

## TRENDnet 52-Port Gigabit Web Smart PoE+ Switch with 10G SFP+ ports, TPE-3524S, 48 x Gigabit PoE+ Ports, 4 x 10 SFP+ Ports, 176Gbps Switching Capacity, 410W PoE Power Budget, Lifetime Protection, Black

TPE-3524S (v1.0R)

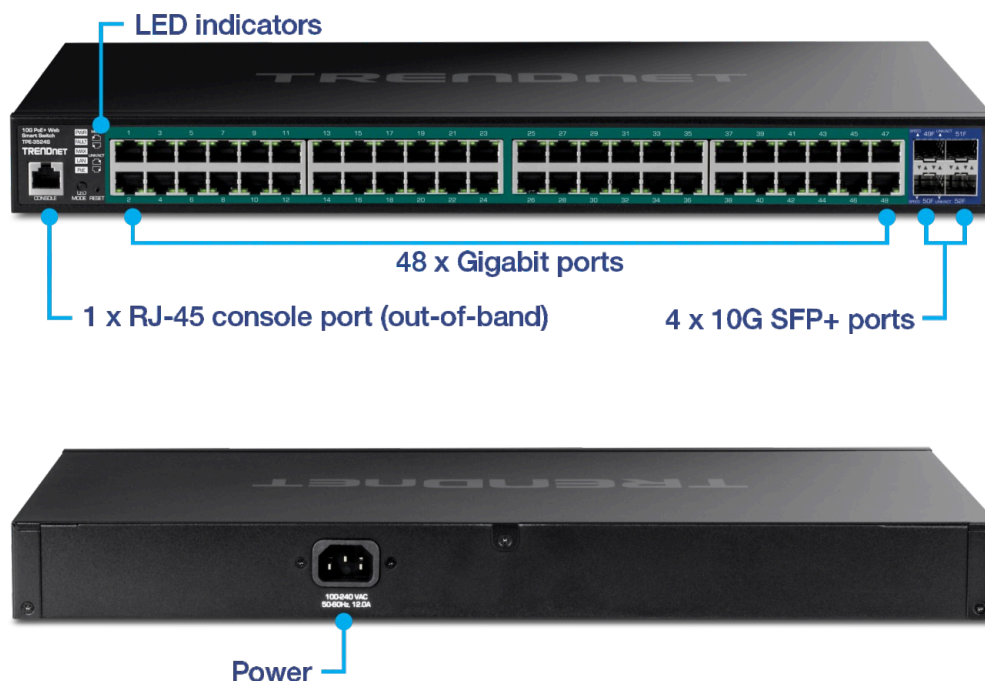
- **DEVICE INTERFACE:** 48 x Gigabit PoE+ Ports; 4 x 10G SFP+ Ports; LED Indicators; Reset Button; Rack Mountable
- **SWITCHING CAPACITY:** The Web Smart Gigabit PoE+ switch provides 48 gigabit (RJ-45) poe+ ports with 176Gbps switching capacity.
- **POE POWER:** A 410W total PoE power budget on the managed PoE+ switch supplies Power over Ethernet devices with up to 30W per port.
- **WEB SMART MANAGEMENT:** The 52 Port PoE+ Switch provides an easy to use web-based management interface for reduced switch configuration complexity and offers a combination of more commonly used SMB management features for easy deployment.
- **IPv4/IPv6 STATIC ROUTING:** Free up router resources by offloading routing processes to the managed PoE+ switch by using the L2+ IPv4/IPv6 static routing feature to efficiently route traffic at the switch level.
- **INTEGRATION FLEXIBILITY:** The Gigabit PoE+ network switch managed features include access control lists, VLAN, IGMP/MLD snooping, QoS, RMON, SNMP trap, and syslog for monitoring and flexible network integration.
- **10G SFP+ PORTS:** The network switch has four shared 10 gigabit SFP+ ports for high-speed network connections, providing a cost-effective solution in adding 10G link capability to increase you network throughput.
- **TRAFFIC MANAGEMENT:** This web smart Ethernet switch features include: Link aggregation, 802.1Q VLAN, Voice VLAN, Multicast VLAN, RSTP, MSTP, Loopback Detection, QoS, and port bandwidth management
- **TRENDnet LIFETIME PROTECTION:** The 52 Port Gigabit PoE+ Switch comes with lifetime TRENDnet Manufacturer Protection. Renewed or refurbished products come with a 90 day Amazon Renewed Guarantee.
- Lifetime Warranty
- NDAA / TAA compliant (U.S. and Canada only)

TRENDnet's 52-Port Gigabit Web Smart PoE+ Switch with 10G SFP+ ports, model TPE-3524S, offers advanced L2+ features with enhanced traffic management controls to meet the evolving demands of SMB networks. This rack mountable IPv6-ready managed switch comes with an intuitive web-based interface. Advanced managed switch features include LACP to group ports together to increase bandwidth between switches, VLANs for segmenting and isolating virtual LAN groups, QoS for traffic prioritization, port bandwidth controls, and SNMP monitoring, making this a powerful solution for SMB networks. Improve voice performance by isolating and prioritizing VoIP traffic from normal data traffic with the easy-to-use voice VLAN feature.

Free up router resources by offloading routing processes to the managed switch by using the L2+ IPv4/IPv6 static routing feature to efficiently route traffic at the switch level. The dynamic ARP inspection feature helps protect connected devices from man-in-the-middle attacks by discarding malicious and invalid ARP packets. Take advantage of the available multicast and IGMP/MLD snooping features to optimize IP surveillance system performance, and minimize network traffic. This TRENDnet Web Smart Managed PoE+ Switch also feature 10G SFP+ ports to support long-distance fiber networking applications.

Installers and integrators can save on equipment costs and reduce installation time with TRENDnet's Web Smart Managed PoE+ Switches by delivering up to 30W per port of PoE power and data over existing Ethernet cables. With PoE technology, users only need one set of cables to deliver both data and power. With this PoE+ managed switch, network PoE devices such as high-power wireless access points, PTZ and other advanced IP cameras, VoIP phone systems, IPTV decoders, access controls, and more.

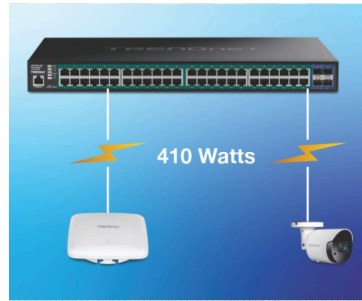
## 52-Port Gigabit Web Smart PoE+ Switch with 10G SFP+ Slots TPE-3524S





### 10G SFP+ Ports

Offers four dedicated 10G SFP+ ports for high-speed network connections, providing a cost-effective solution in adding 10G link capability to an SMB network.



### PoE Power

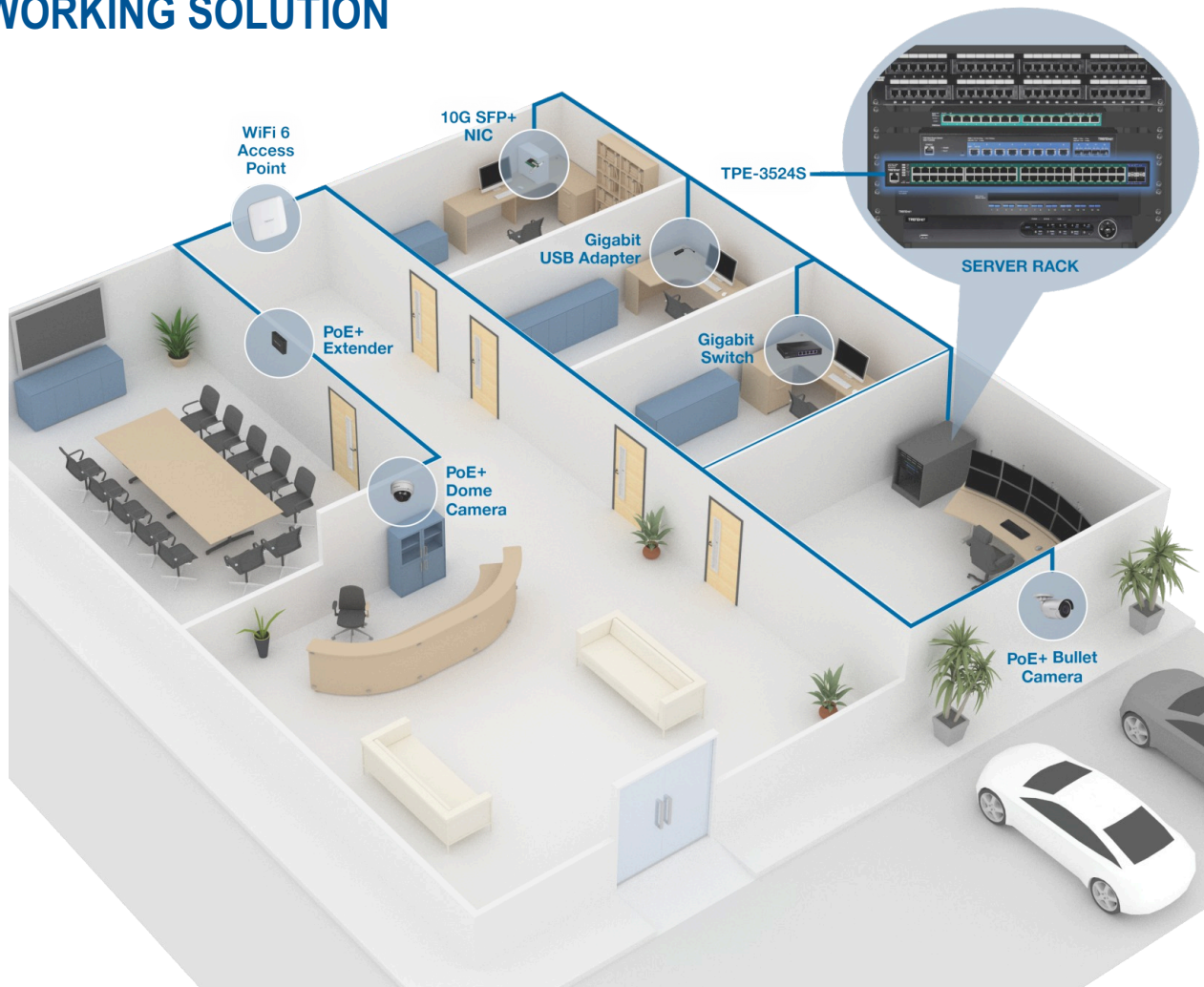
A 410W total PoE power budget on the managed PoE+ switch supplies Power over Ethernet devices with up to 30W per port.



### Integration Flexibility

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

## NETWORKING SOLUTION



## FEATURES



### Hardware Design

Provides gigabit ports for device connections, 10G SFP+ ports for fiber applications, and a 1U 19" rackmount design with brackets included



### PoE Power

A 410W total PoE power budget supplies Power over Ethernet devices with up to 30W per port



### 10G SFP+ Ports

Offers four dedicated 10G SFP+ ports for high-speed network connections, providing a cost-effective solution in adding 10G link capability to an SMB network



### IPv6 Ready

Supports IPv6 configuration and IPv6 neighbor discovery



### Traffic Management

Managed switch features include: Link aggregation, 802.1Q VLAN, Voice VLAN, Multicast VLAN, RSTP, MSTP, Loopback Detection, QoS, and port bandwidth management



### IPv4/IPv6 Static Routing

Offload routing processes to the managed PoE+ switch by using the L2+ IPv4/IPv6 static routing feature to efficiently route traffic at the switch level



### Dynamic ARP Inspection

Dynamic ARP inspection feature helps protect connected devices from man-in-the-middle attacks by discarding malicious and invalid ARP packets



### Troubleshooting

A convenient cable diagnostic test and traffic statistics aid in network troubleshooting



### Access Control

Includes ACL, SSL, MAC/port filtering, 802.1X, TACACS+, and RADIUS



### Monitoring

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



### Smart Fans

Smart fans save energy by auto-adjusting the fan speed and use based on cooling needs

## 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 802.3ae
- IEEE 802.3af
- IEEE 802.3at
- IEEE 802.3az

### Device Interface

- 48 x Gigabit PoE+ ports
- 4 x 10G SFP+ ports
- LED indicators
- Reset button

### Data Transfer Rate

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

### Performance

- Switch fabric: 176Gbps
- RAM buffer: 2MB
- MAC Address Table: 32K entries
- Jumbo Frames: 9KB
- HOL Blocking Prevention
- Forwarding rate: 130.95Mpps (64-byte packet size)

### Management

- CLI (Telnet / SSHv2) for basic administration
- 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 and LLDP-MED
- Virtual Cable Diagnostics Test
- IPv6: IPv6 Neighbor Discovery, IPv6 Static IP, DHCPv6, Auto configuration
- Dual image and configuration

### MIB

- RMON MIB RFC 1271
- LLDP MIB IEEE 802.1ab
- RFC 1213 MIB II
- RFC 1643 Ethernet intf MIB
- RFC 1493 bridge MIB

### 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

- 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)
- MLD Snooping v1, v2
- IGMP fast leave
- Up to 256 multicast entries

### Port Mirror

- RX, TX, or Both
- Many to one

### Access Control

- 802.1X Port-Based Network Access Control, RADIUS, TACACS+
- Local Dial-In User Authentication
- DHCP Snooping
- Loopback Detection
- Trusted Host
- Denial of Service (DoS)
- IP MAC port binding
- Block unknown multicast

### ACL IPv4 L2-L4 & IPv6

- MAC Address
- VLAN ID
- Ether Type (IPv4 only)
- IP Protocol 0-255
- TCP/UDP Port 1-65535
- 802.1p
- TOS (IPv4 only)
- IPv4 Address and Mask (IPv4 only)
- IPv6 Address and Prefix Length (IPv6 only)

### Layer 3 Features

- IPv4 / IPv6 static routing
- IP interfaces: Up to 6
- Routing table entries: Up to 32 (IPv4 / IPv6)
- ARP table (up to 128 entries)
- Inter-VLAN routing

### Power

- Input: 100 – 240V AC, 50/60Hz, internal power supply
- Max. consumption: 57.4W (No PD connected)

### PoE

- PoE budget: 410W
- 802.3at: Up to 30W per port
- PoE Mode A: Pins 1, 2 for power and pins 3,6 for power
- PD auto classification
- Over current/short circuit protection

### Fan/Acoustics

- Quantity: 3
- Smart Fan
- Noise Level: 42.7 dBa (max.)

### MTBF

- 74,330 hours

### Operating Temperature

- -0° – 50° C (32° – 122° F)

**Operating Humidity**

- Max. 95% non-condensing

**Dimensions**

- 440 x 310 x 44mm (17.32 x 12.2 x 1.73 in.)

**Weight**

- 4.745kg (10.46 lbs.)

**Certifications**

- CE
- FCC
- UL

**Warranty**

- Lifetime warranty

**Package Contents**

- TPE-3524S
  - Quick Installation Guide
  - Power cord (1.5m / 5 ft.)
  - Console cable (1m / 3.28ft.)
  - Rackmount brackets
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All references to speed are for comparison purposes only. Product specifications, size, and shape are subject to change without notice, and actual product appearance may differ from that depicted herein.

TRENDnet offers a 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.