ThinkEdge SE100 Enclosure Internal Cable Routing Guide

Machine Type: 7DGV

Note

Before using this information and the product it supports, be sure to read and understand the safety information and the safety instructions, which are available at:
https://pubs.lenovo.com/safety_documentation/

In addition, be sure that you are familiar with the terms and conditions of the Lenovo warranty for your server, which can be found at:
http://datacentersupport.lenovo.com/warrantylookup

First Edition (May 2025)

Contents

Safety

Before installing this product, read the Safety Information.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الآمنية

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information （安全信息）。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

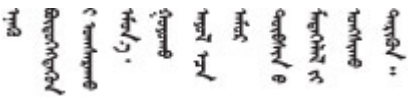
A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.



Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto zariadenia si pečítaje Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto, lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

ཐོན་རྫས་འདི་བདེ་སྒྲིག་མ་བྱས་གོང་། སྔོན་ཀྱི་ཡིད་གཟབ་
བྱ་འདུ་ཤེས་ཡོད་པའི་འོད་སྡེར་བཀླག་དགོས།

Bu ürünü kurmadan önce güvenlik bilgilerini okuyun.

مەزكۇر مەھسۇلاتنى ئورنىتىشتىن بۇرۇن بىخەتەرلىك ئۇچۇرلىرىنى ئوقۇپ چىقىڭ.

Youq mwngz yungh canjbinj neix gaxgonq, itdingh aeu doeg aen canjbinj soengq cungj vahgangj ancien siusik.

Safety inspection checklist

Use the information in this section to identify potentially unsafe conditions with your server. As each machine was designed and built, required safety items were installed to protect users and service technicians from injury.

Note: The product is not suitable for use at visual display workplaces according to §2 of the Workplace Regulations.

CAUTION:
This equipment must be installed or serviced by trained personnel, as defined by the NEC, IEC 62368-1 & IEC 60950-1, the standard for Safety of Electronic Equipment within the Field of Audio/Video, Information Technology and Communication Technology. Lenovo assumes you are qualified in the servicing of equipment and trained in recognizing hazards energy levels in products. Access to the equipment is by the use of a tool, lock and key, or other means of security, and is controlled by the authority responsible for the location.

Important:

- Electrical grounding of the server is required for operator safety and correct system function. Proper grounding of the electrical outlet can be verified by a certified electrician.
- Do not remove the black coating on the surface of the server. The black coating on the surface is insulating for electro-static discharge protection

Use the following checklist to verify that there are no potentially unsafe conditions:

1. Make sure that the power is off and the power cord is disconnected.
2. Check the power cord.
    - Make sure that the third-wire ground connector is in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and the frame ground.
    - Make sure that the power cord is the correct type.

      To view the power cords that are available for the server:

a. Go to:

   http://dcsc.lenovo.com/#/

b. Click **Preconfigured Model** or **Configure to order**.

c. Enter the machine type and model for your server to display the configurator page.

d. Click **Power → Power Cables** to see all line cords.

- Make sure that the insulation is not frayed or worn.

3. Check for any obvious non-Lenovo alterations. Use good judgment as to the safety of any non-Lenovo alterations.
4. Check inside the server for any obvious unsafe conditions, such as metal filings, contamination, water or other liquid, or signs of fire or smoke damage.
5. Check for worn, frayed, or pinched cables.
6. Make sure that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.

Internal cable routing

This section provides information on internal cable routing of specific components.

When ThinkEdge SE100 is in Rack mount configuration, the 1U2N enclosure can contain up to two ThinkEdge SE100 nodes with PCIe expansion kit while 1U3N can contain up to three ThinkEdge SE100 nodes. Make sure to follow the steps below to connect the cables to the rear I/O connectors of the ThinkEdge SE100 Node and expansion kits and ensure that the relevant cables pass through the cable clips and guides.

Procedure

1. Remove the following components that are installed on the enclosure and put them in a safe, static protective place.
   - ***Enclosure top cover replacement***
   - ***Air baffle replacement***
2. Remove the crossbar from the enclosure. See the step 2 in ***Remove an enclosure power adapter***.
3. Loosen the two screws that secure the rear bracket; then, remove the rear bracket from the enclosure.

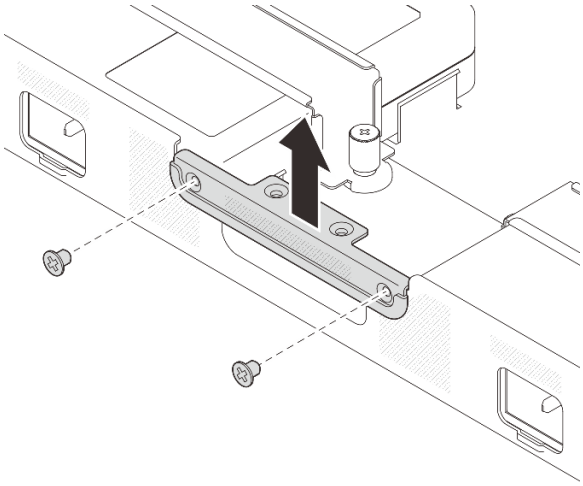


Figure 1. Removing the enclosure rear bracket

4. Ensure that the relevant cables pass through the cable clips and guides as illustrated below:

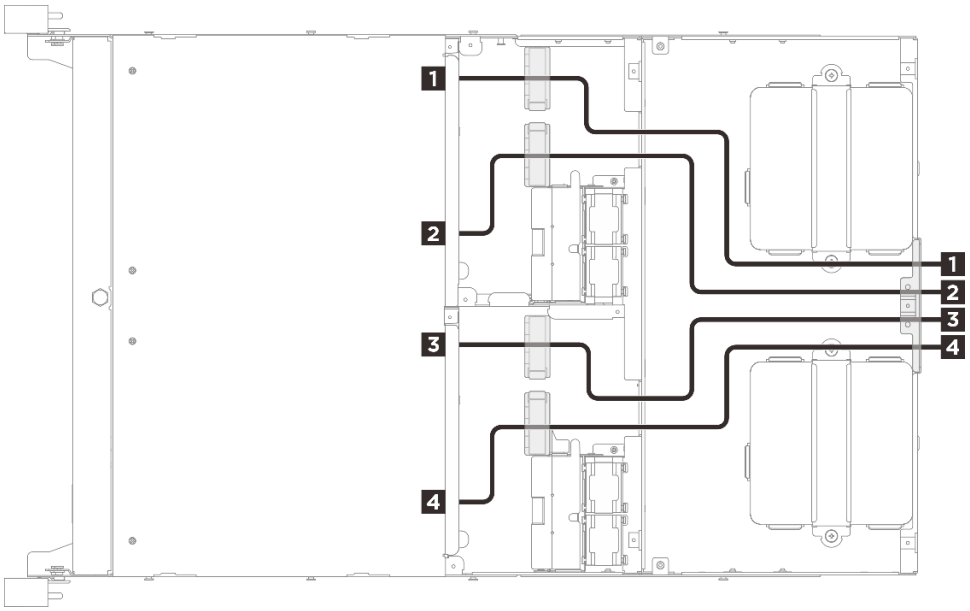


Figure 2. Cable clips and guides on 1U2N enclosure

Cable	From	Enclosure bay
1	PCIe expansion kit rear I/O connectors	Bay1
2	Node rear I/O connectors	
3	PCIe expansion kit rear I/O connectors	Bay2
4	Node rear I/O connectors	

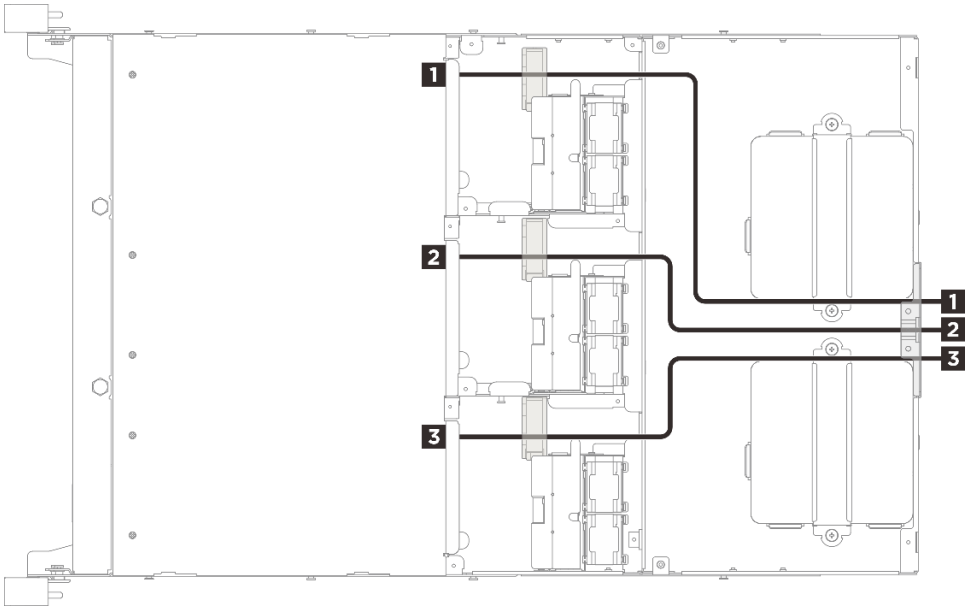


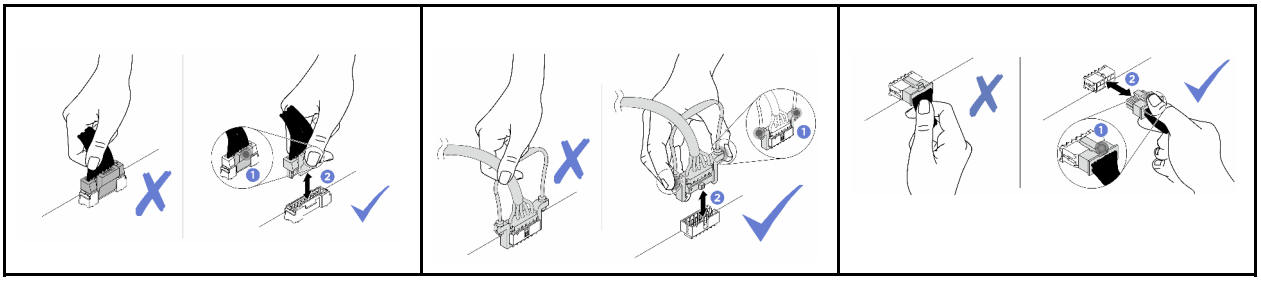
Figure 3. Cable clips and guides on 1U3N enclosure

Cable	From	Enclosure bay
1	Node rear I/O connectors	Bay1
2		Bay2
3		Bay3

Attention: Disengage all latches, release tabs, or locks on cable connectors when you disconnect cables from the system board. Failing to release them before removing the cables will damage the cable sockets on the system board, which are fragile. Strictly observe the following instructions to avoid damaging cable sockets on the system board. Any damage to the cable sockets might require replacing the system board.

- Connect cable connectors vertically or horizontally in alignment with the orientations of the corresponding cable sockets, avoiding any tilt.
- To disconnect cables from the system board, do as follows:
  1. Press and hold all latches, release tabs, or locks on cable connectors to release the cable connectors.
  2. Remove the cable connectors vertically or horizontally in alignment with the orientations of the corresponding cable sockets, avoiding any tilt.

     Note: The cable connectors might look different from those in the illustration, but the removal procedure is the same.



Identifying connectors

See this section to locate and identify the connectors on the electric boards.

Fan control board (FCB) connectors

See this section to locate the connectors on the fan control board.

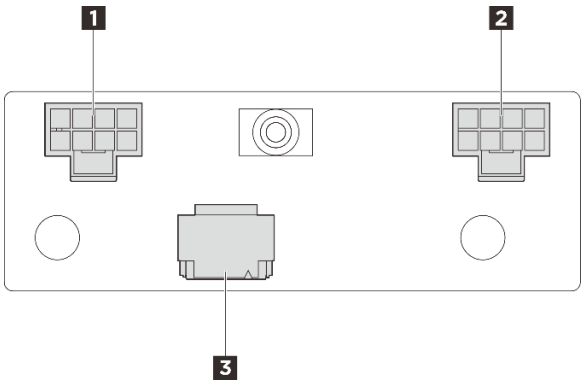


Figure 4. Fan control board connectors

1 Fan 3 connector	2 Fan 4 connector
3 Fan board power and signal connector	

Rear I/O connectors

The following illustrations show the internal connectors on the rear side of the node and expansion kit that are used for internal cable routing.

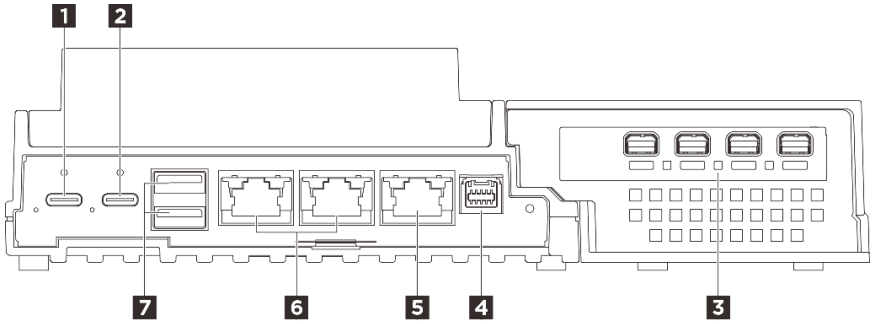


Figure 5. Rear I/O connectors

Table 1. Rear I/O connectors

1 USB 3.0 Type-C power connector 1	2 USB 3.0 Type-C power connector 2
3 PCIe adapter connectors (expansion kit)	4 Fan control board connector
5 XCC system management port (10/100/1000 Mbps RJ-45)	6 1GbE RJ-45 connectors
7 USB 3.2 Gen2 (10 Gbps) Type-A connectors	

For more information about cable routing, see Chapter 1 “Internal cable routing” on page 1.

Enclosure power adapter cable routing

Follow the instructions in this section to learn how to do cable routing for enclosure power adapter.

Notes:

- Connections between connectors; 1↔1, 2↔2, 3↔3, ... n↔n
- When routing the cables, ensure that all cables are routed appropriately through the cable guides and cable clips.

Cable routing for 1U2N power adapter

Power adapter 1	Power adapter 2

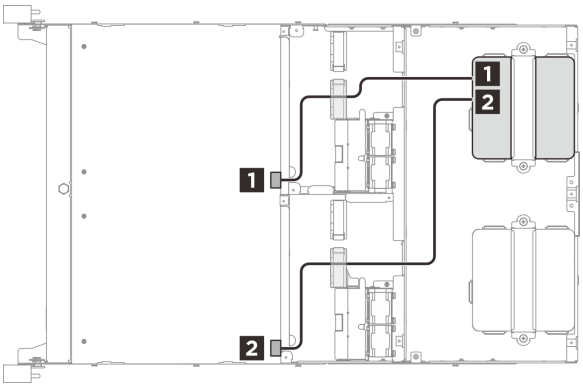
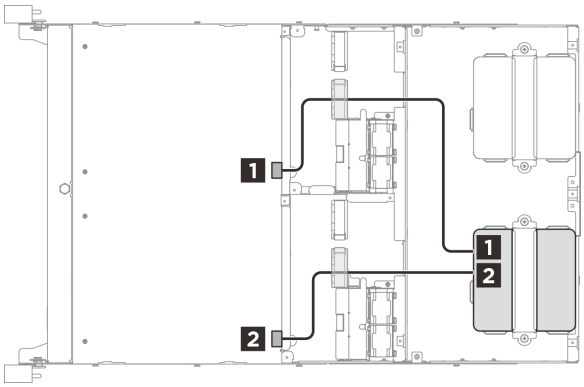

	

Figure 6. Cable routing for 1U2N power adapter	*Figure 7. Cable routing for 1U2N power adapter*

Table 2. Cable routing for Power adapter 1

Cable	From: Node	To: Power adapter 1
1	Power connector 1 –Bay1	Power connectors (Power adapter 1)
2	Power connector 1 –Bay2	

Table 3. Cable routing for Power adapter 2

Cable	From: Node	To: Power adapter 2
1	Power connector 2 –Bay1	Power connectors (Power adapter 2)
2	Power connector 2 –Bay2	

Cable routing for 1U3N power adapter

Power adapter 1	Power adapter 2

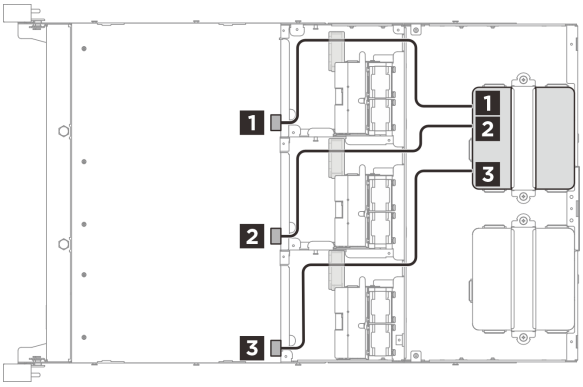
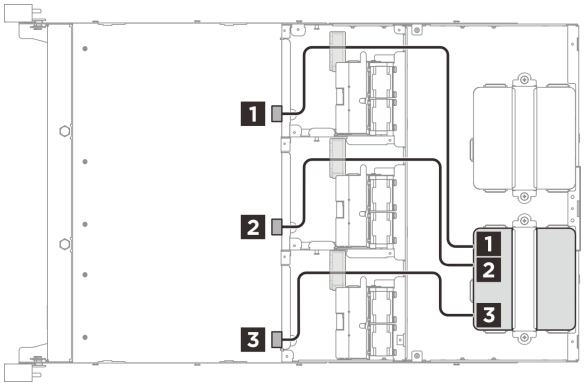

	

Figure 8. Cable routing for 1U3N power adapter	*Figure 9. Cable routing for 1U2N power adapter*

Table 4. Cable routing for Power adapter 1

Cable	From: Node	To: Power adapter 1
1	Power connector 1 –Bay1	Power connectors (Power adapter 1)
2	Power connector 1 –Bay2	
3	Power connector 1 –Bay3	

Table 5. Cable routing for Power adapter 2

Cable	From: Node	To: Power adapter 2
1	Power connector 2 –Bay1	Power connectors (Power adapter 2)
2	Power connector 2 –Bay2	
3	Power connector 2 –Bay3	

Enclosure fan control board cable routing

Follow the instructions in this section to learn how to do cable routing for fan control board.

Notes:

- Connections between connectors; 1↔1, 2↔2, 3↔3, ... n↔n
- When routing the cables, ensure that all cables are routed appropriately through the cable guides and cable clips.

Cable routing for 1U2N fan control board

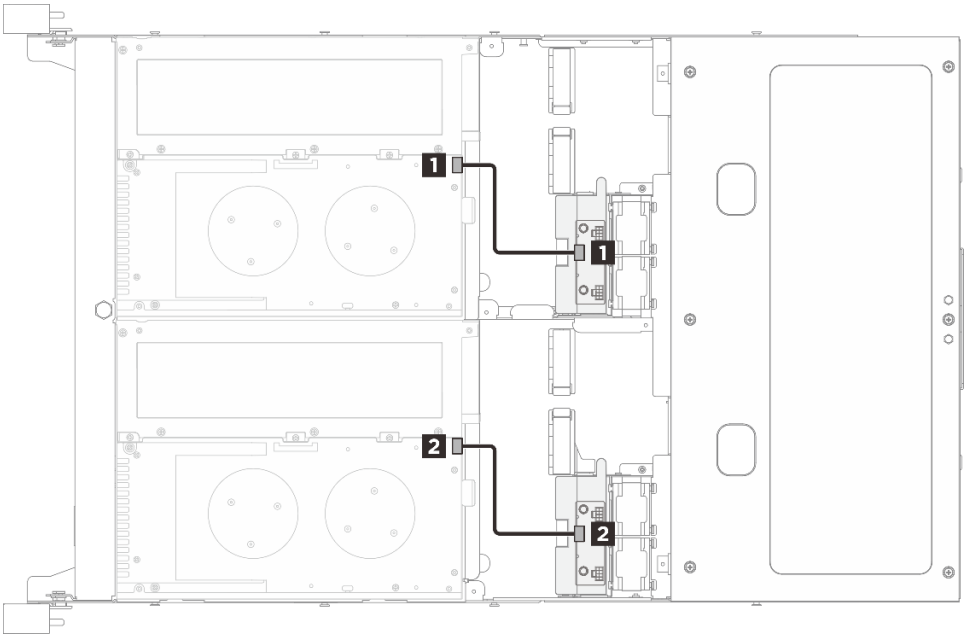


Figure 10. Cable routing for 1U2N fan control board

Cable	From: Node	To: Fan control board	Cable length
1	Fan control board connector –Bay1	Power and signal connector –Bay1	130 mm
2	Fan control board connector –Bay2	Power and signal connector –Bay2	130 mm

Cable routing for 1U3N fan control board

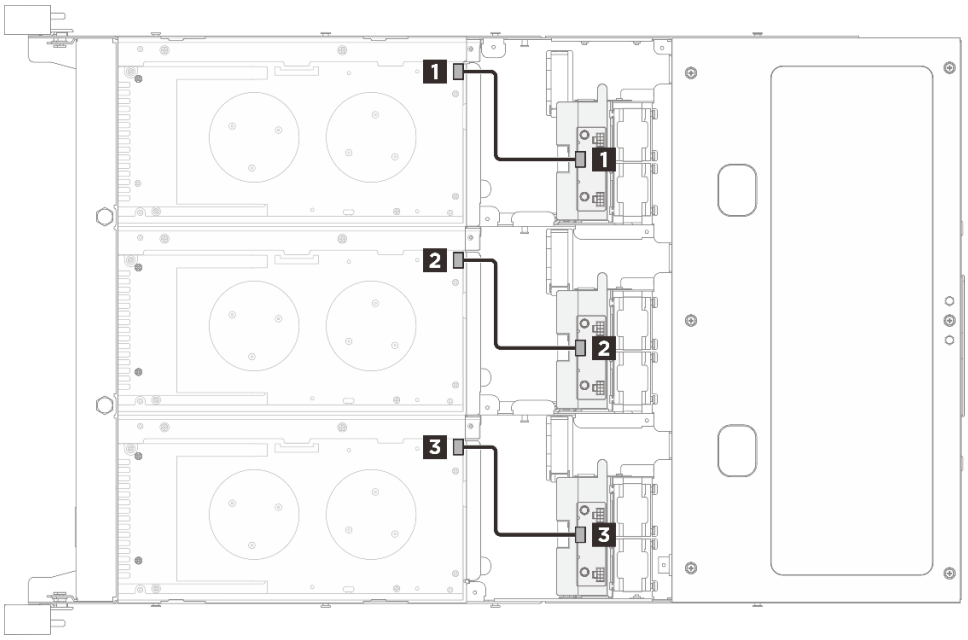


Figure 11. Cable routing for 1U3N fan control board

Cable	From: Node	To: Fan control board	Cable length
1	Fan control board connector –Bay1	Power and signal connector –Bay1	130 mm
2	Fan control board connector –Bay2	Power and signal connector –Bay2	130 mm
3	Fan control board connector –Bay3	Power and signal connector –Bay3	130 mm

Appendix A. Documents and supports

This section provides handy documents, driver and firmware downloads, and support resources.

Documents download

This section provides introduction and download link for handy documents.

Documents

Download the following product documentations at:

https://pubs.lenovo.com/se100-enclosure/pdf_files

- ***Rail Installation Guides***
  - ***ThinkSystem Toolless Stab-in Slide Rail Kit V3 with 1U CMA***
  - ***Cable Management Arm Installation Guide***
- ***Activation Guide***
  - Activation process and activation code
- ***ThinkEdge SE100 Enclosure User Guide***
  - Complete overview, system configuration, hardware components replacing, and troubleshooting.

    Selected chapters from *User Guide*:
    - ***ThinkEdge SE100 Enclosure System Configuration Guide*** **:** Server overview, components identification, system LEDs and diagnostics display, product unboxing, setting up and configuring the server.
    - ***ThinkEdge SE100 Enclosure Hardware Maintenance Guide*** **:** Installing hardware components, cable routing, and troubleshooting.
- ***ThinkEdge SE100 Enclosure Cable Routing Guide***
  - Cable routing information.
- ***ThinkEdge SE100 Messages and Codes Reference***
  - SE100 messages XClarity Controller, LXPM, and uEFI events
- ***UEFI Manual***
  - UEFI setting introduction

Support websites

This section provides driver and firmware downloads and support resources.

Support and downloads

- Drivers and Software download website for ThinkEdge SE100
  - https://datacentersupport.lenovo.com/tw/en/products/servers/thinkedge/se100/7dgv/downloads/driver-list/
- Lenovo Data Center Forum
  - https://forums.lenovo.com/t5/Datacenter-Systems/ct-p/sv_eg
- Lenovo Data Center Support for ThinkEdge SE100

  - https://datacentersupport.lenovo.com/products/servers/thinkedge/se100/7dgv
- Lenovo License Information Documents
  - https://datacentersupport.lenovo.com/documents/lnvo-eula
- Lenovo Press website (Product Guides/Datasheets/White papers)
  - https://lenovopress.lenovo.com/
- Lenovo Privacy Statement
  - https://www.lenovo.com/privacy
- Lenovo Product Security Advisories
  - https://datacentersupport.lenovo.com/product_security/home
- Lenovo Product Warranty Plans
  - http://datacentersupport.lenovo.com/warrantylookup
- Lenovo Server Operating Systems Support Center website
  - https://datacentersupport.lenovo.com/solutions/server-os
- Lenovo ServerProven website (Options compatibility lookup)
  - https://serverproven.lenovo.com
- Operating System Installation Instructions
  - https://pubs.lenovo.com/thinkedge#os-installation
- Submit an eTicket (service request)
  - https://support.lenovo.com/servicerequest
- Subscribe to Lenovo Data Center Group product notifications (Stay up to date on firmware updates)
  - https://datacentersupport.lenovo.com/solutions/ht509500

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Morrisville, NC 27560
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Attention: Lenovo Director of Licensing

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Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

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Internet Explorer, Microsoft, and Windows are trademarks of the Microsoft group of companies.

Linux is a registered trademark of Linus Torvalds.

Important notes

Processor speed indicates the internal clock speed of the processor; other factors also affect application performance.

CD or DVD drive speed is the variable read rate. Actual speeds vary and are often less than the possible maximum.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1 024 bytes, MB stands for 1 048 576 bytes, and GB stands for 1 073 741 824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1 000 000 bytes, and GB stands for 1 000 000 000 bytes. Total user-accessible capacity can vary depending on operating environments.

Maximum internal hard disk drive capacities assume the replacement of any standard hard disk drives and population of all hard-disk-drive bays with the largest currently supported drives that are available from Lenovo.

Maximum memory might require replacement of the standard memory with an optional memory module.

Each solid-state memory cell has an intrinsic, finite number of write cycles that the cell can incur. Therefore, a solid-state device has a maximum number of write cycles that it can be subjected to, expressed as `total bytes written` (TBW). A device that has exceeded this limit might fail to respond to system-generated commands or might be incapable of being written to. Lenovo is not responsible for replacement of a device that has exceeded its maximum guaranteed number of program/erase cycles, as documented in the Official Published Specifications for the device.

Lenovo makes no representations or warranties with respect to non-Lenovo products. Support (if any) for the non-Lenovo products is provided by the third party, not Lenovo.

Some software might differ from its retail version (if available) and might not include user manuals or all program functionality.

Electronic emission notices

When you attach a monitor to the equipment, you must use the designated monitor cable and any interference suppression devices that are supplied with the monitor.

Additional electronic emissions notices are available at:

https://pubs.lenovo.com/important_notices/

Taiwan Region BSMI RoHS declaration

單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
機架	○	○	○	○	○	○
外部蓋板	○	○	○	○	○	○
機械組合件	–	○	○	○	○	○
空氣傳動設備	–	○	○	○	○	○
冷卻組合件	–	○	○	○	○	○
內存模組	–	○	○	○	○	○
處理器模組	–	○	○	○	○	○
電纜組合件	–	○	○	○	○	○
電源供應器	–	○	○	○	○	○
儲備設備	–	○	○	○	○	○
印刷電路板	–	○	○	○	○	○

備考1. 〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。

Note1 : “exceeding 0.1wt%” and “exceeding 0.01 wt%” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2. 〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。

Note2 : “○”indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3. 〝-〞係指該項限用物質為排除項目。

Note3 : The “-“ indicates that the restricted substance corresponds to the exemption.

Taiwan Region import and export contact information

Contacts are available for Taiwan Region import and export information.

委製商/進口商名稱: 台灣聯想環球科技股份有限公司
進口商地址: 台北市南港區三重路 66 號 8 樓
進口商電話: 0800-000-702