Allegro Network Multimeter 3500 / 5500 Series

Datasheet

Analysis and debugging tool for network administrators

- High analysis and capture rates (40 / 100 GBit/s)
- Up to 360 TB 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
- Simple licensing

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

The Allegro 3500 / 5500 series is optimized for the analysis, monitoring, verification and troubleshooting of network connections from 1 GBit/s to 100 GBit/s. The Allegro Network Multimeters 3500 / 5500 are designed for very high capture recording, analysis and storage rates and allow retroactive verification 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 3500 / 5500 series provides real-time 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 Packet Broker

The Allegro 3500 / 5500 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 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 3500 / 5500 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 up to 20, 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 96 GB or 192 GB in the basic version and can be expanded up to 1536 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 360 TB.

Table 1 Allegro 3500 / 5500 Series Specifications

Feature	Allegro 3500 / 5500
Rack units	4U
Size (H / L / W) in mm	178 x 699 x 437
Weight	40 – 80 kg (depending on the number of HDDs and network cards installed)
Expansion options	5 network card expansion slots 36 3.5" HDD slots
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. Optional 36 x 1 TB, 4 TB or 10 TB or customer's own disks.
Airflow	Front-to-back

Feature	Allegro 3500	Allegro 5500
Internal database memory	Base unit: 96 GB ECC Extension: 192 GB, 384 GB, 768 GB, 1536 GB ECC	Base unit: 192 GB ECC Extension: 384 GB, 768 GB, 1536 GB ECC
Management port	1 x 10GBase-T 1 x 1000Base-T IP KVM remote management	
Monitor ports	5 expansion slots. Each slot can accommodate one of the following options: · 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 3500	Allegro 5500
Max. throughput[1]	50 GBit/s	100 GBit/s
Average throughput[2]	25 GBit/s	50 GBit/s
Max. Capture-to-disk performance	40 GBit/s sustained, 50 GBit/s peak	40 GBit/s sustained, 100 GBit/s peak
Average packets per second[2]	4 million pps	8 million pps

Max. parallel connections	4 million simultaneously open connections
In-memory DB storage[3]	Basic version: 96 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 by up to 16 times.
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 Expansion Options

The 3500 / 5500 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 20, selectable from 1 / 2.5 / 5 / 10 / 25 or 40 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

Table 3 Memory Expansion Options

If you need to record more historical data, you can upgrade the Allegro Network Multimeter's in-memory database. The basic version already contains 96 GB and 192 GB of memory, respectively. This can be expanded up to 1536 GB.

Order ID	Product Description
330	Memory extension 96 GB to 192 GB
331	Memory extension 192 GB to 384 GB
332	Memory extension 384 GB to 768 GB
333	Memory extension 768 GB to 1536 GB

Table 4 Options for Internal Memory Expansion

The internal memory acts as a packet ring buffer for the entire link or for selected traffic. This allows the extraction of previous packets. Order ID 401 and 402 can be installed twice if required. The HDD slots are open, i. e. you can install your own HDDs, even with different memory capacities.

Order ID	Product Description
401	Internal 512 GB SSD, full packet capturing up to 10 GBit/s, limited warranty 400 TBW
402	Internal 2 TB SSD, full packet capturing up to 10 GBit/s, limited warranty 1200 TBW
410	36 x 1 TB HDD ring buffer with 36 TB and up to 40 GBit/s + 2 spare disks
411	36 x 4 TB HDD ring buffer with 144 TB and up to 40 GBit/s capture + 2 spare disks
412	36 x 10 TB HDD ring buffer with 360 TB and up to 40 GBit/s capture + 2 spare disks

Table 5 Product Bundles

Order ID	Product Description
830	Allegro Network Multimeter 3500 Small Bundle 96 GB RAM 2 x 10 G, 36 x 1 TB HDD, 2 x SR SFP+
831	Allegro Network Multimeter 3500 Medium Bundle 384 GB RAM 8 x 10 G, 36 x 4 TB HDD, 8 x SR SFP+
832	Allegro Network Multimeter 3500 Large Bundle 768 GB RAM 4 x 40 G, 8 x 10 G, 36 x 10 TB HDD, 8 x SR SFP+, 4 x SR QSFP
840	Allegro Network Multimeter 5500 Small Bundle 192 GB RAM 2 x 10 G, 36 x 1 TB HDD, 2 x SR SFP+
841	Allegro Network Multimeter 5500 Medium Bundle 384 GB RAM 8 x 10 G, 36 x 4 TB HDD, 8 x SR SFP+
842	Allegro Network Multimeter 5500 Large Bundle 768 GB RAM 4 x 40 G, 8 x 10 G, 36 x 10 TB HDD, 8 x SR SFP+, 4 x SR QSFP

[1] Under ideal testing conditions
[2] Real-world datacenter throughput scenario
[3] Real-world datacenter traffic