Edge-corE AS5915-16X Cell Site Gateway User Guide

Contents

Edge-core AS5915-16X Cell Site Gateway

Specifications

- **Model:** AS5915-16X | AS5915-16X AC

- **Power Supply:** 2 x DC or AC PSUs
- **Ports:**
  - 4 x 10G SFP+ ports
  - 8 x 1G SFP ports
  - 4 x 1G RJ-45 ports
  - Management Ports: RJ-45 console, 1000BASE-T RJ-45
  - USB storage port

Product Usage Instructions

Installation

- **Mount the Device in an EIA-310 Rack**
  Secure the device in the rack using the supplied screws and cage/clip nuts.
- **Ground the Device**
  Verify that the rack is properly grounded and attach the grounding wire to the device's rear or side panel and then to the
  rack ground.

Connect Power

- ***AC Power:*** Attach brackets to the device and connect an AC power source to both AC power sockets.
- ***DC Power:*** Connect an external DC power source to both DC terminals or to a no-tolerance DC mains supply with a UL/CSA-approved circuit breaker rated at 16 A.

Make Network Connections

- ***RJ-45 Ports:*** Connect Category 5, 5e, or better twisted-pair cable.
- ***SFP+/SFP Ports:*** Installed transceivers and connected fiber optic cabling. Supported transceivers listed in the manual.

Connect Timing Ports

- ***1PPS/10MHz:*** Use coax cables to connect the ports to other synchronized devices.
- ***RJ-45 PPS/TOD:*** Use Cat. 5e or better twisted-pair cable to connect the PPS and TOD port to other synchronized devices.

Quick Start Guide

Cell Site Gateway AS5915-16X | AS5915-16X AC

Package Contents

1. AS5915-16X or AS5915-16X AC Cell Site Gateway
2. Rack Mounting Kit—2 brackets and 8 screws

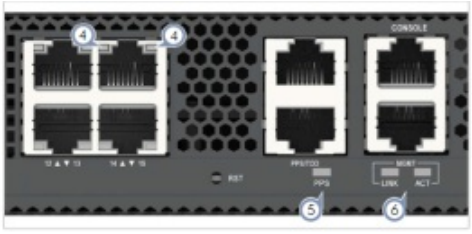
3. 2 x AC power cords
4. Grounding kit—grounding lug, 2 screws, and 2 washers
5. 4 x Ring lugs
6. Documentation—Quick Start Guide (this document) and Safety and Regulatory Information

Overview

1. 2 x DC or AC PSUs
2. 4 x 10G SFP+ ports
3. 8 x 1G SFP ports
4. 4 x 1G RJ-45 ports
5. Management Ports: RJ-45 console, 1000BASE-T RJ-45
6. USB storage port
7. Product tag
8. System LEDs
9. 1PPS and 10MHz IN/OUT connectors
10. Reset button
11. PPS/ToD RJ-45 port
12. Grounding screw

Status LEDs

1. **System LEDs:**
   LOC — Blinking Blue (device locator)
   DIAG — Green (OK), Blinking Green (fault detected) PSU1/2 — Green (OK), Amber (fault)
   ALRM — Green (OK), Red (fault)
2. **SFP+ Port LEDs:** Green (10G), Amber (1G)
3. **SFP Port LEDs:** Amber (1G)
4. **RJ-45 Port LEDs:** Amber (1G)
5. **PPS Port LED:** Green (incoming pulse)
6. **RJ-45 Management Port LEDs:** LINK (Green), ACT (Green)

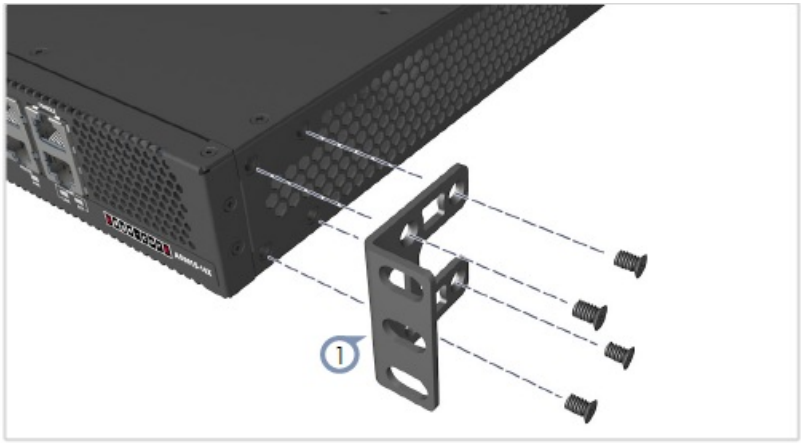


Installation

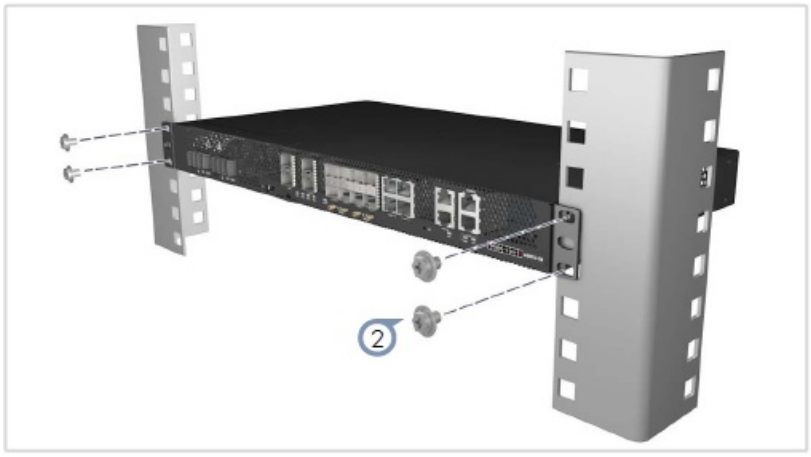
- **Warning:**
  For a safe and reliable installation, use only the accessories and screws provided with the device. Use of other accessories and screws could result in damage to the unit. Any damages incurred by using unapproved accessories are not covered by the warranty.
- **Caution**:
  Before making any connections or servicing this device, grounding by wearing an ESD wrist strap or other methods is advised.
- **Caution:**
  The device must be installed in a restricted-access location.
- **Note:**
  The device has the Open Network Install Environment (ONIE) software installer preloaded but no software image. Information about compatible 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.

Mount the Device in an EIA-310 Rack

Caution:
For optimal cooling, the device's fanless design requires a clearance of at least 8 cm (3 in.) at the front, 13 cm (5 in.) at the rear, and 1RU or 5 cm (2 in.) top and bottom, with a minimum airflow of 1 m/s (3.28 ft/s) around all sides without recirculation.

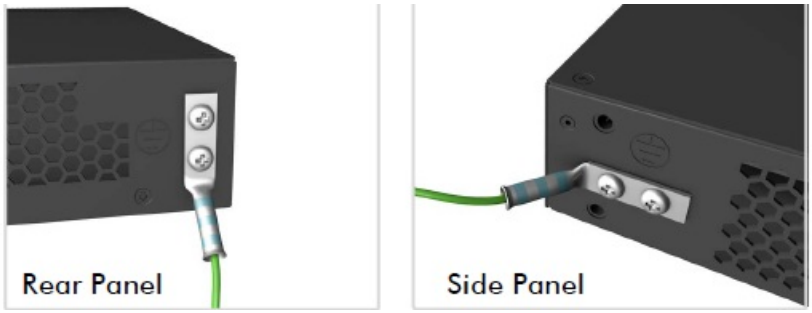


1. Attach each of the brackets to the device with four of the included bracket screws.



2. Use the screws and cage/clip nuts supplied with the rack to secure the device in the rack.

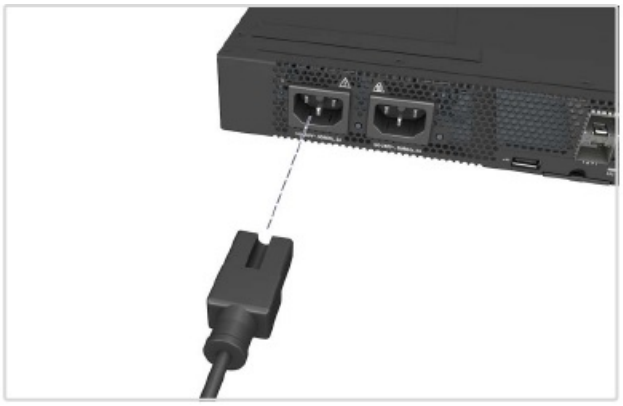
Ground the Device



- **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 device's rear or side panel. Then, connect the other end of the wire to the rack ground.

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

Connect Power



Connect an AC power source to both AC power sockets.

b. DC Power
Connect an external DC power source to both DC terminals. Or, connect to a no-tolerance DC mains supply with a UL/CSA-approved circuit breaker rated at 16 A.

- **Caution:** Before connecting power supply cables to the device, 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 to -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.

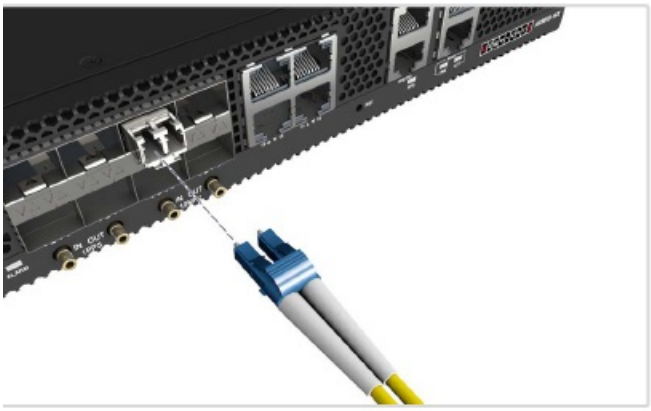
Make Network Connections

RJ-45 Ports
Connect Category 5, 5e, or better twisted-pair cable.
SFP+/SFP Ports
Install transceivers and then connect fiber optic cabling to the transceiver ports. Alternatively, connect AOC/DAC cables directly to the SFP+/SFP slots.
The following transceivers are supported in the SFP+ ports:

- 10GBASE-SR
- 10GBASE-LR

The following transceivers are supported in the SFP ports:

- 1000BASE-SX
- 1000BASE-LX

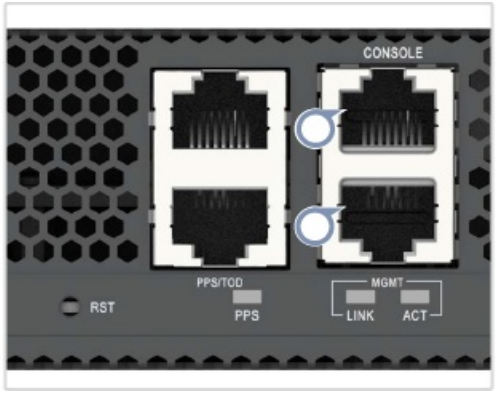


Connect Timing Ports

- **1PPS/10MHz**
  Use coax cables to connect the 10 MHz and 1-pulse-per-second (1PPS) ports to other synchronized devices.
- **RJ-45 PPS/TOD**
  Use a Cat. 5e or better twisted-pair cable to connect the pulse-per-second (PPS) and Time of Day (TOD) port to other synchronized devices.

Make Management Connections

- **MGMT RJ-45 Port**
  Connect Category 5, 5e, or better twisted-pair cable.
- **RJ-45 Console Port**
  Use an 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:



Device'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

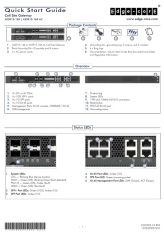
Size (WxDxH)	440 x 240 x 44 mm (17.32 x 9.45 x 1.73 in.)
Weight	3.8 kg (8.38 lb)
Temperature	Operating: -40° C to 65° C (-40° F to 149° F) Transportation: -40° C to 70° C (-40° F to 158° F) Storage: -40° C to 70° C (-40° F to 158° F) **Note:** When cold booting the unit, place the unit in a 0 to 65° C environment.
Humidity	Operating: 5% to 95% (non-condensing)
System Input Rating	100–240 VAC, 50/60 Hz, 2 A -36 – -72 VDC, 6 A
Regulatory Compliances	
Emissions	EN 55032, Class B BS EN 55032 EN 300 386 FCC Title 47, Part 15, Subpart B, Class B VCCI-CISPR 32, Class B BSMI Class B, CNS 15936
Immunity	EN 55035 EN 55024 BS EN 55035 BS EN 55024 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 62368-1)

www.edge-core.com

Frequently Asked Questions

- **How do I know if my device is properly grounded?**
  Ensure that there is a good electrical connection to the grounding point on the rack without any paint or isolating surface treatment. Follow the instructions in the manual to attach the grounding wire securely.
- **What type of cables should I use for network connections?**
  For RJ-45 ports, use Category 5, 5e, or better twisted-pair cables. For SFP+/SFP ports, install compatible transceivers and connect fiber optic cabling as instructed.
- **How should I connect the timing ports for synchronization?**
  Use coax cables for the 10 MHz and 1PPS ports and Cat. 5e or better twisted-pair cable for the PPS/TOD port as specified in the manual.

Documents / Resources

	Edge-corE AS5915-16X Cell Site Gateway [pdf] User Guide AS5915-16X, AS5915-16X AC, AS5915-16X Cell Site Gateway, AS5915-16X, Cell Site Gateway, Site Gateway, Gateway

References

- Edgecore Networks – Edgecore Networks, a leading provider of traditional and open network solutions, delivers wired and wireless networking products and solutions through channel partners and system integrators worldwide for data center, service provider,
- User Manual