

# FC7000.A148

14\*100GE and 48\*25GE within 1U height



## Summary

Targeting backbone net data collection and mobile internet high-density link data collection, Sempian launched the FC7000.A148 high-density tap. FC7000.A148 adopts 1U rack-mounted structure, 583mm\*444mm\*44.4mm (depth\*width\*height), supports 10G/25G/100G input and output. The whole machine owns 2600G input and output (the throughput can be up to 3.2T through access to expansion card). It can be widely used in such scenarios as data collection, splitting, filtering, and copy processing.

FC7000.A148 provides such core capabilities as ultra-high interface density, high-speed processing performance, and low latency, able to undertake high-density link data acquisition access tasks, and provide customers with accurate traffic splitting and filtering functions as well, in order to provide users expandable cost-effective business value-added solutions.

## Highlights

FC7000.A148 single board features are described as follows:

- High density of interface:**
  - Provide 48\*10GE interfaces, all compatible with 25GE interface;
  - Provide 14\*100GE interfaces, all compatible with 25GE/40GE/50GE interfaces, each 100GE interface can be split into four 10GE interfaces.
- Wire speed processing:** Along the provision of high-density interface, the equipment can process service flow at full line-rate, to provide protection for the convergence and processing of large flow data.
- Copy:** As a traffic access device, FC7000.A148 can either make 1: N copy of the original traffic on the input interface, or 1: N copy of the processed traffic on the output interface side, to provide a flexible and convenient means of access for the traffic to be simultaneously used by multiple downstream devices. The same interface can be placed in a copy interface group, or simultaneously in a load balanced HASH interface group, to meet the complex field application scenarios.
- Traffic classification:** The device classifies the traffic according to the flexible combination of such aspects as IP nine-tuple, the message characteristics, the string content and the input interface of the incoming traffic, and carries out the in-depth processing on specific types of messages and policy output according to the result of traffic classification.
- Intelligent load balancing:** FC7000.A148 has the capability of intelligent detection and back-end server link status. If the interface chain of the load balancing interface group is broken, the device outputs the traffic load of the interface to other interfaces of the interface group to avoid huge loss of data.
- Single fiber:** FC7000.A148 can achieve single-fiber connection in the link of interface, and then the same optical interface can achieve rx, tx separation; a single optical interface rx, tx can get access to different devices, greatly improving the available port density.
- Data integrity:** FC7000.A148 has a flexible load balancing output algorithm, develops a load balancing algorithm according to user needs, support different interface groups to configure different HASH ways simultaneously to ensure the integrity of the session and user integrity.

## Product Specifications

Specification	Type	Configuration description
Performance	Processing performance	300B or larger package 3.2T wire speed processing performance. 300B or less small package 2.0T wire speed processing performance.
Business interface	Interface density: Single fiber mode Bi-directional send-receive Interface multiplexing	48*10GE/25GE/GE SFP+/SFP28; 14*100GE/40GE QSFP28; Standard Ethernet physical optical interface; Support single mode, multi-mode. All interfaces support single-fiber input and output. All interfaces support receive-send independence.
Protocol identification	Identifiable protocols	Able to identify VLAN messages, Support up to 2 VLAN tags. Able to identify IPv4 message; Able to identify IPv6 message.
Filtering rules	Rule type	Support basic processing rules, precision quintuple rules, incoming interface rules, IPv4 nine-tuple rules, IPv6 nine-tuple rules and fixed location attribute code rules.
	Basic processing rules	Aggregation, splitting, filtering (forwarding, discarding), copying Nine-tuple rules include: source IP, destination IP, protocol type, L4 source port, L4 destination port, protocol number, TCP Flag, incoming interface (group), vian-id.
	Nine-tuple rules	Support the nine-tuple rules with netmask
	TCP Flag rules	TCP Flag includes SYN, ACK, FIN, RST, PIN, URG; TCP Flag rules can be used in conjunction with the nine-tuple rules.
	Attribute code rules	Support fixed location attribute code rules; The length of the attribute code is the first 16 bytes of L5 The number of rule types can be adjusted, the factory default specifications are as follows: a. Incoming interface/signature rules (shared): 256 b. IPv4 nine-tuple rules: 767 c. IPv6 nine-tuple rules: 0 d. Precise five-tuple rule: 64K Mode-A: a. Incoming interface rules: 72; b. IPv4 nine-tuple rules: 512 c. IPv6 nine-tuple rules: 184 d. Precise five-tuple rule: 64K Mode-B: a. Incoming interface/signature rules (shared): 1020 b. Precise five-tuple rules: 64K Mode-C: a. IPv4 nine-tuple rules: 1020 b. Precise five-tuple rules: 64K Mode-D: a. IPv4 quintuple rules: 3000 b. Precise five-tuple rules: 64K 1. Able to provide two tuple combination types (which can be the same or different) 2. Each combination type supports any 1-8 tuples in the 8-tuple 3. 8 tuple includes: incoming port, source IP, destination IP, source port, destination port, protocol, TCP Flag, VLAN ID 4. Once each tuple combination is confirmed, a maximum of 32K rules can be created based on the rules of this combination
	Default rule number	After the messages are identified and matched, the actions of the hit messages include: 1. Data discarding 2. Data forwarding 3. Data redirection 4. Data replication 5. Data broadcast The default action refers to actions that are taken against messages which fail to hit any rule. The default actions include the following two types: 1. Data discarding. 2. Data forwarding.
Data Processing	Regular entry typical configuration	Support 128 output interface groups Use SIP\IP\IP\SP\IP + SP + DIP\IP + SP + DIP + DP to calculate the hash value; Use Round-Robin\Random Hash Handling of messages which are not recognized in the global configuration: 1. Discarding: the unrecognized messages are discarded. 2. Message forwarding: the unrecognized messages are output from the specified port. Working temperature: 0°C - +40°C; Storage temperature: -40°C - +70°C; Humidity requirements: 93±3%RH
	Precise rules	Chassis fan cooling Support single AC, single DC power supply mode; support dual AC, dual DC 1+1 redundant mode, AC: 100-240V DC: 36-72V Maximum 380W, typical 320W Expansion card maximum 120W, typical 100W 583mm*444mm*44.4mm(depth X width X height)
Environmental requirements and standards	Heat-dissipating method Power supply mode	Chassis size Support X86 expansion card (PCIE * 4); Support multi-core business processor expansion card (200G); Support 6 * 100GE interface expansion card; Support 600G high performance expansion card.
	Power consumption	
	Chassis size	
Scalability	Expansion Card	



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## FCC STATEMENT

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
  - (1) This device may not cause harmful interference.
  - (2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.