



SimpliLinux

SMX-GTW10 Security Module

User's Guide

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Version 1.0

Legal Notices

Warning Notice System

The document contains alerts and information indications for the safety of you and your devices. The symbols and meanings used to draw your attention to these notifications are listed below.



Danger: Indicates the death or severe personal injury will result if proper precautions are not taken.



Warning: Indicates that death or severe personal injury may result if proper precautions are not taken.



Info: Indicates advice or **information**.

Qualified Personnel

It is assumed that what is described in this document will be applied by qualified personnel for the specific task.

Disclaimer

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency.

The information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Change Log

Version	Date	Description
V1.0	01/2021	Draft
V1.1	12/2025	Power

Preface

Purpose of the Document

This document contains information about the following topics;

- ◆ SMX-GTW10 Product Information
- ◆ SMX-GTW10 Setup
- ◆ Use of SMX-GTW10
- ◆ SMX-N1559 (Optional)

Required Level of Knowledge

In order to fully understand and apply this document, it is necessary to have knowledge of IT, Automation and Electricity.

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1. Product Description and Certificates

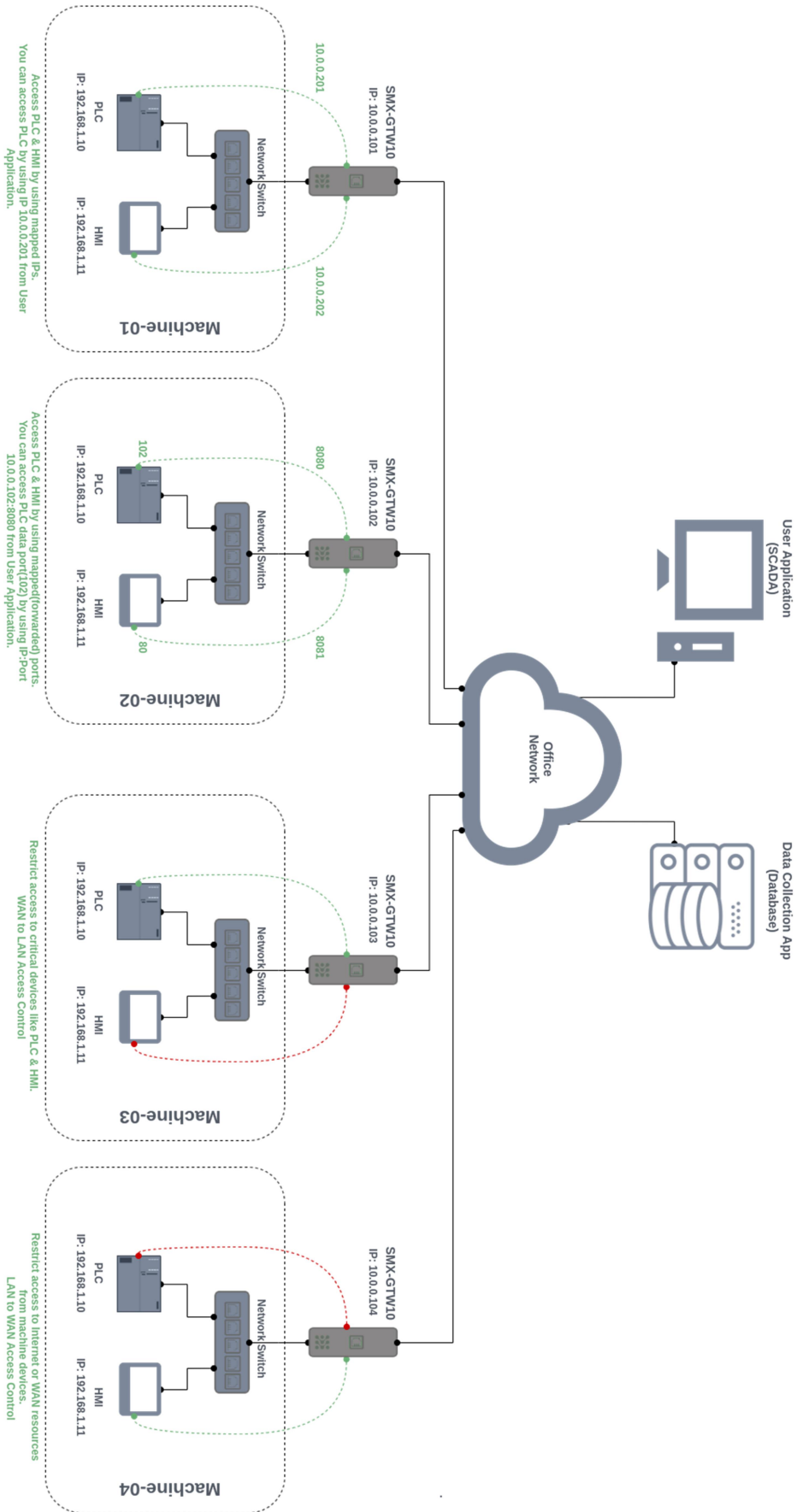
SMX-GTW10 is an industrial firewall and gateway. It can be used to combine networks with different subnets and for access control in existing networks.

- ◆ You can directly access your field devices thanks to the "virtual" IPs created with the SMX-GTW10 device.
- ◆ With the SMX-GTW10 device, you can forward any port of your field devices to a port on the device.
- ◆ You can provide access control with SMX-GTW10 device between WAN-> LAN or LAN-> WAN.
- ◆ You can use the SMX-GTW10 device as a router.



	SMX-GTW10
Processor	BCM2837 1.2 GHz Quad Core
Ram	1 GB LPDDR2 400MHz
eMMC	4 GB
Storage	2 GB

SMX-GTW10 Applications



1.1. Properties

- ◆ The high degree of robustness.
- ◆ The SMX-GTW10 module is approved for indoor use only.
- ◆ Compact design.
- ◆ Ethernet and USB interfaces.

1.2. Approvals / CE

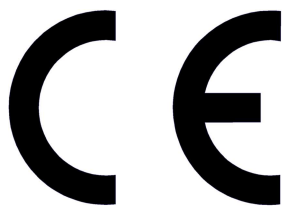
The SMX-GTW10 module has received approval from the CE standards tests listed below.

Electromagnetic Compatibility

- ◆ EN 55032:2015 Emissions (Diffusion) Tests
- ◆ EN 55024:2010/A1:2016 Immunity Tests
 - ◆ EN 61000-4-2: 2009
 - ◆ EN 61000-4-3: 2006/A2:2010
 - ◆ EN 61000-4-4: 2012
 - ◆ EN 61000-4-5: 2014/A1:2017
 - ◆ EN 61000-4-6: 2014/AC:2015

Electrical Security

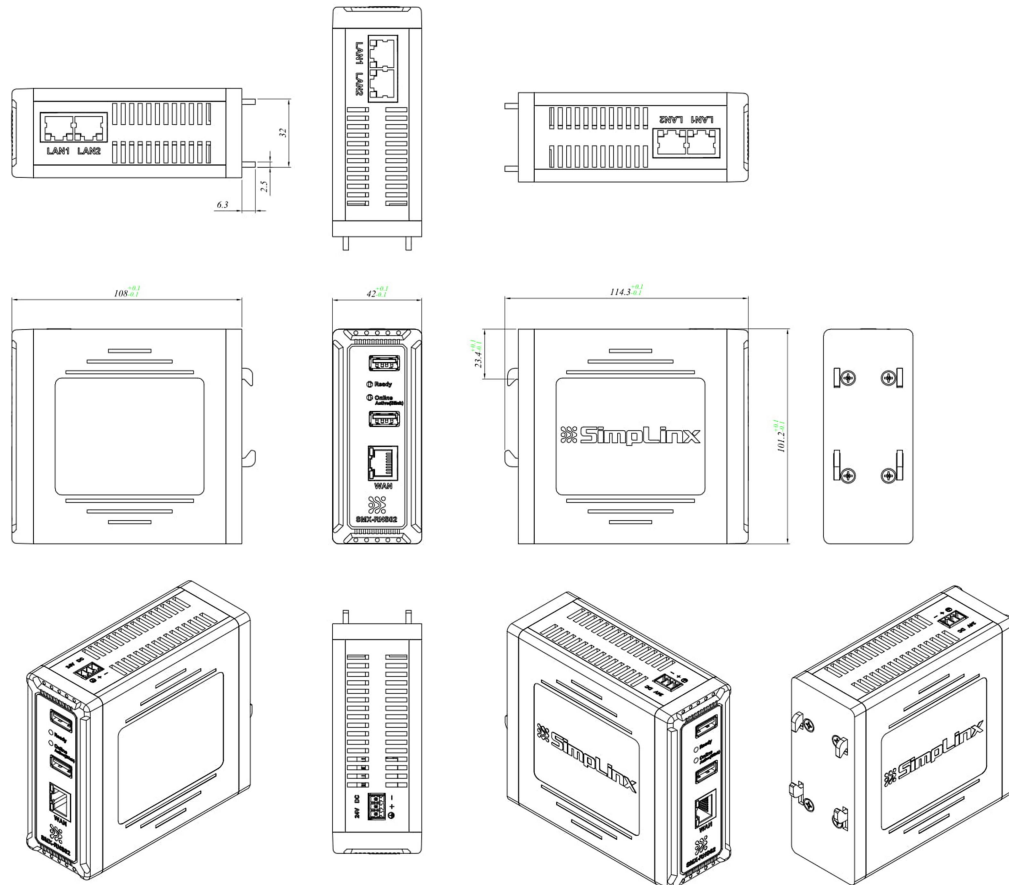
- ◆ EN 62368-1:2014+A11:2017



2. Physical Properties and Drawings

Power Supply	24 V DC	Minimum = 15V DC Maximum = 30 VDC
Power Consumption	200mA	
Connection Slots	2xUSB 2.0	
	1xRj54 WAN	100 Mb/s
	2xRj45 LAN	100 Mb/s
Box	DIN Rail Mounted	
Temperature	0°C to 70 °C	Work
	-40°C to 85 °C	Storage
Dimensions (mm)	Width : 42 Height : 101 Depth : 114	
Weight (Kg)	0.202	

2.1. Drawings



3. Setup

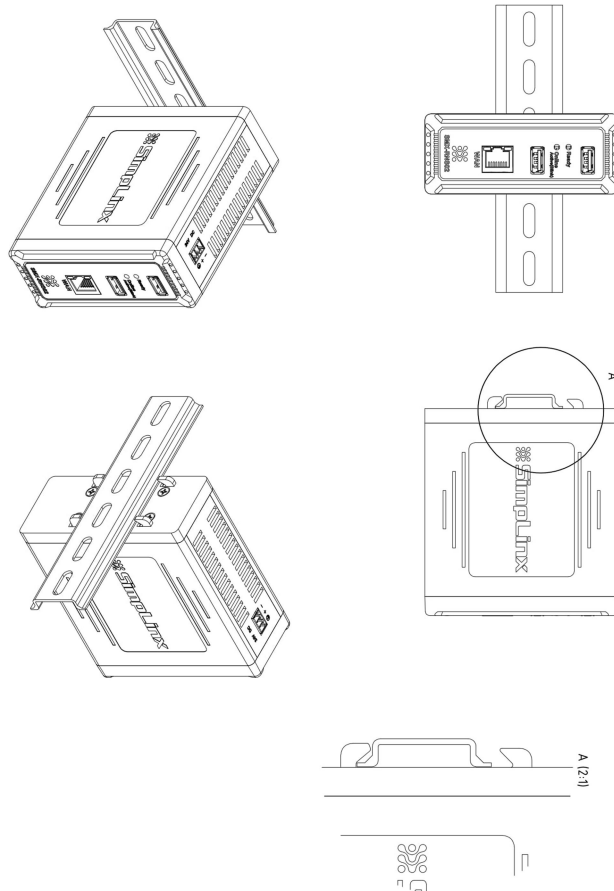
The SMX-GTW10 module can be mounted to DIN rail. It is recommended to be mounted vertically to increase the performance of the device and to provide space advantage.

3.1. Mounting

- ◆ Bring the top of the device to the top edge of the standard profile rail and place the device on the rail track.
- ◆ Push the device towards the standard profile rail. You will hear the device sitting in place with the click sound.

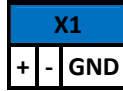
3.2. Removing

- ◆ With the help of a screwdriver, pull down the locking spring from the bottom of the device.
- ◆ Without removing the screwdriver from its position, pull the device towards you off the track line.



4. Electrical Connection

The SMX-GTW10 module has 1 terminal group. The terminal group is called X1. The X1 terminal group has 3 terminals. These are as follows respectively;



After you have completed the physical installation of your device, you can run your device by connecting the device (+), (-), and GND terminals to the appropriate terminals at the power supply output.

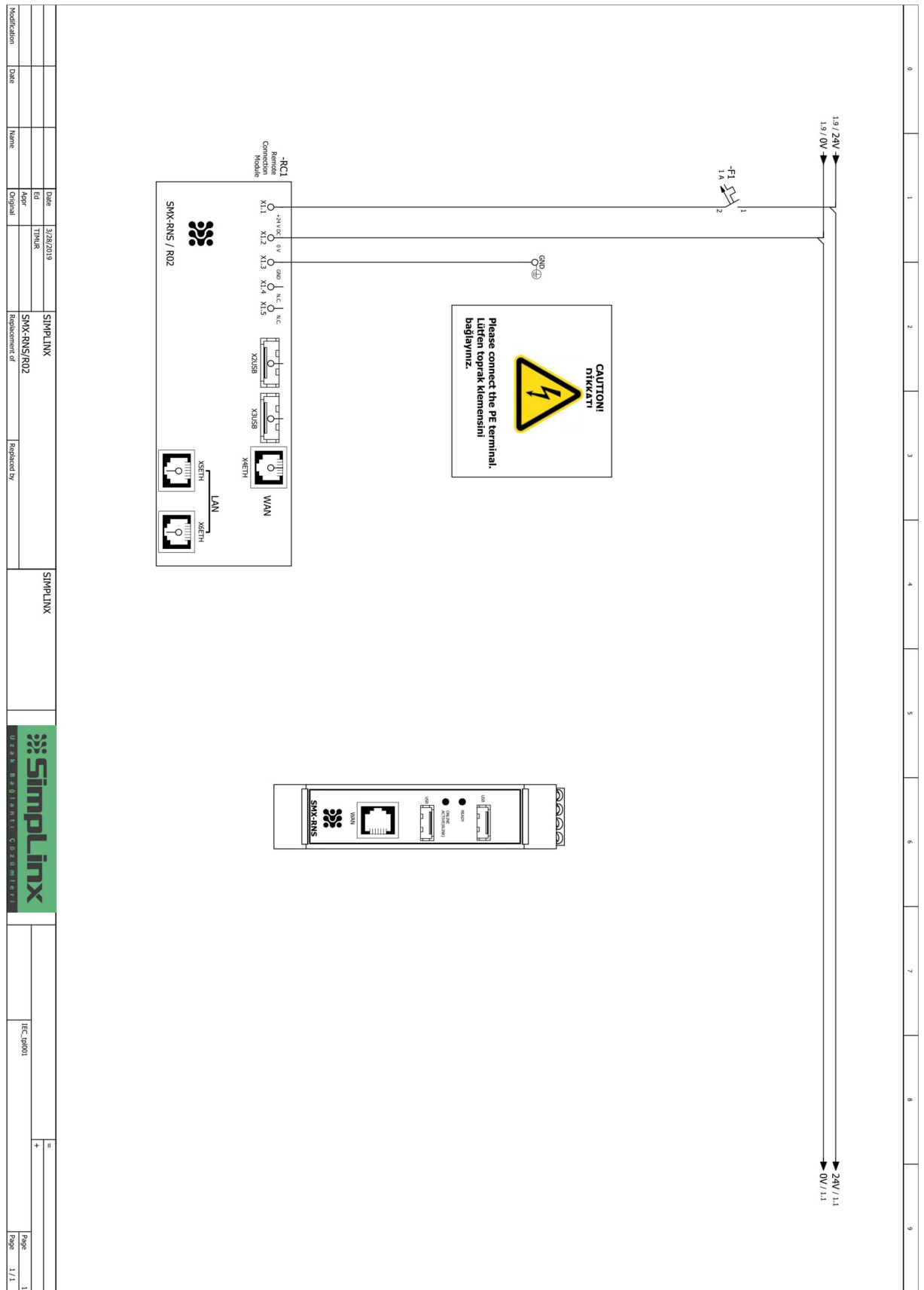


There are 2 USB connections on the SMX-GTW10. The USB connection requires (-) to be short circuited to GND by design. For this reason, GND and (-) on SMX-GTW10 are short circuited.



A faulty or incomplete connection may damage you, those around you, or your devices. See the relevant documents for detailed information and electrical drawings.

4.1. Schema



5. Device Connections

5.1. Ethernet Devices

To connect your Ethernet devices to the SMX-GTW10 module, you must set up an IP in the IP range that you have given to the SMX-GTW10 module.

✓ **Example**

If your SMX-GTW10 module is in the following settings

- IP: 192.168.168.254
- Subnet Mask: 255.255.255.0

In this case, you must provide an IP address for your devices in the range of [192.168.168.1 – 192.168.168.249] and [192.168.168.251 - 192.168.168.253]

After you adjust your field device's IP addresses, you can connect your devices to 2 Ethernet ports on the SMX-GTW10. You do not need to make any adjustments other than IP address.



A faulty or incomplete connection may damage you, those around you, or your devices.

5.2. Use of Ethernet Ports as a Switch

With the "KSZ8895" Microchip used in the SMX-GTW10 module, your Ethernet devices that you connect to module can communicate with each other.

✓ **Device 1**

- IP: 192.168.168.100

✓ **Device 2**

- IP: 192.168.168.101

✓ **SMX-GTW10**

- IP: 192.168.168.254

If your devices and module are set up as above and connections have been made (IP addresses are used as examples) these connections are possible;

- Device 1 to Device 2
- Device 2 to Device 1

Also If you connect to the SMX-GTW10 module by using Wi-Fi as AP than you can access to Device 1 and Device 2.

Switch Chipset Features

Chipset	KSZ8895
Macs	5
Interface	MII/RMII
VLAN Support	Yes (up to 128 Pieces)
Programmable Speed Limitation	Yes
Static Mac	Yes (Up to 32 Admissions)
RSTP Support	Yes
Maximum Packet Size	2000 Bytes
Advanced Features	<ul style="list-style-type: none"> ● VLAN IDENTITY Labeling/Sticker Removal Option by Port ● Add or Remove IEEE 802.1p/q Tags per Port Based on Input Port ● Percentage Controlled Broadcast Storm Protection (Global and Per Port) ● Queue Tag Mode ● 1.4Gbps High Performance Memory Bandwidth and Shared Memory-Based Switch Fabric with Completely Unblocked Configuration ● GMP v1/v2 Surveillance (IPv4) Support for Multi-ArcPacket Filtering ● IPv4 / IPv6 QoS Support ● Unknown Unicast/Multicast Address and Unknown VID Packet Filtering Support ● Self-Address Filtering ● T-push-free (Jitter-Free) Pre-Package Speed Rate Support

5.3. USB Devices

The SMX-GTW10 module has 2 USB slots. You can plug storage devices into, SMX-N1559 Wi-Fi module. You can increase your number of slots by using an intermediate device, such as a USB Hub.

USB	2.0
Type	A
Total Maximum Output Current	500 mA

For more information about the SMX-N1559 device, see the relevant documentation.



A faulty or incomplete connection may damage you, those around you, or your devices.



The total maximum output current of USB slots on the SMX-GTW10 Module is 500 mA.

6. Preparing SMX-GTW10

WARNING: Don't energize your device until you get to the relevant step.

6.1. Internet Connection Options

The Internet can be supplied in 2 different ways to the SMX-GTW10 device.

◆ WAN port

- ✓ Plug the ethernet cable with an Internet connection into your device's WAN port. DHCP or IP settings will be made in the next steps.

◆ Phone USB Connection

- ✓ Plug your iPhone or Android phone into your device's USB port with a charging/data cable.
- ✓ Turn on mobile access from phone settings.
- ✓ After energizing your device and the "Ready LED" is ON, you may need to turn the mobile access setting OFF and ON on your phone.

6.2. Device LEDs and Meanings

The front cover of the SMX-GTW10 module has 2 LEDs. These are, respectively from the top;

◆ Ready LED (Ready LED)

- ✓ **OFF:** It is OFF when the device is first energized.
- ✓ **ON:** When the device is booted and ready, this LED lights up and remains in this state.

◆ Online LED

- ✓ Not used in **SMX-GTW10** module.

6.3. Installation of SMX-N1559 USB Wi-Fi Module (Optional)

- ◆ Place and tighten the antenna if it is un-mounted.
- ◆ Plug the USB Wi-Fi module into an empty USB slot on the SMX-GTW10.
- ◆ Your SMX-N1559 module is ready for use

6.4. Ethernet Connection with PC (Service IP) (Optional)

There are three methods to access the device settings.

- ◆ Connection over Wi-Fi
- ◆ A physical connection from the service port with Ethernet Cable
- ◆ After a remote connection is made, by accessing the web interface

If you have a Wi-Fi module and want to make settings over Wi-Fi, you can skip this step.

- ◆ Connect one end of the Ethernet Cable to the SMX-GTW10 LAN port (one of the 2 ports at the bottom), and the other end to your PC's Ethernet port.
- ◆ Go to Ethernet Adapter settings on your PC
- ◆ Double-press on your adapter to go to the detail page
- ◆ Press the Properties button
- ◆ Double-press "Internet Protocol Version 4 (TCP/IPv4)" option
- ◆ Select "**Manual IP Adjustment**" from the page that opens and enter the following information
 - ✓ IP : 192.168.169.100
 - ✓ Subnet Mask: 255.255.255.0
- ◆ Close by confirming changes

6.5. Energizing your device

Turn on the power supply or adapter to which the SMX-GTW10 is connected. Make sure that your USB or Ethernet devices that you want to make a remote connection are also turned on.

- ◆ When given the first energy, the "**Ready LED**" will light up off. About 30 seconds later "**Ready LED**" will switch to ON position.
- ◆ If you want to use the IP option manually from WAN your device will connect to the internet after making your settings in the next section.



A faulty or incomplete connection may damage you, those around you, or your devices.

See the relevant documents for detailed information and electrical drawings.

6.6. Making Basic Settings

If the device settings will be accessed with the SMX-N1559 Wi-Fi module;

- ◆ View the Wi-Fi networks around you with the Network Icon at the Bottom Right on your PC.
- ◆ The SMX-GTW10 device will be broadcasting Wi-Fi with serial code.
- ◆ From the list, select the network in the format "**SGX-XXXXX-XXXXX**" that matches your device's serial number and press "**Connect**"
- ◆ Enter wifi password



Predefined Wi-Fi login password is "**simplinx**"

If you have a wired or Wi-Fi connection ready;

- ◆ Open your browser
- ◆ On the Address bar, enter " **http://192.168.169.254:3000**" and press ENTER
- ◆ The login screen will open for the Simplinx device settings.
- ◆ Enter your password and press ENTER



Predefined web login password is "**simplinx**"

- ◆ Enter the required internet settings on the "**WAN**" page under the "**Device Settings**" tab.
- ◆ Go to the "**LAN Settings**" page under the "**Device Settings**" tab.
 - ✓ In order to connect to your field devices, your Ethernet field devices and SMX-GTW10 device must be on the same IP network. Enter the settings correctly.
 - ✓ **Example 1 (Predefined)**
 - IP: 192.168.168.254
 - Subnet Mask: 255.255.255.0
 - In this case, you can use all IP addresses in the range of [192.168.168.1 - 192.168.168.249] and [192.168.168.251 - 192.168.168.253] for field devices.
 - ✓ **Example 2**
 - IP: 192.168.0.1
 - Subnet Mask: 255.255.255.0
 - In this case, you can use all IP addresses in the range [192.168.0.3 - 192.168.0.254] for your field devices.

7. Web Interface

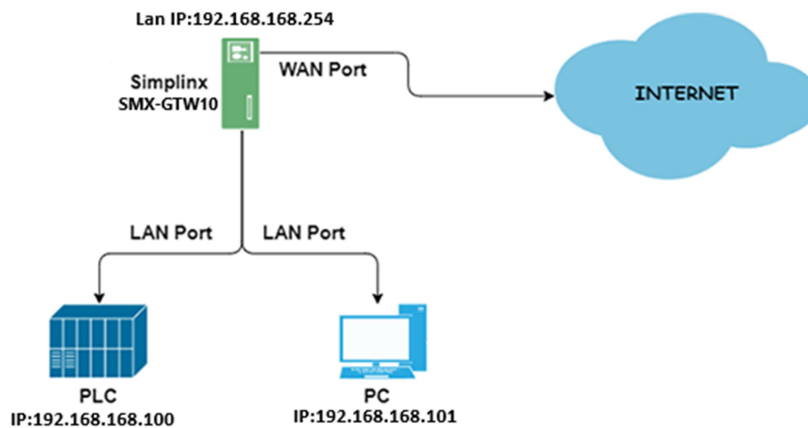
7.1. LAN Settings Page

On the LAN Settings page, you can define the IP address and network mask. The network mask value you have entered will determine the IP range of your devices which you will connect to your SMX-GTW10 module.

✓ **Example (Predefined)**

- IP: 192.168.168.254
- Subnet Mask: 255.255.255.0

In this case, you can assign all IP addresses in the range [192.168.168.1 – 192.168.168.249] and [192.168.168.251 - 192.168.168.253] for your field devices.



If you change the settings, you must restart the device for the new settings to take effect.



The IP address you will provide to your SMX-GTW10 Device must be IP addresses that are not used by other devices.

7.2. WAN Settings Page

There are two options for WAN connection;

- ◆ With DHCP, the device receives all configuration(Including IP address) (Recommended)
- ◆ If you turn off DHCP, you can provide IP, Network Mask, Gateway and DNS configurations manually.

If the network to which you want to connect the device over the WAN interface is not an internet, you can leave the Gateway and DNS values empty.



If you change these settings, you must restart the device for the new settings to take effect.

7.3. Wireless Settings Page

You can access Wireless Hotspot settings from this page.

For wireless Hotspot connection;

- ◆ With the Wireless Hotspot setting, you can enable your device to broadcast Wi-Fi. By checking the “Hotspot Active” option and entering your Hotspot Password you want to set, you can enable your device to broadcast Wi-Fi with its serial number.



If you change these settings, you must restart the device for the new settings to take effect.



The Hotspot SSID is the same as your device's serial number.

7.4. Reset Device Page

On the Reset Device page, there is a setting Reset Device Settings.

- ◆ **By using the Reset Device Settings** setting, you can reset your device settings to factory settings.



The Reset Device Settings will completely delete your device settings. This operation cannot be undone.



If you change these settings, you must restart the device for the new settings to take effect.

7.5. Import/Export Page

On the Import / Export page, you can export device settings or upload an existing settings file to your device.

You can download the device configuration file via the browser with the Export button.

There are 2 different options to import your settings:

◆ With USB Disk;

- Put the downloaded configuration file on a USB disk.
- Insert the USB disk with configuration file to any USB port of the device. The settings will be transferred automatically.
- When the process is completed in a few seconds, the device turns off and on and is ready for use with new settings.
- If your device does not turn off and on automatically, your settings are not loaded. Check the configuration file!



All settings on the device will be deleted and your new settings will be loaded. This action cannot be undone.

◆ With Web Interface;

- Click the Browse button from the Import Settings section.
- Select the configuration file on the screen that opens.
- Click the Import button.
- Restart the device for the new settings to take effect.



If you change these settings, you must restart the device for the new settings to take effect.



All settings on the device will be deleted and your new settings will be loaded. This action cannot be undone.

7.6. Change Password Page

On the Change Password page, you can change the password you use to login your device's configuration pages.



If you change these settings, you must restart the device for the new settings to take effect.

7.7. Status Page

You can view the following information on the status page and you can reboot the device;

- Serial Number of Your Device
- OS Version
- Up Time (in Minutes)
- Date and Time information of your device
- IP, MASK and MAC information of the LAN interface
- If the WAN is connected the IP, MASK and MAC information, if it is not connected, the MAC information
- If the WLAN Hotspot is connected and broadcasting, the IP, MASK and MAC information, if it is not broadcast, the MAC information

7.8. IP Map Table Page

On the virtual IP table page, you can also make the LAN devices available in a virtual IP that you create in the WAN interface. Thus, you can access your field devices using the routed IP. You can create a new record with the "Add New Record" button. The information required here is defined as follows;

- **"Enable"**: To determine whether the record you are creating is active.
- **"Name"**: The name you will give to the record you will create.
- **"WAN IP"**: The virtual IP address of your device in the LAN interface that you want to appear on the WAN interface side.
- **"LAN IP"**: The IP address of your device on the LAN interface.
- **"Allowed IP's"**: The IP or IP range that can reach this virtual IP you created. The following entries are accepted by the system;

✓ **0/0** : Allow All



Caution: Use this option with caution. When you use this option, all devices using this device as a gateway will have access to this resource.

✓ **192.168.0.100**: Allow Only This IP (You can use multiple address separated by comma)

✓ **192.168.0.100/24**: Allow Subnet

✓ **192.168.0.100-192.168.0.100**: Allow IP Range



✓ Example

- Name: Demo
- WAN IP: 192.168.20.2
- LAN IP: 192.168.10.1
- Allowed IP's: 192.168.20.3

In this case, your field device with 192.168.10.1 IP address can now reach through 192.168.20.2 IP address. Since there is a limitation on "Allowed IP's", only 192.168.20.3 IP address is authorized to use this virtual IP.



After adding a new record, in order for the new records to be effective, you must first save the records with the "Save" button, then make them available with the "Apply All Changes" button.

7.9. Port Map Table Page

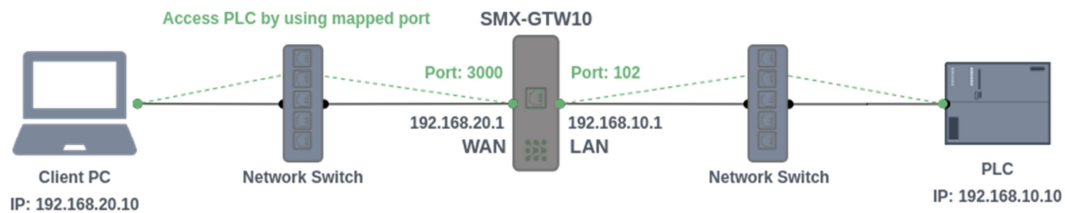
You can map any port of the LAN devices to any port on the SMX-GTW10 device on the virtual PORT table page. Thus, you can access your field devices using the forwarded port. You can create a new record with the "Add New Record" button. The information required here is defined as follows;

- **"Enable"**: To determine whether the record you are creating is active.
- **"Name"**: The name you will give to the record you will create.
- **"WAN Port"**: Virtual Port to be created on the WAN IP of the device.
- **"LAN IP"**: The IP address of your device on the LAN interface.
- **"LAN Port"**: The Port address of your device on the LAN interface.
- **"Protocol"**: The protocol you want to use.
 - ✓ ["TCP", "UDP", "ALL"] options are used as the protocol.
- **"Allowed IP's"**: The IP or IP range that can reach this virtual Port you created. The following entries are accepted by the system;
 - ✓ **0/0** : Allow All



Caution: Use this option with caution. When you use this option, all devices using this device as a gateway will have access to this resource.

- ✓ **192.168.0.100:** Allow Only This IP (You can use multiple address separated by comma)
- ✓ **192.168.0.100/24:** Allow Subnet
- ✓ **192.168.0.100-192.168.0.100:** Allow IP Range



✓ Example

- Name: Demo
- WAN Port: 3000
- LAN IP: 192.168.10.1
- LAN Port: 102
- Protocol: TCP
- Allowed IP's: 192.168.20.3

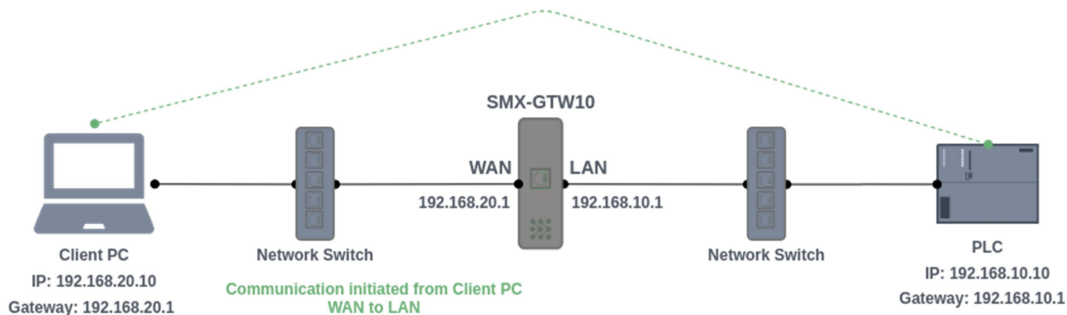
In this case, the field device with an IP address of 192.168.10.1 can now access port number 102 via TCP protocol over port 3000 of the 192.168.20.1 IP address. Since there is a limitation on "Allowed IP's", only 192.168.20.3 IP address is authorized to use this virtual Port.



After adding a new record, in order for the new records to be effective, you must first save the records with the "Save" button, then make them available with the "Apply All Changes" button.

7.10. Access List Page

You can add WAN-> LAN and LAN-> WAN passes on the access list page. By adding these switches, you can access LAN devices over WAN or WAN devices over LAN even though they are not on the same network.



For WAN-> LAN access, you can create a new record by clicking the "Add New Record" button. The information required here is defined as follows;

- **"WAN IP"**: WAN IP address to be granted access.
- **"LAN IP"**: LAN IP address to access.
- **"Protocol"**: The protocol you want to use.
 - ✓ ["TCP", "UDP", "ALL"] options are used as the protocol.

For WAN-> LAN access, you need to add the SMX-GTW10 device to the device you will use on the WAN side as a gateway.

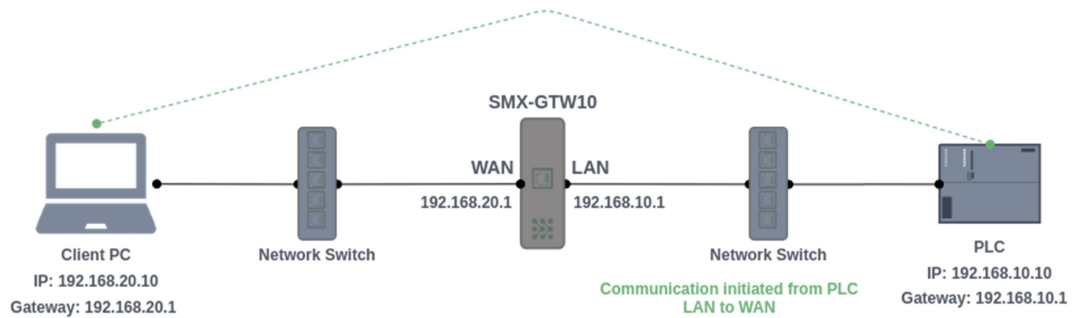
✓ **Example**

- WAN IP: 192.168.20.10
- LAN IP: 192.168.10.10
- Protocol: TCP

In this case, you can directly access the field device with 192.168.10.10 IP address from your device with 192.168.20.10 IP address via TCP protocol.



After adding a new record, in order for the new records to be effective, you must first save the records with the "Save" button, then make them available with the "Apply All Changes" button.



For LAN-> WAN access, you can create a new record by clicking the "Add New Record" button. The information required here is defined as follows;

- "LAN IP": LAN IP address to be granted access.
- "WAN IP": WAN IP address to access.
- "Protocol": The protocol you want to use.
 - ✓ ["TCP", "UDP", "ALL"] options are used as the protocol.

✓ **Example**

- LAN IP: 192.168.10.10
- WAN IP: 192.168.20.10
- Protocol: TCP

In this case, you can directly access the device with IP address 192.168.20.10 from your field device with 192.168.10.10 IP address via TCP protocol.



After adding a new record, in order for the new records to be effective, you must first save the records with the "Save" button, then make them available with the "Apply All Changes" button.

7.11. Route Table Page

On the routing table page, you can forward any IP or a range of IPs to WAN or LAN interfaces. You can create a new record with the "Add New Record" button. The information required here is defined as follows;

- **“Enable”**: To determine whether the record you are creating is active.
- **“IP Range”**: IP or IP range to be routed.
 - ✓ **192.168.0.100**: Route Single IP.
 - ✓ **192.168.0.100/24**: Route Subnet.
- **“Interface”**: Interface to be routed to. These can be ["LAN", "WAN"].
- **“Gateway”**: If the IP to be routed uses a Gateway, it should be defined here.

7.12. Firewall Monitor Page

You can see packets blocked by the firewall on the firewall monitoring page. Up to 100 blocked packet information is shown. This information is not recorded. The information in this table is defined as follows;

- **“Date”**: This shows the date the record was created.
- **“Type”**: This shows the type of package that is blocked. These can be ["Input", "Forward"].
- **“In”**: This shows the source interface of the package. These can be ["LAN", "WAN"].
- **“Out”**: This shows the destination interface of the package. These can be ["LAN", "WAN"].
- **“Protocol”**: This shows the protocol of the packet.
- **“Source”**: This shows the source IP address of the packet.
- **“Destination”**: This shows the source IP address of the packet.
- **“Source MAC”**: This shows the source MAC address of the packet.
- **“Destination MAC”**: This shows the destination MAC address of the packet.
- **“Source Port”**: This shows the source Port number of the packet.
- **“Destination Port”**: This shows the destination Port number of the packet.

8. Accessories

8.1. Installation of the SMX-N1599 USB WiFi Module

- ◆ Place and tighten the antenna if it is un-mounted.
- ◆ Plug the USB Wi-Fi module into an empty USB slot of the SMX-GTW10.
- ◆ Your SMX-N1559 module is ready for use.

See the relevant documentation for detailed information.



A faulty or incomplete connection may damage you, those around you, or your devices.



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man-en-smx-gtw10.docx
Version 1.0

SimpLinx Elektronik Ltd.

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