



## Installation Guide

# Allegro Network Multimeter 1410, 3410, 5410, and 7410

## Default Settings

LAN:	DHCP client	Wi-Fi WPA2 key:	Allegro-MM
Wi-Fi SSID:	allegro-mm-(see top label)	Web interface username:	admin
Wi-Fi URL:	<a href="https://allegro/">https://allegro/</a> or <a href="https://192.168.4.1">https://192.168.4.1</a>	Web interface password:	allegro

## Overview

The guide contains the following sections:

1. Package Contents
2. Hardware Deployment
3. Device Start
4. Management Interface Configuration
5. Configuration Reset
6. Firmware Update Notification
7. Factory Reset
8. Manual

## 1. Package Contents

The Allegro Network Multimeter package contains the following items:

- |  |                               |
|--|-------------------------------|
| 1 x Allegro Network Multimeter 1410, 3410, 5410, or 7410 incl. redundant power supply unit | 2 x Power cable               |
| 1 x Wi-Fi Management USB adapter (already pre-installed)                                   | 1 x Rack tracks               |
| 1 x Wi-Fi 6e capture USB adapter   | 1 x Screw set for rack tracks |
|  | 12 x 3.5" HDD mounting frames |
|  | 1 x Installation guide        |



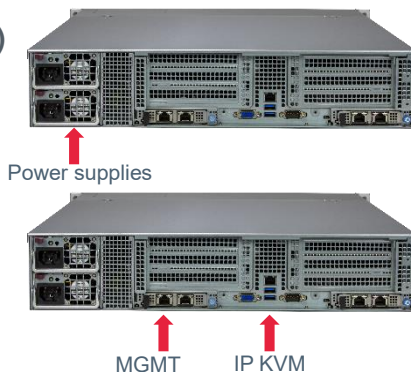
## 2. Hardware Deployment

### 2.1 Management Access (Control Plane)

Step 1: Connect power supply

Step 2: Connect management LAN

Alternative: Insert Wi-Fi Management adapter to any of the USB ports



By default, for LAN, the device will query an IP address via DHCP dynamically from your network. For Wi-Fi, by default the device will open an Access Point so smartphones, tablets, or laptops can connect to the Access Point and access the web interface.

In case Wi-Fi access is not possible and no DHCP server exists, a temporary IP address can be assigned by using an USB keyboard and pressing 'Shift+S'. The LAN interface IP is temporarily set to 192.168.0.1. If this is already taken, another address in the range from 192.168.0.1 to 192.168.0.10 will be used.

You can check the assigned IP address on a connected monitor.

### 2.2 Network Measurement Installation (Data Plane)

The Allegro x410 Series, consisting of the Allegro 1410, 3410, 5410, and 7410, analyzes all data traffic transmitted through all network interfaces of the built-in measurement cards. The Allegro Network Multimeter is equipped with two SFP+ ports and can be extended by up to 7 network cards with 2 or 4 ports each. The appliance can be used in Sink or Bridge mode.

#### 2.2.1 Bridge Mode

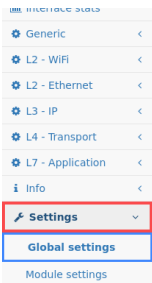
Each 2 adjacent ports of a network card form a Layer 2 bridge, which forwards all incoming data traffic to the corresponding interface.

**WARNING:** Bridge mode is a software-only TAP and will not work in case of a device error or after power off.

#### 2.2.2 Sink Mode

Received packets will be processed but not forwarded. Connect the Allegro Network Multimeter to a hardware TAP by connecting both TAP interfaces to the device. Alternatively, a switch or router mirror port can be connected to any of the device network interfaces.

Default configuration is bridge mode, thus running as an inline device. The link mode can be configured via the web interface (menu 'Settings' → 'Global settings').



## Global settings

Generic settings
IPFIX settings
Time settings
Email notification
Memory extension
Expert settings

Packet processing mode

Mode:
Bridge mode

Available modes:

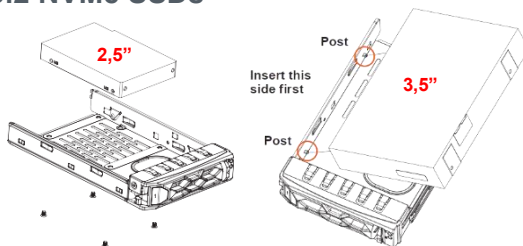
- Bridge mode: pairwise receive and transmit packets for operation in-line
- Sink mode: only receive packets on all interfaces, for operation behind a network tap, or on a mirror port of a switch
- Mixed bridge/sink mode: sink mode or bridge mode can be selected for each interface pair in the interface statistics

### 2.2.3 WiFi Capturing

To perform WiFi measurements, the WiFi Capture USB adapter needs to be connected to any USB 3.0 port on the back of the Allegro Network Multimeter. Additional adapters can be connected via USB 3.0 hub.

## 2.3 Installing Your Own HDDs or U.2 NVMe SSDs

The Allegro x410 series can be used with up to 12 2.5"/3.5" NVMe or SATA hard drives, depending on the configuration. These must be installed in the drive carriers.



To install a 3.5" drive, tilt the drive into the carrier, so that the two carrier posts fit into two drive mounting holes and the two spring clasps hold the two drive mounting holes on the opposite side. A 2.5" drive needs to be placed directly in the tray so that the four dedicated holes align with the drive mounting holes. Use four screws to mount the drive in the carrier.

## 3 Device Start

1. Press the power button at the front of the device. The device will boot within five minutes.
2. Connect to the management interface:
  1. LAN access: The device gets its IP from the DHCP server in your network. Check the console output on an attached monitor or ask the server administrator for the IP of the device, then enter the IP into the URL bar of your web browser.
  2. Wi-Fi access: The device sets up an access point. See the Default Settings section for the SSID and WPA2 password to configure your Wi-Fi connection and the Wi-Fi URL you need to enter in the URL bar of your web browser.
3. Web interface authentication: See section Default Settings for Username and Password.

## 4 Management Interface Configuration

You can configure the management interfaces by accessing the web interface at 'Settings' → 'Management interface settings'. The available options are described in the online manual which can be accessed via the web interface.

## 5 Configuration Reset

The 'Configuration reset' restores the configuration to the default settings:

1. Web interface: Go to menu 'Settings' → 'Administration' and click on 'Reset system configuration'. All settings including the network configuration will be reset to factory default.
2. Boot menu: Follow the instructions in section 7. Factory Reset.

## 6 Firmware Update Notification

### Update information via email

With each release, Allegro Packets will send you an email with release notes and a link to download the update. If you want to be added to this mailing list, please send an email with your serial number ('Info' → 'System Info' → 'System ID') to [support@allegro-packets.com](mailto:support@allegro-packets.com) and the subject 'Release'.

### Using the Allegro web interface

Start your Allegro Network Multimeter and click 'Settings' in the menu and then 'Firmware updates'. Click on 'Check for new firmware' and the Allegro Network Multimeter will tell you if a new version is available for download. If so, you can choose to download it directly to the device. In addition, this page provides an overview of all versions available to you. To install the new version, click on 'Activate'.

## 7 Factory Reset

The 'Factory reset' will clear the entire system installation and restore the firmware to the version that was originally shipped with the Allegro Network Multimeter.

1. Power off the Allegro 1410, 3410, 5410, or 7410.
2. Remove all network cables from the device.
3. Connect a display to the VGA port.
4. Connect a USB keyboard to any of the four USB ports.
5. Power on the device by pressing the power button.
6. After initialization a boot menu appears. Select 'Factory reset' and press Enter. Or select 'Configuration reset' to reset the configuration settings only while keeping the current firmware installation.
7. The device will boot, reset everything to factory settings, and reboot again.
8. The device is now reset to factory settings.
9. Disconnect the display and keyboard.

## 8 Manual

The device manual can be accessed from the web interface. Each web section contains a button to access context-specific documentation. The complete manual can be opened by clicking on the 'Manual' link in the menu and then choosing the Offline manual in the appliance or the Online manual at:

<https://allegro-packets.com/wiki>

**Getting Help:** Please send an email to [support@allegro-packets.com](mailto:support@allegro-packets.com) or call +49 341 59 16 43 54.