

Cisco Embedded Service 3300 Series Switches Software Configuration Overview

This section contains:

- General Description, on page 1
- Finding Feature Information, on page 2
- SKU Information, on page 2
- Main Module, on page 3
- Expansion Module, on page 3
- SD Support, on page 4
- SFP Support, on page 4
- Secure Boot Architecture, on page 6

General Description

The Cisco ESS 3300 is an embedded Ethernet switch card that has a small form factor board size. The compact design simplifies integration and offers system integrators the ability to use the Cisco ESS 3300 in a wide variety of applications. The Cisco ESS 3300 consists of a Main Board and an optional Expansion Board. Both the Main Board and the Expansion Board are available with Cisco-designed cooling plates, and are also available without the cooling plates for system integrators who want to design their own custom thermal solutions.

The ESS-3300 is a ruggedized GigE Embedded platform for tactical, outdoor and mobile installations. Some of the key features are:

- Main Board – 2 Optical 10G + 8 GE ports (4 combo)
- Expansion Board – 16 GE ports (4 combo)
- Next Generation IE switch feature set
- Software: IOS-XE, Network Essentials and Network Advantage
- Native PoE software visibility
- Push Button, that supports the Zero-ize feature
- Two alarm inputs and One alarm output
- One SD interface
- One USB 2.0 Host interface for USB Flash Memory Device.
- One USB 2.0 Console Interface.

- One RS-232 Console Interface.

Note The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on Cisco.com is not required.

SKU Information

The following table lists the different SKUs available for the ESS3300.

Table 1: Cisco ESS 3300 SKUs

SKU	Description	Feature Software	Ports
ESS-3300-NCP-E	Main Board without a cooling plate.	Network Essentials	2 ports of 10 GE fiber, 8 ports of GE copper. 4 of the 8 GE copper ports can also be combo ports.
ESS-3300-CON-E	Main Board conduction cooled	Network Essentials	2 ports of 10 GE fiber, 8 ports of GE copper. 4 of the 8 GE copper ports can also be combo ports
ESS-3300-24T-NCP-E	Main Board with a 16p Expansion Board without a cooling plate	Network Essentials	2 ports of 10 GE fiber, 24 ports of GE copper 4 of 8 GE ports can be combo ports on mainboard 4 of 16 GE ports can be combo ports on expansion board
ESS-3300-24T-CON-E	Main Board with a 16p Expansion Board conduction cooled	Network Essentials	2 ports of 10 GE fiber, 24 ports of GE copper 4 of 8 GE ports can be combo ports on mainboard 4 of 16 GE ports can be combo ports on expansion board
ESS-3300-NCP-A	Main Board without a cooling plate.	Network Advantage	2 ports of 10 GE fiber, 8 ports of GE copper. 4 of the 8 GE copper ports can also be combo ports.

SKU	Description	Feature Software	Ports
ESS-3300-CON-A	Main Board conduction cooled	Network Advantage	2 ports of 10 GE fiber, 8 ports of GE copper. 4 of the 8 GE copper ports can also be combo ports
ESS-3300-24T-NCP-A	Main Board with a 16p Expansion Board without a cooling plate	Network Advantage	2 ports of 10 GE fiber, 24 ports of GE copper 4 of 8 GE ports can be combo ports on mainboard 4 of 16 GE ports can be combo ports on expansion board
ESS-3300-24T-CON-A	Main Board with a 16p Expansion Board conduction cooled	Network Advantage	2 ports of 10 GE fiber, 24 ports of GE copper 4 of 8 GE ports can be combo ports on mainboard 4 of 16 GE ports can be combo ports on expansion board

Main Module

- 2 - Optical 10G Ports on the main module
- 4 - 1G Combo Ports on the main module
  - Support 10/100/1000 Copper
  - Support 100/1000 SFP interfaces
- 4 - Dedicated 10/100/1000 Copper ports on the main module for total of 8 – 1G network ports

Note MACsec is not available for the two 10 / 1 GE uplink ports (regardless of the speed used) due to hardware constraints.

Expansion Module

- 4 - 1G Combo Ports on the main module
  - Support 10/100/1000 Copper
  - Support 100/1000 SFP interfaces
- 12 - Dedicated 10/100/1000 Copper ports on the main module for total of 16 network ports

Note 802.3af and 802.3at support is available if the integrator provides the PoE controllers on their finished product.

The ESS-3300 supports IOS-XE software control of PoE if the integrator adds the appropriate circuitry to their host chassis.

SD Support

SFP Support

Both 100BASE-X and 1000BASE-X SFP transceivers are supported by the eight combo ports, four on the Main Board and four on the Expansion Board.

Supported SFP+ Modules

The following table lists the supported SFP+ Modules.

SFP	Distance	Fiber	Commercial (0C to 70C)	Extended (-5C to 85C)	Industrial (-40C to 85C)	DOM
SFP-10G-SR-X	2 km	MMF		X		
SFP-10G-LR-X	10 km	SMF		X		
SFP-10G-SR	2 km	MMF	X			
SFP-10G-LR	10 km	SMF	X			
SFP-10G-ER	40 km	SMF	X			
SFP-10G-BXD-I	10 km	SMF			X	
SFP-10G-BXU-I	10 km	SMF			X	
SFP-10G-BX40D-I	40 km	SMF			X	
SFP-10G-BX40U-I	40 km	SMF			X	
SFP-H10G-CU1M	1 m	Passive Twinax	X			
SFP-H10G-ACU7M		Active Twinex	X			
SFP-H10G-ACU10M		Active Twinex	X			

Supported SFP Modules

The following table lists the Supported SFP Modules.

SFP	Distance	Fiber	Commercial (0C to 70C)	Extended (-5C to 85C)	Industrial (-40C to 85C)	DOM
GLC-SX-MM-RGD	220-550 m	MMF			X	

SFP	Distance	Fiber	Commercial (0C to 70C)	Extended (-5C to 85C)	Industrial (-40C to 85C)	DDM
GLC-LX-SM-RGD	550 m/10 km	MMF/SMF			X	
GLC-ZX-SM-RGD	70 km	SMF			X	X
SFP-GE-S	220-550 m	MMF		X		X
SFP-GE-L	550 m/10 km	MMF/SMF		X		X
SFP-GE-Z	70 km	SMF		X		X
GLC-BX-U	10 km	SMF	X			X
GLC-BX-D	10 km	SMF	X			X
GLC-SX-MM	220-550 m	MMF	X			
GLC-LH-SM	550 m/10 km	MMF/SMF	X			
GLC-ZX-SM	70 km	SMF	X			X
GLC-EX-SMD	40 km	SMF	X			X

Supported Fast Ethernet SFP Modules

The following table lists the Supported Fast Ethernet SFP Modules.

SFP	Distance	Fiber	Commercial (0C to 70C)	Extended (-5C to 85C)	Industrial (-40C to 85C)	DDM
GLC-FE-100FX-RGD	2 km	MMF			X	
GLC-FE-100LX-RGD	10 km	SMF			X	
GLC-FE-100FX	2 km	MMF	X			
GLC-FE-100LX	10 km	SMF	X			
GLC-FE-100EX	40 km	SMF	X			
GLC-FE-100ZX	80 km	SMF	X			
GLC-FE-100BX-U	10 km	SMF	X			
GLC-FE-100BX-D	10 km	SMF	X			

Secure Boot Architecture

The processor uses a multi-stage boot process that supports both a non-secure and a secure boot. For a secure boot, the system decrypts and authenticates the images while the 4096-bit RSA block authenticates the image. Upon reset, the CPU reads the device mode pins to determine the primary boot device to be used. Booting from these flash boot devices is supported.

- SD Flash
- On-board Flash

Note The prior generation, ESS 2020, runs Cisco IOS Classic while the ESS 3300 uses Cisco IOS XE.

Auto Boot Stages

See the following graphic for an illustration of the auto boot sequence.

Figure 1: Auto Boot Stages

