Edge-core CSR300 Cell Site Gateway User Guide

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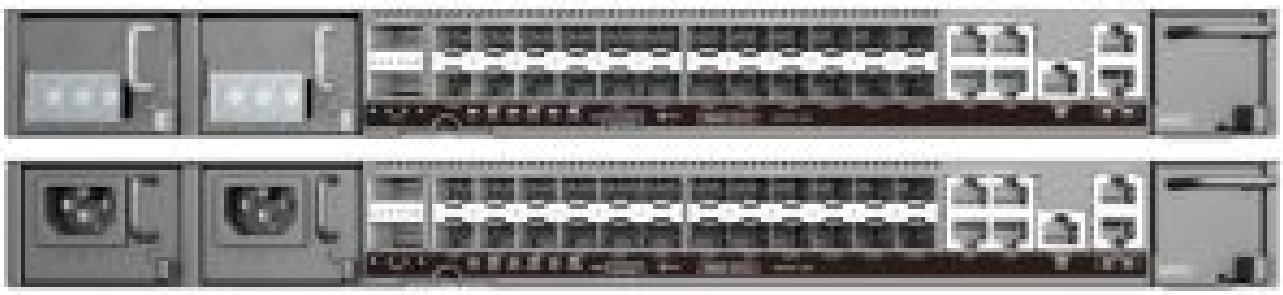
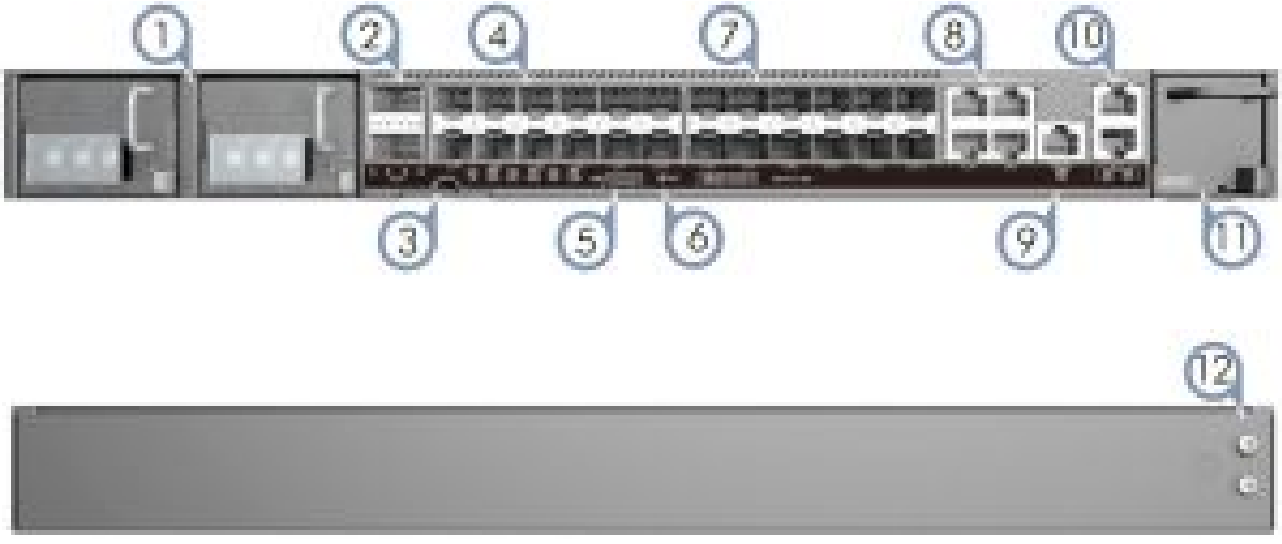


Package Contents

1. CSR300/AS7315-30X (includes 2 PSUs and 1 fan tray)
2. Rack Mounting Kit—2 brackets and 8 screws
3. Grounding kit—grounding lug, 2 screws, and 2 washers
4. Ring lugs (x4) (included with DC PSUs only)
5. (Optional) AC power cord
6. Documentation—Quick Start Guide (this document) and Safety and Regulatory Information

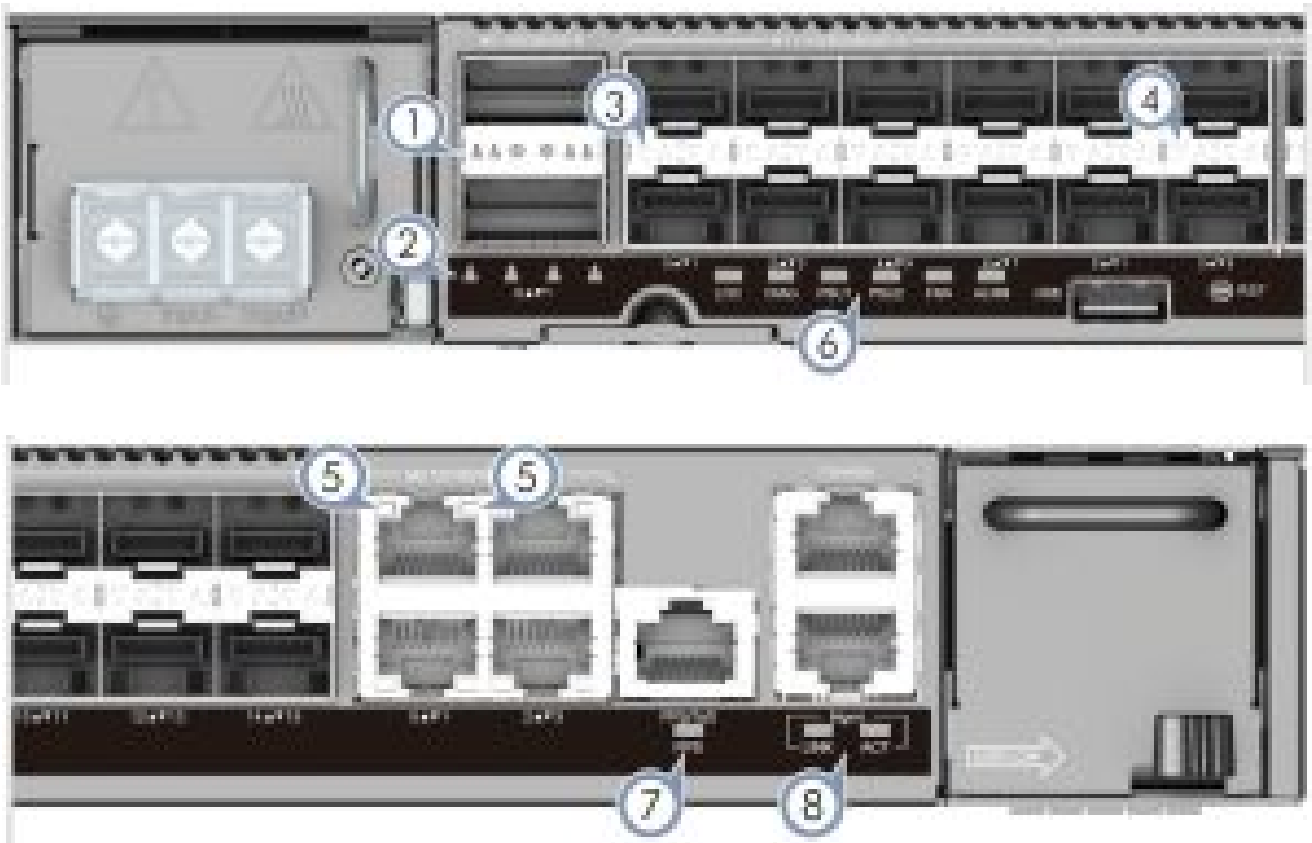
Overview



1. 2 x DC or AC PSUs
2. 2 x 100G QSFP28 ports
3. Product tag
4. 8 x 25G SFP28 ports
5. USB storage port
6. Reset button

7. 16 x 10G SFP+ ports
8. 4 x 1G RJ-45 ports
9. PPS/ToD RJ-45 timing port
10. Management I/O: 1000BASE-T RJ-45, RJ-45 console
11. Fan tray
12. Grounding screw

Status LEDs



1. **QSFP28 Port LEDs:**
   Blue — 100G
   Green — 40G
2. **QSFP28 Breakout LEDs:**
   White — 2 x 50G
   Blue — 4 x 25G
   Green — 4 x 10G
3. **SFP28 Port LEDs:** Blue (25G), Green (10G), Cyan (1G)
4. **SFP+ Port LEDs:** Green (10G), Amber (1G)
5. **1G RJ-45 Port LEDs:**
   Left (link), Right (activity)

6. **System LEDs:**
   LOC — Blinking Blue (OK)
   DIAG — Green (OK), Orange (fault detected)
   PSU1/2 — Green (OK), Orange (fault)
   FAN — Green (OK), Orange (fault)
   ALRM — Green (OK), Red (alarm)
7. **PPS/ToD LED:** Blinking Green (1PPS input)
8. **RJ-45 Management Port LEDs:** Left (link), Right (activity)

FRU Replacement

PSU Replacement

1. Remove the power cord.
2. Press the release latch and remove the PSU.
3. Install replacement PSU.

Fan Tray Replacement

1. Press the fan tray's release latch.
2. Pull out to remove the tray.
3. Install replacement tray with matching airflow direction.

Airflow Reversal

1. **Left-to-Right Airflow**
   Remove the left-to-right airflow fan tray (indicated by the arrow on the panel).

2. Right-to-Left Airflow
Install a right-to-left airflow fan tray (indicated by the arrow on the panel).

Installation

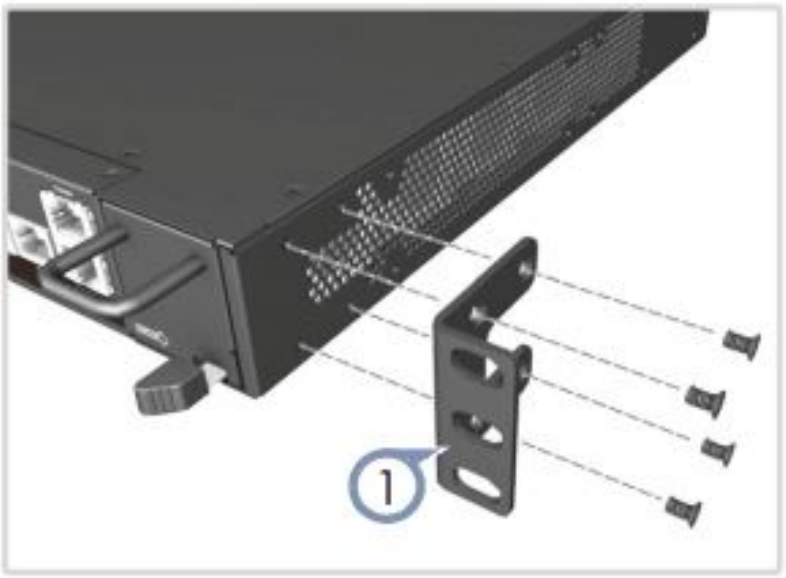
Warning: For a safe and reliable installation, use only the accessories and screws provided with the device. Use of other accessories and screws could result in damage to the unit. Any damages incurred by using unapproved accessories are not covered by the warranty.

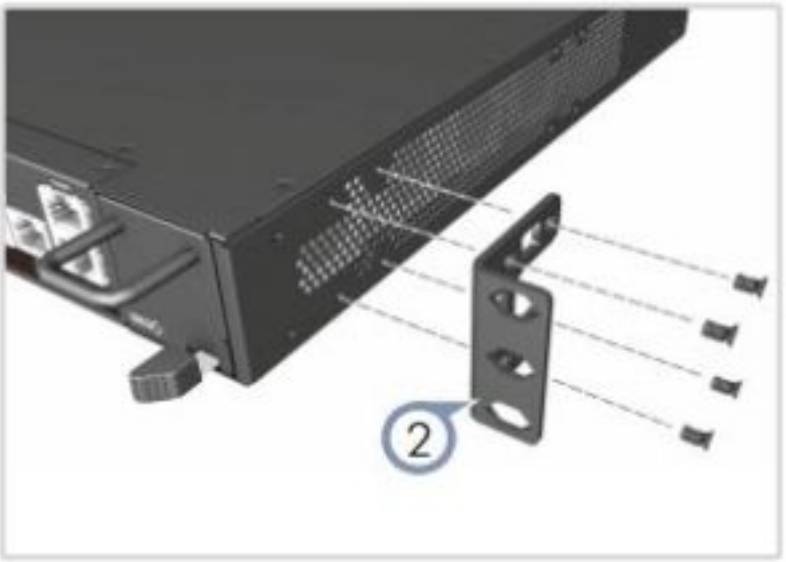
Caution: The device must be installed in a restricted-access location.

Note: The router has the Open Network Install Environment (ONIE) software installer preloaded, but no router software image. Information about compatible router software can be found at **www.edge-core.com.**

Note: The drawings in this document are for illustration only and may not match your particular model.

1. Mount the Router in an EIA-310 Rack





1. For 300mm-deep rack: Using the four front screw holes, attach each of the brackets to the router with four of the included bracket screws.
2. For 280mm-deep rack: Using the four recessed screw holes, attach each of the brackets to the router with four of the included bracket screws.

3. Use the screws and cage/clip nuts supplied with the rack to secure the router in the rack.

2. Ground the Router

Verify Rack Ground
Ensure the rack is properly grounded and in compliance with international and local standards. Verify that there is a good electrical connection to the grounding point on the rack (no paint or isolating surface treatment).

Attach Grounding Wire
Attach the grounding wire (#6 AWG/16 mm2) to the grounding point on the router's rear panel or side panel. Then connect the other end of the wire to rack ground.

Caution: The earth connection must not be removed unless all supply connections have been disconnected.

3. Connect Power

a. AC Power

Install one or two AC PSUs in the router, if they are not already installed in the factory. Then connect an external AC power source to the PSUs.

b. DC Power

Install one or two DC PSUs (part number CRXT-T0T12B only) in the router, if they are not already installed in the factory.

Connect an external DC power source to the PSUs. Or, connect to a notolerance DC mains supply with a UL/CSA-approved circuit breaker rated at 16 A.

Caution: Before connecting power supply cables to the router, ensure that power to the feed lines is turned off at the supply circuit breaker or disconnected from the power bus.

Caution: Use a UL/IEC/EN 60950-1 and/or 62368-1 certified power supply to connect to a DC converter, and a #14 AWG/1.5 mm2 (for 36 VDC to 72 VDC PSU) wire to connect to a DC PSU.

Caution: All DC power connections should be performed by a qualified professional.

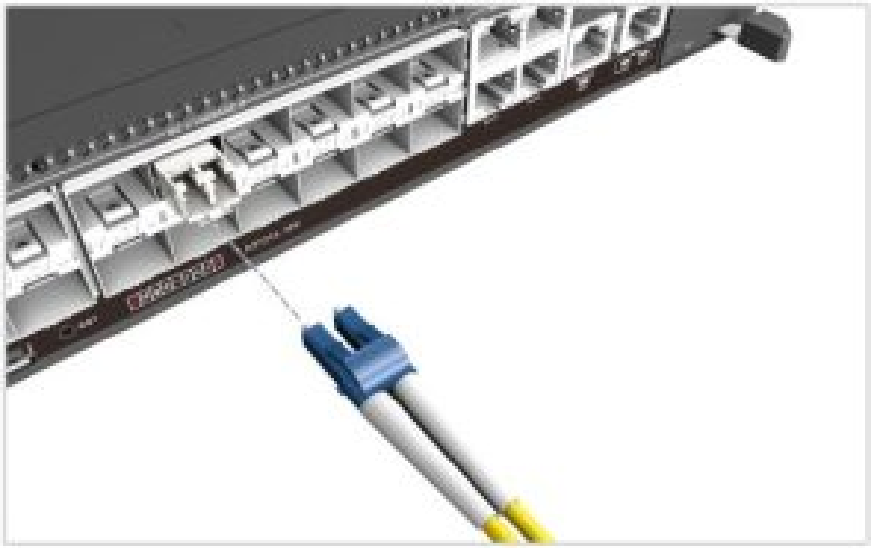
1. Connect the ground wire / protective earth.
2. Connect the -36 – -72 VDC wire.
3. Connect the DC return wire.

Note: It is suggested to use the following for DC power: One UL 1015 AWG#10-14 stranded wire, 2m maximum (36VDC-72VDC: Input+)
One UL 1015 AWG#10-14 stranded wire, 2m maximum (VDC return: Input-)

One UL 1015 AWG#10-14 stranded wire, 2m maximum, (green/yellow) green with yellow stripe (PE)

Note: The DC terminal screws should be tightened to a torque of 7 in-lbs maximum.

4. Make Network Connections



QSFP28/SFP28/SFP+ Ports
Install transceivers and then connect fiber optic cabling to the transceiver ports. Alternatively, connect AOC/DAC cables directly to the QSFP28/ SFP28/SFP+ slots.
The following transceivers are supported in the QSFP28 ports:

- 100GBASE-SR4
- 100GBASE-LR4
- 100GBASE-ER4

The following transceivers are supported in the SFP28 ports:

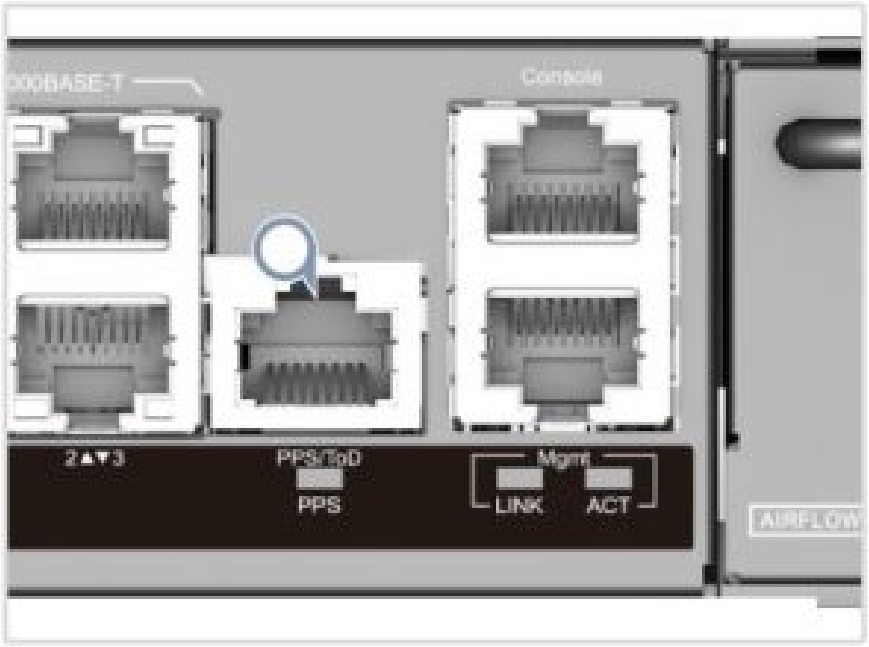
- 25GBASE-SR
- 25GBASE-LR

The following transceivers are supported in the SFP+ ports:

- 10GBASE-SR
- 10GBASE-LR
- 10GBASE-ER
- 10GBASE-ZR

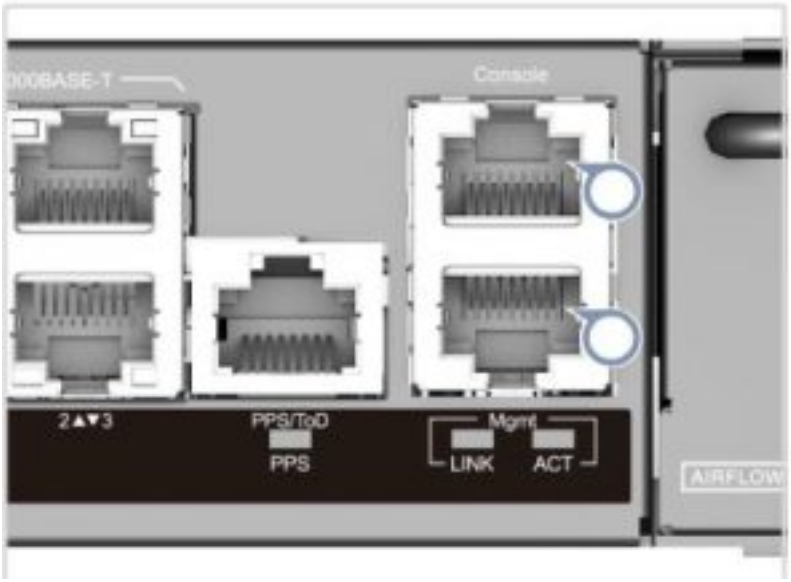
RJ-45 Ports
For the 1G RJ-45 ports, connect 100-ohm Category 5, 5e or better twisted-pair cable.

5. Connect Timing Port



RJ-45 PPS/ToD
Use a Cat. 5e or better twisted-pair cable to connect the 1-pulse-persecond (1PPS) and Time of Day (ToD) to other synchronized devices.

6. Make Management Connections



MGMT RJ-45 Port
Connect Category 5, 5e or better twisted-pair cable.
RJ-45 Console Port
Use the included RJ-45-to-DB-9 null-modem console cable to connect to a PC running terminal emulator software. Use a USB-to-male DB-9 adapter cable (not included) for connections to PCs that do not have a DB-9 serial port.

Configure the serial connection: 115200 bps, 8 characters, no parity, one stop bit, 8 data bits, and no flow control.

Console cable pinouts and wiring:

Router's RJ-45 Console	Null Modem	PC's 9-Pin DTE Port
6 RXD (receive data)	<----------	3 TXD (transmit data)
3 TXD (transmit data)	---------->	2 RXD (receive data)
4,5 SGND (signal ground)	----------	5 SGND (signal ground)

Hardware Specifications

Router Chassis	
Size (WxDxH)	440 x 300 x 44 mm (17.32 x 11.81 x 1.73 in.)
Weight	5.35 kg (11.79 lb), with two installed PSUs
Temperature	Operating: -40° C to 65° C (-40° F to 149° F) Transportation: -40° C to 70° C (-40° F to 158° F) Storage: -40° C to 70° C (-40° F to 158° F)
Humidity	Operating: 5% to 95% (non-condensing)
Power Capacity	290 Watts maximum
48 VDC PSU	
Power Rating	-48 VDC, 300 Watts
DC Input	-36 V – -72 V, 10 A
AC PSU	
AC Input	100–240 VAC, 50/60 Hz, 5 A maximum

Regulatory Compliances

Emissions	EN 55032:2015+AC:2016, Class A EN 61000-3-2:2014, Class A EN 61000-3-3:2013 EN 300 386 V1.6.1 EN 301 489-1 V2.1.1 EN 301 489-19 V2.1.0 EN 303 413 V1.1.1 FCC Title 47, Part 15, Subpart B, Class A Radio Equipment Directive 2014/53/EU VCCI-CISPR 32:2016, Class A BSMI Class A, CNS 13438 CCC GB 9254-2008, Class A
Immunity	EN 55035:2017 EN 55024:2010+A1:2015 IEC 61000-4-2/3/4/5/6/8/11
Environmental	Storage: • ETSI EN 300 019-1-1 Class 1.1 • Temperature: -40° C to 70° C (-40° F to 158° F) Transportation: • ETSI EN 300 019-1-2 Class 2.3 • Temperature: -40° C to 70° C (-40° F to 158° F) Operating Conditions: • ETSI EN 300 019-1-3 Class 3.2 • Temperature: -40° C to 65° C (-40° F to 149° F) • Relative Humidity: 5% to 95%
Safety	UL (CSA 22.2 No 62368-1 & UL 62368-1) CB (IEC/EN 60950-1 & IEC/EN 62368-1) BSMI CNS14336-1 CCC GB4943.1-2011

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