Omada by tp-link Enterprise Solution

Quick Installation Guide

Fusion Pro Gateway

Preface

The Fusion gateway delivers an all-in-one solution for networking and centralized management on a single device, featuring a built-in controller for the entire Omada ecosystem. It is ideal for small businesses across single or multiple sites.

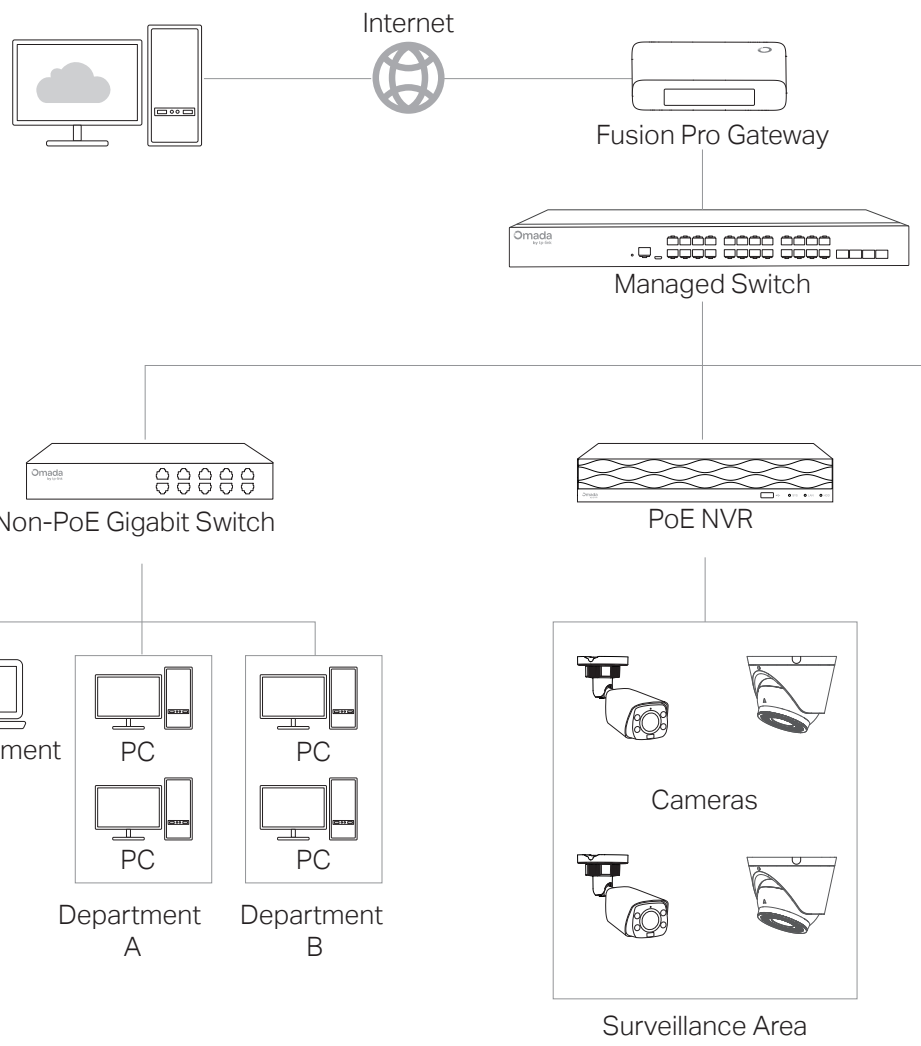
This Quick Installation Guide is for qualified IT staff and professional installers. It covers typical network topology, basic software configuration, and descriptions of enterprise-dedicated features. For detailed instructions, refer to the user guide.

Note: Fusion gateways are for enterprise installation and use. Fusion Pro 2.5G is used as an example throughout the guide. Images may differ from your actual product.

Safety Precautions

- Do not attempt to disassemble, repair, or modify the device. If you need service, please contact us.
- Do not use damaged charger or USB cable to charge the device.
- Do not use any other chargers than those recommended.
- Adapter shall be installed near the equipment and shall be easily accessible.
- Keep the device away from water, fire, humidity or hot environments.
- Do not use the device where wireless devices are not allowed.
- For enterprise installation and use only.
- This equipment is not suitable for use in locations where children are likely to be present.
- The device does not support hot-swapping the SSD.

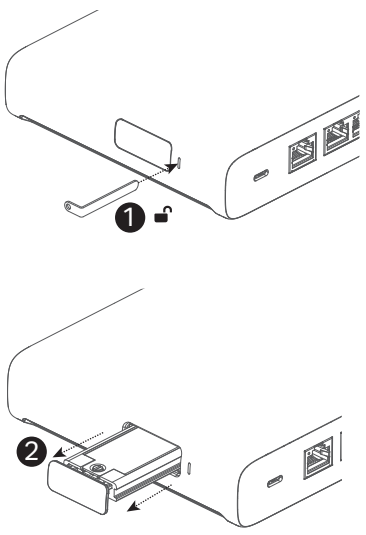
Typical Network Topology



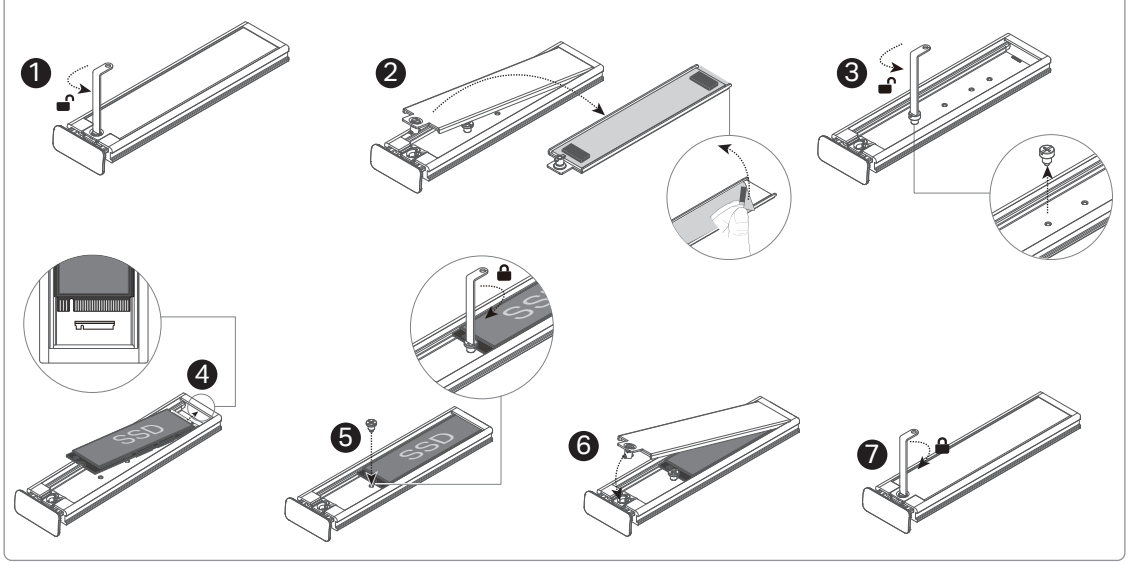
Install SSD (not provided)

The Fusion Pro Gateway provides a built-in SSD tray for up to 2 TB of local storage. For more detailed instructions, refer to https://www.omadanetworks.com/support/faq/5224/.
Note: Make sure the Fusion Pro Gateway is powered off before installing/removing an SSD.

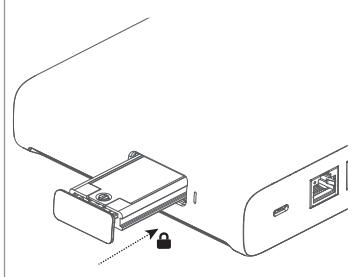
1. Pull out the SSD tray



2. Install the SSD



3. Push the SSD tray back



Software Configuration

Initial Setup

1. Connect the Internet port (Port 1) of the gateway to the internet using the provided Ethernet cable.
2. Connect the gateway to a grounded power outlet using the provided power adapter. The touchscreen on the front panel will light up.
3. Make sure the management PC is configured to **Obtain an IP address automatically**.
4. Open a web browser and type the default management address **https://omadafusion.net** or **https://192.168.188.1** in the address field of the browser, then press the **Enter** key.
5. Follow the setup wizard to configure the internet settings, bind the gateway to your TP-Link ID, set up the controller, and add devices.
6. After the setup wizard is complete, you will be directed to the management page. And you can configure more settings and manage your network.

For detailed information and configuration, refer to the gateway's user guide. Scan the QR code to get the user guide, or you can find the guide on the **Documents** page of our official website:

https://support.omadanetworks.com/document/.

More Management Methods

■ **Via Omada App**

With the TP-Link Omada app, you can access and manage your Omada devices at a local site or remotely.

Download on the App Store / GET IT ON Google Play or Scan for Omada App → Download Omada App

■ **Via Omada Cloud Portal**

a. Enable **Cloud Access** on the **Settings** page on the gateway and bind a TP-Link ID to your gateway. If you have configured this in the setup wizard, skip the step.

b. Launch a web browser and enter **https://omada.tplinkcloud.com** in the address bar.

c. Enter your TP-Link ID and password to log in. A list of Fusion gateways that have been bound with your TP-Link ID will appear in the **Fusion Systems** page. Then you can launch your device to further configure the gateway.

Flip Over to Explore More

Enterprise-Dedicated Features

Fusion gateways are FCC Class A certified products with various advanced software capabilities, primarily used in business, industrial, or office environments.

- **Multi-Site Networking and Management:** Features an enterprise-grade SD-WAN for multi-site networking in business scenarios (e.g., chain supermarkets and chain restaurants) and Cloud Portal for managing multiple sites.
  • Sites are interconnected via encrypted tunnels, forming a unified enterprise WAN and ensuring secure and reliable communication across geographically distributed locations. All network configuration, site onboarding, and policy management are performed exclusively through a cloud management portal. Local or on-premises controllers are not supported. Branch devices support multiple WAN connections. Link availability is determined through WAN online status detection, enabling basic link redundancy and failover when a WAN connection becomes unavailable.
  • This feature is designed for enterprises with multiple branches or stores that require unified networking and centralized management. Cloud-based centralized operations significantly simplify network deployment and ongoing maintenance. This feature is focuses on manageability, scalability, and long-term network stability for business operations.
  • Tenant-Oriented Organization: Uses a tenant-based model where each Fusion Pro system represents a single tenant, ensuring clear separation between them. Supports user membership across multiple Fusion Pro systems while keeping access limited to authorized organizations only. Supports centralized status visibility across multiple Fusion Pro systems from the portal, enabling operators to monitor overall system health across deployments. Supports centralized operations across multiple Fusion Pro systems (e.g., coordinated upgrade workflows), improving efficiency and consistency for multi-site and multi-store commercial rollouts.
- **Centralized Management:** Facilitates unified management of all network devices (including enterprise-grade L3 switches, APs, etc.) within the enterprise network.
  • Unified Management Plane: Fusion devices run a built-in software platform that acts as the local management controller for all connected network devices within the site. Through this embedded platform, installation technicians can onboard L3 switches and wireless access points in bulk upon initial deployment, without logging into each device individually.
  • In MSP large-scale deployment scenarios with numerous sites and a substantial number of devices per site, logging into each switch or AP individually for configuration is operationally infeasible. The unified management plane allows installation technicians, upon deploying a Fusion device, to onboard local L3 switches and wireless access points in bulk. LAN, WLAN, ACL, and other policies can be configured once and applied simultaneously across multiple devices. It also provides monitoring and dashboards for detecting alerts and anomalies across sites, addressing the operational requirements of professional enterprise network personnel.
  • Scalable Device Operations and Bulk Administration: Based on a centralized operation and maintenance management architecture and an automated task scheduling mechanism, it provides batch operation and maintenance capabilities, supports the unified issuance of operation and maintenance instructions to multiple devices, and reduces time costs, operational errors, and operation and maintenance complexity caused by manual operation of each device in commercial multi-device scenarios. Supports bulk configuration changes and provides configuration templates, version control, consistency verification.
  • Unified Device Credential Governance: Provides a centralized mechanism with centralized credential management, policy-based distribution, and permission-isolation design to govern device credentials across managed devices, reducing credential sprawl and operational risk caused by credential dispersion, weak passwords, and manual maintenance in multi-device, large-scale deployment scenarios. Covers credential usage scenarios throughout the entire device lifecycle, including device initialization, access authentication, identity verification, and credential alignment and updates after adoption. It also supports dynamic or static credential management strategies based on device capabilities to ensure the security and consistency of the access process. Supports credential consistency management during on-site deployment, system handover, and long-term operation and maintenance by standardizing credentials, implementing unified policy control, and providing auditable management capabilities to reduce human intervention and improve security control and operational efficiency in large-scale equipment operations.
- **Enterprise Network Stability Assurance:** Supports multi-WAN and failover functionality between multi-WANs.
  • The device determines link availability by monitoring the online/offline status of each WAN interface. When the primary WAN connection becomes unavailable, traffic is automatically and seamlessly switched to an available backup WAN connection based on predefined rules, without manual intervention. This provides reliable link redundancy and helps ensure uninterrupted network connectivity for business operations.
  • In enterprise environments, network connectivity serves as a foundational component for transactions, operational workflows, and customer services. Business systems are expected to remain continuously online, and even short term network failures can lead to service disruption, reduced efficiency, or direct financial loss. Therefore, multi-WAN support with automatic failover is an essential capability for commercial deployments, enabling higher network resilience and stronger business continuity.
- **Enterprise-Grade Device Configuration:** Supports professional Command Line Interface (CLI) configuration, batch port configuration across switches, and the SNMP management protocol.
  • CLI Configuration: Supports editing device configurations and enabling advanced features via CLI commands, allowing network engineers to perform granular configuration beyond what the GUI provides. In enterprise environments, CLI access is required for implementing complex network policies (e.g., advanced, policy-based routing, and protocol-level tuning) that are not fully displayed through a graphical interface. It also enables scripted and repeatable configuration workflows, which are necessary for maintaining consistency across large-scale deployments and for integration with enterprise IT automation and management process optimization.
  • Batch Port Management: Enterprise networks contain a large number of switches, each with numerous ports. The unified management plane provides a port/VLAN visualization panel with support for batch configuration deployment by port group or VLAN, reducing the operational complexity of managing ports at scale.
  • SNMP Protocol Support: Supports SNMPv1/v2c/v3 protocols, allowing third-party monitoring systems (e.g., Zabbix, PRTG, SolarWinds, etc.) to perform unified monitoring across multi-vendor devices and automatically collect metrics, including device CPU load, memory utilization, and interface traffic trends.
- **Enterprise-Grade Operation and Maintenance Management:** Features enterprise-grade network packet capture for exporting various network traffic reports with audit logs.
  • Network Packet Capture: A diagnostic tool for operations personnel, used for communication link analysis and network protocol-level anomaly troubleshooting.
  • Network Traffic Data Reports: Provides multi-site enterprises with periodic network data reports covering network status overview, traffic trend analysis, application-layer traffic distribution, and client experience scoring, serving as a basis for network capacity planning and experience optimization. Supports report generation by site, time period, and device, with PDF/CSV exports.
  • Auditable Operational Traceability: Records operation history of the management system (including operator identity, timestamp, target object, and details), with support for periodic exporting and long-term archival. Required for historical operation traceability during network anomaly investigation, organizational access control management, and security auditing. Records both system-generated events and user-initiated actions and offers a unified audit log model and key metadata, such as timestamps, operators, and objects, to provide a verifiable audit trail for security incident analysis, issue backtracking, and compliance review.Covers security- and operations-relevant activities (e.g., live view/playback, recording exports, deletion actions, system configuration changes, and permission changes). Supports audit logging based on operation type and object, ensuring full traceability of key actions. Retains logs for a long period (90 days) and supports exporting logs for external review and record keeping to meet the requirements of external organizations for compliance review and security audits, thereby enhancing the transparency, traceability, and compliance support capabilities of the system operations.
  • Configurable Alarm Operation Model: Supports rule-based alarm/notification operations to ensure the right events are elevated for action in commercial environments. Supports defining notification conditions, scope, and recipients to match operational responsibilities and shift coverage. Supports an operational model that can evolve from notifications to more formal alert handling processes as needed.
  • Health Monitoring: Provides operational visibility into device/system health conditions required for ongoing maintenance in commercial environments.
- **Commercial-Grade Access/Authentication Methods*:** Offers external Portal/Voucher/RADIUS authentication, supports (Private Pre-Shared Key (PPSK), 802.1x/MAC-Based Authentication, and professional enterprise-grade L3 layer network features.
  • External Portal/Voucher Authentication: Addresses Captive Portal requirements in enterprise chain store Wi-Fi scenarios by redirecting unauthenticated clients to a Portal address for authentication. Captive Portal supports advertisements, identity authentication and network authorization, endpoint data collection, network traffic billing, and time-limited Voucher credential issuance. Supports integration with third-party Portal servers to accommodate existing enterprise authentication infrastructure (e.g., AD, RADIUS, etc.).
  • External RADIUS/802.1x Authentication: Enterprises need to differentiate endpoint identities (e.g., full-time employees, temporary staff, and guests) and enforce differentiated network authorization based on identity. Relying on a single WPA2 pre-shared key means that a password compromise exposes the entire network.
  • Private Pre-Shared Key (PPSK): Allows each device/user to use an independent static password (with VLAN binding support), addressing both dumb terminal compatibility and security isolation upon password compromise. A single key compromise affects only the associated device, not the broader network. 802.1x combined with RADIUS enables per-user authentication with dynamic VLAN assignment, which is a prerequisite for identity-based network access control in enterprise environments.
  • MAC-Based Authentication: For terminals incapable of interactive authentication (e.g., printers, IP phones, and IoT sensors), MAC-based authentication identifies device identity via MAC address and authorizes network access, keeping all connected endpoints within the scope of management and control.
  *These features refer to functions supported by the switches adopted by the Fusion gateway and can be configured through it.
- **Management of Professional Enterprise-Grade L3 Network Features:** Supports management of enterprise-grade L3 switches.
  • VLAN Management: Supports VLAN creation, modification, deletion, and batch deployment on L3 switches through the unified management plane, enabling unified management of network segmentation policies across sites to meet enterprise requirements for network isolation by department, business function, and security classification.
  • Static Routing and Route Management: Supports configuration and management of static routing tables on L3 switches, enabling Layer 3 routing and forwarding across VLANs and subnets, providing flexible routing policies for enterprise multi-subnet interconnection.
  • ACL (Access Control Lists): Supports granular traffic filtering rules based on source/destination IP, port, protocol, and other conditions, implementing east-west traffic security control at the switch layer to prevent unauthorized cross-segment access. In enterprise networks, different departments and business systems typically reside on separate network segments. ACLs enforce segmentation boundaries at the infrastructure level, restricting lateral movement between segments and reducing the blast radius of potential security incidents.
  • QoS (Quality of Service) Policies: Supports traffic priority marking (DSCP/CoS), queue scheduling, and bandwidth rate limiting on L3 switches, allowing prioritized transmission of latency-sensitive traffic, such as voice and video, to maintain application performance. Enterprise environments commonly run mixed traffic workloads (e.g., VoIP, video conferencing, POS transactions, and bulk data transfers) over shared infrastructure. Without QoS, bandwidth contention during peak periods can degrade the performance of business-critical applications.
  • DHCP Service Management: Supports DHCP Server/Relay configuration and management on L3 switches, enabling automatic IP address allocation and centralized management for each VLAN subnet, reducing the operational overhead of manual IP assignment. In multi-VLAN enterprise networks, centralized DHCP management on L3 switches eliminates the need for dedicated DHCP servers per subnet and provides a single point of control for IP address pool allocation, lease management, and subnet-level policy enforcement.
  • STP/RSTP (Spanning Tree Protocol/Rapid Spanning Tree Protocol): Supports Spanning Tree Protocol configuration and state monitoring to prevent network loops caused by redundant links, maintaining network topology stability. Enterprise networks typically deploy redundant uplinks and cross-connections for resilience. Without STP/RSTP, these redundant paths create broadcast storms and MAC table instability that can bring down the entire Layer 2 domain.
- **Professional Granular Role-Based Access Control:** Based on the RBAC model, fine-grained control over business functions and data access is achieved, ensuring each role has proper privileges in complex multi-role environments.
  • Divides all functions into independent functional modules (such as Videos/Devices/Events/Smart Search/Case Center), and each module supports three basic permission levels (no access/read-only/read-write), thus achieving separation of responsibilities.
  • Provides preset roles covering standard enterprise functions (such as Super Admin/Admin/Viewer/Live Only User), supports custom roles, and adapts to the job divisions and management processes of different enterprises.
  • Supports configuring users with temporary permissions. The system automatically monitors the validity period of permissions, and the permissions will automatically expire with the related session being forcibly terminated upon expiration.
  • A unified access control center defines the required permission flags for each REST API, implements unified interception and verification at the gateway layer, and performs all permission checks through a central access control service to ensure consistent access control logic across the entire system.
- **System-Level Backup, Restore, and Migration Capability**
  • Supports system-level backup and restore to reduce downtime and labor during replacement, recovery, and lifecycle migration.
  • Includes key operational settings required to restore a consistent operating state (e.g., retention policies, recording schedules, notification settings, labels, and other Guard-related settings).
  • Supports exporting operational datasets (e.g., events/alerts) and separating exported artifacts by data type to support handovers and record keeping.
- **Case-Based Evidence Management and Incident Documentation:** Provides a full lifecycle management solution for digital evidence, meeting the needs of commercial scenarios for event handling, dispute resolution, insurance claims, and internal investigations.
  • Supports creating cases, collecting relevant video clips (e.g., Playback/Events/Smart Search) from business entry points, and simultaneously locking the original video files for the corresponding time period on the disk to ensure evidence preservation. The system will generate a structured timeline, supporting timeline-based retrieval and location of video clips.
  • Provides Case Share capability, which allows current evidence to be securely shared via an encrypted public network link. To ensure data security, the link supports password access control, ensuring that sensitive information flows efficiently within a controllable scope.
  • Supports generating case materials suitable for record keeping and controlled distribution (e.g., downloadable PDF reports and MP4 video clips), with access governed by permissions .
- **Multi-Channel Alarm Delivery and External Workflow Integration**
  • Supports multiple delivery channels (e.g., mobile push and email) to improve reachability for time-sensitive abnormalities.
  • Supports integrating alarms/events into external operational workflows (e.g., monitoring or ticketing processes) to fit commercial response procedures.
  • Supports configurable delivery behavior suited for different levels of urgency and operational requirements.
- **Recording Continuity Assurance (ANR / Edge Storage)**
  • Addressing common scenarios in commercial settings, such as network jitter, link instability, and short-term interruptions, the system employs a front-end and back-end collaborative recording, disaster recovery, and high availability mechanism to ensure the continuity and integrity of the recording link, avoiding the loss of recordings during critical periods.
  • Supports ANR (Automatic Network Replenishment) when cameras are equipped with SD cards, enabling local caching of recordings during network outages and automatic retransmission after network recovery, ensuring the continuity of the recording timeline on the central side.
  • Supports edge storage capability on cameras. By leveraging local persistent storage and central storage, multi-layered redundancy of critical video data is achieved, providing greater continuity and system resilience for security forensics and incident tracing.
- **Recording Retention Policy and External Exporting/Archiving**
  • Supports recording retention (with a maximum retention period and loop recording), allowing configuration of the longest video recording retention period based on time configuration, and achieving a controllable balance between storage resource usage and compliance needs through cyclic overwrite.
  • Supports exporting recordings and event clips to local storage and archiving to external storage (e.g., NAS or linked cloud drives). With standard file formats and structured directory organization, it meets the needs of IT management, long-term retention, and cross-departmental delivery.
  • Supports asynchronous task scheduling and provides status visualization, result verification, and operation recording capabilities for export and archiving tasks, ensuring the controllability, integrity, and verifiability of evidence data delivery and archiving process.
- **Professional Operator Workbench Capability (Multi-View / Multi-Playback)**
  • For commercial monitoring and event review scenarios, it provides professional video workbench capabilities, supports multi-screen display with rapid timeline positioning and comparison verification, and supports efficient event reconstruction and analysis through synchronous playback and precise frame skipping capabilities.
  • Supports multiple concurrent live view streams and playback streams per web client. Based on browser-side decoding optimization and resource scheduling mechanisms, it ensures stability and smooth interaction when multiple video streams are running simultaneously, significantly improving the efficiency of anomaly investigation and emergency response.
  • Supports multiple preset video playback views and layout templates. With view configuration reuse and a one-click switching mechanism, it enables quick switching and review operations in high-frequency monitoring scenarios, improving the efficiency and consistency of operation in real-time monitoring and historical backtracking.
- **Extensible Ecosystem Access and Integration Capability**
  • Supports system interoperability requirements in commercial scenarios, with built-in standardized device access and protocol adaptation capabilities (e.g., ONVIF and RTSP), enabling rapid device access and platform-level integration via a unified device abstraction layer and an access adaptation layer.
  • Supports cross-system collaboration based on event-driven and alarm linkage mechanisms, enabling multi-system linkage response through events and rules, supporting "solution-level delivery," not limited to use within a single application or platform.
- **Enterprise Identity and Access Protection (Where Applicable)**
  • Supports identity and access protection capabilities that meet commercial account security requirements, implements account login control based on the unified identity authentication system (IAM), supports two-factor authentication (2FA) based on user ID, and combines login state verification and risk detection mechanisms to reduce the security risks caused by account theft or weak passwords.
  • Supports precise IP-based access restrictions. With allow list, block list, and policy-based access control, it can protect the network boundary of the management terminal and key interfaces, reduce the risk of access from unauthorized network sources, and improve the overall access security and control of the system.

Appendix

Frequently Asked Questions (FAQ)

Q1. Why were no APs or switches found during the initial setup?

A: During initial setup, only devices in factory mode can be detected. Otherwise, they can only be detected and adopted after setup using their original account and password.

Q2. How do I reset the Fusion gateway?

A: • Via the physical Reset button
With the device powered on, use a pin to press and hold the Reset button on the front panel for about 5 seconds until a reset prompt appears, then release. The device will restore to its factory default settings.

• Via the web management page
Go to **Settings** > **System Settings** > **OS Settings**. In the **Action** drop-down list, click **Reset** to reset the device to its factory default settings.

Q3. How do I adopt APs and switches?

A: 1. Connect the APs/switches to the same network as the gateway.
2. Access the gateway's management page at **https://omadafusion.net** or **https://192.168.188.1**.
3. Go to **Devices**, you will find the devices displayed in the **Device List**.
4. Click **Adopt** and wait until the device's **STATUS** changes to **CONNECTED**.

More Resources

Main Site	https://www.omadanetworks.com/
Video Center	https://support.omadanetworks.com/video/
Documents	https://support.omadanetworks.com/document/
Product Support	https://support.omadanetworks.com/product/
Technical Support	https://support.omadanetworks.com/contact-support/

Warranty

For details on the warranty period, policy, and procedures, visit **https://support.omadanetworks.com/warranty-services/**.

Support

For technical support, user guides, and other information, please visit **https://support.omadanetworks.com/**, or simply scan the QR code.

EU Declaration of Conformity

TP-Link hereby declares that the gateway is in compliance with the essential requirements and other relevant provisions of directives (EU)2015/863, 2014/53/EU and 2011/65/EU.

The original EU declaration of conformity may be found at https://www.tp-link.com/en/support/ce/

UK Declaration of Conformity

TP-Link hereby declares that the gateway is in compliance with the essential requirements and other relevant provisions of the Radio Equipment Regulations 2017.

The original UK declaration of conformity may be found at https://www.tp-link.com/support/ukca/