per port (ports 1-4)
- 802.3af: Up to 15.4 W per port (ports 5-24)
- Mode A: Pins 1,2 for power(+) and pins 3,6 for power(-)
- PD auto classification
- Over current / short circuit protection

### Fan / Acoustics

- Quantity: 2
- Noise Level: 54 dB(A) (max.)

### MTBF

- 283,830 hours

### Operating Temperature

- -5 – 50 °C (23 – 122 °F)

### Operating Humidity

- Max. 90% non-condensing

### Dimensions

- 440 x 210 x 44.45 mm (17.3 x 8.27 x 1.75 in.)
- Rack mountable 1U height

### Weight

- 3.26 kg (7.18 lbs.)

### Certifications

- CE
- FCC
- UL

### Warranty

- Limited Lifetime Warranty

### Package Contents

- TPE-224WS
- Quick Installation Guide
- CD-ROM (Utility & User's Guide)
- Power cord (1.8 m / 6 ft.)
- Rack mount kit

TRENDnet offers a limited lifetime warranty for all of its metal-enclosed network switches that have been purchased in the United States/Canada on or after 1/1/2015. Cooling fan and internal power supply carry a one-year warranty.



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