

Product Highlights

Port Configuration

- 8 x 1G RJ45
- Uplinks: 2 x 10G
- 8 x 2.5G RJ45
- Uplinks: 2 x 10G
- 16 x 1G RJ45
- 2 x DPU slots
- Uplinks: 2 x 10G
- 24 x 1G RJ45
- 8 x 2.5G RJ45
- Uplinks: 4 x 10G
- Up to 60W PoE++

Hardware

- Compact 1RU
- Fixed fans
- Fixed power supplies
- PTP IEEE 1588v2 support

AsterNOS

- SONiC based enterprise distribution
- Single binary for all models
- Standard L2/L3 features
- Extensible custom tools
- OpenLAN Switching compatible
- ITU-T 8275.x, ST2059-2, AES67 PTP profiles

Overview

Asterfusion CX1S-M-S series is an entry-level access switching platform powered by the Marvell AlleyCat5Y ASIC and available in fixed PSU and fan configurations. PoE and non-PoE variants support a broad range of access devices, including wireless access points, cameras, printers, IP phones, and IoT endpoints. PoE models provide IEEE 802.3af/at/bt power delivery of up to 60W per RJ45 port, with access speeds from 10Mbps to 2.5Gbps. 1G and 10G optical uplinks provide flexible connectivity for different network architectures and deployment requirements.



CX-M Series Enterprise Access Switch Portfolio

The CX-M series switches run AsterNOS, which is enterprise-ready SONiC distribution enhanced by Asterfusion. AsterNOS is a common binary for all series of Asterfusion switches including data center and campus network products, it provides comprehensive and standardized Layer-2 and Layer-3 features including VXLAN virtualization, QoS and security functionalities. In campus network, AsterNOS supports standard 802.1x and RADIUS authentication for access control. Along with security features such as Dynamic ARP Inspection (DAI) and IP Source Guard (IPSG), it protects campus network security in different dimensions.

Asterfusion switches and Wi-Fi products are managed by Asteria Campus Controller, which is based on OpenWiFi and OpenLAN Switching standards, providing unified provisioning and maintenance experience for both wired and wireless networks.

AsterNOS

AsterNOS is a common software for all Asterfusion products. It is an enterprise distribution of SONiC which is based on Linux kernel and Switch Abstract Interface (SAI) for multi-vendor merchant silicon adaptability. AsterNOS provides rich, standard Layer-2 and Layer-3 functionalities, including VXLAN virtualization across all products, which makes it possible that customers can also choose data center products (25G or even 100G models) as spine or super spine layer within campus networks to expand the throughput and scalability. For details of the latest AsterNOS version, visit:

<https://asternos.com/community/space/enterprise-network/home>

Asteria Campus Controller

Asteria Campus Controller is Asterfusion management plane solution for entire campus network including wired and wireless components. The Controller is lightweight designed that can be deployed on-premises or on cloud, even directly deployed in specific switches. It offers topology pre-design, Zero Touch Provisioning (ZTP), configuration batch modification, network monitoring and health check for campus network. By using OpenWiFi and OpenLAN Switching architecture and standards, it is also possible to manage any standard 3rd party hardware to achieve unified management plane of entire network.

High-precision Time Synchronization and Multicast Support

CX1S-M-S switches provide full support for IEEE 1588v2 Precision Time Protocol (PTP) with 50ns-level timing accuracy, enabling precise time synchronization for time-sensitive networking applications. In addition, the switches support comprehensive multicast protocols, including IGMP Snooping, IGMP Querier, and PIM, ensuring efficient and reliable multicast traffic delivery in AVoIP or industrial network deployments.

Asterfusion Optics and Cables

Asterfusion switches support a wide range of 10G, 25G, 100G, 200G, 400G and 800G ports. For details about the different optical modules compatible with Asterfusion switches, visit:

<https://asteraix.com/products/optical-transceivers/>

Interface

- 1G/2.5G/10G
- Interface Statistics
- Jumbo Frame (10218 Bytes)
- Digital Optical Monitoring (DOM)
- Virtual Interfaces

Layer2 & Layer3

- 4096 VLANs
- Voice VLAN
- STP, RSTP, MSTP
- QinQ
- LLDP
- LACP
- IPv4/v6 Dual Stack
- ARP, NDP
- SVI
- Routing Protocols: Static, OSPF v2/v3, BGP, MP-BGP
- Policy Based Routing (PBR)
- Route Map
- ECMP
- DHCPv4/v6

Virtualization

- GRE
- VRF
- Static/Dynamic VXLAN
- VXLAN Centralized/Distributed Gateway
- EVPN Type 1/2/3/4/5
- VXLAN Cross-connect
- VXLAN Multicast Underlay
- Inter-VRF Route Leaking
- Anycast Gateway
- Symmetric IRB

Multicast

- Multicast Route
- IGMP v1/v2/v3
- IGMP Querier
- IGMP Snooping
- PIMv4, PIM-SM

QoS

- 8 Queues per Port
- 802.1p Based Classification
- DSCP Based Classification
- Strict Priority/DWRR Queue Scheduling
- Policing/Shaping
- Rate Limiting

Security

- ACL for IPv4/v6, Ingress/Egress ACL
- Storm Suppression
- TACACS+
- RADIUS
- CoPP
- DAI
- IPSGv4/v6
- 802.1x Authentication
- MAC Authentication Bypass (MAB)
- Portal Authentication
- Dynamic VLAN Assignment
- MACSec

Reliability

- MC-LAG
- VRRPv2/v3
- EVPN MultiHoming
- Monitor Link
- BFD

Management

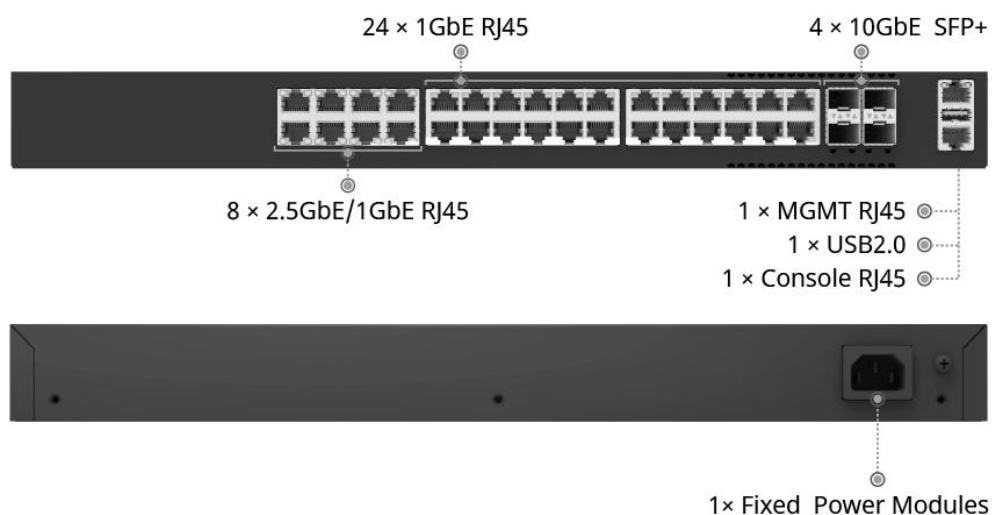
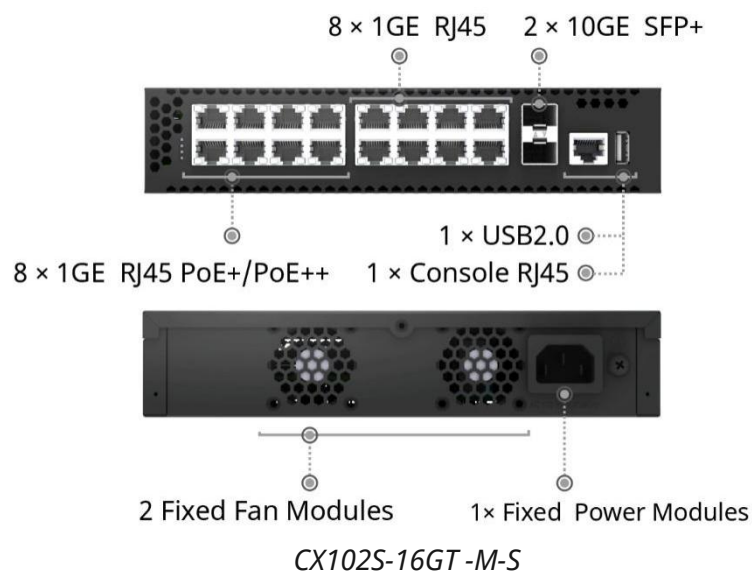
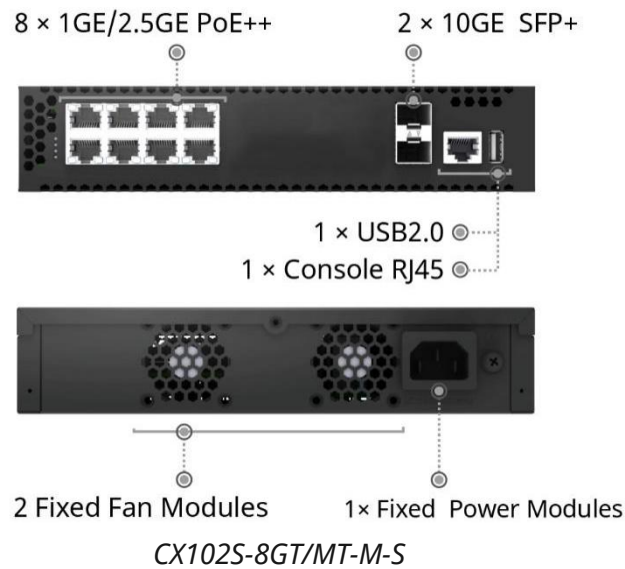
- Asteria Campus Controller
- Console, SSH, Telnet, REST API, NETCONF
- Industry Standard CLI (Klish)
- ZTP
- Syslog
- sFlow
- SNMPv1/v2/v3
- SPAN/ERSPAN
- PTP Profile: IEEE 1588v2, ITU-T G.8275.1/2, SMPTE-2059-2, AES67
- PTP Clock Type: GrandMaster, BC, OC, T-GM, T-BC, T-BC-P, T-TSC, T-TSC-P
- SyncE

Specifications

Product Model	CX102S-8GT-M-S	CX102S-8MT-M-S
Port Configuration	2 × 10GE SFP+ 8 × 1GE RJ45	2 × 10GE SFP+ 8 × 2.5GE RJ45
PoE++ / PoE+ Port	8× PoE++ (Ports 1-8)	8× PoE++ (Ports 1-8)
PoE budget	150W	150W
Management Interface	1× RJ45 Console Port, 1× USB 2.0 Port	
CPU	Cortex-A55	Cortex-A55
Memory	4GB DDR4	4GB DDR4
Flash	32GB EMMC	32GB EMMC
Switching Chip Model	Marvell Prestera (AlleyCat5Y)	Marvell Prestera (AlleyCat5Y)
Switching Capacity	70Gbps	70Gbps
Input Voltage	100-240V AC / 36-72V DC	100-240V AC / 36-72V DC
Maximum Power Consumption	18W (Without PoE)	19W (Without PoE)
Dimensions (WxHxD)	215mm × 44mm × 310mm	215mm × 44mm × 310mm
Weight	2.2kg	2.2kg
Power Supplies	1 Fixed Power Module	1 Fixed Power Module
Fans	2 Fixed Fan Modules	2 Fixed Fan Modules
Air Flow	Front-to-Rear	Front-to-Rear
Operating Temperature	0 – 45°C (32 – 113°F)	0 – 45°C (32 – 113°F)
Relative Humidity	5% - 90% (non-condensing)	5% - 90% (non-condensing)
Variants	PTP: (non-PTP, PTP) PoE: (non-PoE, 150W)	PTP: (non-PTP, PTP) PoE: (non-PoE, 150W)

Product Model	CX102S-16GT-M-S	CX104S-8MT24GT-M-S
Port Configuration	2 × 10GE SFP+ 16 × 1GE RJ45	4 × 10GE SFP+ 8 × 2.5GE RJ45 24 × 1GE RJ45
PoE++ / PoE+ Port	8 × PoE++ (Ports 1-8)	8 × PoE++ (Ports 9-16) 16 × PoE+ (Ports 17-32)
PoE budget	150W	370W or 740W
Management Interface	1× RJ45 Console Port, 1× USB 2.0 Port	1× RJ45 Console Port, 1× RJ45 MGMT Port, 1× USB 2.0 Port
CPU	Cortex-A55	Cortex-A55
Memory	4GB DDR4	4GB DDR4
Flash	32GB EMMC	32GB EMMC
Switching Chip Model	Marvell Prestera (AlleyCat5Y)	Marvell Prestera (AlleyCat5Y)
Switching Capacity	70Gbps	86Gbps
Input Voltage	100-240V AC / 36-72V DC	100-240V AC / 36-72V DC
Maximum Power Consumption	21W (Without PoE)	50W (Without PoE)
Dimensions (WxHxD)	440mm × 44mm × 470mm	440mm × 44mm × 470mm
Weight	2.2kg	3.6kg
Power Supplies	1 Fixed Power Module	1 Fixed Power Module
Fans	2 Fixed Fan Modules	2 Fixed Fan Modules (3 in PoE models)
Air Flow	Front-to-Rear	Right-to-Left
Operating Temperature	0 – 45°C (32 – 113°F)	0 – 45°C (32 – 113°F)
Relative Humidity	5% - 90% (non-condensing)	5% - 90% (non-condensing)
Variants	PTP: (non-PTP, PTP) DPU: (0, 1, 2) PoE: (non-PoE, 150W)	PoE: (non-PoE, 370W, 740W)

Panel Illustration



CX104S-8MT24GT-M-S

Ordering Information

Part Number	Description
CX102S-8GT-M-S	Standard access/leaf switch, 8x1GBase-T, 2x10G/1G SFP+, fixed 1xPSU, fixed 2xFANs, front-to-rear airflow
CX102S-8GT-PTP-M-S	Standard access/leaf switch, 8x1GBase-T, 2x10G/1G SFP+ with PTP module, fixed 1xPSU, fixed 2xFANs, front-to-rear airflow
CX102S-8GT-M-SWP	Standard access/leaf switch, 8x1GBase-T PoE++(60w), 2x10G/1G SFP+, fixed 1xPSU, 150wPoE budget, fixed 2xFANs, front-to-rear airflow
CX102S-8GT-PTP-M-SWP	Standard access/leaf switch, 8x1GBase-T PoE++(60w), 2x10G/1G SFP+ with PTP module, fixed 1xPSU, 150wPoE budget, fixed 2xFANs, front-to-rear airflow
CX102S-8MT-M-S	Standard access/leaf switch, 8x2.5GBase-T, 2x10G/1G SFP+, fixed 1xPSU, fixed 2xFANs, front-to-rear airflow
CX102S-8MT-PTP-M-S	Standard access/leaf switch, 8x2.5GBase-T, 2x10G/1G SFP+ with PTP module, fixed 1xPSU, fixed 2xFANs, front-to-rear airflow
CX102S-8MT-M-SWP	Standard access/leaf switch, 8x2.5GBase-T PoE++(60w), 2x10G/1G SFP+, fixed 1xPSU, 150wPoE budget, fixed 2xFANs, front-to-rear airflow
CX102S-8MT-PTP-M-SWP	Standard access/leaf switch, 8x2.5GBase-T PoE++(60w), 2x10G/1G SFP+ with PTP module, fixed 1xPSU, 150wPoE budget, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-M-S	Standard access/leaf switch, 16x1GBase-T, 2x10G/1G SFP+, fixed 1xPSU, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-PTP-M-S	Standard access/leaf switch, 16x1GBase-T, 2x10G/1G SFP+ with PTP module, fixed 1xPSU, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-M-D1-S	Standard access/leaf switch, 16x1GBase-T, 2x10G/1G SFP+, 1xOCTEON CN9130 DPU, fixed 1xPSU, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-PTP-M-D1-S	Standard access/leaf switch, 16x1GBase-T, 2x10G/1G SFP+ with PTP module, 1xOCTEON CN9130 DPU, fixed 1xPSU, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-M-D2-S	Standard access/leaf switch, 16x1GBase-T, 2x10G/1G SFP+, 2xOCTEON CN9130 DPU, fixed 1xPSU, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-PTP-M-D2-S	Standard access/leaf switch, 16x1GBase-T, 2x10G/1G SFP+ with PTP module, 2xOCTEON CN9130 DPU, fixed 1xPSU, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-M-SWP	Standard access/leaf switch, 16x1GBase-T with 8xPoE++(60w), 2x10G/1G SFP+, fixed 1xPSU, 150wPoE budget, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-PTP-M-SWP	Standard access/leaf switch, 16x1GBase-T with 8xPoE++(60w), 2x10G/1G SFP+ with PTP module, fixed 1xPSU, 150wPoE budget, fixed 2xFANs, front-to-rear airflow

CX102S-16GT-M-D1-SWP	Standard access/leaf switch, 16x1GBase-T with 8xPoE++(60w), 2x10G/1G SFP+, 1xOCTEON CN9130 DPU, fixed 1xPSU, 150wPoE budget, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-PTP-M-D1-SWP	Standard access/leaf switch, 16x1GBase-T with 8xPoE++(60w), 2x10G/1G SFP+ with PTP module, 1xOCTEON CN9130 DPU, fixed 1xPSU, 150wPoE budget, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-M-D2-SWP	Standard access/leaf switch, 16x1GBase-T with 8xPoE++(60w), 2x10G/1G SFP+, 2xOCTEON CN9130 DPU, fixed 1xPSU, 150wPoE budget, fixed 2xFANs, front-to-rear airflow
CX102S-16GT-PTP-M-D2-SWP	Standard access/leaf switch, 16x1GBase-T with 8xPoE++(60w), 2x10G/1G SFP+ with PTP module, 2xOCTEON CN9130 DPU, fixed 1xPSU, 150wPoE budget, fixed 2xFANs, front-to-rear airflow
CX104S-8MT24GT-M-S	Standard access/leaf switch, 8x2.5GBase-T, 24x1GBase-T, 4x10G/1G SFP+, fixed 1xPSU, fixed 2xFANs, right-to-left airflow
CX104S-8MT24GT-M-SWP2	Standard access/leaf switch, 8x2.5GBase-T, 24x1GBase-T with 16xPoE+ (30w) and 8xPoE++(60w), 4x25G/10G SFP28, fixed 1xPSU, 370w PoE budget, fixed 3xFANs, right-to-left airflow
CX104S-8MT24GT-M-SWP4	Standard access/leaf switch, 8x2.5GBase-T, 24x1GBase-T with 16xPoE+ (30w) and 8xPoE++(60w), 4x25G/10G SFP28, fixed 1xPSU, 740w PoE budget, fixed 3xFANs, right-to-left airflow

Optional Components	
HW-WNT-1Y-CX102S-M	Hardware platform warranty for CX102S-M series, 1 Year
AsterNOS-UG-1Y-CX102S-M	Major version upgrade of AsterNOS for CX102S-M series, 1 Year
HW-WNT-1Y-CX104S-M	Hardware platform warranty for CX104S-M series, 1 Year
AsterNOS-UG-1Y-CX104S-M	Major version upgrade of AsterNOS for CX104S-M series, 1 Year

Warranty and Service Support

Asterfusion CX-M series switches come with 2-year Basic H/W service and warranty, preloaded perpetual licensed AsterNOS and 1-year AsterNOS upgrade subscription.