

Quick Start Guide

Ethernet Switch/Router

AS9947-36XKB AC | AS9947-36XKB DC



www.edge-core.com

Package Contents



1



2



3



4



5



6

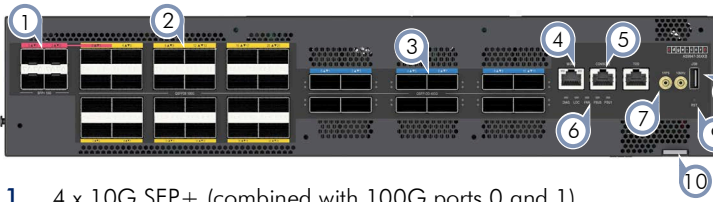


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1. AS9947-36XKB AC or AS9947-36XKB DC Ethernet Switch/Router
2. Rack mounting kit — 2 rack-rail assemblies
3. 2 x AC power cord (included with AC PSUs only)
4. 2 x DC power cable (included with DC PSUs only)

5. Grounding kit — grounding lug, 2 screws, and 2 washers
6. Console cable — RJ-45 to DB-9
7. Documentation — *Quick Start Guide* (this document) and *Safety and Regulatory Information*

Overview

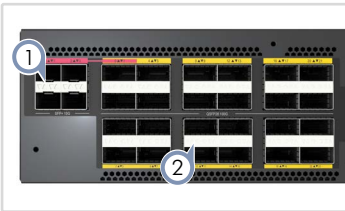


1. 4 x 10G SFP+ (combined with 100G ports 0 and 1)
2. 24 x 100G QSFP28
3. 12 x 400G QSFP-DD
4. RJ-45 Management port
5. RJ-45 Console port
6. System LEDs
7. Timing ports: 1 x RJ-45 ToD port, 1 x 1PPS connector, 1 x 10MHz connector



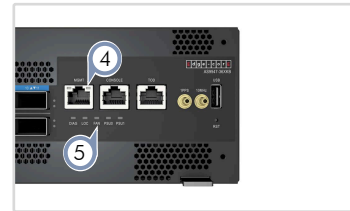
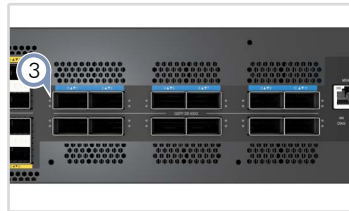
8. USB port
9. Reset button
10. Product tag
11. Grounding point
12. 2 x AC or DC PSUs
13. 4 x fans

Front LEDs



1. **SFP+ Port LEDs:**
 - LED1 (left) — Yellow (10G); LED2 (right) — Link/Activity*
2. **QSFP28 Port LEDs:**
 - LED1 (left) — Blue (100G), Green (40G), Cyan (25G), Yellow (10G); LED2 (right) — Link/Activity*
3. **QSFP-DD Port LEDs:**
 - LED1 (top) — Magenta (400G), Blue (100G), Cyan (25G), Yellow (10G); LED2 (bottom) — Link/Activity*

*LED2 (right/bottom) — Green (all lanes linked), Yellow (not all lanes linked), Blinking (activity)



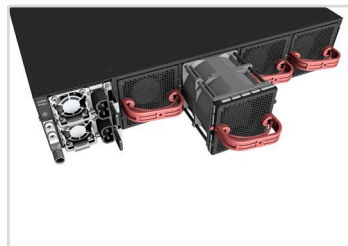
4. **Management Port LEDs:**
 - RJ-45 OOB Port — Left (activity), Right (speed)
5. **System LEDs:**
 - DIAG — Green (OK), Red (fault detected)
 - LOC — Flashes Blue when the command is activated
 - FAN — Green (OK), Red (fault)
 - PSU0 and PSU1 — Green (OK), Red (fault)

FRU Replacement



PSU Replacement

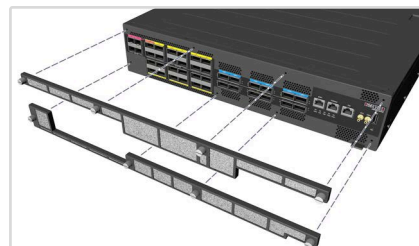
1. Remove the power cord.
2. Press the release latch and remove the PSU.
3. Install replacement PSU with matching airflow direction.



Fan Tray Replacement

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

Optional Air Filter



Air Filter Attachment/Replacement

1. Unscrew the filter cover captive screws.
2. Remove the old filter and install a replacement filter.
3. Replace the filter cover and tighten the captive screws.



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.

Avertissement: Pour une installation sûre et fiable, utilisez uniquement les accessoires et les vis fournies avec l'appareil. L'utilisation d'autres accessoires et vis pourrait endommager l'appareil. Les dommages causés par l'utilisation d'accessoires non approuvés ne sont pas couverts par la garantie.



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

Attention: L'appareil doit être installé dans un emplacement à accès restreint.

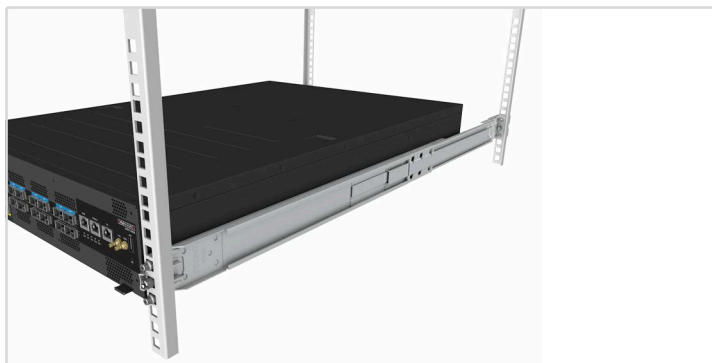


Note: The device has the Open Network Install Environment (ONIE) software installer preloaded, but no software image. Information about compatible software can be found at www.edge-core.com.



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

1 Mount the Device



Using the Slide-Rail Kit

Follow instructions in the install guide provided in the slide-rail kit to mount the device in a rack.



Note: Stability hazard. The rack may tip over causing serious personal injury. Before extending the rack to the installation position, read the installation instructions. Do not put any load on the slide-rail mounted equipment in the installation position. Do not leave the slide-rail mounted equipment in the installation position.

2 Ground the Device



Verify Rack Ground

Ensure the rack on which the device is to be mounted is properly grounded and in compliance with ETSI ETS 300 253. 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 lug to a #6 AWG minimum grounding wire (not included), and connect it to the grounding points on the device rear panel. Then connect the other end of the wire to rack ground.



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

Attention: Le raccordement à la terre ne doit pas être retiré sauf si toutes les connexions d'alimentation ont été débranchées.



Caution: The device must be installed in a restricted-access location. It should have a separate protective ground terminal on the chassis that must be permanently connected to a well grounded chassis or frame to adequately ground the device chassis and protect the operator from electrical hazards.

Attention: L'appareil doit être installé dans un emplacement à accès restreint. Il doit comporter une borne de terre de protection distincte sur le châssis, qui doit être connectée en permanence à la terre pour assurer une mise à la terre adéquate du châssis et protéger l'opérateur des risques électriques.

3 Connect Power

a. AC Power



If the AC input rating is 100–127 VAC, install two AC PSUs and connect them to separate AC power outlets.

(Recommended) If the AC input rating is 200–240 VAC, install one or two AC PSUs and connect them to an AC power source.






Note: When using a 100-127 VAC power input, PSUs operate in low-line mode and may not support full power redundancy under certain circumstances. It is recommended to use a 200-240 VAC power input to achieve optimal performance.

b. DC Power



Install one or two DC PSUs and connect them to a DC power source using the included DC power cables.

-  **Caution:** Use a IEC/UL/EN 60950-1 and/or 62368-1 certified power supply to connect to a DC converter.
Attention: Utilisez une alimentation certifiée IEC/UL/EN 60950-1 et/ou 62368-1 pour vous connecter à un convertisseur CC.
-  **Caution:** All DC power connections should be performed by a qualified professional.
Attention: Toutes les connexions d'alimentation CC doivent être effectuées par un professionnel qualifié.
-  **Note:** Use #6 AWG/ 10 mm² copper wire (for a -48 to -60 Vdc PSU) to connect to a DC PSU.


4 Perform Initial System Boot

1. ONIE Installer Software

If the network operating system (NOS) installer is located on a network server, first connect the RJ-45 Management (Mgmt) port to the network using 100-ohm Category 5, 5e or better twisted-pair cable. (Not required if the NOS installer is located on attached storage.)

2. Boot the Device

Wait for the ONIE software to locate and execute the NOS installer, and then wait for the installer to load the NOS software image. Subsequent device boots will bypass ONIE and directly run the NOS software.

-  **Note:** For devices with ONIE software pre-loaded, refer to the network operating system (NOS) installer and NOS documentation for details on software options and set up for ONIE.

5 Connect Timing Ports



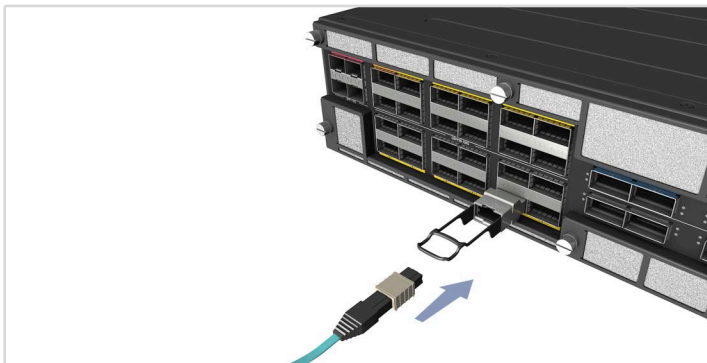
RJ-45 To D

Use a Cat. 5e or better twisted-pair cable to connect the Time of Day to other synchronized devices.

10MHz 1PPS

Use coax cables to connect the 10MHz and 1-pulse-per-second (1PPS) ports to other synchronized devices.

6 Make Network Connections




10G SFP+ Ports

Install transceivers and then connect fiber optic cabling to the transceiver ports.

The following transceivers are supported in the SFP+ ports:

- 10GBASE-SR, LR

Alternatively, connect DAC or AOC cables directly to the SFP+ slots.

-  **Note:** The 10G SFP+ ports are grouped with 100G QSFP28 ports 0 and 1. Either the SFP+ ports or the QSFP28 ports may be used, but concurrent operation of both types is not supported.

100G QSFP28 Ports

Install transceivers and then connect fiber optic cabling to the transceiver ports.

The following transceivers are supported in the QSFP28 ports:

- 40GBASE-SR4, LR4
- 100GBASE-SR4, CWDM4, LR4, ER4, ZR4

Alternatively, connect DAC or AOC cables directly to the QSFP28 slots.


400G QSFP-DD Ports

Install transceivers and then connect fiber optic cabling to the transceiver ports.

The following transceivers are supported in the QSFP-DD ports:

- 400GBASE-SR8, DR4, FR4

Alternatively, connect DAC, AOC, or AEC cables directly to the QSFP-DD slots.

-  **Note:** The latest information on compatible transceivers and cables can be found at www.edge-core.com.



7 Make Management Connections



MGMT RJ-45 Port

Connect Cat. 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:

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

Interfaces

Management	1 x RJ-45 Console port 1 x RJ-45 10/100/1000BASE-T Management port
Network	4 x 10G SFP+ 24 x 100G QSFP28 12 x 400G QSFP-DD

Chassis

Size (WxDxH)	440 x 649.2 x 87 mm (17.3 x 25.5 x 3.4 in)
Weight	20.5 kg (45.18 lb)
Operating Temperature	0° C to 45° C (32° F to 113° F)
Storage Temperature	-40° C to 70° C (-40° F to 158° F)
Humidity	Operating: 5% to 85% (non-condensing) Storage: 5% to 95% (non-condensing)
Typical Power Consumption	421.5 W at 25° C (77° F), excluding transceivers.

System Input

DC Input	-48 – -60 VDC, 50 A max. per PSU
AC Input	100-127 VAC, 50/60 Hz, 12 A max. per PSU 200-240 VAC, 50/60 Hz, 10 A max. per PSU Note: For optimal performance, it is recommended to use a 200-240 VAC power input.

Regulatory Compliances

Emissions	EN 55032 EN 61000-3-2 EN 61000-3-3 FCC Part 15 subpart B Class A
Immunity	EN 55024 EN 55035 IEC 61000-4-2/3/4/5/6/8/11
Safety	UL/CUL (CAN/CSA22.2 No 62368-1 & UL 62368-1) CB (IEC/EN 62368-1)
Taiwan RoHS	CNS 15663