Allegro Packets
Network Multimeter

Allegro Network Multimeter
x210 Series
1210 / 3210 / 5210

Analysis and Troubleshooting Tool for Network Administrators

- ✔ High analysis and capture rates in a portable device

- ✔ Up to 106.4 TB SSD with up to 120 Gbit/s recording

- ✔ Analysis and correlation of all metadata from L2 to L7

- ✔ Real-time live data and back-in-time analysis

- ✔ 100 % reliable full capture-to-disk solution

- ✔ Selective and retrospective pcap extraction

- ✔ Development and support in Germany

Designed for High-Performance and Portable Network Analysis Needs

The x210 series, consisting of the Allegro 1210, 3210 and 5210 models, is optimized for the analysis, monitoring, verification and troubleshooting of network connections spanning from 1 G to 400 G. These systems come with a portable carrying case and are designed for very high (real-time) analysis and packet capture data rates, making them ideal for use in data centers, core networks and robust ISP infrastructures.

### Real-time Visibility and In-depth Statistics for all Connections

Empowered by Allegro Packets' intuitive web-interface, the x210 series provides granular visibility and selective packet filtering across L2 to L7. Analysis can be performed in real-time and back-in-time for a granular view of the network. The GUI offers several comprehensive overviews as well as detailed statistics on network quality, IPs, MACs, VLANs, Multicast, QoS, TCP, TLS, RTP, Profinet, VoIP, HTTP and many more. With quick and easy set-up, the Allegro Network Multimeter is ready for immediate use to find the root cause of a problem in your network.

Traffic Recorder and Back-in-Time Playback

Featuring back-in-time capability, the Allegro x210 series facilitates precise selection and extraction of recorded data. Such pre-filtered pcap data can be effortlessly extracted with a simple click. Furthermore, selected data can be individually reimported into the network, enabling the recreation and replay of specific events or security incidents, e.g., with IDS / IPS systems.

### Expandable Ethernet Ports, In-Memory Database and Ring Buffer

Designed to adapt to your network's unique needs, the x210 series can be customized for additional capture port connections and storage options. Each device comes equipped with 4 x SFP+ ports, which can be upgraded to either 4 x SFP28 or 2 x QSFP28 ports. The 2 extension card slots allow the number of ports to be increased by 8, with options ranging from 1 to 400 GbE Cu / SFP+ / SFP28 / QSFP / QSFP28 / OSFP ports. The In-Memory database for processing historical data starts at 32 GB in the Allegro 1210 and 96 GB in the Allegro 3210 and 5210. This can can be extended up to 576 GB. The ring buffer, crucial for recording network traffic across multiple links, may be dynamically expanded by up to 1 x M.2 and up to 4 x 2.5" U.2 NVMe drives.
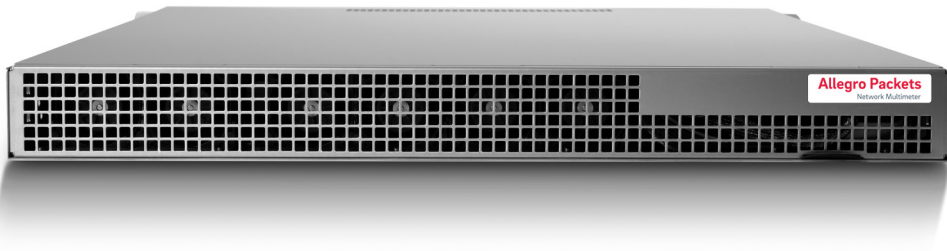
| Table 1 | Allegro 1210 / 3210 / 5210 Specifications |

Feature	Allegro 1210 / 3210 / 5210
Rack Units	1U (short depth)
Size (W / H / D) in mm	436.88 x 44.5 x 429.3
Weight	~ 6-8 kg
Internal database memory	1210: default 32 GB 3210 and 5210: default 96 GB expandable up to 576 GB on all devices
Built-in packet ring buffer storage	optional from 2 TB up to 106.4 TB fits up to 1 x M.2 and 4 x 2.5" SSDs (internally mounted)
Built-in capture ports[1]	4 x SFP+ (upgradable to 4 x SFP28 or 2 x QSFP28) 1 x WiFi 6e USB adapter[2] 4 x USB3
Capture port extension options[3]	2 extension slots
Management ports	2 x 10G Base-T 1 x WiFi 802.11n via USB adapter 1 x 1000Base-T IP KVM remote management

Performance	A1210	A3210	A5210
Max. capture rate (capture only)[4] depending on installed SSD[5]	30 Gbit/s	60 Gbit/s	120 Gbit/s
Average throughput[4] (full decode)	12 Gbit/s	30 Gbit/s	60 Gbit/s
Average packets per second[4] (capture / full decode)	7.5 / 3 Mpps	15 / 6 Mpps	25 / 12 Mpps
New connections per second[4]	40,000	80,000	160,000
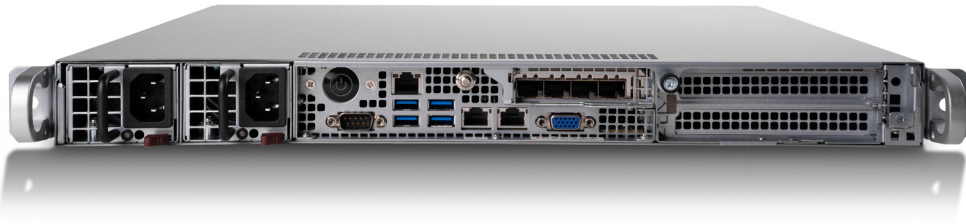
Max. parallel connections[4]	at least 4 million simultaneously open connections
Jumbo frames	at least 9,000 bytes[3]
Max. power consumption	800W (100-240 Vac)
AC 100-240V support	yes, standard
DC 48V support	yes, available as option
Redundant power supply	not included, available as option
Rack kit and packaging	included, portable soft-shell carrying case
Airflow	airflow exhausts back-to-front, can be reversed at ports front-to-back by booking Ax210-FANREV
Operating temperature and humidity	0° C to 40° C (32° F to 104° F) 8 % to 90 % (non-condensing)
Non-operating temperature and humidity	-40° C to 70° C (-40° F to 158° F) 5 % to 95 % (non-condensing)
Warranty support	1 year included, extendable as option

Table 2   **Memory Extension Options**

If you need to view more historical data, you can upgrade the In-Memory database of the Allegro Network Multimeter. The base version of the 1210 already contains 32 GB of memory, while the 3210 and 5210 have 96 GB of memory included default. This can be expanded up to 576 GB.

Order ID	Product Description
Ax210-96GB	Memory extension upgrade to 96 GB for A1210
Ax210-192GB	Memory extension upgrade to 192 GB
Ax210-384GB	Memory extension upgrade to 384 GB
Ax210-576GB	Memory extension upgrade to 576 GB

	Table 3	Machine Configuration Options

Several options are available for you to customize the x210 series base device to best fit your needs. These are outlined below. For selecting capture port extension options, review the Network Extension Options datasheet.

Order ID	Product Description
Ax210-SFP28	upgrades standard 4 x SFP+ (1/10 G) monitoring ports to 4 x SFP28 (1/10/25 G), which include configurable HW timestamping with 10 ns relative accuracy
Ax210-QSFP28	upgrades standard 4 x SFP+ (1/10 G) monitoring ports to 2 x QSFP28 (100 G) to support 100 G traffic in total; includes configurable HW timestamping with 10 ns relative accuracy; not intended for more than 100 G traffic peak load on both QSFP28 ports
Ax210-RPS	adds redundant 800W power supply
Ax210-PSDC48V	adds 600W 48V DC power supply; can be booked twice, but does not replace the 800W standard power supply

	Table 4	Options for Internal Storage Extension

The internal storage acts as a packet ring buffer for the entire link or its selected traffic. This allows the extraction of historical packets. The x210 series appliances fit up to 1 x M.2 and up to 4 x U.2 SSDs. Due to complexity of system configuration, each device is built to order, thus internal cabling is specific to each order.

Order ID	Product Description
Ax210-2TBSSD	2 TB M.2 SSD, up to 10 Gbit/s Full Packet Capturing, guarantee for 3,600 TB written data
Ax210-4TBSSD	4 TB M.2 SSD, up to 10 Gbit/s Full Packet Capturing, guarantee for 5,100 TB written data
Ax210-6.4TBSSD	6.4 TB U.2 SSD, up to 40 Gbit/s Full Packet Capturing, guarantee for 37,300 TB written data
Ax210-12.8TBSSD	12.8 TB U.2 SSD, up to 40 Gbit/s Full Packet Capturing, guarantee for 74,700 TB written data
Ax210-25.6TBSSD	25.6 TB U.2 SSD, up to 40 Gbit/s Full Packet Capturing, guarantee for 149,400 TB written data
Ax210-8TBSSD	8 TB 2.5" SATA SSD, sustained 1 Gbit/s Full Packet Capturing (up to 4 Gbit/s for ~150 seconds), guarantee for 2,800 TB written data

[1] Base ports included. Can be extended with extension slots.
[2] Up to 16 WiFi adapters can be added with USB hub.
[3] Reference Port Extensions Datasheet for the latest options and specifications.
[4] Real-world datacenter throughput scenario.
[5] Max. capture rate is subject to whichever is lower of the following: appliance processing speed or the installed SSDs' capture rate (# of installed SSDs x capture speed of SSD).