Allegro Network Multimeter 1500 / 3500 / 5500

Datasheet

Allegro Packets
Network Multimeter

Analysis and Debugging Tool for Network Administrators

- ✔ High analysis and capture rates (10 / 40 / 100 GBit/s)

- ✔ Up to 576 Terabyte of storage (ideal for data centers and core networks)

- ✔ 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 x500 series, consisting of Allegro 1500, 3500 and 3500, is optimized for the analysis, monitoring, verification and troubleshooting of network connections from 1 G to 100 G. The Allegro Network Multimeter x500 are designed for very high capture recording, analysis and storage rates and allow retroactive verificati-on of up to 800,000 IP addresses and up to 256 million connections. The Allegro Network Multimeter is ideal for use in large data centers, core networks and ISP infrastructures.

Real-time Web Statistics for all Connections
The x500 series appliances provides statistics and selective packet filtering over L2 to L7 in real-time and history mode. The web interface offers comprehensive overviews as well as detailed statistics (e. g. IP and MAC addresses, VLANs, QoS, L7 protocols and video / VoIP).

The Back-in-Time Playback
The Allegro x500 is equipped with a back-in-time function and enables precise selection of the recorded information. These data can be extracted as pcaps as a browser download with a simple click. In addition, selected data can be individu-ally 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 sto-rage 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 24, selectable from 1 / 2.5 / 5 / 10 / 25 or 40 GbE Cu / SFP+ / QSFP 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 the traffic of a link or the selected data traffic enables the extraction of historical packets. The ring buffer can be dynamically expanded up to 576 TB.

Table 1	Allegro 1500 / 3500 / 3500 Series Specifications

Feature	Allegro 1500 / 3500 / 5500
Rack Units	4
Size (W / H / D) in mm	437 x 178 x 699
Weight	40 — 80 kg (depending on the numer of HDDs and network cards installed)
Expansion options	Up to 6 network card expansion slots Up to 36 x 3,5" HDD slots, 2 of them as U.2
Power supply	Redundant 1200 W AC power supply unit
Optional disk expansion	36 open 3,5" HDD slots for SATA3 and SAS3 server disks, with up to 12 GBit/s connection per hard disk, 2 slots support U.2 NVMe SSDs
Airflow	Front-to-back
Packaging	Server box
Internal database memory	Base unit: 64 GB ECC Extension: up to 4 TB
Management port	1 x 1000Base-T 1 x 1000Base-T IP KVM remote management
Monitor ports	Up to 6 expansion slots, per extenstion:: · dual 100 G (QSFP28) · dual 40 G (QSFP) · dual 25 G (SFP28) · dual / quad 10 G (SFP+) · dual 1 / 2,5 / 5 / 10GBase-T (Cu) · quad 1000Base-T (Cu) · quad PoE 802.3at 25.5 W 1000Base-T (Cu)

Feature	Allegro 1500	Allegro 3500	Allegro 5500
Max. throughput1	20 GBit/s	50 GBit/s	100 GBit/s
Average throughput2	10 GBit/s	25 GBit/s	50 GBit/s
Max. Capture-to-Disk performance	Up to 20 GBit/s	Up to 40 GBit/s	Up to 40 GBit/s
Average packets per second.2	1,5 million pps	4 million pps	8 million pps

Max. parallel connections	4 million simultaneously open connections
In-memory DB storage3	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 24, selectable from 1 / 2.5 / 5 / 10 / 25 or 40 GbE Cu / SFP+ / QSFP ports.

Order ID	Proct 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

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 GB to 128 GB
341	Memory extension 64 GB to 256 GB
342	Memory extension 64 GB to 512 GB
343	Memory extension 64 GB to 1,024 GB
344	Memory extension 64 GB to 2,048 GB
345	Memory extension 64 GB 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 for selected traffic. This allows the extraction of previous packets. The HDD slots are open, i. e., you can install your own HDDs.

Order ID	Product Description
440	512 GB U.2 SSD, full packet capturing up to 10 GBit/s, limited warranty 400 TBW
441	2 TB U.2 SSD, full packet capturing up to 10 GBit/s, limited warranty 1,200 TBW
442	1 TB 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	12.8 TB 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

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