

# Cumulus Express



A web-scale networking switch that comes preloaded and licensed with the Cumulus Linux network operating system

## Overview

Cumulus Express accelerates the move to web-scale networking with 1G to 100G data center switches. This simple, all-in-one approach to deployment delivers high performance web-scale networking efficiencies using a turnkey infrastructure.

The Cumulus Express switches are designed as high-performance data center Top-of-Rack (TOR) or spine switches.

In a compact 1RU form factor, the switches provides line-rate L2 and L3 switching, supporting multiple speeds. Cumulus Express is a turnkey solution featuring an open networking switch preloaded and licensed with Cumulus Linux. As a ready-to-go solution, Cumulus Express improves time to deployment by eliminating steps to install the NOS and research optics, all while preserving the benefits of adopting web-scale networking.

## Features

- **Broadcom chipset**
- **Available in 1G-T, 10G/10G-T, 25G, 40G & 100G speeds**
- **Preloaded with Cumulus Linux and an active license key installed**
- **Full line-rate layer 2 or layer 3 support**
- **Cost-effective, open networking (ONIE) data center switch**
- **3-year hardware warranty and customer support**
- **List of compatible cables and optics**
- **All ports on front. PSUs and fans inserted from rear**
- **Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs**
- **Hot swappable, load-sharing redundant AC PSUs**
- **Hot-swappable fans modules**
- **Power efficient**

## Benefits

### ONE-STOP SHOPPING

Everything you need in one place — from ordering, support, and your 3-year warranty.

### PEACE OF MIND

When you order a Cumulus Express appliance, you'll also choose from our list of certified cables and optics so you'll never have a compatibility issue.

### FASTER DEPLOYMENT

With this turnkey solution you'll get up and running quickly and improve time to market.

### BETTER TECHNOLOGY

Since Cumulus Express comes preloaded with Cumulus Linux, you'll be able to access all the benefits of open networking — like automation, standardization and more — without the setup.

## Featuring Cumulus Linux: the most flexible network operating system available

Cumulus Linux is the only network operating system that allows customers to affordably build and efficiently operate their networks like the world's largest data center operators – completely unlocking vertical network stacks.

- With a host of features, Cumulus Linux allows customers to build a highly scalable, flexible and agile modern data center.
- Automated installation and provisioning with Zero Touch Provisioning
- Automated configuration changes
- Clos multi-layer spine architecture
- OCP compliant. Unparalleled flexibility with completely open system
- Easy standard or custom application portability
- Layer 3 - OSPF, VRF, BGP, ECMP and PIM
- Layer 2 - STP, MLAG, LACP, LLDP, 802.1q VLAN
- Network virtualization with VMware NSX, Midokura
- Controller-less network virtualization with EVPN
- VXLAN active-active bridging with MLAG
- Rich and simple command line with a Network Command Line Utility (NCLU) for easy configuration and operation
- Automatic hourly, daily or monthly Snapshot capabilities and Rollback
- Management VRF
- Advanced troubleshooting and ease of use with Prescriptive Topology Manager

For more information about Cumulus Linux, visit [CumulusNetworks.com](https://CumulusNetworks.com).

## Hardware Specifications

### 1G SWITCHES

MODEL	CX-1048-T-F-B	CX-1048-T-R-B	CX-1048-P-F-B
NUMBER OF PORTS	48x 1G		48x 1G (POE)
UPLINK	4x 10G SFP+		
AIRFLOW DIRECTION	Port-to-Fan	Fan-to-Port	Port-to-Fan
ASIC	Dual Helix4		
SWITCHING CAPACITY	128 Gbps		
FORWARDING RATE	191 Mpps		
MEMORY	2 GB		
SPI FLASH	8 MB		
NAND FLASH	8 GB		
PACKET BUFFER	4 MB shared buffer pool		
DIMENSIONS	17.32 x 13.77 x 1.71 inches		
WEIGHT	11.86 lbs	12.19 lbs	14 lbs
POWER SUPPLY	2x 100-240 VAC at 50-60 Hz		
POE IEEE 802.3AF (15W)	--		48
POE IEEE 802.3AT (30W)	--		48
POE POWER BUDGET	--		1650 W
OPERATING TEMPERATURE	0 to 35°C (32 to 113°F)		
OPERATING HUMIDITY	5 - 95% non-condensing		
REGULATORY COMPLIANCE, EMC	FCC, CE, BSMI, VCCI	FCC, CE, BSMI, VCCI	FCC, CE, CCC, BSMI, VCCI
REGULATORY COMPLIANCE, SAFETY	CB, UL		

10G SWITCHES

MODEL	CX-4048-S-F-B	CX-4048-S-R-B	CX-4048-T-F-B	CX-4048-T-R-B
NUMBER OF PORTS	48x 10G SFP+		48x 10G RJ45	
UPLINK	6x 40G QSFP+			
AIRFLOW DIRECTION	Port-to-Fan	Fan-to-Port	Port-to-Fan	Fan-to-Port
ASIC	Trident II+			
SWITCHING CAPACITY	1.44 Tbps			
FORWARDING RATE	1 Bpps			
MEMORY	8 GB			
SPI FLASH	16 MB			
NAND FLASH	8 GB			
PACKET BUFFER	16 MB integrated packet buffer			
DIMENSIONS	17.4 x 18.6 x 1.71 inches			
WEIGHT	19.73 lbs		20.94 lbs	
POWER SUPPLY	2x 90 to 264 VAC at 50-60 Hz			
OPERATING TEMPERATURE	0°C to 40°C (32°F to 104°F)			
OPERATING HUMIDITY	5% to 95% non-condensing			
REGULATORY COMPLIANCE, EMC	CE, FCC, VCCI			
REGULATORY COMPLIANCE, SAFETY	CB, UL/CUL			

25G SWITCHES

MODEL	CX-5048-S-F-B	CX-5048-S-R-B	CX-5148-S-F-B	CX-5148-S-R-B
NUMBER OF PORTS	48x 25G SFP28		48x 25G SFP28	
UPLINK	6x 100G QSFP28		8x 100G QSFP28	
AIRFLOW DIRECTION	Port-to-Fan	Fan-to-Port	Port-to-Fan	Fan-to-Port
ASIC	Tomahawk+		Trident3	
SWITCHING CAPACITY	1.8 Tbps		2 Tbps	
FORWARDING RATE	2.6 Bpps		2.9 Bpps	
MEMORY	8 GB		16 GB	
SPI FLASH	16 MB		32 MB	
NAND FLASH	32 GB		64 GB	
PACKET BUFFER	22 MB integrated packet buffer		32 MB integrated packet buffer	
DIMENSIONS	17.26 x 18.62 x 1.73 inches		17.3 x 20.3 x 1.7 inches	
WEIGHT	20.78 lbs		23 lbs	
POWER SUPPLY	2 x 90 to 240 VAC at 50-60 Hz		2 x 100 to 240 VAC	
OPERATING TEMPERATURE	0°C to 45°C (32°F to 113°F)		0°C to 45°C (32°F to 113°F)	
OPERATING HUMIDITY	5% to 95% non-condensing		5% to 95% non-condensing	
REGULATORY COMPLIANCE, EMC	CE, FCC, VCCI, CCC		CE, FCC, VCCI, CCC, BSMI	
REGULATORY COMPLIANCE, SAFETY	CB, UL/CUL, CCC, BSMI		CB, UL/CUL, CCC, BSMI	

40G SWITCHES

MODEL	CX-6032-S-F-B	CX-6032-S-R-B
NUMBER OF PORTS	32x 40G QSFP+	
UPLINK	--	
AIRFLOW DIRECTION	Port-to-Fan	Fan-to-Port
ASIC	Trident II+	
SWITCHING CAPACITY	1.28 Tbps	
FORWARDING RATE	1.44 Bpps	
MEMORY	8 GB	
SPI FLASH	16 MB	
NAND FLASH	8 GB	
PACKET BUFFER	16 MB integrated packet buffer	
DIMENSIONS	17.26 x 20.28 x 1.71 inches	
WEIGHT	21.27 lbs	
POWER SUPPLY	2 x 90 to 264 VAC at 50-60 Hz	
POE IEEE 802.3AF (15W)	--	
POE IEEE 802.3AT (30W)	--	
POE POWER BUDGET	--	
OPERATING TEMPERATURE	0°C to 40°C (32°F to 104°F)	
OPERATING HUMIDITY	5% to 95% non-condensing	
REGULATORY COMPLIANCE, EMC	CE, FCC, VCCI	
REGULATORY COMPLIANCE, SAFETY	CB, UL/CUL	

### 32-PORTS 100G SWITCHES

MODEL	CX-8032-S-F-B	CX-8032-S-R-B	CX-8132-S-F-B	CX-8132-S-R-B
NUMBER OF PORTS	32x 100G QSFP28		32x 100G QSFP28	
UPLINK	--		--	
AIRFLOW DIRECTION	Port-to-Fan	Fan-to-Port	Port-to-Fan	Fan-to-Port
ASIC	Tomahawk		Trident3	
SWITCHING CAPACITY	3.2 Tbps		3.2 Tbps	
FORWARDING RATE	4.7 Bpps		4.7 Bpps	
MEMORY	16 GB		16 GB	
SPI FLASH	16 MB		32 MB	
NAND FLASH	32 GB		64 GB	
PACKET BUFFER	16 MB integrated packet buffer		32 MB integrated packet buffer	
DIMENSIONS	17.3 x 20.3 x 1.71 inches		17.42 x 18.62 x 1.73 inches	
WEIGHT	23 lbs		23.96 lbs	
POWER SUPPLY	2 x 90 to 240 VAC at 50-60 Hz		2 x 90 to 240 VAC	
OPERATING TEMPERATURE	0°C to 45°C (32°F to 113°F)		0°C to 45°C (32°F to 113°F)	
OPERATING HUMIDITY	5% to 95% non-condensing		5% to 95% non-condensing	
REGULATORY COMPLIANCE, EMC	CE, FCC, VCCI		CE, FCC, VCCI, CCC, BSMI	
REGULATORY COMPLIANCE, SAFETY	CB, UL/CUL		CB, UL/CUL, CCC, BSMI	

### 64-PORTS 100G SWITCHES

MODEL	CX-8064-S-F-B	CX-8064-S-R-B
NUMBER OF PORTS	64x 100G QSFP28	
UPLINK	--	
AIRFLOW DIRECTION	Port-to-Fan	Fan-to-Port
ASIC	Tomahawk2	
SWITCHING CAPACITY	6.4 Tbps	
FORWARDING RATE	9.5 Bpps	
MEMORY	16 GB	
SPI FLASH	16 MB	
NAND FLASH	128 GB	
PACKET BUFFER	42 MB integrated packet buffer	
DIMENSIONS	17.2 x 22.8 x 3.5 inches	
WEIGHT	31.1 lbs	
POWER SUPPLY	2 x 90 to 240 VAC at 50-60 Hz	
OPERATING TEMPERATURE	0°C to 45°C (32°F to 113°F)	
OPERATING HUMIDITY	5% to 95% non-condensing	
REGULATORY COMPLIANCE, EMC	CE, FCC, VCCI	
REGULATORY COMPLIANCE, SAFETY	CB, UL	

## Ordering Information

### SWITCH SKUS

CX-1048-T-F-B	Cumulus Express 1048 48-port 1G copper front to back air
CX-1048-T-R-B	Cumulus Express 1048 48-port 1G copper back to front air
CX-1048-T-F-B-M	Cumulus Express 1048 48-port 1G copper front to back air for in-band management applications



CX-1048-T-R-B-M	Cumulus Express 1048 48-port 1G copper back to front air for in-band management applications
CX-1048-P-F-B	Cumulus Express 1048 48-port 1G PoE front to back air
CX-10T-HWW-ADLYR	Cumulus Express 1G copper 1 yr HW warranty return to factory
CX-10P-HWW-ADLYR	Cumulus Express 1G PoE 1 yr HW warranty return to factory
CX-4048-S-F-A	Cumulus Express 4048 48-port 10G optical front to back air Trident 2
CX-4048-S-R-A	Cumulus Express 4048 48-port 10G optical back to front air Trident 2
CX-4048-S-F-B	Cumulus Express 4048 48-port 10G optical front to back air Trident 2+
CX-4048-S-R-B	Cumulus Express 4048 48-port 10G optical back to front air Trident 2+
CX-4048-T-F-B	Cumulus Express 4048 48-port 10G copper front to back air
CX-4048-T-R-B	Cumulus Express 4048 48-port 10G copper back to front air
CX-40S-HWW-ADLYR	Cumulus Express 10G optical 1 yr HW warranty return to factory
CX-40T-HWW-ADLYR	Cumulus Express 10G copper 1 yr HW warranty return to factory
CX-5048-S-F-B	Cumulus Express 5048 48-port 25G optical front to back air Tomahawk+
CX-5048-S-R-B	Cumulus Express 5048 48-port 25G optical back to front air Tomahawk+
CX-50-HWW-ADLYR	Cumulus Express CX-5048 1 yr HW warranty return to factory
CX-5148-S-F-B	Cumulus Express 5148 48-port 25G optical front to back air Trident3
CX-5148-S-R-B	Cumulus Express 5148 48-port 25G optical back to front air Trident3
CX-51-HWW-ADLYR	Cumulus Express CX-5148 1 yr HW warranty return to factory
CX-6032-S-R-A	Cumulus Express 6032 32-port 40G optical back to front air Trident 2
CX-6032-S-F-B	Cumulus Express 6032 32-port 40G optical front to back air Trident 2+
CX-6032-S-R-B	Cumulus Express 6032 32-port 40G optical back to front air Trident 2+
CX-60-HWW-ADLYR	Cumulus Express 40G 1 yr HW warranty return to factory
CX-8032-S-F-B	Cumulus Express 8032 32-port 100G optical front to back air

CX-8032-S-R-B	Cumulus Express 8032 32-port 100G optical back to front air
CX-80-HWW-ADLYR	Cumulus Express CX-8032 1 yr HW warranty return to factory
CX-8132-S-F-B	Cumulus Express 8132 32-port 100G optical front to back air Trident3
CX-8132-S-R-B	Cumulus Express 8132 32-port 100G optical back to front air Trident3
CX-81-HWW-ADLYR	Cumulus Express CX-8132 1 yr HW warranty return to factory
CX-8064-S-F-B	Cumulus Express 8064 64-port 100G optical front to back air Tomahawk2
CX-8064-S-R-B	Cumulus Express 8064 64-port 100G optical back to front air Tomahawk2
CX-8064-HWW-ADLYR	Cumulus Express CX-8064 1 yr HW warranty return to factory

**CABLES AND OPTICS**

CX-DAC-10GSFP-0.5M	Cumulus Express DAC 10G 0.5m
CX-DAC-10GSFP-1M	Cumulus Express DAC 10G 1m
CX-DAC-10GSFP-3M	Cumulus Express DAC 10G 3m
CX-DAC-25GSFP28-1M	Cumulus Express DAC 25G 1m
CX-DAC-25GSFP28-3M	Cumulus Express DAC 25G 3m
CX-DAC-40QSFP-0.5M	Cumulus Express DAC 40G 0.5m
CX-DAC-40QSFP-1M	Cumulus Express DAC 40G 1m
CX-DAC-40QSFP-3M	Cumulus Express DAC 40G 3m
CX-DAC-4SFP10G-1M	Cumulus Express DAC 40G to 4x 10G 1m
CX-DAC-4SFP10G-3M	Cumulus Express DAC 40G to 4x 10G 3m
CX-DAC-100QSFP28-1M	Cumulus Express DAC 100G 1m
CX-DAC-100QSFP28-3M	Cumulus Express DAC 100G 3m
CX-DAC-4SFP25G-1M	Cumulus Express DAC 100G to 4x 25G 1m
CX-DAC-4SFP25G-3M	Cumulus Express DAC 100G to 4x 25G 3m
CX-AOC-10GSFP-10M	Cumulus Express AOC 10G 10m

CX-AOC-10GSFP-20M	Cumulus Express AOC 10G 20m
CX-AOC-40QSFP-10M	Cumulus Express AOC 40G 10m
CX-AOC-40QSFP-20M	Cumulus Express AOC 40G 20m
CX-AOC-100QSFP28-10M	Cumulus Express AOC 100G 10m
CX-AOC-100QSFP28-20M	Cumulus Express AOC 100G 20m
CX-T-1G-SFP-T	Cumulus Express Transceiver 1G 1000Base-T SFP
CX-T-10G-SFP-L-SR	Cumulus Express Transceiver 10G SFP+ SR LC 300m
CX-T-10G-SFP-L-LR	Cumulus Express Transceiver 10G SFP+ LR LC 10km
CX-T-25G-SFP28-L-SR	Cumulus Express Transceiver 25G SFP28 SR LC 100m
CX-T-40G-QSFP-M-SR4	Cumulus Express Transceiver 40G QSFP+ SR MPO 100m
CX-T-40G-QSFP-L-LR4	Cumulus Express Transceiver 40G QSFP+ LR4 LC 10km
CX-T-100G-QSFP28-M-SR4	Cumulus Express Transceiver 100G QSFP28 SR4 MPO 100M
CX-T-100G-QSFP28-CWDM4	Cumulus Express Transceiver 100G QSFP28 CWDM4 LC 2km
CX-T-100G-QSFP28-L-LR4	Cumulus Express Transceiver 100G QSFP28 LR4 LC 10km

## POWER CORDS

CX-PWRCORD-AR	Cumulus Express Power Cord Argentina
CX-PWRCORD-AU	Cumulus Express Power Cord Australia
CX-PWRCORD-BR	Cumulus Express Power Cord Brazil
CX-PWRCORD-CN	Cumulus Express Power Cord China
CX-PWRCORD-SCHUKO	Cumulus Express Power Cord Europe
CX-PWRCORD-IN	Cumulus Express Power Cord India
CX-PWRCORD-IL	Cumulus Express Power Cord Israel
CX-PWRCORD-IT	Cumulus Express Power Cord Italy
CX-PWRCORD-JP	Cumulus Express Power Cord Japan

CX-PWRCORD-KR	Cumulus Express Power Cord Korea
CX-PWRCORD-ZA	Cumulus Express Power Cord South Africa
CX-PWRCORD-CH	Cumulus Express Power Cord Swiss
CX-PWRCORD-TW	Cumulus Express Power Cord Taiwan
CX-PWRCORD-GB	Cumulus Express Power Cord UK

## Airflow Direction

The airflow on Cumulus Express is either front-to-back (air intake through port side) or back-to-front (air intake through PSU side). Front is where the ports are and back is where the PSUs are. To ensure correct airflow and switch orientation, please make sure the air intake side is facing cold aisle and air exhaust side is facing hot aisle.

## Warranty

Three-year limited warranty covers repair or replacement.

## Technical Support

Please visit the Cumulus Networks support [portal](#).

## Contact Your Cumulus Networks Sales Team

Ready to purchase? Please contact us [here](#) or send an email to [sales@cumulusnetworks.com](mailto:sales@cumulusnetworks.com).

### ABOUT CUMULUS NETWORKS\*

Cumulus Networks is leading the transformation of bringing web-scale networking to enterprise cloud. Its network switch, Cumulus Linux, is the only solution that allows you to affordably build and efficiently operate your network like the world's largest data center operators, unlocking vertical network stacks. By allowing operators to use standard hardware components, Cumulus Linux offers unprecedented operational speed and agility, at the industry's most competitive cost. Cumulus Networks has received venture funding from Andreessen Horowitz, Battery Ventures, Capital, Peter Wagner and four of the original VMware founders.

For more information visit [cumulusnetworks.com](http://cumulusnetworks.com) or follow [@cumulusnetworks](https://twitter.com/cumulusnetworks).

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