



Allegro Network Multimeter x510 Series

1510 / 3510 / 5510 / 7510

Datasheet



Analysis and Troubleshooting Tool for Network Administrators

- ✓ High analysis and capture rates (10/40/100/200 Gbit/s)
- ✓ Up to 678 TB packet ring buffer with up to 200 Gbit/s recording
- ✓ Analyzes and correlates 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

Extent of Application: Enterprise Core Networks, Data Centers, ISP Networks

The x510 series, consisting of the Allegro 1510, 3510, 5510 and 7510 models, is optimized for the analysis, monitoring, verification and troubleshooting of network connections spanning from 1 G to 200 G. These systems are designed for very high (real-time) analysis and packet capture data rates, making them ideal for use in large data centers, core networks and robust ISP infrastructures.

Real-time Visibility and Statistics for all Connections

Empowered by Allegro Packets' intuitive web-interface, the x510 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 the network.

Traffic Recorder and Back-in-Time Playback

Featuring back-in-time capability, the Allegro x510 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 x510 series can be customized for additional capture port connections and storage options. Each device features 4 extension slots which can be used to increase the number of ports to 16, with options ranging from 1 to 200 Gbe Cu/SFP+/QSFP ports. For processing historical data using the In-Memory database, the base version starts with 192 GB memory and can be expanded up to 3 TB. The ring buffer, crucial for recording network traffic across multiple links, may be dynamically expanded by up to 36 x 3.5" SATA/U.2. NVMe



Allegro 1510 / 3510 / 5510 / 7510 Series Specifications

Feature	Allegro 1510 / 3510 / 5510 / 7510
Rack units	4
Size (W/H/D) in mm	437 x 178 x 699
Weight	40 — 80 kg
Packaging	Server box
Internal database memory	Default Memory Size: 192 GB Expandable up to 3072 GB
Built-in packet ring buffer storage	configurable with external HDD/SSDs (memory limited only by max. number of HDD/SSDs x largest size available)
HDD / SSD extension slots	36 x 3.5" SATA3 /SAS3 slots Optional 4 x with U.2. support
Capture ports	No default extension ports 1 x WiFi 6e USB adapter 4 x USB3
Capture port extension options ¹	4 regular extension slots ²
Management ports	1 x 1G / 10GBase-T 1 x 1000Base-T IP KVM remote management 1 x WiFi 802.11n via USB adapter Option for 1 x 40/100G management via QSFP28

Performance	A1510	A3510	A5510	A7510
Max. capture rate (capture only) ³ depending on installed SSD	40 Gbit/s	80 Gbit/s	160 Gbit/s	200 Gbit/s ⁴
Average throughput (full decode) ³	20 Gbit/s	40 Gbit/s	80 Gbit/s	120 Gbit/s
Average packets per second ³ (capture / full decode)	10/4 Mpps	15/7 Mpps	30/15 Mpps	60/30 Mpps

¹ Reference Port Extensions Datasheet for the latest options and specifications

² Limitation: max. 3 x high speed extension cards total (100 G and above); max. 2 quad-port cards

³ Real-world datacenter throughput scenario

⁴ Limited by 4 x SSDs



Max. parallel connections	4 million simultaneously open connections
Jumbo frames	at least 9,000 Bytes ¹
Max. power consumption	1000 W (100 – 127 Vac), 1200 W (200 – 240 Vac)
AC 100-240V (50/60 Hz) support	Yes
Redundant power supply	Yes
Rack kit	Included
Airflow	Front to rear
Operating temperature and humidity	+10 °C to +35 °C (+50 °F to +95 °F) 8% to 90% (non-condensing)
Non-operating temperature and humidity	-40 °C to +60 °C (-40 °F to +140 °F) 5% to 95% (non-condensing)
Warranty Support	1 year included, extendable as option

Memory Expansion Options

If you need to view more historical data, you can upgrade the In-Memory database of the Allegro Network Multimeter. The default memory size is 192 GB of memory. This can be expanded up to 3,072 GB.

Order ID	Product Description
Ax510-384GB	Memory extension 192 to 384 GB
Ax510-576GB	Memory extension 192 to 576 GB
Ax510-768GB	Memory extension 192 to 768 GB
Ax510-1152GB	Memory extension 192 to 1,152 GB
Ax510-1536GB	Memory extension 192 to 1,536 GB
Ax410-3072GB	Memory extension 192 to 3,072 GB

Machine Configuration Option

The x510 series can be customized to add NVME slots. The base option has none, but 4 HDD slots can be converted for NVME.

Order ID	Product Description
Ax510-4xNVME	Extends backplane and internal cabling with additional U.2. support on 4 x 3.5" HDD slots, requires 2 extension slots



Options for Internal Storage Expansion

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 HDD slots are open, i.e., your own HDDs, even of different capacities, can be installed.

Order ID	Product Description
Ax510-8TBSSD	8 TB SATA SSD, full packet capturing up to 1 Gbit/s (up to 4 Gbit/s for ~150 seconds), limited warranty 2,800 TBW
Ax510-10TBHDD	10 TB SATA HDD, full packet capturing up to 1.2 Gbit/s
Ax510-16TBHDD	16 TB SATA HDD, full packet capturing up to 1.2 Gbit/s
available on request	1 – 22 TB SATA HDD, on project basis, up to 1.2 Gbit/s
Ax510-18TBHDD	18 TB SATA HDD, high-speed dual-arm SATA HDD, up to 2 Gbit/s full packet capturing
Ax510-2TBSSD	2 TB U.2 SSD, full packet capturing up to 10 Gbit/s, limited warranty for 3,600 TBW
Ax510-6.4TBSSD	6.4 TB U.2 SSD, full packet capturing up to 40 Gbit/s, limited warranty 35,000 TBW
Ax510-12.8TBSSD	12.8 TB U.2 SSD, full packet capturing up to 40 Gbit/s, limited warranty 70,000 TBW
Ax510-25.6TBSSD	25.6 TB U.2 SSD, full packet capturing up to 40 Gbit/s, limited warranty 140,000 TBW

Warranty Options

All warranty and service extensions include hardware warranty and all software updates. The first year is always included in the purchase price.

Order ID ⁵	Product Description
Ax510-IGS2 ⁶	Discounted extension of initial guarantee and service by 2 years (3 years total from initial purchase)
Ax510-IGS4 ⁶	Discounted extension of initial guarantee and service by 4 years (5 years total from initial purchase)
Ax510-GS1	Guarantee and service extension for 1 year
Ax510-GS3	Guarantee and service extension for 3 years
Ax510-GS5	Guarantee and service extension for 5 years

⁵ Order ID uses the specific device ID. For example, to extend the initial service agreement by 2 years for an Allegro 5510, the order ID would be A5510-IGS2.

⁶ Only available within 30 days after initial purchase.