ZYXEL
COMMUNICATIONS

User's Guide

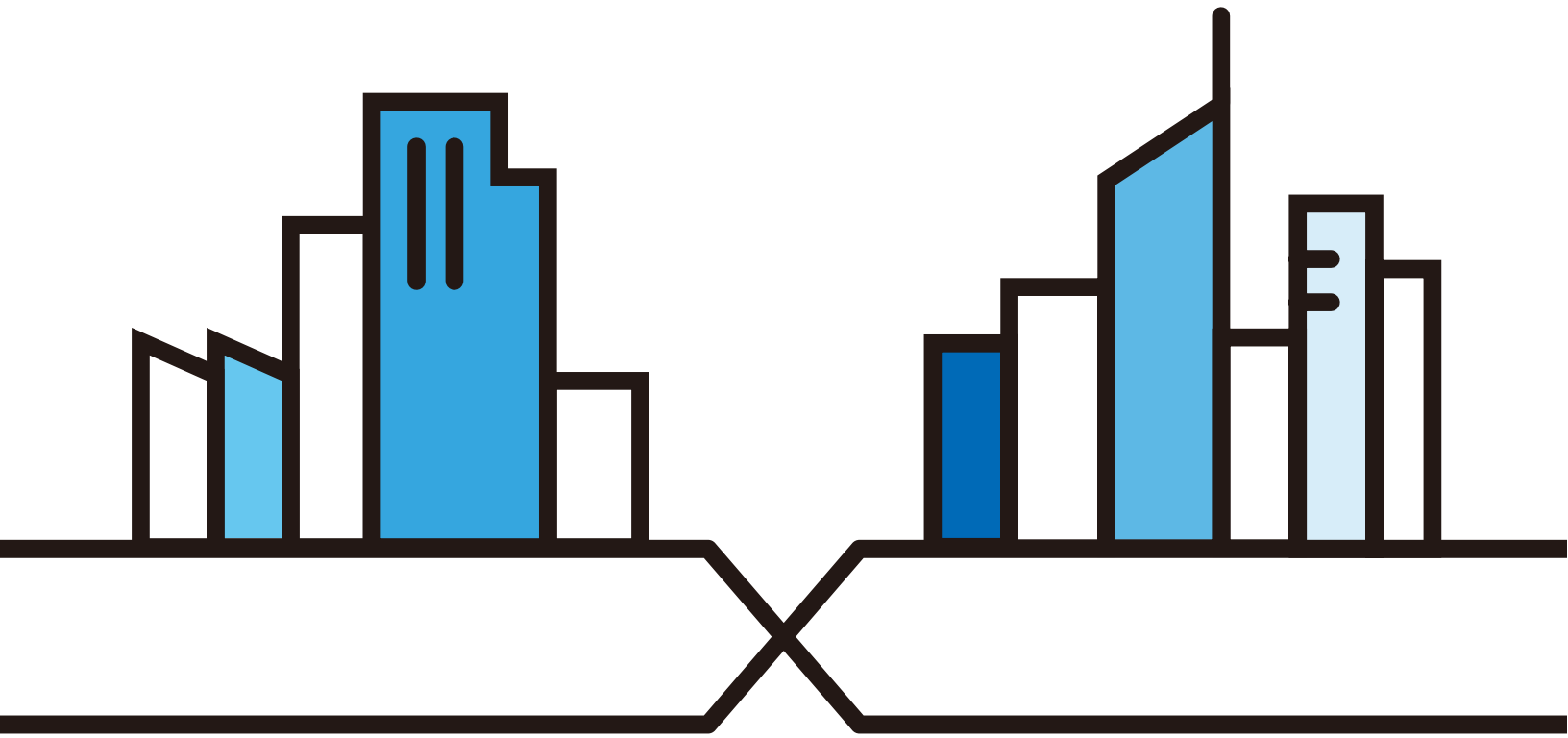
PM7300-T0/PM5100-T0/ PM3100-T0

XGS-PON SFU with 10G LAN/G-PON SFU with 2.5G LAN/ G-PON SFU with 1G LAN

Default Login Details

LAN IP Address	http://192.168.0.1
User Name	admin
Password	See the device label

Version 5.42 Edition 1, 01/2022



IMPORTANT!

READ CAREFULLY BEFORE USE.

KEEP THIS GUIDE FOR FUTURE REFERENCE.

This is a series User's Guide. Screenshots and graphics in this book may differ slightly from your product due to differences in your product firmware or your computer operating system. Every effort has been made to ensure that the information in this manual is accurate.

Related Documentation

- Quick Start Guide

  The Quick Start Guide shows how to connect the PM Device.

- More Information

  Go to **support.zyxel.com** to find other information on the PM Device.

Document Conventions

Warnings and Notes

These are how warnings and notes are shown in this guide.

Warnings tell you about things that could harm you or your device.

Note: Notes tell you other important information (for example, other things you may need to configure or helpful tips) or recommendations.

Syntax Conventions

- All models may be referred to as the "PM Device" in this guide
- Product labels, screen names, field labels and field choices are all in **bold** font.
- A right angle bracket (>) within a screen name denotes a mouse click. For example, **Network Setting > Home Networking** means you first click **Network Setting** in the navigation panel, then the **Home Networking** sub menu to get to that screen.

Icons Used in Figures

Figures in this user guide may use the following generic icons. The PM Device icon is not an exact representation of your device.

PM 	Generic Router 	Desktop 
Switch 	Laptop 	

Table of Contents

PART I
User's Guide

CHAPTER 1
Introducing the PM Device

1.1 Overview

This chapter introduces the main features and applications of the PM Devices.

The PM3100-T0 is a G-PON (Passive Optical Network) modem with one 1 Gbps Multi-Gigabit Ethernet LAN port. The PM5100-T0 is a G-PON modem with one 2.5 Gbps Multi-Gigabit Ethernet LAN port. The PM7300-T0 is a XGS- PON modem with one 10 Gbps Multi-Gigabit Ethernet LAN port. In addition, you can connect a computer or an Ethernet device such as a network switch, NAS or server to the Ethernet port for fiber-speed Internet access.

The following table describes the feature differences by model.

Table 1 Model Feature Comparison

FEATURE/MODEL	PM7300-T0	PM5100-T0	PM3100-T0
Ethernet Gigabit LAN Port	10 GbE	2.5 GbE	1 GbE
Fiber Optic Port	10G-PON	G-PON	G-PON
Maximum Downstream Data Rate	10 Gbps	2.488 Gbp	2.488 Gbp
Maximum Upstream Data Rate	10 Gbp	1.244 Gbps	1.244 Gbp
DHCP (Dynamic Host Configuration Protocol) server	No	No	No
NAT (Network Address Translation)	No	No	No
DMZ (DeMilitarized Zone)	No	No	No
ALG (Application Layer Gateway)	No	No	No

1.2 Multi-Gigabit

A 10 Gigabit port supports speed of 10 Gbps if the connected device supports 10 Gbps and a Cat 6a (up to 100 m) or Cat 6 cable (up to 50 m) is used. The speed drops to 1G if these criteria are not met; it drops to 100 Mbps if a Cat 5 cable is used (up to 100 m).

If a network device such as a 5G network card, gaming computer, server, Network Attached Storage (NAS) or Access Point (AP) only supports 2.5 Gigabit or 5 Gigabit connectivity, then the maximum speed potential of these devices is never reached.

In addition, at the time of writing, most existing cabling is Cat 5e or Cat 6, further limiting maximum speed or distance potential.

Multi-Gigabit (IEEE 802.3bz) solves these problems by additionally supporting 2.5 Gigabit and 5 Gigabit Ethernet connections over Cat 5e and higher Ethernet cables. Multi-Gigabit ports are also backward compatible with 100 Mbps and 1 Gigabit ports.

See the following table for the cables required and distance limitation to attain the corresponding speed.

Table 2 Ethernet Cable Types

CABLE	TRANSMISSION SPEED	MAXIMUM DISTANCE	BANDWIDTH CAPACITY
Category 5	100 Mbps	100 m	100 MHz
Category 5e	1 Gbps / 2.5 Gbps / 5 Gbps	100 m	100 MHz
Category 6	5 Gbps / 10 Gbps	50 m	250 MHz
Category 6a	10 Gbps	100 m	500 MHz
Category 7	10 Gbps	100 m	650 MHz

1.3 Application for the PM Device

The PM Device supports the feature below.

Internet Access

Connect network devices through the Ethernet port of the PM Device so that they can communicate with each other and access the Internet. The connection speeds (10Gbps/2.5Gbps/1Gbps) vary based on the LAN port on the PM Devices.

Figure 1 Ethernet Ports

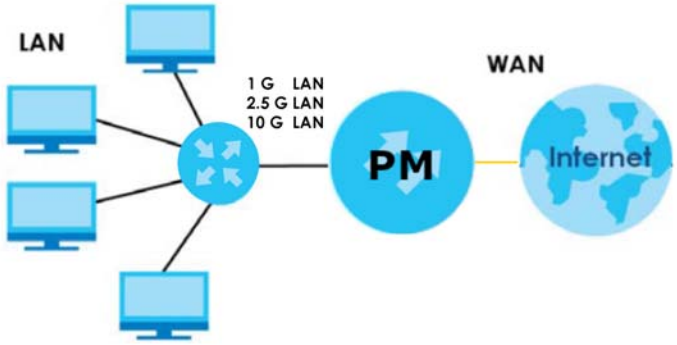
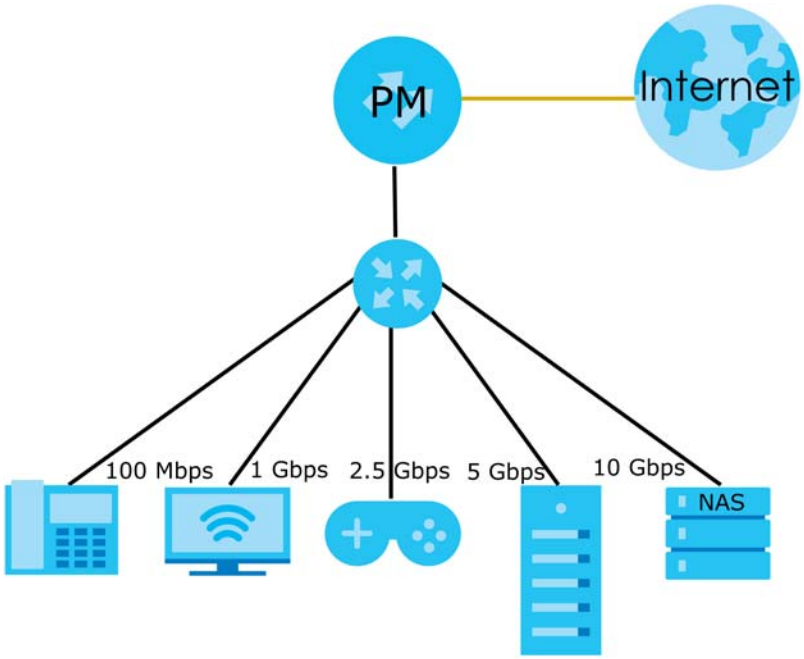


Figure 2 Internet Access Application: Wired Connection



1.4 Ways to Manage the PM Device

Use any of the following methods to manage the PM Device.

- Web Configurator. This is recommended for management of the PM Device using a (supported) web browser.
- SSH. Use for troubleshooting the PM Device by qualified personnel.
- FTP. Use FTP for firmware upgrades and configuration backup or restore.

1.5 Good Habits for Managing the PM Device

Do the following things regularly to make the PM Device more secure and to manage the PM Device more effectively.

- Change the Web Configurator password. Use a password that is not easy to guess and that consists of different types of characters, such as numbers and letters.
- Write down the password and put it in a safe place.
- Regularly back up the device configuration to a file, and make sure you know how to restore it. Restoring an earlier working configuration may be useful if the device has errors. If you have to reset the PM Device to its factory default settings, for example because you forgot the password, then you can use the backup file to quickly restore your last configuration.

CHAPTER 2
Hardware

This chapter describes the top panel LED and side panel ports of the PM Devices.

2.1 Top Panels

The following show the LEDs on the PM Devices.

Figure 3 PM7300-T0 Top Panel

Figure 4 PM5100-T0 Top Panel

Figure 5 PM3100-T0 Top Panel

2.1.1 LEDs (Lights)

The LED indicators are located on the top panel.

Table 3 LED Behavior

LED	COLOR	STATUS	DESCRIPTION
Power	Green	On	The PM Device is ready for use.
		Blinking	The PM Device is booting.
		Off	The PM Device is not receiving power.
	Red	On	There is a system failure.
		Blinking	The firmware upgrade is in progress.
PON	Green	On	The PON connection is ready.
		Blinking	The PM Device is trying to establish a link.
		Off	The fiber link is down.
LOS	Red	On	The PON transceiver is powered down.
		Blinking	This is a R(x) low power alarm.
		Off	The PON connection is working normally.
10GbE (PM7300-T0)	Green	On	The Ethernet link is up.
		Blinking	The PM Device is transmitting or receiving data at 10/100/1000/2500/ 10000 Mbps .
		Off	The Ethernet link is down.
2.5GbE (PM5100-T0)	Green	On	The Ethernet link is up.
		Blinking	The PM Device is transmitting or receiving data at 10/100/1000/2500 Mbps.
		Off	The Ethernet link is down.
1GbE (PM3100-T0)	Green	On	The Ethernet link is up.
		Blinking	The PM Device is transmitting or receiving data at 10/100/1000 Mbps.
		Off	The Ethernet link is down.

2.2 Side Panel

Figure 6 PM7300-T0 Side Panel

Figure 7 PM5100-T0 Side Panel

Figure 8 PM3100-T0 Side Panel

The following table describes the items on the side panel.

Table 4 Side Panel Ports and Buttons

LABELS	DESCRIPTION
RESET	Press for more than 5 seconds to restore the PM Device to its factory default settings.
PON	Connect the PM Device to the Internet using a fiber optic cable.
POWER	Connect the power adapter and press the **ON/OFF** button to start the PM Device.
ON/OFF	Press the **ON/OFF** button after connecting the power adapter to start the PM Device.

Table 4 Side Panel Ports and Buttons (continued)

LABELS	DESCRIPTION
10GbE (PM7300-T0)	Connect the PM7300-T0 to an Ethernet device such as a network switch, NAS or server for fiber-speed internet access. The maximum transmission speed on the LAN is 10 Gbps. Connect to a computer for initial configuration.
2.5GbE (PM5100-T0)	Connect the PM5100-T0 to an Ethernet device such as a network switch, NAS or server for fiber-speed internet access. The maximum speed on the LAN is 2.5 Gbps. Connect to a computer for initial configuration.
LAN (PM3100-T0)	Connect the PM3100-T0 to an Ethernet device such as a network switch, NAS or server for fiber-speed internet access. The maximum speed on the LAN is 1 Gbps. Connect to a computer for initial configuration.

2.2.1 RESET Button

Press the **RESET** button for more than 5 seconds to reload the factory-default configuration file if you forget your password or IP address, or you cannot access the Web Configurator.

This means that you will lose all configurations that you had previously saved. The password will be reset to the default (see the PM Device label) and the IP address will be reset to 192.168.0.1.

Figure 9 PM7300-T0 Reset Button

Figure 10 PM5100-T0 Reset Button

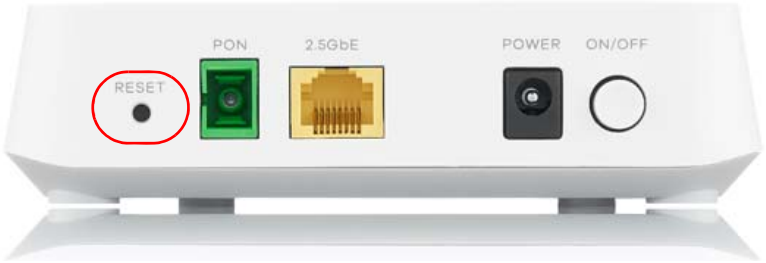


Figure 11 PM3100-T0 Reset Button

1 Make sure the PM Device is connected to power and the POWER LED is on.

2 Using a thin item, press the **RESET** button for more than 5 seconds.

CHAPTER 3
The Web Configurator

3.1 Overview

The Web Configurator is an HTML-based management interface that allows easy system setup and management via Internet browser. Use a browser that supports HTML5, such as Internet Explorer 11, Microsoft Edge, Mozilla Firefox, or Google Chrome. The recommended minimum screen resolution is 1024 by 768 pixels.

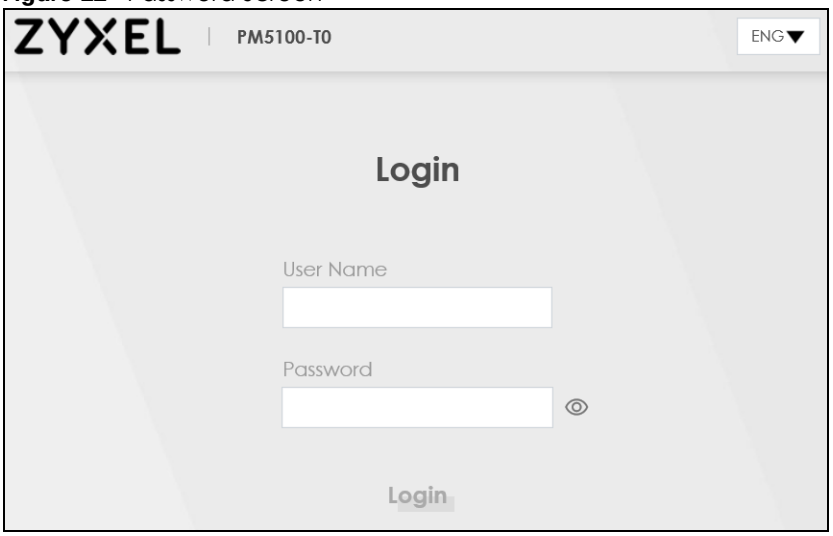
In order to use the Web Configurator you need to allow:

- Web browser pop-up windows from your computer.
- JavaScript (enabled by default).
- Java permissions (enabled by default).

3.1.1 Accessing the Web Configurator

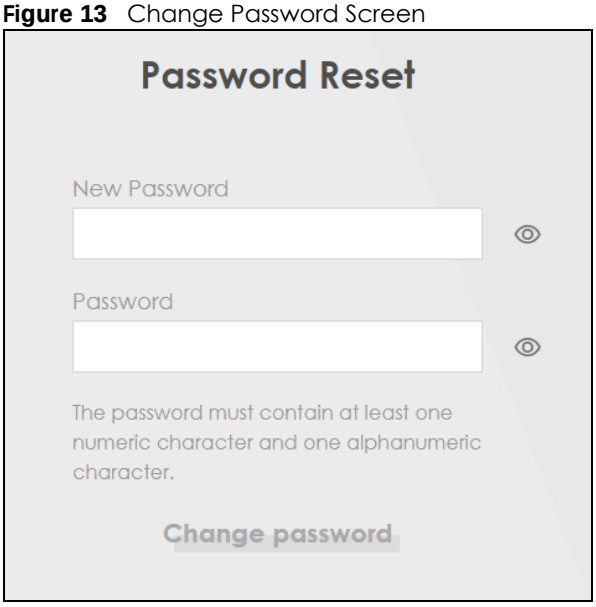
1. Make sure your PM Device hardware is properly connected (refer to the Quick Start Guide).
2. Launch your web browser and go to http://192.168.0.1.
3. A password screen displays. To access the administrative Web Configurator and manage the PM Device, enter the default username **admin** and the randomly assigned default password (see the device label) in the password screen and click **Login**. If you have changed the password, enter your password and click **Login**.

Figure 12 Password Screen



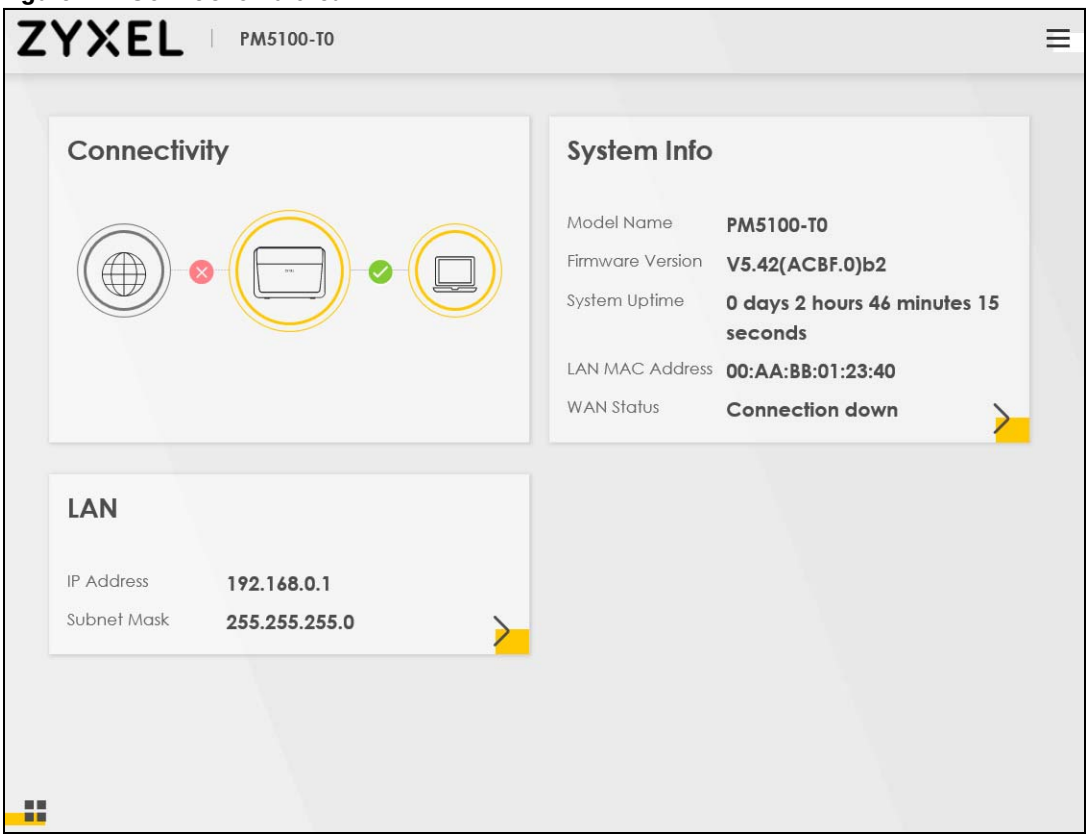
4 The following screen displays if you have not yet changed your password. Enter a new password, re-enter it to confirm and click **Apply**.

Figure 13 Change Password Screen



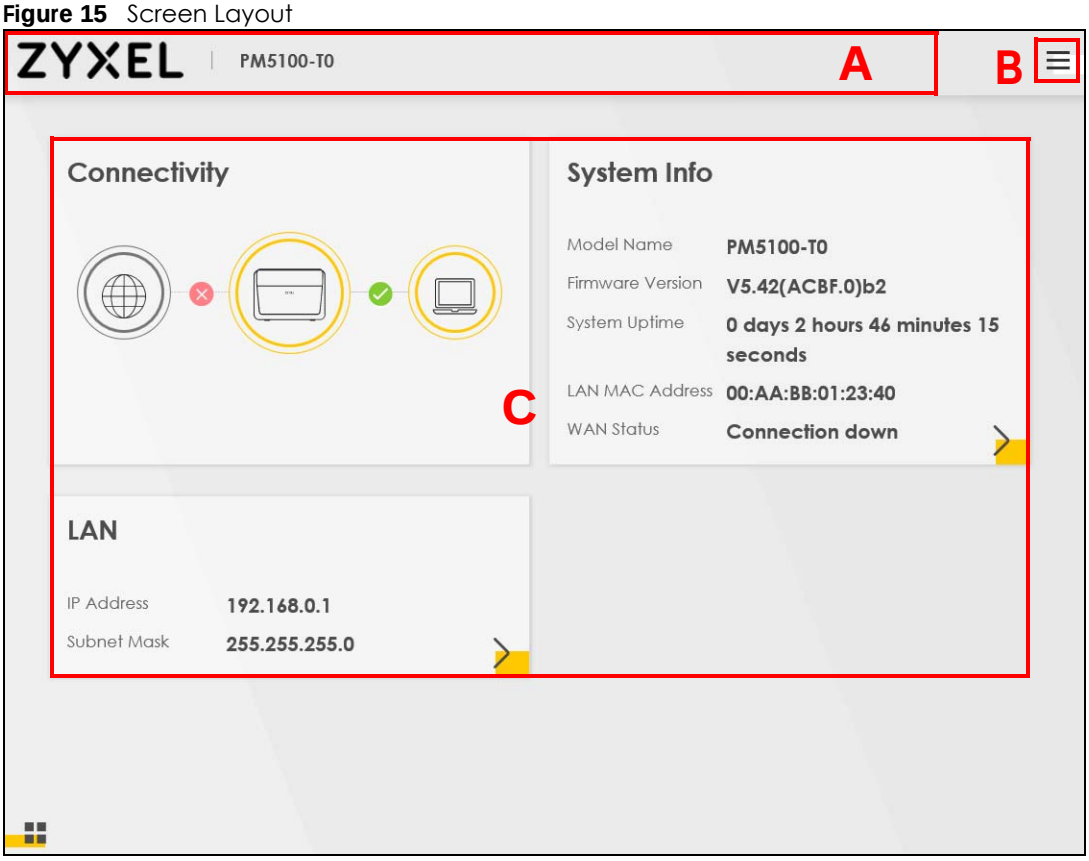
5 The **Connection Status** screen appears. Use this screen to view basic Internet access connection.

Figure 14 Connection Status



3.2 Web Configurator Layout

Figure 15 Screen Layout



As illustrated above, the main screen is divided into these parts:

- **A** - Title bar: this shows the Zyxel logo and device model name.
- **B** - Menu: click this to show the navigation panel and side bar.
- **C** - Main window: this shows the PM Device's basic status information.

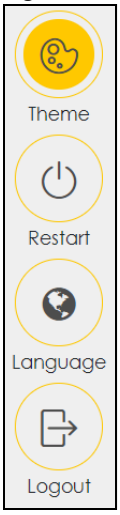
3.2.1 Settings Icon

Click this icon ( ) to see the side bar and navigation panel.

3.2.1.1 Side Bar

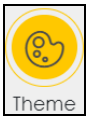
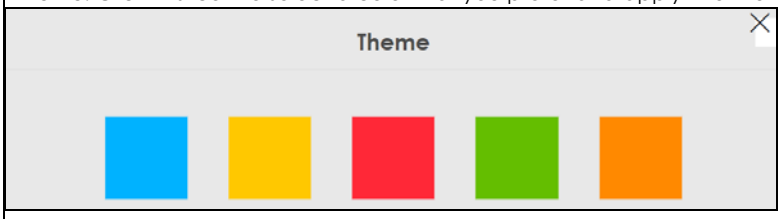
The side bar provides some icons on the right hand side.

Figure 16 Side Bar



The icons provide the following functions.

Table 5 Web Configurator Icons in the Title Bar

ICON	DESCRIPTION
	**Theme**: Click this icon to select a color that you prefer and apply it to the Web Configurator. 
	**Language**: Select the language you prefer.
	**Restart**: Click this icon to reboot the PM Device without turning the power off.
	**Logout**: Click this icon to log out of the Web Configurator.

3.2.2 Navigation Panel

Click the menu icon ( ) to show the navigation panel. Use the menu items on the navigation panel to open screens to configure PM Device features. The following tables describe each menu item.

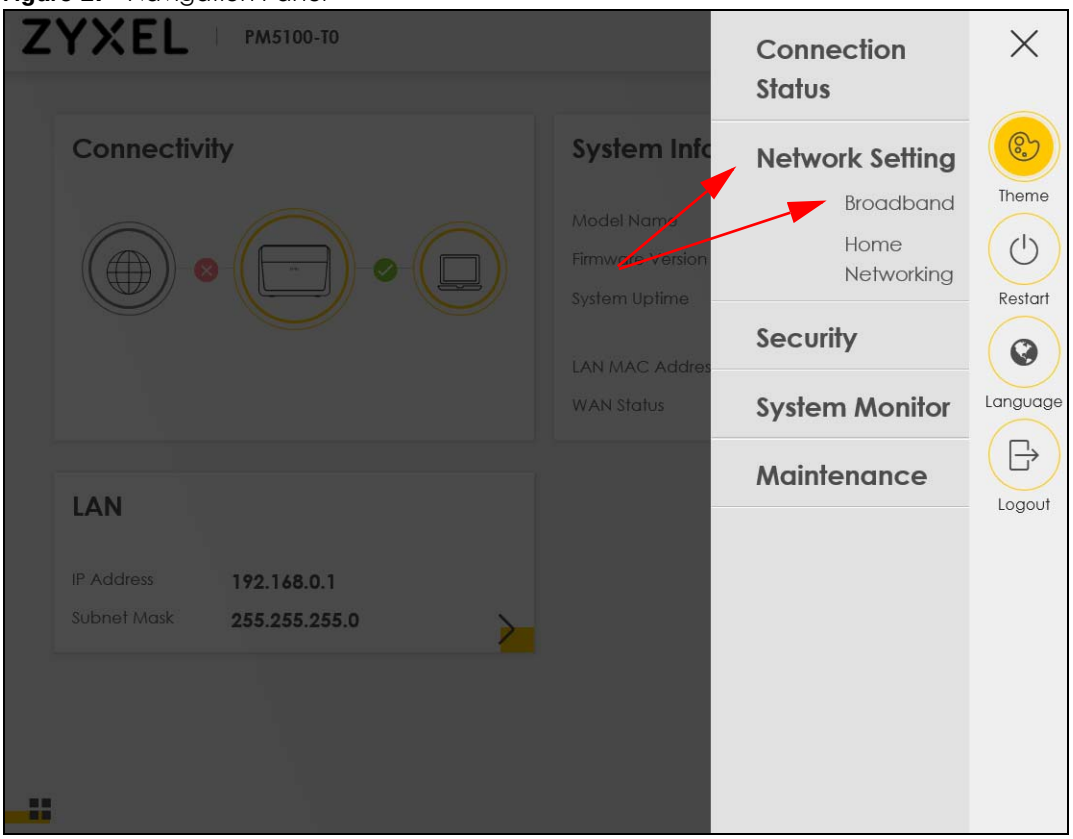
Table 6 Navigation Panel Summary

LINK	TAB	FUNCTION
Connection Status		This screen shows the network status of the PM Device.
Networking Setting		
Broadband	Broadband	Use this screen to view and configure ISP parameters, WAN IP address assignment, and other advanced properties. You can also add new WAN connections.
Home Networking	Home Networking	Use this screen to configure LAN settings.
Security		
Certificates	Local Certificates	Use this screen to view a summary list of certificates and manage certificates and certification requests.
	Trusted CA	Use this screen to view and manage the list of the trusted CAs.
System Monitor		
Log	Log	Use this screen to view the status of events that occurred to the PM Device. You can export or e-mail the logs.
Traffic Status	WAN	Use this screen to view the status of all network traffic going through the WAN port of the PM Device.
	LAN	Use this screen to view the status of all network traffic going through the LAN ports of the PM Device.
Maintenance		
System	System	Use this screen to set Host name and Domain name of the PM Device.
User Account	User Account	Use this screen to change the user password or add user accounts on the PM Device.
Remote Management	Remote Management	Use this screen to view a list of public IP addresses which are allowed to access the PM Device through the services configured in the **Maintenance** > **Remote Management** screen.
Time	Time	Use this screen to change your PM Device's time and date.
Log Setting	Log Setting	Use this screen to change your PM Device's log settings.
Firmware Upgrade	Firmware Upgrade	Use this screen to upload firmware to your PM Device.
Backup/Restore	Backup/Restore	Use this screen to backup and restore your PM Device's configuration (settings) or reset the factory default settings.
Reboot	Reboot	Use this screen to reboot the PM Device without turning the power off.

3.2.3 Dashboard

Use the menu items in the navigation panel on the right to open screens to configure PM Device features.

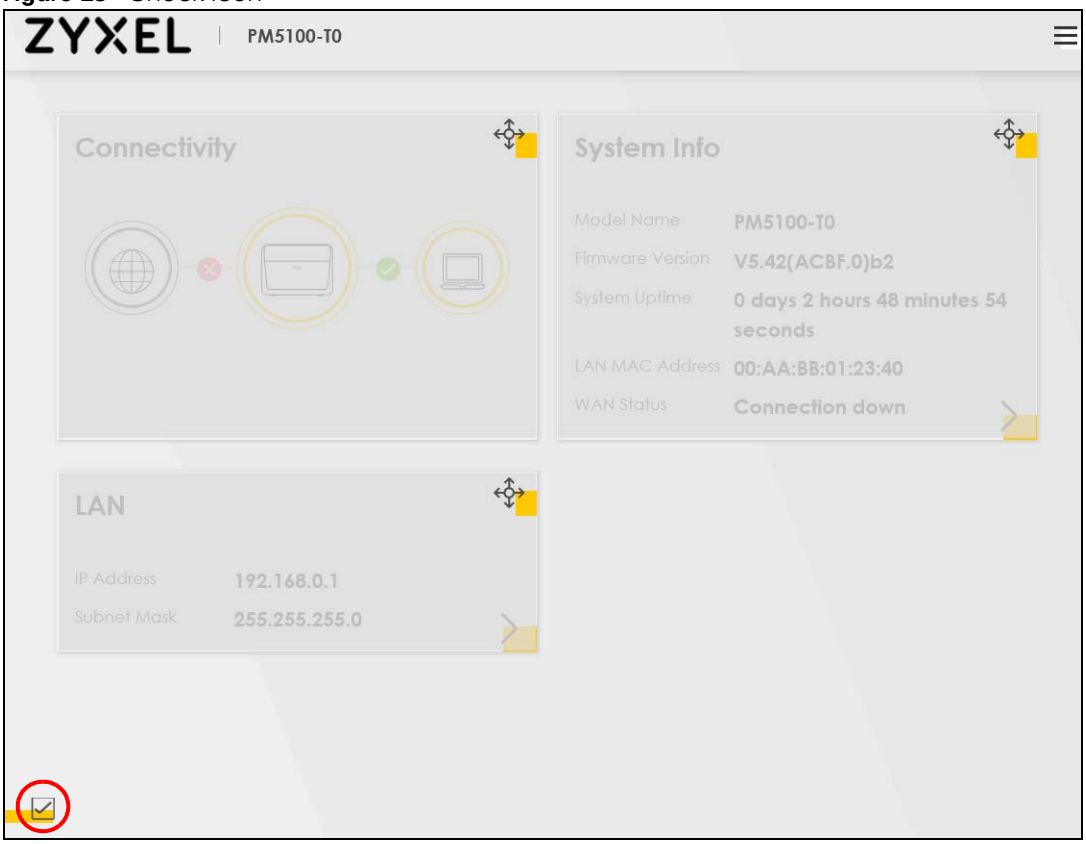
Figure 17 Navigation Panel



3.2.4 Widget and Check Icon

Click the Widget icon ( ) in the lower left corner to arrange the screen order. The following screen appears. Select a block and hold it to move around. Click the Check icon ( ) in the lower left corner to save the changes.

Figure 18 Check Icon



CHAPTER 4
System Info

4.1 Overview

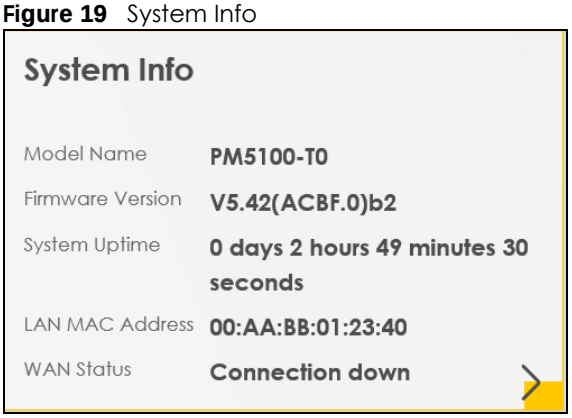
After you log into the Web Configurator, the **System Info** screen appears. This shows basic information about the PM Device.

You can expand this screen to view the WAN/LAN interface status and LAN IP address information.

4.2 The System Info Screen

Use this screen to view the basic system information of the PM Device.

Figure 19 System Info



Click the Arrow icon ( ) to view more information on the status of your WAN and LAN interfaces.

Figure 20 System Info: Detailed Information

Each field is described in the following table.

Table 7 System Info: Detailed Information

LABEL	DESCRIPTION
Host Name	This field displays the PM Device system name. It is used for identification.
Model Name	This shows the model number of your PM Device.
Serial Number	This field displays the serial number of the PM Device.
Firmware Version	This is the current version of the firmware inside the PM Device.
System Uptime	This field displays how long the PM Device has been running since it last started up. The PM Device starts up when you plug it in, when you restart it (**Maintenance > Reboot**), or when you reset it.
Interface Status Virtual ports are shown here. You can see the ports in use and their transmission rate.	
LAN Information	
IP Address	This is the current IP address of the PM Device in the LAN.
Subnet Mask	This is the current subnet mask in the LAN.
MAC Address	This shows the network adapter MAC (Media Access Control) Address of the LAN interface.

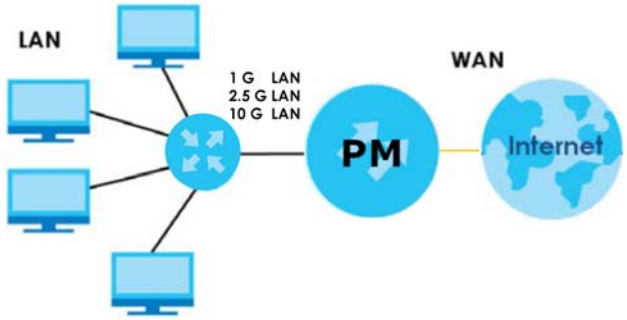
CHAPTER 5
Broadband

5.1 Overview

This chapter discusses the PM Device's **Broadband** screens. Use these screens to configure your PM Device for Internet access.

A WAN (Wide Area Network) connection is an outside connection to another network or the Internet. It connects your private networks, such as a LAN (Local Area Network) and other networks, so that a computer in one location can communicate with computers in other locations.

Figure 21 LAN and WAN



5.1.1 What You Can Do in this Chapter

- Use **Broadband** screens to view, remove or add a WAN interface. You can also configure the WAN settings on the PM Device for Internet access.

5.1.2 Before You Begin

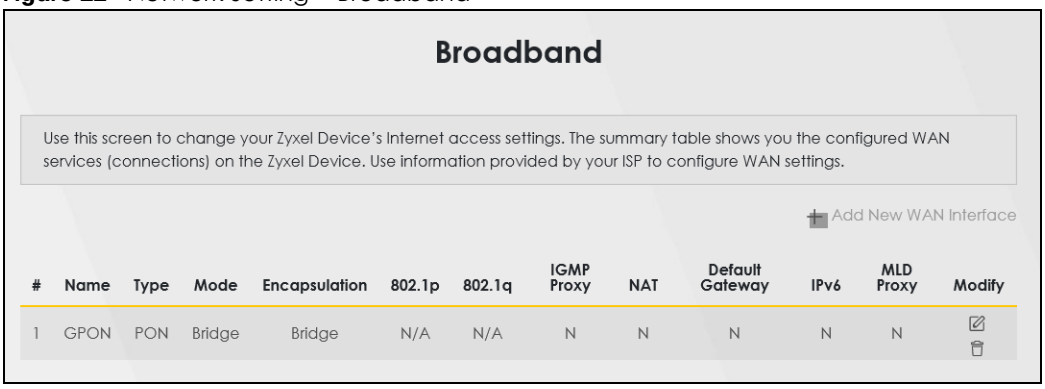
You need to know your Internet access settings such as encapsulation and WAN IP address. Get this information from your ISP.

5.2 Broadband Settings

Use this screen to change your PM Device's Internet access settings. The summary table shows you the configured WAN services (connections) on the PM Device. Use information provided by your ISP to configure WAN settings.

Click **Network Setting** > **Broadband** to access this screen.

Figure 22 Network Setting > Broadband



The following table describes the labels in this screen.

Table 8 Network Setting > Broadband

LABEL	DESCRIPTION
Add New WAN Interface	Click this button to create a new connection.
#	This is the index number of the entry.
Name	This is the service name of the connection.
Type	This shows the types of the connections the PM Device has.
Mode	This shows the connection is in bridge mode.
Encapsulation	This is the method of encapsulation used by this connection.
802.1p	This indicates the 802.1p priority level assigned to traffic sent through this connection. This displays **N/A** when there is no priority level assigned.
802.1q	This indicates the VLAN ID number assigned to traffic sent through this connection. This displays **N/A** when there is no VLAN ID number assigned.
IGMP Proxy	This shows whether the PM Device act as an IGMP proxy on this connection.
NAT	This shows whether NAT is activated or not for this connection.
Default Gateway	This shows whether the PM Device use the WAN interface of this connection as the system default gateway.
IPv6	This shows whether IPv6 is activated or not for this connection. IPv6 is not available when the connection uses the bridging service.
MLD Proxy	This shows whether Multicast Listener Discovery (MLD) is activated or not for this connection. MLD is not available when the connection uses the bridging service.
Modify	Click the **Edit** icon to configure the WAN connection. Click the **Delete** icon to remove the WAN connection.

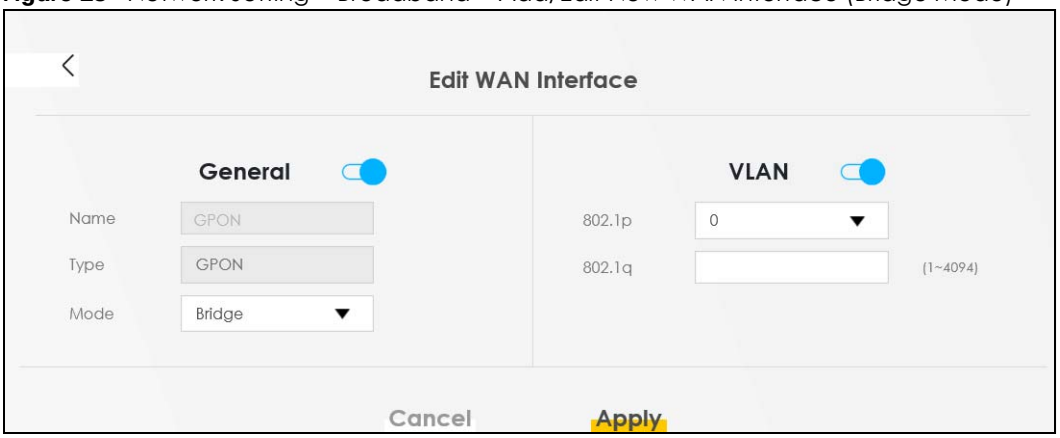
5.2.1 Add/Edit Internet Connection

Click **Add New WAN Interface** in the **Broadband** screen or the Edit icon next to an existing WAN interface to open the following screen. Use this screen to configure a WAN connection.

Bridge Mode

Click the **Add New WAN Interface** in the **Network Setting > Broadband** screen or the **Edit** icon next to the connection you want to configure. The following example screen displays when you select **Bridge** mode.

Figure 23 Network Setting > Broadband > Add/Edit New WAN Interface (Bridge Mode)



The following table describes the fields in this screen.

Table 9 Network Setting > Broadband > Add/Edit New WAN Interface (Bridge Mode)

LABEL	DESCRIPTION
General	Click this switch to enable or disable the interface. When the switch goes to the right, the function is enabled. Otherwise, it is not.
Name	Enter a service name of the connection. This field is read-only is you are editing the WAN interface.
Type	This field shows a **GPON** connection. This field is read-only is you are editing the WAN interface.
Mode	Select **Bridge** when your ISP provides you more than one IP address and you want the connected computers to get individual IP address from ISP's DHCP server directly.
VLAN	Click this switch to enable or disable VLAN on this WAN interface. When the switch goes to the right, the function is enabled. Otherwise, it is not.
802.1p	IEEE 802.1p defines up to 8 separate traffic types by inserting a tag into a MAC-layer frame that contains bits to define class of service. Select the IEEE 802.1p priority level (from 0 to 7) to add to traffic through this connection. The greater the number, the higher the priority level.
802.1q	Enter the VLAN ID number (from 0 to 4094) for traffic through this connection.
Cancel	Click **Cancel** to exit this screen without saving any changes.
Apply	Click **Apply** to save your changes.

CHAPTER 6
Home Networking

6.1 Overview

A Local Area Network (LAN) is a shared communication system to which many networking devices are connected. It is usually located in one immediate area such as a building or floor of a building.

Use the **Home Networking** screens to help you configure the LAN IP addresses.

6.1.1 What You Need To Know

IP Address

IP addresses identify individual devices on a network. Every networking device (including computers, servers, routers, printers, etc.) needs an IP address to communicate across the network. These networking devices are also known as hosts.

Subnet Mask

Subnet masks determine the maximum number of possible hosts on a network. You can also use subnet masks to divide one network into multiple sub-networks.

6.2 The Home Networking Screen

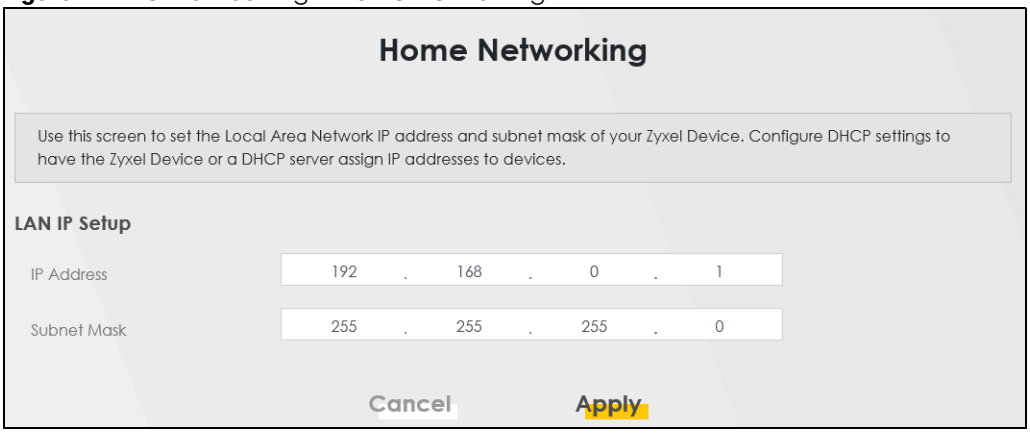
Use this screen to set the Local Area Network IP address and subnet mask of your PM Device. Click **Network Setting > Home Networking**.

Follow these steps to configure your LAN settings.

1. Enter an IP address into the **IP Address** field. The IP address must be in dotted decimal notation. This will become the IP address of your PM Device.
2. Enter the IP subnet mask into the **Subnet Mask** field. Unless instructed otherwise, it is best to leave this field alone. The Web Configurator will automatically compute a subnet mask based upon the IP address you entered.

3 Click **Apply** to save your settings.

Figure 24 Network Setting > Home Networking



The following table describes the fields on this screen.

Table 10 Network Setting > Home Networking

LABEL	DESCRIPTION
LAN IP Setup	
IP Address	Enter the LAN IPv4 address you want to assign to your PM Device in dotted decimal notation, for example, 192.168.0.1 (factory default).
Subnet Mask	Enter the subnet mask of your network in dotted decimal notation, for example 255.255.255.0 (factory default). Your PM Device automatically computes the subnet mask based on the IP Address you enter, so do not change this field unless you are instructed to do so.
Apply	Click **Apply** to save your changes.
Cancel	Click **Cancel** to restore your previously saved settings.

CHAPTER 7
Certificates

7.1 Certificates Overview

The PM Device can use certificates (also called digital IDs) to authenticate users. Certificates are based on public-private key pairs. A certificate contains the certificate owner's identity and public key. Certificates provide a way to exchange public keys for use in authentication.

7.1.1 What You Can Do in this Chapter

- The **Local Certificates** screen lets you generate certification requests and import the PM Device's CA-signed certificates (Section 7.3 on page 31).
- The **Trusted CA** screen lets you save the certificates of trusted CAs to the PM Device (Section 7.4 on page 35).

7.2 What You Need to Know

The following terms and concepts may help as you read through this chapter.

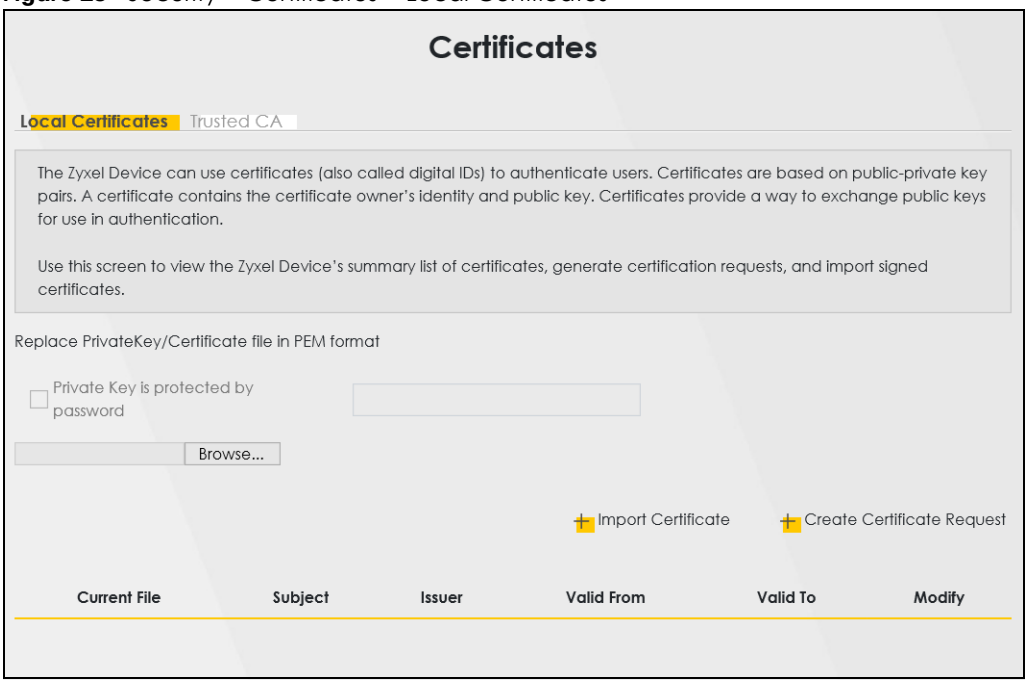
Certification Authority

A Certification Authority (CA) issues certificates and guarantees the identity of each certificate owner. There are commercial certification authorities like CyberTrust or VeriSign and government certification authorities. The certification authority uses its private key to sign certificates. Anyone can then use the certification authority's public key to verify the certificates. You can use the PM Device to generate certification requests that contain identifying information and public keys and then send the certification requests to a certification authority.

7.3 Local Certificates

Click **Security > Certificates** to open the **Local Certificates** screen. Use this screen to view the PM Device's summary list of certificates, generate certification requests, and import signed certificates.

Figure 25 Security > Certificates > Local Certificates



The following table describes the labels in this screen.

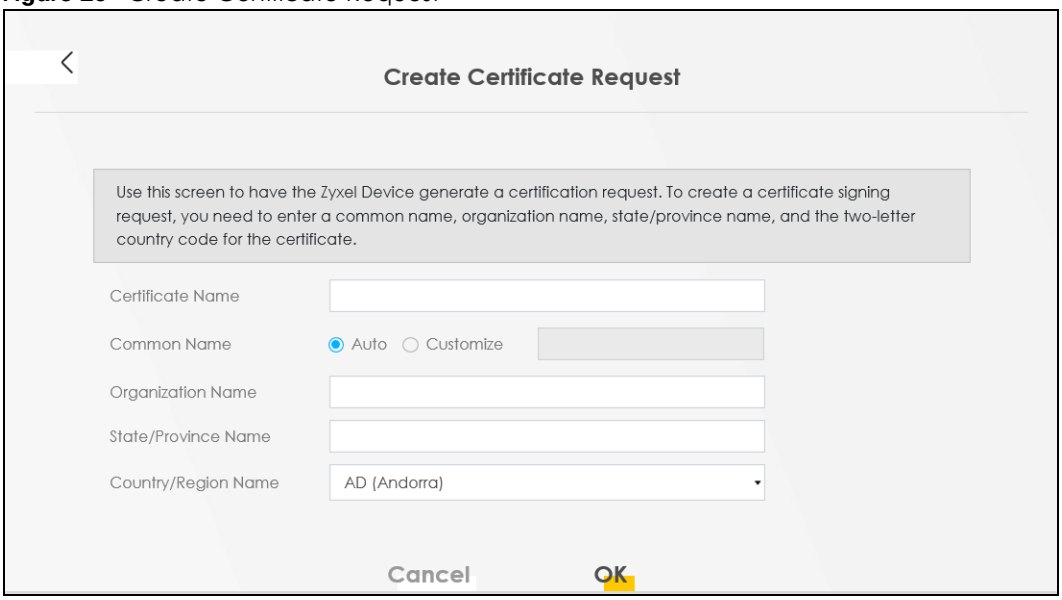
Table 11 Security > Certificates > Local Certificates

LABEL	DESCRIPTION
Private Key is protected by a password	Select the check box and enter the private key into the text box to store it on the PM Device. The private key should not exceed 63 ASCII characters (not including spaces).
Browse / Choose File	Click **Browse** or **Choose File** to find the certificate file you want to upload.
Import Certificate	Click this button to save the certificate that you have enrolled from a certification authority from your computer to the PM Device.
Create Certificate Request	Click this button to go to the screen where you can have the PM Device generate a certification request.
Current File	This field displays the name used to identify this certificate. It is recommended that you give each certificate a unique name.
Subject	This field displays identifying information about the certificate's owner, such as CN (Common Name), OU (Organizational Unit or department), O (Organization or company) and C (Country). It is recommended that each certificate have unique subject information.
Issuer	This field displays identifying information about the certificate's issuing certification authority, such as a common name, organizational unit or department, organization or company and country.
Valid From	This field displays the date that the certificate becomes applicable. The text displays in red and includes a **Not Yet Valid!** message if the certificate has not yet become applicable.
Valid To	This field displays the date that the certificate expires. The text displays in red and includes an **Expiring!** or **Expired!** message if the certificate is about to expire or has already expired.
Modify	Click the **View** icon to open a screen with an in-depth list of information about the certificate (or certification request). For a certification request, click **Load Signed** to import the signed certificate. Click the **Remove** icon to delete the certificate (or certification request). You cannot delete a certificate that one or more features is configured to use.

7.3.1 Create Certificate Request

Click **Security** > **Certificates** > **Local Certificates** and then **Create Certificate Request** to open the following screen. Use this screen to have the PM Device generate a certification request. To create a certificate signing request, you need to enter a common name, organization name, state/province name, and the two-letter country code for the certificate.

Figure 26 Create Certificate Request



The following table describes the labels in this screen.

Table 12 Create Certificate Request

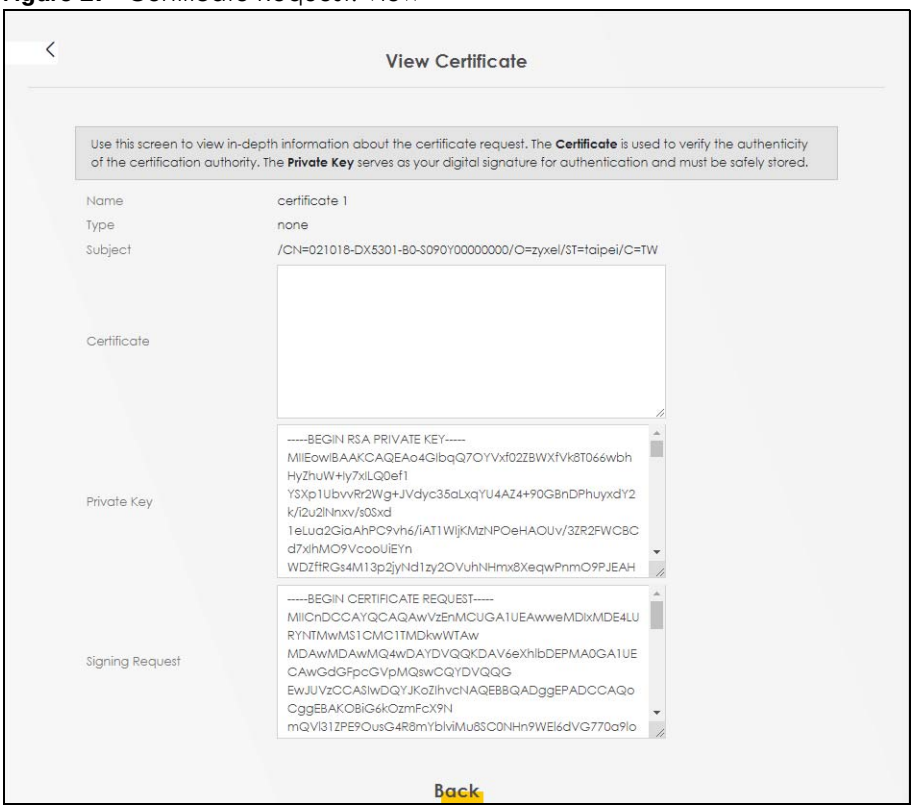
LABEL	DESCRIPTION
Certificate Name	Enter up to 63 ASCII characters (not including spaces) to identify this certificate.
Common Name	Select **Auto** to have the PM Device configure this field automatically. Or select **Customize** to enter it manually. Enter the IP address (in dotted decimal notation), domain name or e-mail address in the field provided. The domain name or e-mail address can be up to 63 ASCII characters. The domain name or e-mail address is for identification purposes only and can be any string.
Organization Name	Enter up to 63 characters to identify the company or group to which the certificate owner belongs. You may use any character, including spaces, but the PM Device drops trailing spaces.
State/Province Name	Enter up to 32 characters to identify the state or province where the certificate owner is located. You may use any character, including spaces, but the PM Device drops trailing spaces.
Country/Region Name	Select a country to identify the nation where the certificate owner is located.
Cancel	Click **Cancel** to exit this screen without saving any changes.
OK	Click **OK** to save your changes.

7.3.2 View Certificate Request

Click the **Edit** icon in the **Local Certificates** screen to open the following screen. Use this screen to view in-depth information about the certificate request. The **Certificate** is used to verify the authenticity of the

certification authority. The **Private Key** serves as your digital signature for authentication and must be safely stored.

Figure 27 Certificate Request: View



The following table describes the fields in this screen.

Table 13 Certificate Request: View

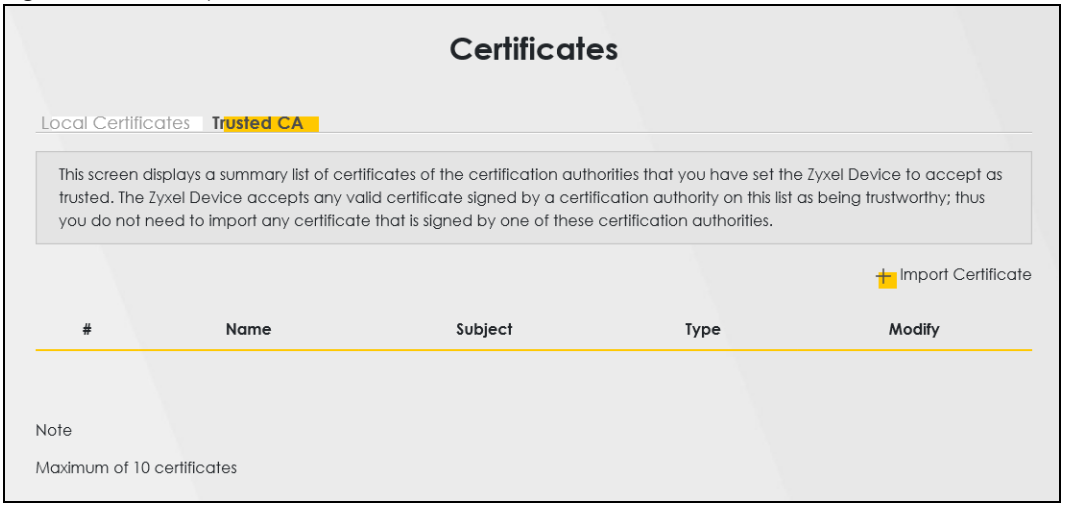
LABEL	DESCRIPTION
Name	This field displays the identifying name of this certificate.
Type	This field displays general information about the certificate. **ca** means that a Certification Authority signed the certificate.
Subject	This field displays information that identifies the owner of the certificate, such as Common Name (CN), Organizational Unit (OU), Organization (O) and Country (C).
Certificate	This read-only text box displays the certificate in Privacy Enhanced Mail (PEM) format. PEM uses base 64 to convert the binary certificate into a printable form. You can copy and paste the certificate into an e-mail to send to friends or colleagues or you can copy and paste the certificate into a text editor and save the file on a management computer for later distribution.
Private Key	This field displays the private key of this certificate.
Signing Request	This field displays the CSR (Certificate Signing Request) information of this certificate. The CSR will be provided to a certificate authority, and it includes information about the public key, organization name, domain name, location, and country of this certificate.
Back	Click **Back** to return to the previous screen.

7.4 Trusted CA

Click **Security > Certificates > Trusted CA** to open the following screen. This screen displays a summary list of certificates of the certification authorities that you have set the PM Device to accept as trusted. The PM Device accepts any valid certificate signed by a certification authority on this list as being trustworthy; thus you do not need to import any certificate that is signed by one of these certification authorities.

Note: A maximum of 10 trusted certificates can be added.

Figure 28 Security > Certificates > Trusted CA



The following table describes the fields in this screen.

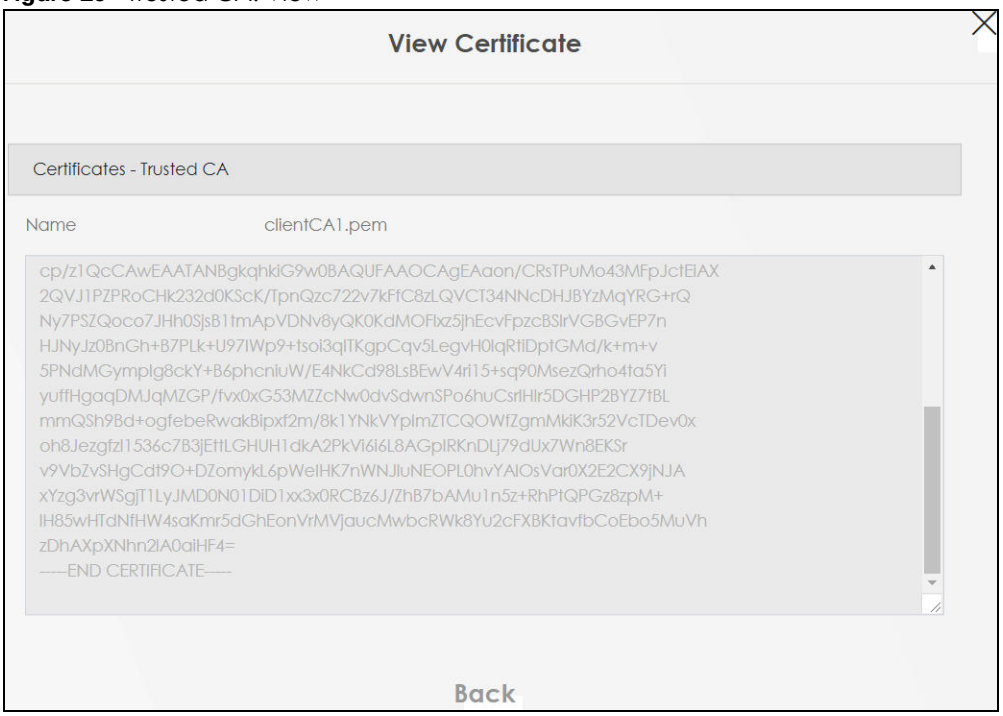
Table 14 Security > Certificates > Trusted CA

LABEL	DESCRIPTION
Import Certificate	Click this button to open a screen where you can save the certificate of a certification authority that you trust to the PM Device.
#	This is the index number of the entry.
Name	This field displays the name used to identify this certificate.
Subject	This field displays information that identifies the owner of the certificate, such as Common Name (CN), OU (Organizational Unit or department), Organization (O), State (ST) and Country (C). It is recommended that each certificate have unique subject information.
Type	This field displays general information about the certificate. **ca** means that a Certification Authority signed the certificate.
Modify	Click the **View** icon to open a screen with an in-depth list of information about the certificate (or certification request). Click the **Remove** button to delete the certificate (or certification request). You cannot delete a certificate that one or more features is configured to use.

7.4.1 View Trusted CA Certificate

Click the **View** icon in the **Trusted CA** screen to open the following screen. Use this screen to view in-depth information about the certification authority's certificate. The certificate text box is read-only and can be distributed to others.

Figure 29 Trusted CA: View



The following table describes the fields in this screen.

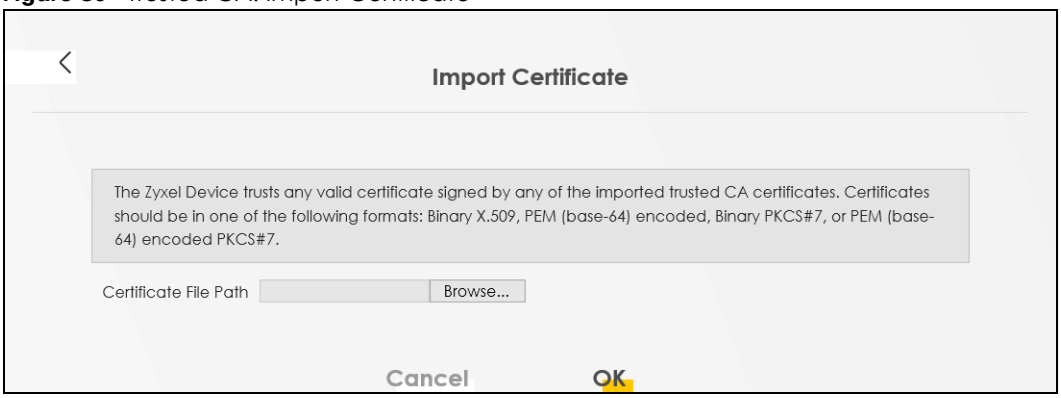
Table 15 Trusted CA: View

LABEL	DESCRIPTION
Name	This field displays the identifying name of this certificate.
	This read-only text box displays the certificate in Privacy Enhanced Mail (PEM) format. PEM uses base 64 to convert the binary certificate into a printable form. You can copy and paste the certificate into an e-mail to send to friends or colleagues or you can copy and paste the certificate into a text editor and save the file on a management computer for later distribution (via floppy disk for example).
Back	Click **Back** to return to the previous screen.

7.4.2 Import Trusted CA Certificate

Click the **Import Certificate** button in the **Trusted CA** screen to open the following screen. The PM Device trusts any valid certificate signed by any of the imported trusted CA certificates. Certificates should be in one of the following formats: Binary X.509, PEM (base-64) encoded, Binary PKCS#7, or PEM (base-64) encoded PKCS#7.

Figure 30 Trusted CA: Import Certificate



The following table describes the fields in this screen.

Table 16 Trusted CA: Import Certificate

LABEL	DESCRIPTION
Certificate File Path	Click **Browse** or **Choose File** and select the certificate you want to upload.
Choose File/ Browse	Click this button to find the certificate file you want to upload.
Cancel	Click **Cancel** to exit this screen without saving any changes.
OK	Click **OK** to save your changes.

CHAPTER 8
Log

8.1 Overview

The Web Configurator allows you to choose which categories of events and/or alerts to have the PM Device log and then display the logs or have the PM Device send them to an administrator (as e-mail) or to a syslog server.

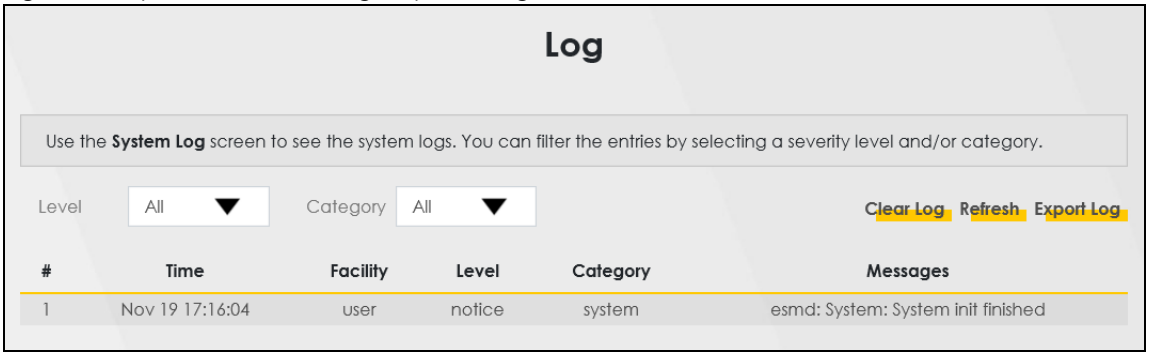
8.1.1 What You Can Do in this Chapter

- Use the **System Log** screen to see the system logs (Section 8.2 on page 38).

8.2 The System Log Screen

Use the **System Log** screen to see the system logs. Click **System Monitor > Log** to open the **System Log** screen.

Figure 31 System Monitor > Log > System Log



The following table describes the fields on this screen.

Table 17 System Monitor > Log > System Log

LABEL	DESCRIPTION
Level	Select a severity level from the drop-down list box. This filters search results according to the severity level you have selected. When you select a severity, the PM Device searches through all logs of that severity or higher.
Category	Select the type of logs to display.
Clear Log	Click this to delete all the logs.
Refresh	Click this to renew the log screen.
Export Log	Click this to export the selected logs.
#	This field is a sequential value and is not associated with a specific entry.

Table 17 System Monitor > Log > System Log (continued)

LABEL	DESCRIPTION
Time	This field displays the time the log was recorded.
Facility	The log facility allows you to send logs to different files in the syslog server. Refer to the documentation of your syslog program for more details.
Level	This field displays the severity level of the log that the device is to send to this syslog server.
Category	This field displays the type of the log.
Messages	This field states the reason for the log.

CHAPTER 9
Traffic Status

9.1 Traffic Status Overview

Use the **Traffic Status** screens to look at the network traffic status and statistics of the WAN/LAN interfaces and NAT.

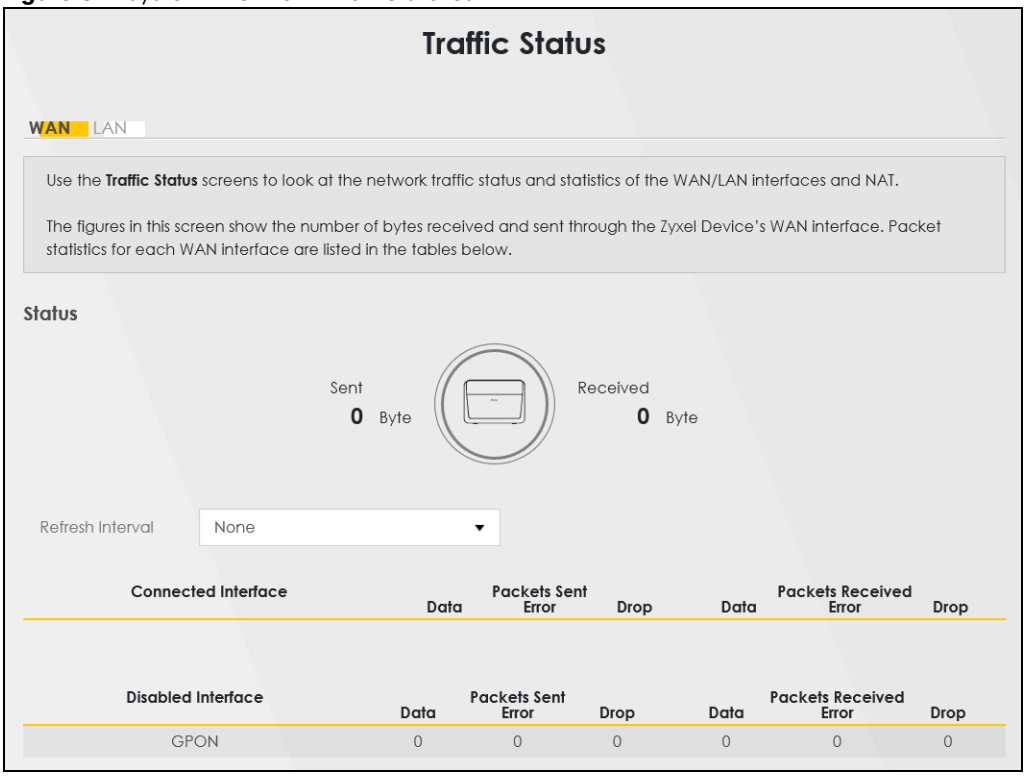
9.1.1 What You Can Do in this Chapter

- Use the **WAN** screen to view the WAN traffic statistics (Section 9.2 on page 40).
- Use the **LAN** screen to view the LAN traffic statistics (Section 9.3 on page 41).

9.2 WAN Status

Click **System Monitor > Traffic Status** to open the **WAN** screen. The figures in this screen show the total number of bytes received and sent through the PM Device's WAN interfaces. Packet statistics for each WAN interface are listed in the tables below.

Figure 32 System Monitor > Traffic Status > WAN



The following table describes the fields in this screen.

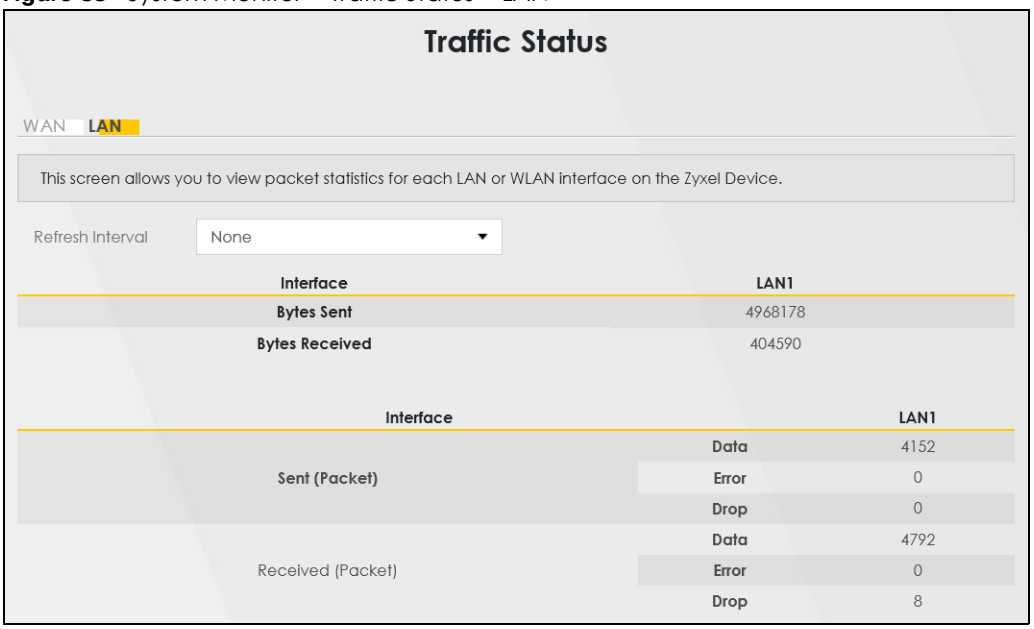
Table 18 System Monitor > Traffic Status > WAN

LABEL	DESCRIPTION
Refresh Interval	Select how often you want the PM Device to update this screen.
Connected Interface	This shows the name of the WAN interface that is currently connected.
Packets Sent	
Data	This indicates the number of transmitted packets on this interface.
Error	This indicates the number of frames with errors transmitted on this interface.
Drop	This indicates the number of outgoing packets dropped on this interface.
Packets Received	
Data	This indicates the number of received packets on this interface.
Error	This indicates the number of frames with errors received on this interface.
Drop	This indicates the number of received packets dropped on this interface.
Disabled Interface	This shows the name of the WAN interface that is currently disabled.
Packets Sent	
Data	This indicates the number of transmitted packets on this interface.
Error	This indicates the number of frames with errors transmitted on this interface.
Drop	This indicates the number of outgoing packets dropped on this interface.
Packets Received	
Data	This indicates the number of received packets on this interface.
Error	This indicates the number of frames with errors received on this interface.
Drop	This indicates the number of received packets dropped on this interface.

9.3 LAN Status

Click **System Monitor > Traffic Status > LAN** to open the following screen. This screen allows you to view packet statistics for each LAN or WAN interface on the PM Device.

Figure 33 System Monitor > Traffic Status > LAN



The following table describes the fields in this screen.

Table 19 System Monitor > Traffic Status > LAN

LABEL	DESCRIPTION
Refresh Interval	Select how often you want the PM Device to update this screen.
Interface	This shows the LAN or wireless LAN interface on the PM Device.
Bytes Sent	This indicates the number of bytes transmitted on this interface.
Bytes Received	This indicates the number of bytes received on this interface.
Interface	This shows the LAN or wireless LAN interfaces on the PM Device.
Sent (Packets)	
Data	This indicates the number of transmitted packets on this interface.
Error	This indicates the number of frames with errors transmitted on this interface.
Drop	This indicates the number of outgoing packets dropped on this interface.
Received (Packets)	
Data	This indicates the number of received packets on this interface.
Error	This indicates the number of frames with errors received on this interface.
Drop	This indicates the number of received packets dropped on this interface.

CHAPTER 10
System

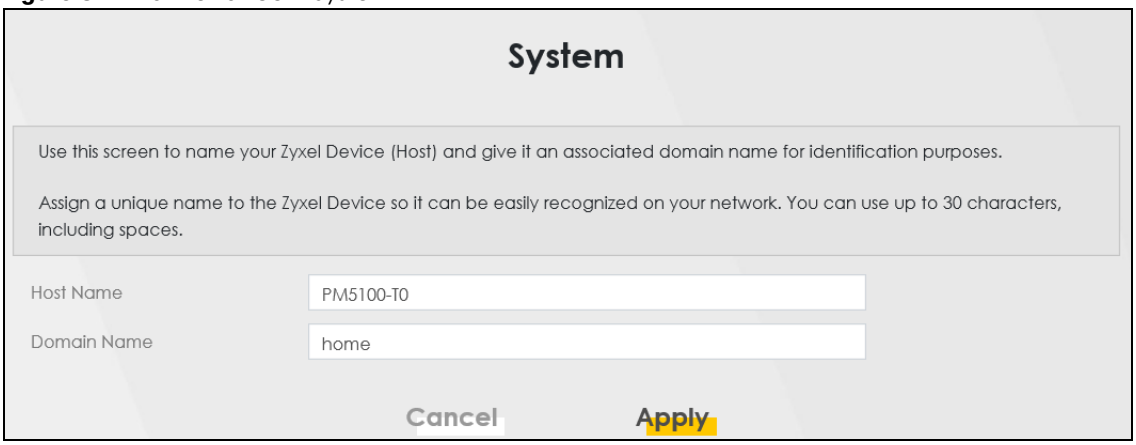
10.1 Overview

On the **System** screen, you can name your PM Device (Host) and give it an associated domain name for identification purposes.

10.2 The System Screen

Click **Maintenance > System** to open the following screen. Assign a unique name to the PM Device so it can be easily recognized on your network. You can use up to 30 characters, including spaces.

Figure 34 Maintenance > System



The following table describes the labels on this screen.

Table 20 Maintenance > System

LABEL	DESCRIPTION
Host Name	Enter a host name for your PM Device. Enter a descriptive name of up to 30 alphanumeric characters, including spaces, underscores, and dashes.
Domain Name	Enter a Domain name for your host PM Device for identification purpose. Enter a descriptive name of up to 30 alphanumeric characters. The following special characters listed in the brackets ["`<>^$|&;\/:*?'] are not allowed in the **Domain Name**.
Apply	Click **Apply** to save your changes.
Cancel	Click **Cancel** to abandon this screen without saving.

CHAPTER 11
User Account

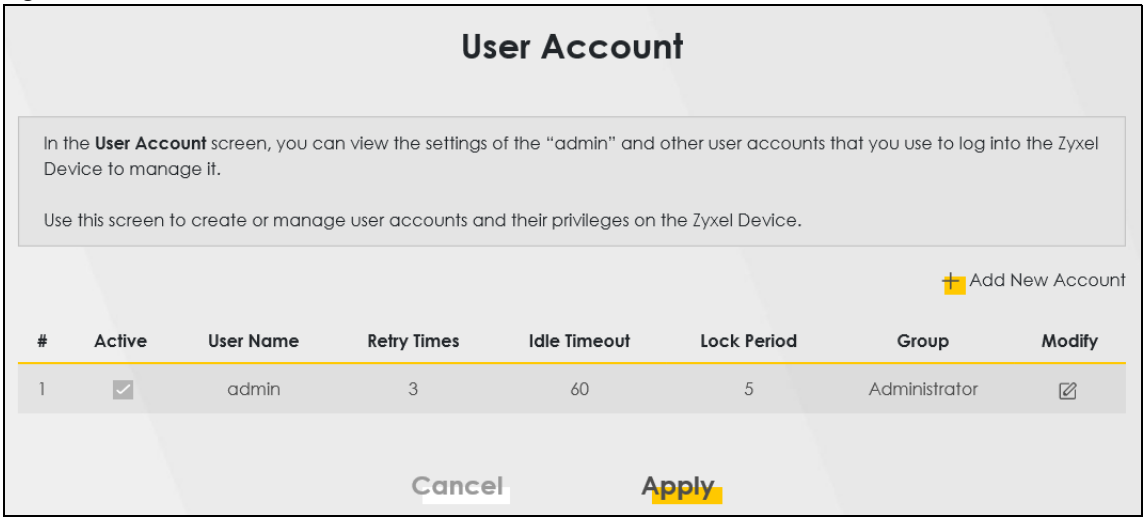
11.1 Overview

In the **User Account** screen, you can view the settings of the "admin" and other user accounts that you use to log in the PM Device.

11.2 The User Account Screen

Click **Maintenance > User Account** to open the following screen.

Figure 35 Maintenance > User Account



Note: The maximum number of the user account is four.

There are two of types of user accounts, Administrator and User. The table below shows the web privilege differences of **Administrator** and **User** at the time of writing.

Table 21 Administrator/User privilege differences

LINK	TAB	ADMINISTRATOR	USER
Configuration			
	Connection Status	Yes	Yes
Network			
	Broadband	Yes	No
	Home Networking	Yes	No
Security			

Table 21 Administrator/User privilege differences

LINK	TAB	ADMINISTRATOR	USER
	Certificates	Yes	No
System Monitor			
	Log	Yes	Yes
	Traffic Status	Yes	Yes
Maintenance			
	System	Yes	No
	User Account	Yes	Yes
	Remote Management	Yes	Yes
	Time	Yes	Yes
	Log Setting	Yes	Yes
	Firmware Upgrade	Yes	Yes
	Backup Restore	Yes	Yes
	Reboot	Yes	Yes

The following table describes the labels on this screen.

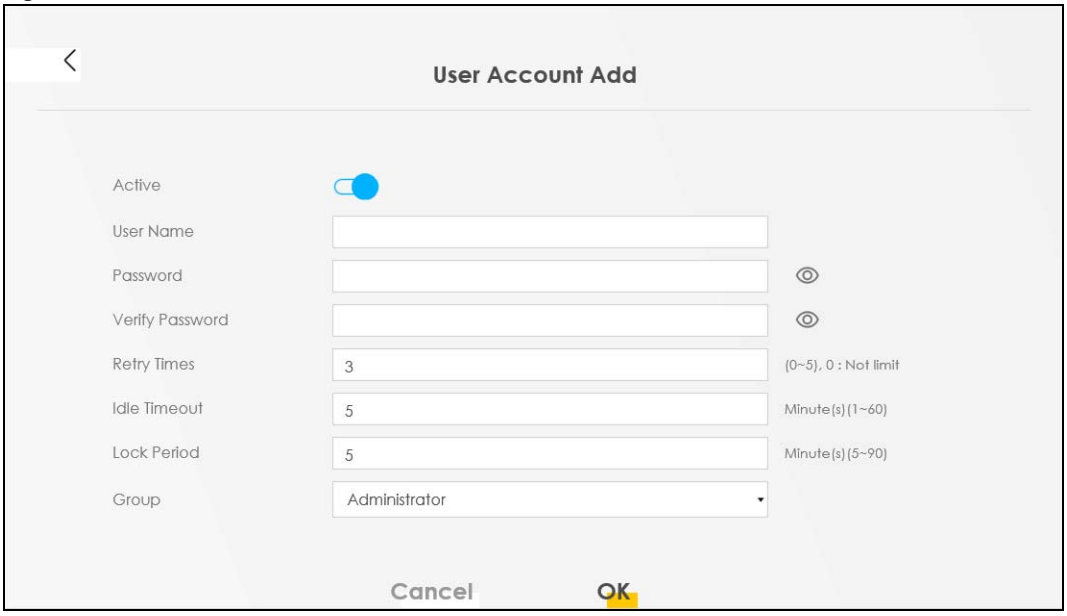
Table 22 Maintenance > User Account

LABEL	DESCRIPTION
Add New Account	Click this button to add a new user account.
#	This is the index number
Active	This field indicates whether the user account is active or not. Clear the check box to disable the user account. Select the check box to enable it.
User Name	This field displays the name of the account used to log into the PM Device Web Configurator.
Retry Times	This field displays the number of times consecutive wrong passwords can be entered for this account. 0 means there is no limit.
Idle Timeout	This field displays the length of inactive time before the PM Device will automatically log the user out of the Web Configurator.
Lock Period	This field displays the length of time a user must wait before attempting to log in again after a number of consecutive wrong passwords have been entered as defined in **Retry Times**.
Group	This field displays whether this user has **Administrator** or **User** privileges.
Modify	Click the **Edit** icon to configure the entry. Click the **Delete** icon to remove the entry.
Apply	Click **Apply** to save your changes back to the PM Device.
Cancel	Click **Cancel** to restore your previously saved settings.

11.2.1 The User Account Add/Edit Screen

Click **Add New Account** or the **Modify** icon of an existing account in the **Maintenance > User Account** to open the following screen.

Figure 36 Maintenance > User Account > Edit



The following table describes the labels on this screen.

Table 23 Maintenance > User Account > Add/Edit

LABEL	DESCRIPTION
Active	Click to enable (switch turns blue) or disable (switch turns gray) the user account. This field is grayed out if you are editing the logged-in account.
User Name	Enter a new name for the account (up to 15 characters). Special characters are allowed except the following: double quote (") back quote (`) apostrophe or single quote (') less than (<) greater than (>) caret or circumflex accent (^) dollar sign ($) vertical bar (|) ampersand (&) semicolon (;)
Password	Enter your new system password (up to 256 characters). Note that as you enter a password, the screen displays a (*) for each character you enter. Click the eye icon to view the password. After you change the password, use the new password to access the PM Device.
Verify Password	Enter the new password again for confirmation. Click the eye icon to view the password.
Retry Times	Enter the number of times consecutive wrong passwords can be entered for this account. 0 means there is no limit.
Idle Timeout	Enter the length of inactive time before the PM Device will automatically log the user out of the Web Configurator.
Lock Period	Enter the length of time a user must wait before attempting to log in again after a number of consecutive wrong passwords have been entered as defined in **Retry Times**.
Group	Specify whether this user will have **Administrator** or **User** privileges. An **Administrator** account can access all web configurator menus. A **User** account can only access Monitor and Maintenance menus. The maximum account number of Administrator and User are both four. The total number of the users allowed to log in the PM Device at the same time is eight.
OK	Click **OK** to save your changes.
Cancel	Click **Cancel** to exit this screen without saving.

CHAPTER 12
Remote Management

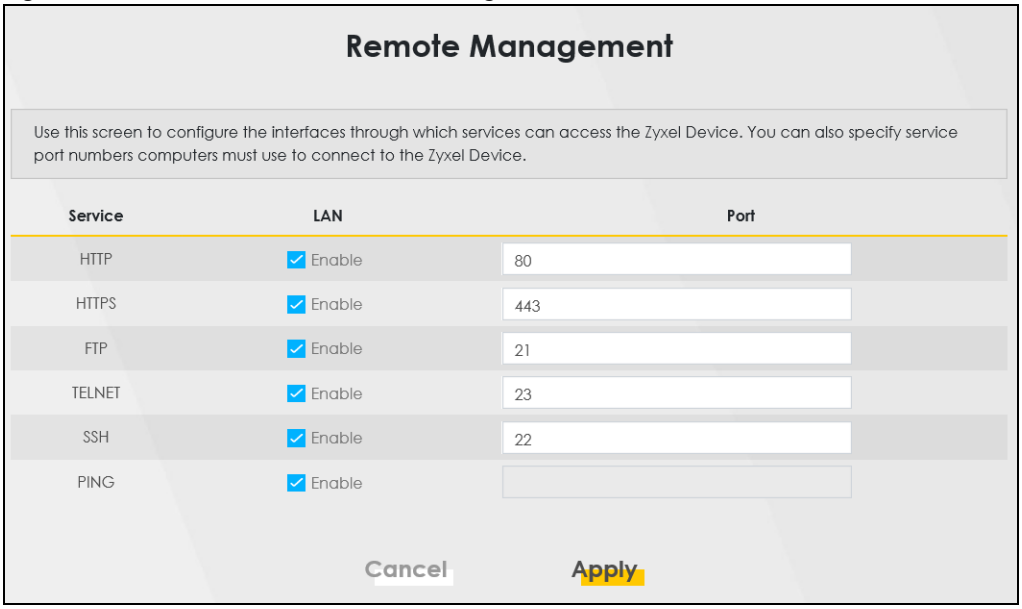
12.1 Overview

Remote management controls which services can access the PM Device in the interfaces you select.

12.2 The Remote Management Screen

Use this screen to configure which services can access the PM Device and which interfaces can allow them. You can also specify the port numbers the services must use to connect to the PM Device. Click **Maintenance > Remote Management** to open the following screen.

Figure 37 Maintenance > Remote Management



The following table describes the fields on this screen.

Table 24 Maintenance > Remote Management

LABEL	DESCRIPTION
Service	This is the service you may use to access the PM Device.
LAN	Select the **Enable** check box for the corresponding services that you want to allow access to the PM Device from the LAN.
Port	You may change the server port number for a service if needed, however you must use the same port number in order to use that service for remote management.

Table 24 Maintenance > Remote Management (continued)

LABEL	DESCRIPTION
Apply	Click **Apply** to save your changes back to the PM Device.
Cancel	Click **Cancel** to restore your previously saved settings.

CHAPTER 13
Time Settings

13.1 Time Settings Overview

This chapter shows you how to configure system related settings, such as system date and time.

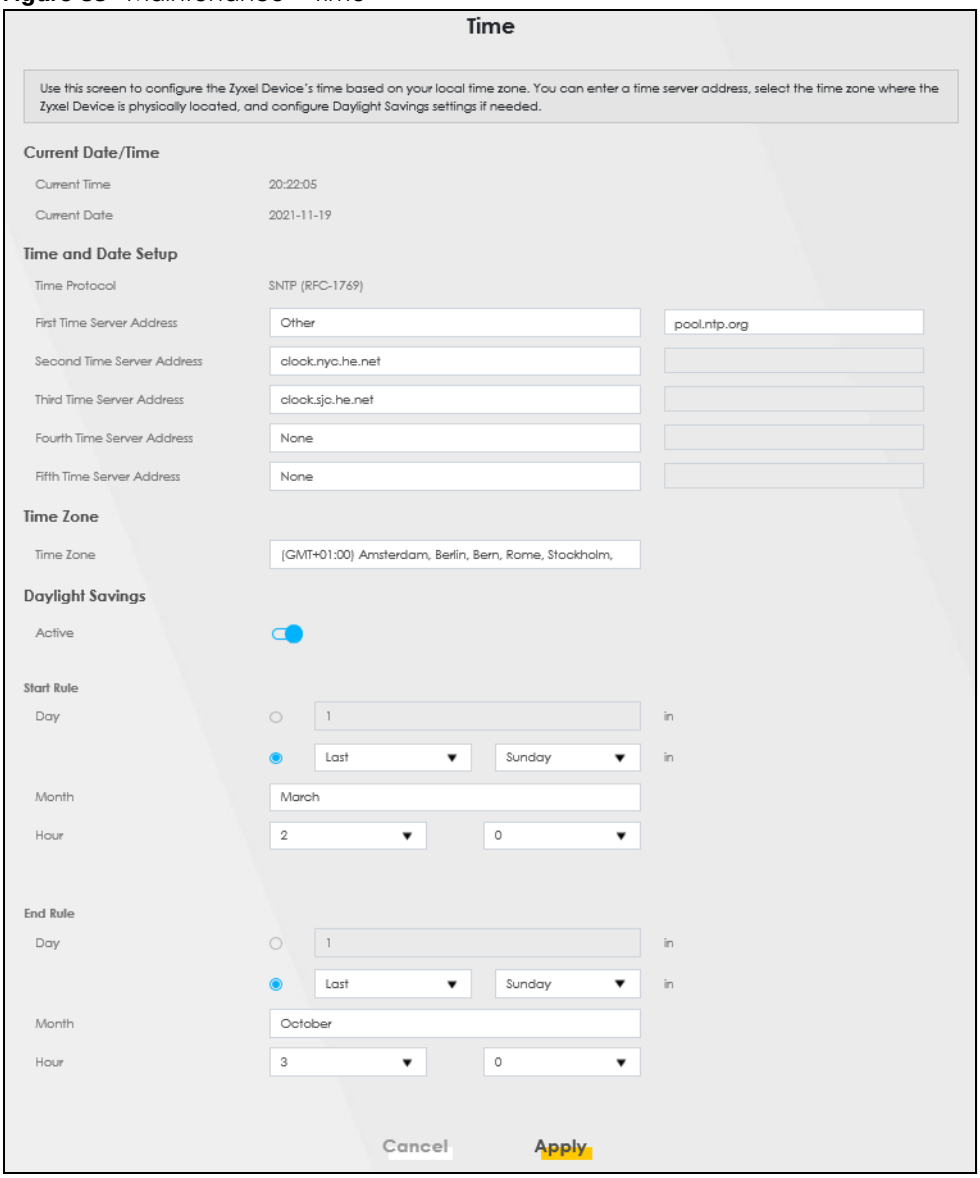
This chapter shows you how to configure system related settings, such as system time, password, name, the domain name and the inactivity timeout interval.

13.2 Time

For effective scheduling and logging, the PM Device system time must be accurate. Use this screen to configure the PM Device's time based on your local time zone. You can enter a time server address, select the time zone where the PM Device is physically located, and configure Daylight Savings settings if needed.

To change your PM Device's time and date, click **Maintenance** > **Time**. The screen appears as shown.

Figure 38 Maintenance > Time



The following table describes the fields in this screen.

Table 25 Maintenance > Time

LABEL	DESCRIPTION
Current Date/Time	
Current Time	This displays the time of your PM Device. Each time you reload this screen, the PM Device synchronizes the time with the time server.
Current Date	This displays the date of your PM Device. Each time you reload this screen, the PM Device synchronizes the date with the time server.
Time and Date Setup	
Time Protocol	This displays the time protocol used by your PM Device.

Table 25 Maintenance > Time (continued)

LABEL	DESCRIPTION
First – Fifth Time Server Address	Select an NTP time server from the drop-down list box. Otherwise, select **Other** and enter the IP address or URL (up to 29 extended ASCII characters in length) of your time server. Select **None** if you do not want to configure the time server. Check with your ISP/network administrator if you are unsure of this information.
Time Zone	
Time zone	Choose the time zone of your location. This will set the time difference between your time zone and Greenwich Mean Time (GMT).
Daylight Savings	Daylight Saving Time is a period from late spring to early fall when many countries set their clocks ahead of normal local time by one hour to give more daytime light in the evening.
Active	Click this switch to enable or disable Daylight Saving Time. When the switch turns blue, the function is enabled. Otherwise, it is not.
Start Rule	Configure the day and time when Daylight Saving Time starts if you enabled Daylight Saving. You can select a specific date in a particular month or a specific day of a specific week in a particular month. The **Time** field uses the 24 hour format. Here are a couple of examples: Daylight Saving Time starts in most parts of the United States on the second Sunday of March. Each time zone in the United States starts using Daylight Saving Time at 2 A.M. local time. So in the United States, set the day to **Second**, **Sunday**, the month to **March** and the time to **2** in the **Hour** field. Daylight Saving Time starts in the European Union on the last Sunday of March. All of the time zones in the European Union start using Daylight Saving Time at the same moment (1 A.M. GMT or UTC). So in the European Union you would set the day to **Last**, **Sunday** and the month to **March**. The time you select in the **o'clock** field depends on your time zone. In Germany for instance, you would select **2** in the **Hour** field because Germany's time zone is one hour ahead of GMT or UTC (GMT+1).
End Rule	Configure the day and time when Daylight Saving Time ends if you enabled Daylight Saving. You can select a specific date in a particular month or a specific day of a specific week in a particular month. The **Time** field uses the 24 hour format. Here are a couple of examples: Daylight Saving Time ends in the United States on the first Sunday of November. Each time zone in the United States stops using Daylight Saving Time at 2 A.M. local time. So in the United States you would set the day to **First**, **Sunday**, the month to **November** and the time to **2** in the **Hour** field. Daylight Saving Time ends in the European Union on the last Sunday of October. All of the time zones in the European Union stop using Daylight Saving Time at the same moment (1 A.M. GMT or UTC). So in the European Union you would set the day to **Last**, **Sunday**, and the month to **October**. The time you select in the **o'clock** field depends on your time zone. In Germany for instance, you would select **2** in the **Hour** field because Germany's time zone is one hour ahead of GMT or UTC (GMT+1).
Cancel	Click **Cancel** to exit this screen without saving.
Apply	Click **Apply** to save your changes.

CHAPTER 14
Log Setting

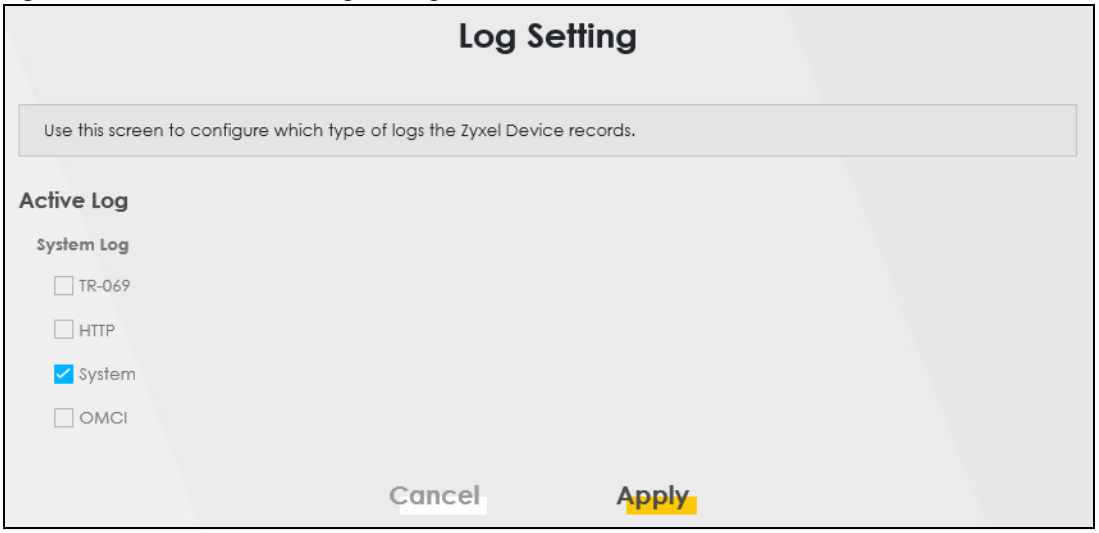
14.1 Overview

You can configure where the PM Device sends logs and which logs and/or immediate alerts the PM Device records in the **Logs Setting** screen.

14.2 The Log Settings Screen

To change your PM Device's log settings, click **Maintenance > Log Setting**. The screen appears as shown.

Figure 39 Maintenance > Log Setting



The following table describes the fields on this screen.

Table 26 Maintenance > Log Setting

LABEL	DESCRIPTION
Active Log	
System Log	Select the categories of the system logs that you want to record.
TR-069	Select **TR-069** to record information related to the remote management to monitor or troubleshoot problems.
HTTP	Select **HTTP** to record information related to the Internet Information services to monitor or troubleshoot problems.
System	Select **System** to record information related to the system to monitor or troubleshoot problems.
OMCI	Select **OMCI** to record information related to the ONT Interface to monitor or troubleshoot problems.

Table 26 Maintenance > Log Setting (continued)

LABEL	DESCRIPTION
Apply	Click **Apply** to save your changes.
Cancel	Click **Cancel** to restore your previously saved settings.

CHAPTER 15
Firmware Upgrade

15.1 Overview

This chapter explains how to upload new firmware to your PM Device. You can download new firmware releases from your nearest Zyxel FTP site (or www.zyxel.com) to use to upgrade your device's performance.

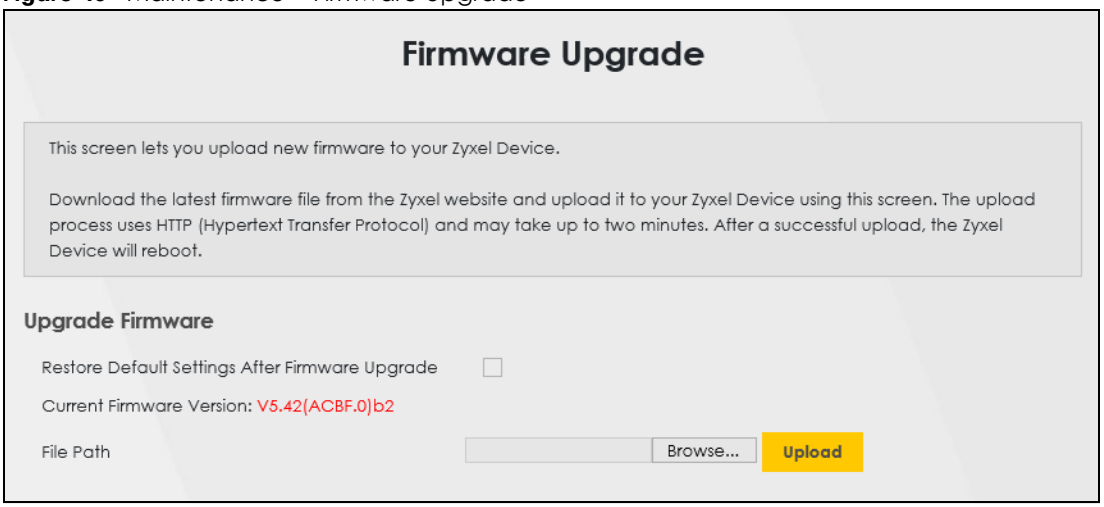
Only use firmware for your device's specific model. Refer to the label on the bottom of your PM Device.

15.2 The Firmware Screen

Click **Maintenance > Firmware Upgrade** to open the following screen. The upload process uses HTTP (Hypertext Transfer Protocol) and may take up to two minutes. After a successful upload, the system will reboot.

Do NOT turn off the PM Device while firmware upload is in progress.

Figure 40 Maintenance > Firmware Upgrade



The following table describes the labels on this screen. After you see the firmware updating screen, wait two minutes before logging into the PM Device again.

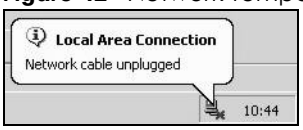
Table 27 Maintenance > Firmware Upgrade

LABEL	DESCRIPTION
Upgrade Firmware	
Restore Default Settings After Firmware Upgrade	Click the check box to have the PM Device automatically reset itself after the new firmware is uploaded.
Current Firmware Version	This is the present Firmware version and the date created.
File Path	Type in the location of the file you wasn't to upload in this field or click **Browse** to find it.
Browse	Click this to find the .bin file you want to upload. Remember that you must decompress compressed (.zip) files before you can upload them.
Upload	Click this to begin the upload process. This process may take up to two minutes.

After you see the firmware updating screen, wait a few minutes before logging into the PM Device again.

The PM Device automatically restarts in this time causing a temporary network disconnect. In some operating systems, you may see the following icon on your desktop.

Figure 41 Network Temporarily Disconnected



After two minutes, log in again and check your new firmware version in the **Status** screen.

If the upload was not successful, an error screen will appear. Click **OK** to go back to the **Firmware Upgrade** screen.

CHAPTER 16
Backup/Restore

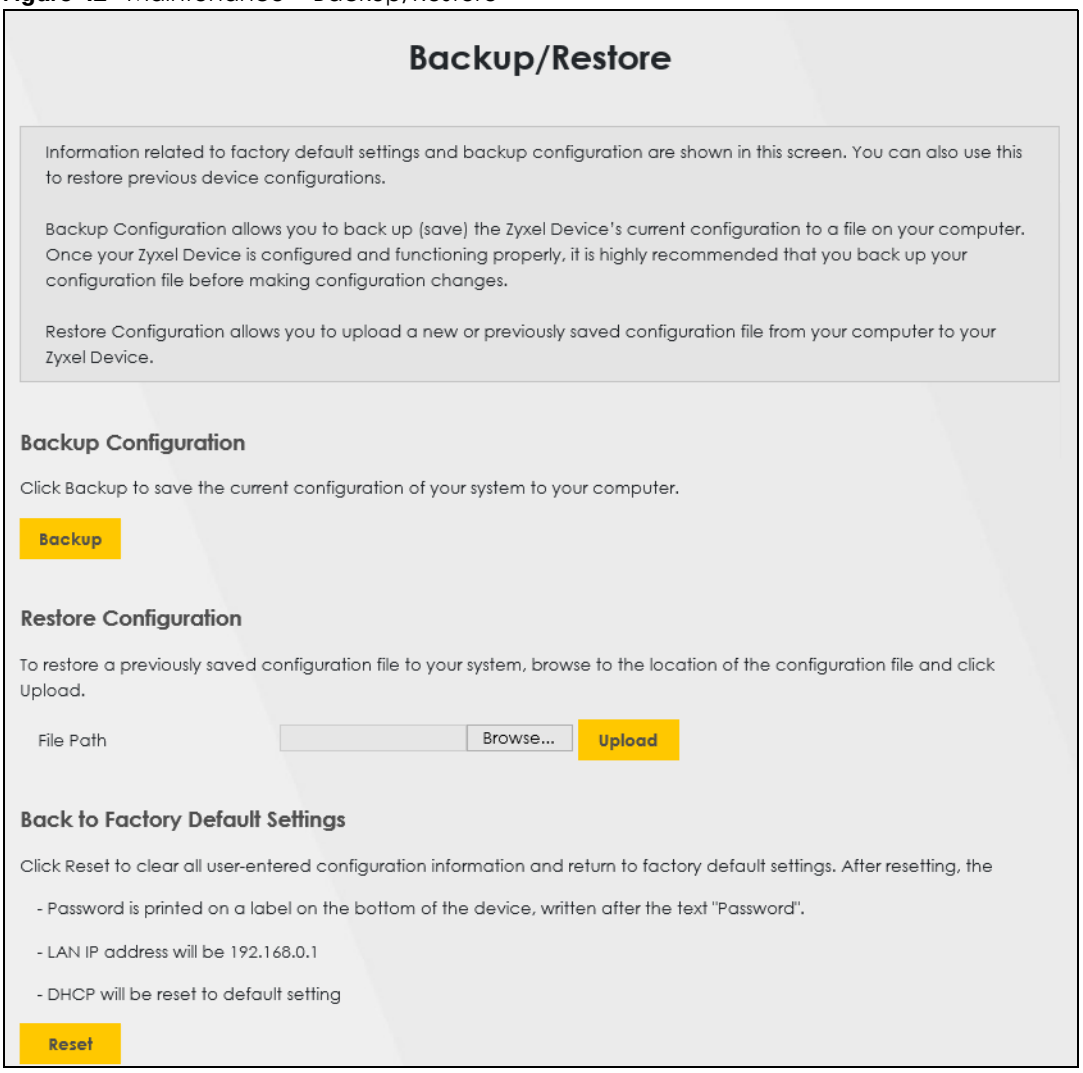
16.1 Overview

The **Backup/Restore** screen allows you to backup and restore device configurations. You can also reset your device settings back to the factory default.

16.2 The Backup/Restore Screen

Click **Maintenance > Backup/Restore**. Information related to factory defaults, backup configuration, and restoring configuration appears on this screen, as shown below.

Figure 42 Maintenance > Backup/Restore



Backup Configuration

Backup Configuration allows you to back up (save) the PM Device's current configuration to a file on your computer. Once your PM Device is configured and functioning properly, it is highly recommended that you back up your configuration file before making configuration changes. The backup configuration file will be useful in case you need to return to your previous settings.

Click **Backup** to save the PM Device's current configuration to your computer.

Restore Configuration

Restore Configuration allows you to upload a new or previously saved configuration file from your computer to your PM Device.

Table 28 Restore Configuration

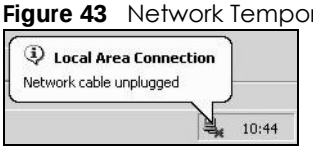
LABEL	DESCRIPTION
File Path	Type in the location of the file you want to upload in this field or click **Browse** to find it.
Browse	Click this to find the file you want to upload. Remember that you must decompress compressed (.ZIP) files before you can upload them.
Upload	Click this to begin the upload process.
Reset	Click this to reset your PM Device settings back to the factory default.

Do not turn off the PM Device while configuration file upload is in progress.

After the PM Device configuration has been restored successfully, the login screen appears. Login again to restart the PM Device.

The PM Device automatically restarts in this time causing a temporary network disconnect. In some operating systems, you may see the following icon on your desktop.

Figure 43 Network Temporarily Disconnected



If you uploaded the default configuration file you may need to change the IP address of your computer to be in the same subnet as that of the default device IP address (192.168.0.1).

If the upload was not successful, the following screen will appear. Click **OK** to go back to the **Configuration** screen. Reset to Factory Defaults.

Click the **Reset** button to clear all user-entered configuration information and return the PM Device to its factory defaults. The following warning screen appears.

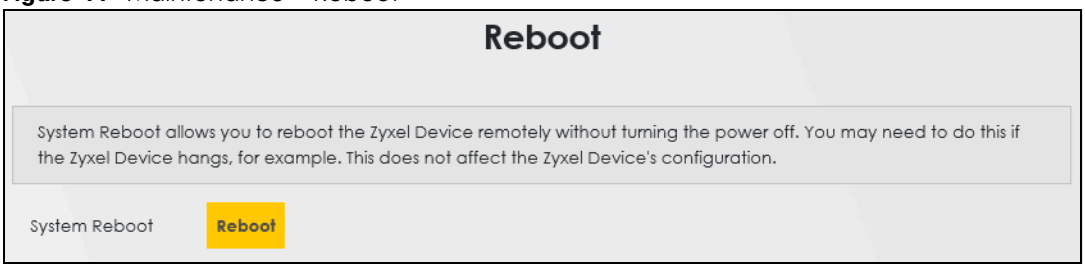
You can also press the **RESET** button on the rear panel to reset the factory defaults of your PM Device. Refer to Section 1.4.6 on page 14 for more information on the **RESET** button.

16.3 The Reboot Screen

System restart allows you to reboot the PM Device remotely without turning the power off. You may need to do this if the PM Device hangs, for example.

Click **Maintenance > Reboot**. Click **Reboot** to have the PM Device reboot. This does not affect the PM Device's configuration.

Figure 44 Maintenance > Reboot



CHAPTER 17
Troubleshooting

This chapter offers some suggestions to solve problems you might encounter. The potential problems are divided into the following categories.

- Power, Hardware Connections, and LEDs
- PM Device Access and Login
- Internet Access

17.1 Power, Hardware Connections, and LEDs

The PM Device does not turn on. None of the LEDs turn on.

1. Make sure the PM Device is turned on.
2. Make sure you are using the power adapter or cord included with the PM Device.
3. Make sure the power adapter or cord is connected to the PM Device and plugged in to an appropriate power source. Make sure the power source is turned on.
4. Turn the PM Device off and on.
5. If the problem continues, contact the vendor.

One of the LEDs does not behave as expected.

1. Make sure you understand the normal behavior of the LED. See Section 2.1.1 on page 13.
2. Check the hardware connections.
3. Inspect your cables for damage. Contact the vendor to replace any damaged cables.
4. Turn the PM Device off and on.
5. If the problem continues, contact the vendor.

17.2 PM Device Access and Login

I forgot the IP address for the PM Device.

1. The default LAN IP address is 192.168.0.1.
2. If you changed the IP address and have forgotten it, you might get the IP address of the PM Device by looking up the IP address of the default gateway for your computer. To do this in most Windows computers, click **Start > Run**, enter **cmd**, and then enter **ipconfig**. The IP address of the **Default Gateway** might be the IP address of the PM Device (it depends on the network), so enter this IP address in your Internet browser.
3. If this does not work, you have to reset the device to its factory defaults. See Section 2.2.1 on page 15.

I forgot the password.

1. See the label at the bottom of the PM Device for the default login names and associated passwords.
2. If those do not work, you have to reset the device to its factory defaults. See Section 2.1.1 on page 13.

I cannot see or access the **Login** screen in the Web Configurator.

1. Make sure you are using the correct IP address.
   - The default IP address is 192.168.0.1.
   - If you changed the IP address (Section 6.2 on page 29), use the new IP address.
   - If you changed the IP address and have forgotten it, see the troubleshooting suggestions for I forgot the IP address for the PM Device.
2. Make sure your computer uses an IP address within the same subnet as the PM Device.
3. Check the hardware connections, and make sure the LEDs are behaving as expected. See Section 2.1.1 on page 13.
4. Make sure your Internet browser does not block pop-up windows and has JavaScripts and Java enabled.
5. If it is possible to log in from another interface, check the service control settings for HTTP and HTTPS (**Maintenance > Remote MGMT**).
6. Reset the device to its factory defaults and try to access the PM Device with the default IP address. See Section 2.2.1 on page 15.

7 If the problem continues, contact the network administrator or vendor, or try one of the advanced suggestions.

Advanced Suggestions

- Make sure you have logged out of any earlier management sessions using the same user account even if they were through a different interface or using a different browser.
- Try to access the PM Device using another service, such as Telnet. If you can access the PM Device, check the remote management settings to find out why the PM Device does not respond to HTTP.

I can see the **Login** screen, but I cannot log in to the PM Device.

1 Make sure you have entered the password correctly. See the device label for the default login name and associated password. The field is case-sensitive, so make sure [Caps Lock] is not on.

2 You cannot log in to the Web Configurator while someone is using Telnet to access the PM Device. Log out of the PM Device in the other session, or ask the person who is logged in to log out.

3 Turn the PM Device off and on.

4 If this does not work, you have to reset the device to its factory defaults. See Section 17.1 on page 60.

I cannot access the PM Device via Telnet.

See the troubleshooting suggestions for I cannot see or access the **Login screen in the Web Configurator.** Ignore the suggestions about your browser.

I cannot use FTP to upload / download the configuration file. I cannot use FTP to upload new firmware.

See the troubleshooting suggestions for I cannot see or access the **Login screen in the Web Configurator.** Ignore the suggestions about your browser.

17.3 Internet Access

I cannot access the Internet.

1. Check the hardware connections, and make sure the LEDs are behaving as expected. See the **Quick Start Guide** and Section 2.1.1 on page 13.

   The **PON** LED is off if the optical transceiver has malfunctioned or the fiber cable is not connected or is broken or damaged enough to break the PON connection.

   The **LOS** LED turns red if the GPON Device is not receiving an optical signal.

   The **LOS** LED turns blinking red if the GPON Device is receiving a weak optical signal

   See Section 2.1.1 on page 13 for details about the other LEDs.

2. Disconnect all the cables from your device and reconnect them.

3. If the problem continues, contact your ISP.

I cannot access the PM Device anymore. I had access to the PM Device, but my connection is not available anymore.

1. Your session with the PM Device may have expired. Try logging into the PM Device again.

2. Check the hardware connections, and make sure the LEDs are behaving as expected. See the **Quick Start Guide** and Section 2.1.1 on page 13.

3. Turn the PM Device off and on.

4. If the problem continues, contact your vendor.

PART II
Appendices

APPENDIX A
Customer Support

In the event of problems that cannot be solved by using this manual, you should contact your vendor. If you cannot contact your vendor, then contact a Zyxel office for the region in which you bought the device.

For Zyxel Communications offices, see *https://service-provider.zyxel.com/global/en/contact-us* for the latest information.

For Zyxel Networks offices, see *https://www.zyxel.com/index.shtml* for the latest information.

Please have the following information ready when you contact an office.

Required Information

- Product model and serial number.
- Warranty Information.
- Date that you received your device.
- Brief description of the problem and the steps you took to solve it.

Corporate Headquarters (Worldwide)

Taiwan

- Zyxel Communications Corporation
- https://www.zyxel.com

Asia

China

- Zyxel Communications (Shanghai) Corp.
  Zyxel Communications (Beijing) Corp.
  Zyxel Communications (Tianjin) Corp.
- https://www.zyxel.com/cn/zh/

India

- Zyxel Technology India Pvt Ltd
- https://www.zyxel.com/in/en/

Kazakhstan

- Zyxel Kazakhstan
- https://www.zyxel.kz

Korea

- Zyxel Korea Corp.
- http://www.zyxel.kr

Malaysia

- Zyxel Malaysia Sdn Bhd.
- http://www.zyxel.com.my

Pakistan

- Zyxel Pakistan (Pvt.) Ltd.
- http://www.zyxel.com.pk

Philippines

- Zyxel Philippines
- http://www.zyxel.com.ph

Singapore

- Zyxel Singapore Pte Ltd.
- http://www.zyxel.com.sg

Taiwan

- Zyxel Communications Corporation
- https://www.zyxel.com/tw/zh/

Thailand

- Zyxel Thailand Co., Ltd
- https://www.zyxel.com/th/th/

Vietnam

- Zyxel Communications Corporation-Vietnam Office
- https://www.zyxel.com/vn/vi

Europe

Belarus

- Zyxel BY
- https://www.zyxel.by

Bulgaria

- Zyxel България
- https://www.zyxel.com/bg/bg/

Czech Republic

- Zyxel Communications Czech s.r.o
- https://www.zyxel.com/cz/cs/

Denmark

- Zyxel Communications A/S
- https://www.zyxel.com/dk/da/

Finland

- Zyxel Communications
- https://www.zyxel.com/fi/fi/

France

- Zyxel France
- https://www.zyxel.fr

Germany

- Zyxel Deutschland GmbH
- https://www.zyxel.com/de/de/

Hungary

- Zyxel Hungary & SEE
- https://www.zyxel.com/hu/hu/

Italy

- Zyxel Communications Italy
- https://www.zyxel.com/it/it/

Netherlands

- Zyxel Benelux
- https://www.zyxel.com/nl/nl/

Norway

- Zyxel Communications
- https://www.zyxel.com/no/no/

Poland

- Zyxel Communications Poland
- https://www.zyxel.com/pl/pl/

Romania

- Zyxel Romania

- https://www.zyxel.com/ro/ro

Russia

- Zyxel Russia
- https://www.zyxel.com/ru/ru/

Slovakia

- Zyxel Communications Czech s.r.o. organizacna zlozka
- https://www.zyxel.com/sk/sk/

Spain

- Zyxel Communications ES Ltd
- https://www.zyxel.com/es/es/

Sweden

- Zyxel Communications
- https://www.zyxel.com/se/sv/

Switzerland

- Studerus AG
- https://www.zyxel.ch/de
- https://www.zyxel.ch/fr

Turkey

- Zyxel Turkey A.S.
- https://www.zyxel.com/tr/tr/

UK

- Zyxel Communications UK Ltd.
- https://www.zyxel.com/uk/en/

Ukraine

- Zyxel Ukraine
- http://www.ua.zyxel.com

South America

Argentina

- Zyxel Communications Corporation
- https://www.zyxel.com/co/es/

Brazil

- Zyxel Communications Brasil Ltda.
- https://www.zyxel.com/br/pt/

Colombia

- Zyxel Communications Corporation
- https://www.zyxel.com/co/es/

Ecuador

- Zyxel Communications Corporation
- https://www.zyxel.com/co/es/

South America

- Zyxel Communications Corporation
- https://www.zyxel.com/co/es/

Middle East

Israel

- Zyxel Communications Corporation
- http://il.zyxel.com/

North America

USA

- Zyxel Communications, Inc. - North America Headquarters
- https://www.zyxel.com/us/en/

APPENDIX B
Legal Information

Copyright

Disclaimer

Zyxel does not assume any liability arising out of the application or use of any products, or software described herein. Neither does it convey any license under its patent rights nor the patent rights of others. Zyxel further reserves the right to make changes in any products described herein without notice. This publication is subject to change without notice.

Regulatory Notice and Statement

EUROPEAN UNION and UNITED KINGDOM

The following information applies if you use the product within the European Union and United Kingdom.

Notes:

- Although Norway, Switzerland and Liechtenstein are not EU member states, the EU Directive 2014/53/EU has also been implemented in those countries.
- The regulatory limits for maximum output power are specified in EIRP. The EIRP level (in dBm) of a device can be calculated by adding the gain of the antenna used (specified in dBi) to the output power available at the connector (specified in dBm).

List of national codes

COUNTRY	ISO 3166 2 LETTER CODE	COUNTRY	ISO 3166 2 LETTER CODE
Austria	AT	Liechtenstein	LI
Belgium	BE	Lithuania	LT
Bulgaria	BG	Luxembourg	LU
Croatia	HR	Malta	MT
Cyprus	CY	Netherlands	NL
Czech Republic	CZ	Norway	NO
Denmark	DK	Poland	PL
Estonia	EE	Portugal	PT
Finland	FI	Romania	RO
France	FR	Serbia	RS
Germany	DE	Slovakia	SK
Greece	GR	Slovenia	SI
Hungary	HU	Spain	ES
Iceland	IS	Switzerland	CH
Ireland	IE	Sweden	SE
Italy	IT	Turkey	TR
Latvia	LV	United Kingdom	GB

Safety Warnings

- Do not use this product near water, for example, in a wet basement or near a swimming pool.
- Do not expose your device to dampness, dust or corrosive liquids.
- Do not store things on the device.
- Do not obstruct the device ventilation slots as insufficient airflow may harm your device. For example, do not place the device in an enclosed space such as a box or on a very soft surface such as a bed or sofa.
- Do not install, use, or service this device during a thunderstorm. There is a remote risk of electric shock from lightning.
- Connect ONLY suitable accessories to the device.
- Do not open the device or unit. Opening or removing covers can expose you to dangerous high voltage points or other risks.
- Only qualified service personnel should service or disassemble this device. Please contact your vendor for further information.
- Make sure to connect the cables to the correct ports.
- Place connecting cables carefully so that no one will step on them or stumble over them.
- Always disconnect all cables from this device before servicing or disassembling.
- Do not remove the plug and connect it to a power outlet by itself; always attach the plug to the power adaptor first before connecting it to a power outlet.
- Do not allow anything to rest on the power adaptor or cord and do NOT place the product where anyone can walk on the power adaptor or cord.
- Please use the provided or designated connection cables/power cables/ adaptors. Connect it to the right supply voltage (for example, 110V AC in North America or 230V AC in Europe). If the power adaptor or cord is damaged, it might cause electrocution. Remove it from the device and the power source, repairing the power adapter or cord is prohibited. Contact your local vendor to order a new one.
- Do not use the device outside, and make sure all the connections are indoors. There is a remote risk of electric shock from lightning.
- CAUTION: Risk of explosion if battery is replaced by an incorrect type, dispose of used batteries according to the instruction. Dispose them at the applicable collection point for the recycling of electrical and electronic devices. For detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the store where you purchased the product.
- The following warning statements apply, where the disconnect device is not incorporated in the device or where the plug on the power supply cord is intended to serve as the disconnect device,

  - For permanently connected devices, a readily accessible disconnect device shall be incorporated external to the device;

  - For pluggable devices, the socket-outlet shall be installed near the device and shall be easily accessible.
- CLASS 1 LASER PRODUCT
- APPAREIL À LASER DE CLASS 1
- PRODUCT COMPLIES WITH 21 CFR 1040.10 AND 1040.11.

Environment Statement

ErP (Energy-related Products)

Zyxel products put on the EU and United Kingdom market in compliance with the requirement of the European Parliament and the Council published Directive 2009/125/EC and UK regulation establishing a framework for the setting of ecodesign requirements for energy-related products (recast), so called as "ErP Directive (Energy-related Products directive) as well as ecodesign requirement laid down in applicable implementing measures, power consumption has satisfied regulation requirements which are:

- Network standby power consumption < 8W, and/or
- Off mode power consumption < 0.5W, and/or
- Standby mode power consumption < 0.5W.

(Wireless settings, please refer to the chapter about wireless settings for more detail.)

Disposal and Recycling Information

The symbol below means that according to local regulations your product and/or its battery shall be disposed of separately from domestic waste. If this product is end of life, take it to a recycling station designated by local authorities. At the time of disposal, the separate collection of your product and/or its battery will help save natural resources and ensure that the environment is sustainable development.

Die folgende Symbol bedeutet, dass Ihr Produkt und/oder seine Batterie gemäß den örtlichen Bestimmungen getrennt vom Hausmüll entsorgt werden muss. Wenden Sie sich an eine Recyclingstation, wenn dieses Produkt das Ende seiner Lebensdauer erreicht hat. Zum Zeitpunkt der Entsorgung wird die getrennte Sammlung von Produkt und/oder seiner Batterie dazu beitragen, natürliche Ressourcen zu sparen und die Umwelt und die menschliche Gesundheit zu schützen.

El símbolo de abajo indica que según las regulaciones locales, su producto y/o su batería deberán depositarse como basura separada de la doméstica. Cuando este producto alcance el final de su vida útil, llévelo a un punto limpio. Cuando llegue el momento de desechar el producto, la recogida por separado éste y/o su batería ayudará a salvar los recursos naturales y a proteger la salud humana y medioambiental.

Le symbole ci-dessous signifie que selon les réglementations locales votre produit et/ou sa batterie doivent être éliminés séparément des ordures ménagères. Lorsque ce produit atteint sa fin de vie, amenez-le à un centre de recyclage. Au moment de la mise au rebut, la collecte séparée de votre produit et/ou de sa batterie aidera à économiser les ressources naturelles et protéger l'environnement et la santé humaine.

Il simbolo sotto significa che secondo i regolamenti locali il vostro prodotto e/o batteria deve essere smaltito separatamente dai rifiuti domestici. Quando questo prodotto raggiunge la fine della vita di servizio portarlo a una stazione di riciclaggio. Al momento dello smaltimento, la raccolta separata del vostro prodotto e/o della sua batteria aiuta a risparmiare risorse naturali e a proteggere l'ambiente e la salute umana.

Symbolen innebär att enligt lokal lagstiftning ska produkten och/eller dess batteri kastas separat från hushållsavfallet. När den här produkten når slutet av sin livslängd ska du ta den till en återvinningsstation. Vid tiden för kasseringen bidrar du till en bättre miljö och mänsklig hälsa genom att göra dig av med den på ett återvinningsställe.

台灣

安全警告 - 為了您的安全，請先閱讀以下警告及指示：

- 請勿將此產品接近水、火焰或放置在高溫的環境。
- 避免設備接觸
  - 任何液體 - 切勿讓設備接觸水、雨水、高濕度、污水腐蝕性的液體或其他水份。
  - 灰塵及污物 - 切勿接觸灰塵、污物、沙土、食物或其他不合適的材料。
- 雷雨天氣時，不要安裝，使用或維修此設備。有遭受電擊的風險。
- 切勿重摔或撞擊設備，並勿使用不正確的電源變壓器。
- 若接上不正確的電源變壓器會有爆炸的風險。
- 請勿隨意更換產品內的電池。
- 如果更換不正確之電池型式，會有爆炸的風險，請依製造商說明書處理使用過之電池。
- 請將廢電池丟棄在適當的電器或電子設備回收處。
- 請勿將設備解體。
- 請勿阻礙設備的散熱孔，空氣對流不足將會造成設備損害。
- 請插在正確的電壓供給插座 (如：北美 / 台灣電壓 110V AC，歐洲是 230V AC)。
- 假若電源變壓器或電源變壓器的纜線損壞，請從插座拔除，若您還繼續插電使用，會有觸電死亡的風險。
- 請勿試圖修理電源變壓器或電源變壓器的纜線，若有毀損，請直接聯絡您購買的店家，購買一個新的電源變壓器。
- 請勿將此設備安裝於室外，此設備僅適合放置於室內。
- 請勿隨一般垃圾丟棄。
- 請參閱產品背貼上的設備額定功率。
- 請參考產品型錄或是彩盒上的作業溫度。
- 產品沒有斷電裝置或者採用電源線的插頭視為斷電裝置的一部分，以下警語將適用：
  - 對永久連接之設備， 在設備外部須安裝可觸及之斷電裝置；
  - 對插接式之設備， 插座必須接近安裝之地點而且是易於觸及的。

About the Symbols

Various symbols are used in this product to ensure correct usage, to prevent danger to the user and others, and to prevent property damage. The meaning of these symbols are described below. It is important that you read these descriptions thoroughly and fully understand the contents.

Explanation of the Symbols

SYMBOL	EXPLANATION
	Alternating current (AC): AC is an electric current in which the flow of electric charge periodically reverses direction.
	Direct current (DC): DC if the unidirectional flow or movement of electric charge carriers.
	Earth; ground: A wiring terminal intended for connection of a Protective Earthing Conductor.
	Class II equipment: The method of protection against electric shock in the case of class II equipment is either double insulation or reinforced insulation.

Viewing Certifications

Go to http://www.zyxel.com to view this product's documentation and certifications.

Zyxel Limited Warranty

Zyxel warrants to the original end user (purchaser) that this product is free from any defects in material or workmanship for a specific period (the Warranty Period) from the date of purchase. The Warranty Period varies by region. Check with your vendor and/or the authorized Zyxel local distributor for details about the Warranty Period of this product. During the warranty period, and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, Zyxel will, at its discretion, repair or replace the defective products or components without charge for either parts or labor, and to whatever extent it shall deem necessary to restore the product or components to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal or higher value, and will be solely at the discretion of Zyxel. This warranty shall not apply if the product has been modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions.

Note

Repair or replacement, as provided under this warranty, is the exclusive remedy of the purchaser. This warranty is in lieu of all other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular use or purpose. Zyxel shall in no event be held liable for indirect or consequential damages of any kind to the purchaser.

To obtain the services of this warranty, contact your vendor. You may also refer to the warranty policy for the region in which you bought the device at http://www.zyxel.com/web/support_warranty_info.php.

Registration

Register your product online at www.zyxel.com to receive email notices of firmware upgrades and related information.

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To request the source code covered under these licenses, please go to: https://service-provider.zyxel.com/global/en/gpl-oss-software-notice

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