

Allegro Network Multimeter 1500 / 3500 / 5500

Datasheet



Analysis and Debugging Tool for Network Administrators

- ✓ High analysis and capture rates (10 / 40 / 100 / 200 GBit/s)
- ✓ Up to 576 Terabytes of storage (ideal for data centres and core networks)
- ✓ Expandable by JBODs to multiple Petabytes of storage
- ✓ Analyzes and correlates all metadata from L2-7
- ✓ 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 Centres, ISP Networks

The x500 Series, consisting of Allegro 1500, 3500 and 5500, is optimized for the analysis, monitoring, verification and troubleshooting of network connections from 1 G to 200 G. The Allegro x500 is designed for very high analysis and capture rates and storage capacity. This provides retroactive verification of up to 800,000 IP addresses and up to 256 million connections. The Allegro Network Multimeter Series is ideal for use in large data centres, core networks and ISP infrastructures.

Real-time Visibility and Statistics for all Connections

The Allegro x500 appliances provide granular visibility and selective packet filtering across L2 to L7 in real-time and history mode. The web interface offers comprehensive overviews as well as detailed statistics for network quality, IPs, MACs, VLANs, Multicast, QoS, TCP, TLS, RTP, Profinet, VoIP and many more.

Traffic Recorder and Back-in-Time Playback

The Allegro x500 features back-in-time capability, that enables precise selection and extraction of recorded information. Such pre-filtered pcap data can be easily extracted with a simple click. In addition, selected data can be individually reimported into the network, to recreate specific events or security incidents, e.g. with IDS/IPS systems.

Expandable Ethernet Ports, In-memory Database and Ring Buffer

The x500 Series has multiple extensions for additional connections and storage options. The dual QSFP28 option allows up to 100 GBit/s of real-time traffic to be checked in 100 GBit/s environments. Alternatively, the number of ports can be increased to 28, selectable from 1 / 2.5 / 5 / 10 / 25 / 40 / 100 or 200 GbE Cu/SFP+ / QSFP / QSFP56 ports. The memory size for processing historical data in the In-memory database is 64 GB in the base version and can be expanded up to 4,096 GB. The ring buffer, for recording network traffic on multiple links, may be dynamically expanded up to 576 TB. Additional JBODs allow to expand the ring buffer to multiple Petabytes.



Table 1 Allegro 1500 / 3500 / 5500 Series Specifications

Feature	Allegro 1500 / 3500 / 5500 (revision 3)
Rack units	4
Size (W/H/D) in mm	437 x 178 x 699
Weight	40 – 80 kg
Power supply	Redundant 1200W AC power supply unit
Optional disk expansion	36 open 3.5" HDD slots for SATA3 / SAS3 Optional up to 4 x U.2 SSDs with U.2 extension kit (Order-ID 182)
Airflow	Front-to-back
Packaging	Server box
Internal database memory	Base unit: 64 GB ECC, Extension: up to 4 TB
Management port	1 x 1 G / 10GBase-T 1 x 1000Base-T IP KVM remote management
Monitor ports	Up to 7 expansion slots, per extension: <ul style="list-style-type: none"> · dual 200 G (QSFP56) · dual 40 G / 100 G (QSFP28) · dual 25 G (SFP28) · dual/quad 10 G (SFP+) · dual 1/2.5/5/10GBase-T (Cu) · quad 1000Base-T (Cu) · quad PoE 802.3 at 25.5 W 1000Base-T (Cu)

Performance (full analytics / capture only)	Allegro 1500	Allegro 3500	Allegro 5500
Max. throughput ¹	20 / 40 GBit/s	50 / 100 GBit/s	100 / 150 GBit/s
Average throughput ²	10 / 20 GBit/s	25 / 50 GBit/s	50 / 100 GBit/s
Average packets per second ²	1.5 / 4 million pps	4 / 12 million pps	8 / 25 million pps
Max. Capture-to-Disk performance	Up to 40 GBit/s with 36 x HDDs or 2 x U.2 SSDs	Up to 40 GBit/s with 36 x HDDs Up to 80 GBit/s with 4 x U.2 SSDs Up to 120 GBit/s with additional JBODs	



Max. parallel connections	4 million simultaneously open connections
In-memory DB storage ³	Base version: 64 GB: Storage of up to 50,000 active IP addresses and the last 16 million connections. Memory upgrades increase the number of IP addresses or connections.
Jumbo frames	9,000 Bytes
Hardware warranty	1 or 3 years, more as option
4U rack kit	Included
Operating temperature	+10 °C to +35 °C
Non-operating temperature	-40 °C to +60 °C
Certifications	FCC, CE

Table 2 Network Extension Options

The x500 Series offers multiple extensions for additional ports. The dual QSFP28 option allows up to 100 Gbit/s of real-time traffic to be checked in 100 Gbit/s environments. Alternatively, the number of ports can be increased up to 28, selectable from 1 / 2.5 / 5 / 10 / 25 / 40 / 100 or 200 GbE Cu / SFP+ / QSFP ports.

Order ID	Product Description
211	SFP+ 2-port-extension (1/10 G)
212	SFP+ 4-port extension (1/10 G)
213	SFP+ 2-port extension with nanosecond timestamp support
214	SFP+ 2-port extension with GPS based nanosecond timestamp support
215	10GBase-T 2-port Cu extension (1/2.5/5/10 G)
216	1000Base-T 4-port Cu extension (100 M/1 G)
217	SFP28 2-port extension (1/10/25 G)
218	QSFP 2-port extension (40 G)
219	1000Base-T 4-port BYPASS Cu extension
220	10 G 2-port BYPASS short range extension
221	QSFP28 2-port extension (40 G/100 G)
222	1000Base-T PoE+ Cu 4-port extension card
224	QSFP56 2-port extension (200 G)

Table 3 Memory Expansion Options

If you need to view more historical data, you can upgrade the Allegro Network Multimeter's In-memory database.

Order ID	Product Description
340	Memory extension 64 to 128 GB
341	Memory extension 64 to 256 GB
342	Memory extension 64 to 512 GB
343	Memory extension 64 to 1,024 GB
344	Memory extension 64 to 2,048 GB
345	Memory extension 64 to 4,096 GB

Table 4 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., you can install your own HDDs.

Order ID	Product Description
441	2 TB U.2 SSD, full packet capturing up to 10 GBit/s, limited warranty 3,600 TBW
442	1TB HDD, full packet capturing up to 1.2 GBit/s
443	4 TB HDD, full packet capturing up to 1.2 GBit/s
444	10 TB HDD, full packet capturing up to 1.2 GBit/s
445	16 TB HDD, full packet capturing up to 1.2 GBit/s
446	6.4 TB U.2 SSD, full packet capturing up to 20 GBit/s, limited warranty 37,300 TBW
447	12.8TB U.2 SSD, full packet capturing up to 20 GBit/s, limited warranty 74,700 TBW
448	36 x 1 TB HDD, full packet capturing up to 40 GBit/s
449	36 x 4 TB HDD, full packet capturing up to 40 GBit/s
450	36 x 10 TB HDD, full packet capturing up to 40 GBit/s
451	36 x 16 TB HDD, full packet capturing up to 40 GBit/s

¹ Under ideal testing conditions

² Real-world datacenter throughput scenario

³ Real-world datacenter traffic