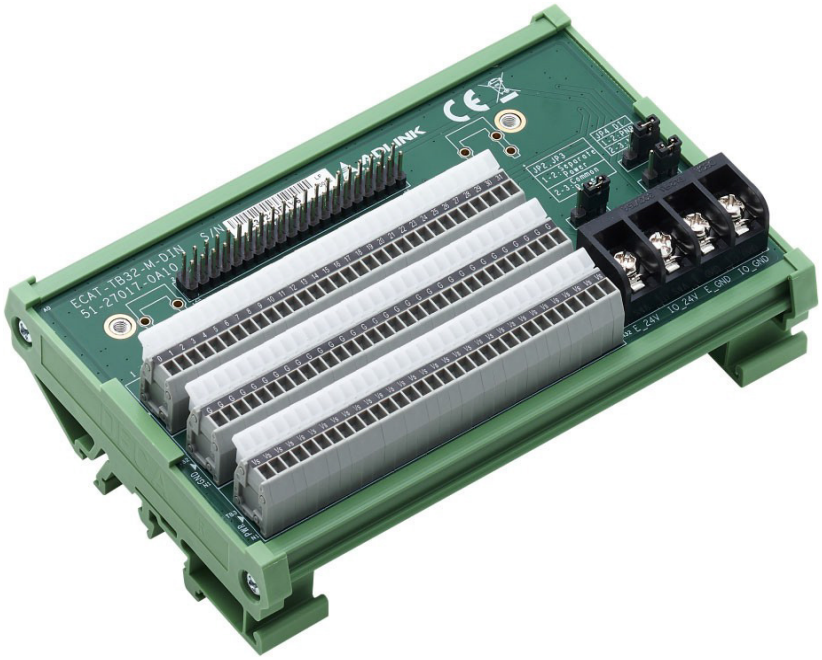
ECAT I/O Terminal Board

User's Manual



Manual Rev.:	1.1
Revision Date:	December 4, 2025
Part Number:	50M-27013-2010

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Leading EDGE COMPUTING

Preface

Copyright

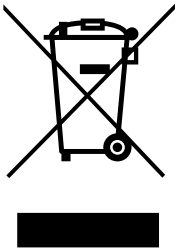
Copyright 2025 ADLINK Technology, Inc. This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

Disclaimer

The information in this document is subject to change without prior notice in order to improve reliability, design, and function and does not represent a commitment on the part of the manufacturer. In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

Environmental Responsibility

ADLINK is committed to fulfill its social responsibility to global environmental preservation through compliance with the European Union's Restriction of Hazardous Substances (RoHS) directive and Waste Electrical and Electronic Equipment (WEEE) directive. Environmental protection is a top priority for ADLINK. We have enforced measures to ensure that our products, manufacturing processes, components, and raw materials have as little impact on the environment as possible. When products are at their end of life, our customers are encouraged to dispose of them in accordance with the product disposal and/or recovery programs prescribed by their nation or company.



Battery Labels (for products with battery)



California Proposition 65 Warning



WARNING: This product can expose you to chemicals including acrylamide, arsenic, benzene, cadmium, Tris(1,3-dichloro-2-propyl)phosphate (TDCPP), 1,4-Dioxane, formaldehyde, lead, DEHP, styrene, DINP, BBP, PVC, and vinyl materials, which are known to the State of California to cause cancer, and acrylamide, benzene, cadmium, lead, mercury, phthalates, toluene, DEHP, DIDP, DnHP, DBP, BBP, PVC, and vinyl materials, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Trademarks

Product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective companies.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Conventions

Take note of the following conventions used throughout this manual to make sure that users perform certain tasks and instructions properly.



Additional information, aids, and tips that help users perform tasks.



Information to prevent ***minor*** physical injury, component damage, data loss, and/or program corruption when trying to complete a task.

ATTENTION: Informations destinées à prévenir les blessures corporelles mineures, les dommages aux composants, la perte de données et/ou la corruption de programme lors de l'exécu- tion d'une tâche.



Information to prevent ***serious*** physical injury, component damage, data loss, and/or program corruption when trying to complete a specific task.

AVERTISSEMENT: Informations destinées à prévenir les bles- sures corporelles graves, les dommages aux composants, la perte de données et/ou la corruption de programme lors de l'exécution d'une tâche spécifique.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Revision History

Revision	Description	Date	By
1.0	Initial release	2023-09-05	JC
1.1	Mechanical dimensions and connector pinouts and jumper settings updated	2025-12-04	AL

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Table of Contents

Preface ..... **ii**

List of Figures ..... **vi**

List of Tables ..... **vii**

1 Introduction **1**

1.1 Overview 1

1.2 Features 1

2 Specifications **3**

3 Getting Started **5**

3.1 Unpacking the ECAT I/O Terminal Board 5

4 Mechanical Layout **7**

4.1 Mechanical Dimensions 7

4.2 Connectors and Indicators 8

5 Connector Pinouts and Jumper Settings **9**

5.1 Connector Pinouts 9

5.2 Jumper Settings 11

Safety Instructions **13**

Getting Service **15**

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

List of Figures

Figure 1: Mechanical dimensions 7
Figure 2: Connectors and Indicators.....8

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

List of Tables

Table 1: Connectors and Indicators.....8

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1 Introduction

1.1 Overview

The ADLINK ECAT-TB32-M-DIN ECAT IO Terminal Board is a 32-channel I/O terminal base with DIN socket for ECAT IO M type modules.

1.2 Features

- Field I/O wiring connection for ECAT IO M type modules
- Spring terminal for easy field wiring
- Power and ground included for each signal channel
- Interlocking design for rugged installation
- Power LED indicator
- DIN rail mounting

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2 Specifications

Supported Module	ECAT IO M type modules
Max. Channels Supported (Number of Terminals)	32
Wire Gauge	Max. 20 AWG, Min. 28 AWG
E_Power	+20V DC to +28V DC (±10%)
IO_Power	+24V DC (±10%)
Dimensions	128 mm x 85.6 mm x 40.44 mm (W x D x H)
Weight	155 g

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3 Getting Started

This chapter describes how to install and connect to an ECAT IO Terminal Board module, its hardware settings, and related signals.

3.1 Unpacking the ECAT I/O Terminal Board

Ensure that the following items are included in the package. If any items are missing, contact your sales representative for assistance.

- ECAT IO Terminal Board module



WARNING:

Before unpacking, check the shipping carton for any damage. If the shipping carton and/or contents are damaged, inform your dealer immediately. Retain the shipping carton and packing materials for inspection. Obtain authorization from your dealer before returning any product to ADLINK.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4 Mechanical Layout

4.1 Mechanical Dimensions

All dimensions are in millimeters (mm) unless noted.

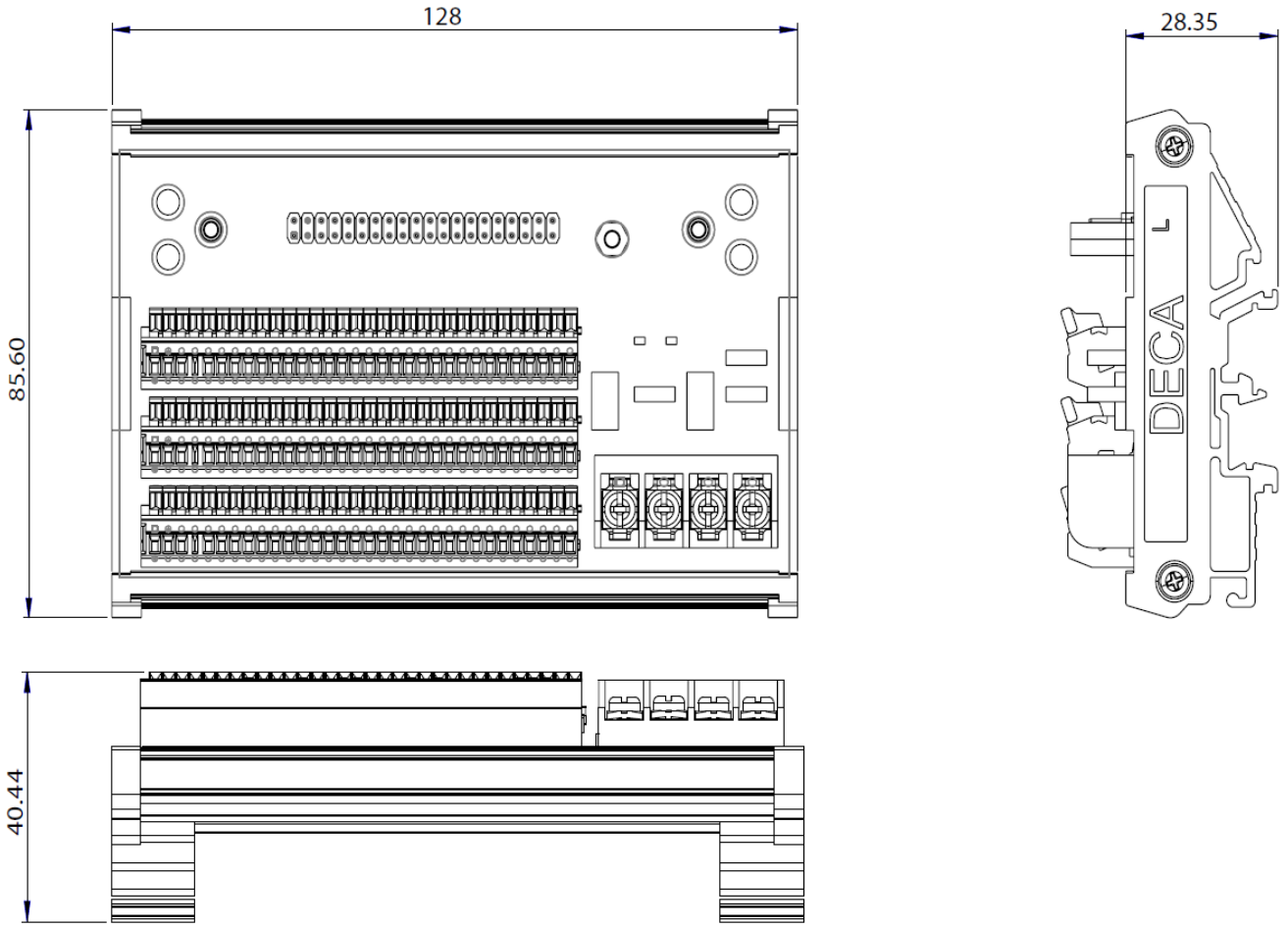


Figure 1: Mechanical dimensions

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4.2 Connectors and Indicators

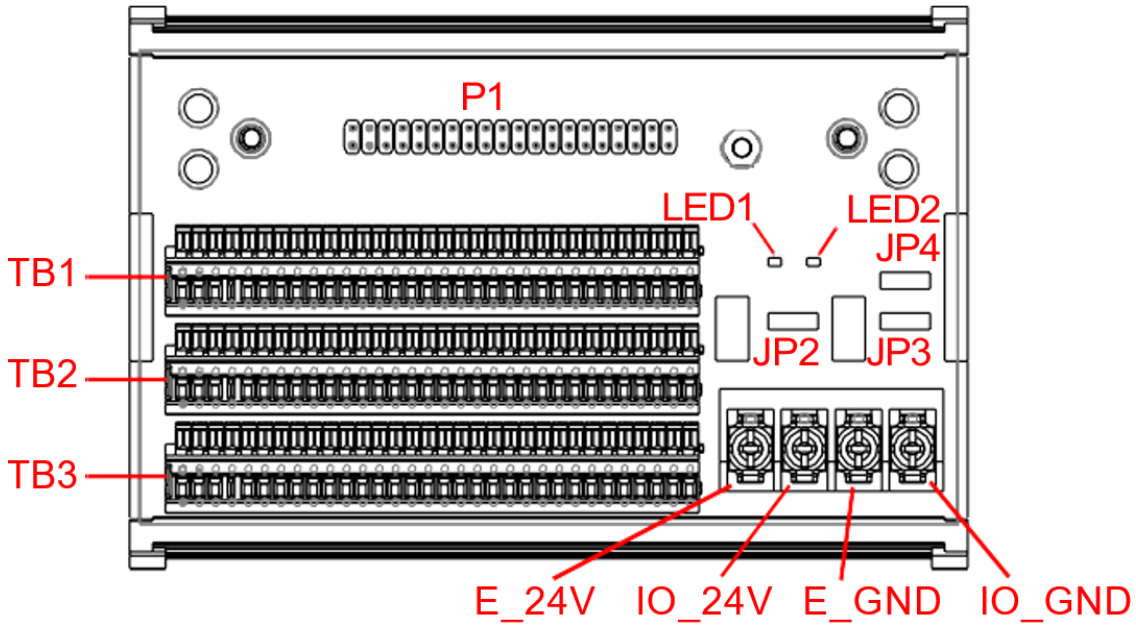


Figure 2: Connectors and Indicators

Table 1: Connectors and Indicators

Item	Description
P1	40-Pin Signal Connector
TB1	32 Signal Connectors (SIG1 to SIG32)
TB2	32 IO Ground Connectors
TB3	32 IO Power Connectors
JP2	Power Setting Jumper
JP3	Power Setting Jumper
JP4	PNP/NPN Setting Jumper for DI
E_24V	External Power +24V
IO_24V	IO Power +24V
E_GND	External Power Ground
IO_GND	IO Power Ground
LED1	ON: E_24V power on OFF: E_24V power off
LED2	ON: IO_24V power on OFF: IO_24V power off

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

5 Connector Pinouts and Jumper Settings

5.1 Connector Pinouts

5.1.1 P1 Pin Assignment

The P1-pin signal connector provides input and output signals for ECAT IO series modules.
The table below uses the ECAT-DI16DO16 as an example.

Pin	Signal	Description	Pin	Signal	Description
2	E24V	External power supply	1	E24V	External power supply
4	IO_PWR	I/O power supply	3	IO_PWR	I/O power supply
6	DICOM	Mechanical input / general input	5	DICOM	Mechanical input / general input
8	IO_GND	I/O ground	7	EGND	External power ground
10	DI2	Digital input	9	DI1	Digital input
12	DI4	Digital input	11	DI3	Digital input
14	DI6	Digital input	13	DI5	Digital input
16	DI8	Digital input	15	DI7	Digital input
18	DI10	Digital input	17	DI9	Digital input
20	DI12	Digital input	19	DI11	Digital input
22	DI14	Digital input	21	DI13	Digital input
24	DI16	Digital input	23	DI15	Digital input
26	DO2	Digital output	25	DO1	Digital output
28	DO4	Digital output	27	DO3	Digital output
30	DO6	Digital output	29	DO5	Digital output
32	DO8	Digital output	31	DO7	Digital output
34	DO10	Digital output	33	DO9	Digital output
36	DO12	Digital output	35	DO11	Digital output
38	DO14	Digital output	37	DO13	Digital output
40	DO16	Digital output	39	DO15	Digital output



5.1.2 TB1 Pin Assignment

ECAT-DI32

Pin	Signal	Pin	Signal
1	DI1	17	DI17
2	DI2	18	DI18
3	DI3	19	DI19
4	DI4	20	DI20
5	DI5	21	DI21
6	DI6	22	DI22
7	DI7	23	DI23
8	DI8	24	DI24
9	DI9	25	DI25
10	DI10	26	DI26
11	DI11	27	DI27
12	DI12	28	DI28
13	DI13	29	DI29
14	DI14	30	DI30
15	DI15	31	DI31
16	DI16	32	DI32

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

ECAT-DO32

Pin	Signal	Pin	Signal
1	DO1	17	DO17
2	DO2	18	DO18
3	DO3	19	DO19
4	DO4	20	DO20
5	DO5	21	DO21
6	DO6	22	DO22
7	DO7	23	DO23
8	DO8	24	DO24
9	DO9	25	DO25
10	DO10	26	DO26
11	DO11	27	DO27
12	DO12	28	DO28
13	DO13	29	DO29
14	DO14	30	DO30
15	DO15	31	DO31
16	DO16	32	DO32

ECAT-DI16DO16

Pin	Signal	Pin	Signal
1	DI1	17	DO1
2	DI2	18	DO2
3	DI3	19	DO3
4	DI4	20	DO4
5	DI5	21	DO5
6	DI6	22	DO6
7	DI7	23	DO7
8	DI8	24	DO8
9	DI9	25	DO9
10	DI10	26	DO10
11	DI11	27	DO11
12	DI12	28	DO12
13	DI13	29	DO13
14	DI14	30	DO14
15	DI15	31	DO15
16	DI16	32	DO16

ECAT-AI16AO2 (Single-ended mode)

Pin	Signal	Pin	Signal
1	NC	17	AI2
2	NC	18	AI3
3	AGND	19	AI4
4	AGND	20	AI5
5	AGND	21	AI6
6	AGND	22	AI7
7	AGND	23	AI8
8	AGND	24	AI9
9	AGND	25	AI10
10	AGND	26	AI11
11	AGND	27	AI12
12	AGND	28	AI13
13	AGND	29	AI14
14	AGND	30	AI15
15	AI0	31	AO0
16	AI1	32	AO1

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

ECAT-AI16AO2 (Differential mode)

Pin	Signal	Pin	Signal
1	NC	17	AI1+
2	NC	18	AI1-
3	AGND	19	AI2+
4	AGND	20	AI2-
5	AGND	21	AI3+
6	AGND	22	AI3-
7	AGND	23	AI4+
8	AGND	24	AI4-
9	AGND	25	AI5+
10	AGND	26	AI5-
11	AGND	27	AI6+
12	AGND	28	AI6-
13	AGND	29	AI7+
14	AGND	30	AI7-
15	AI0+	31	AO0
16	AI0-	32	AO1

5.1.3 TB2 Pin Assignment

All pins are I/O_GND.

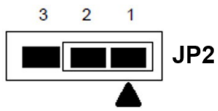
5.1.4 TB3 Pin Assignment

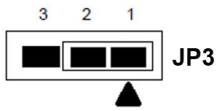
All pins are IO_24V.

5.2 Jumper Settings

5.2.1 Power Settings (JP2, JP3): Separate Power/GND (Default)

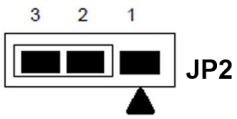
Both jumpers must be capped for this setting to be enabled.

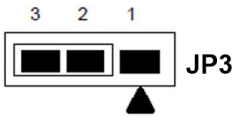




5.2.2 Power Settings (JP2, JP3): Common Power/GND

Both jumpers must be capped for this setting to be enabled.



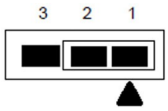


Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

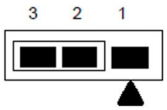
NOTE:

Unlike the HSL terminal board, the ECAT-TB32-M-DIN includes reverse-voltage protection; therefore, E_24V is not connected to IO_24V, and similarly, E_GND is not connected to IO_GND.

5.2.3 PNP/NPN Setting for DI (JP4)



PNP - External device is PNP type



NPN (Default) - External device is NPN type

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Safety Instructions

For user safety, please read and follow all instructions, Warnings, Cautions, and Notes marked in this manual and on the associated device before handling/operating the device, to avoid injury or damage.

S'il vous plaît prêter attention stricte à tous les avertissements et mises en garde figurant sur l'appareil , pour éviter des blessures ou des dommages.

- Read these safety instructions carefully.
- Keep the User's Manual for future reference.
- Read the Specifications section of this manual for detailed information on the recommended operating environment.
- When installing/mounting or uninstalling/removing device; or when removal of a chassis cover is required for user servicing:
  [> Turn off power and unplug any power cords/cables.
  [> Reinstall all chassis covers before restoring power.
- To avoid electrical shock and/or damage to device:
  [> Keep device away from water or liquid sources.
  [> Keep device away from high heat or humidity.
  [> Keep device properly ventilated (do not block or cover ventilation openings).
  [> Always use recommended voltage and power source settings.
  [> Always install and operate device near an easily accessible electrical outlet.
  [> Secure the power cord (do not place any object on/over the power cord) and connect it to a socket-outlet with earthing connection.
  [> Only install/attach and operate device on stable surfaces and/or recommended mountings.
- If the device will not be used for long periods of time, turn off and unplug from its power source.
- Never attempt to repair the device, which should only be serviced by qualified technical personnel using suitable tools.
- A Lithium-type battery may be provided for uninterrupted backup or emergency power.



Risk of explosion if battery is replaced with one of an incorrect type; please dispose of used batteries appropriately.

Risque d'explosion si la pile est remplacée par une autre de type incorrect. Veuillez jeter les piles usagées de façon appropriée.

- The device must be serviced by authorized technicians when:
  [> The power cord or plug is damaged.
  [> Liquid has entered the device interior.
  [> The device has been exposed to high humidity and/or moisture.
  [> The device is not functioning or does not function according to the User's Manual.
  [> The device has been dropped and/or damaged and/or shows obvious signs of breakage.
- Disconnect the power supply cord before loosening the thumbscrews and always fasten the thumbscrews with a screwdriver before starting the system up.
  [> The equipment is not intended to be installed or used in a home, school, or public area accessible to the general population.
  [> The knurled thumb screws with slotted heads for each Node module should be tightened with a tool after both initial installation and subsequent use.
- It is recommended that the device be installed only in a server room or computer room where access is:
  [> Restricted to qualified service personnel or users familiar with restrictions applied to the location, reasons therefore, and any precautions required.
  [> Only afforded by the use of a tool or lock and key, or other means of security, and controlled by the authority responsible for the location.
- Please use an approved power source certified by IEC or UL. If you need an adapter, optional accessories, or further assistance, please contact ADLINK for more information.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000



BURN HAZARD
Touching this surface could result in bodily injury. To reduce risk, allow the surface to cool before touching.

RISQUE DE BRÛLURES
Ne touchez pas cette surface, cela pourrait entraîner des blessures. Pour éviter tout danger, laissez la surface refroidir avant de la toucher.

- Lisez attentivement ces consignes de sécurité
- *Conservez le manuel de l'utilisateur pour pouvoir le consulter ultérieurement*
- *Lisez la section Spécifications de ce manuel pour des informations détaillées sur l'environnement d'exploitation recommandé*
- Lors de l'installation/montage ou de la désinstallation/retrait de l'appareil ; ou lorsque le retrait d'un boîtier est nécessaire pour l'entretien par l'utilisateur (voir Mise en route) :
  - Éteignez l'alimentation et débranchez tous les cordons/câbles d'alimentation.
  - Réinstallez tous les panneaux du boîtier avant de remettre l'alimentation sous tension.
- *Pour éviter les chocs électriques et/ou d'endommager l'appareil :*

  - *Tenez l'appareil à l'écart de toute source d'eau ou de liquide*
  - *Tenez l'appareil à l'écart d'une forte chaleur ou d'une humidité élevée*
  - *Maintenez l'appareil correctement ventilé (n'obstruer ou ne couvrez pas les ouvertures de ventilation)*
  - *Utilisez toujours les réglages de tension et de source d'alimentation recommandés*
  - *Installez et utilisez toujours l'appareil près d'une prise de courant facilement accessible*
  - Fixez le cordon d'alimentation (ne placez aucun objet sur/au-dessus du cordon d'alimentation) et connectez-le à une prise de courant avec mise à la terre
- N'essayez jamais de réparer l'appareil, qui doit être réparé uniquement par du personnel technique qualifié *et utilisant des outils appropriés.*
  - *Lors de l'installation/montage ou de la désinstallation/retrait d'un périphérique, ou lorsque le retrait d'un couvercle de châssis est requis pour l'entretien par l'utilisateur :*
  - *Coupez l'alimentation et débranchez tous les cordons/câbles d'alimentation.*
- *Réinstallez tous les capots du châssis avant de rétablir l'alimentation. Installez/fixez et utilisez l'appareil uniquement sur des surfaces stables et/ou des supports recommandés.*
- *Si l'appareil n'est pas utilisé pendant une longue période, éteignez-le et débranchez-le de sa source d'alimentation.*
- *Une batterie de type lithium peut être fournie pour une alimentation de secours ou de secours ininterrompue.*

  - *L'appareil doit être réparé par des techniciens agréés lorsque :*
  - *Le cordon d'alimentation ou la fiche est endommagé.*
  - *Du liquide est entré dans l'appareil. € L'appareil a été exposé à une humidité élevée et/ou à l'humidité.*
  - *L'appareil ne fonctionne pas ou ne fonctionne pas conformément au manuel de l'utilisateur.*

- *L'appareil est tombé et/ou a été endommagé et/ou présente des signes évidents de casse.*
- *Débranchez le cordon d'alimentation avant de desserrer les vis moletées et fixez toujours les vis moletées avec un tournevis avant de démarrer le système.*
  - *L'équipement n'est pas destiné à être installé ou utilisé dans une maison, une école ou une zone publique accessible au grand public.*
  - *Les vis à molette avec têtes fendue pour chaque module Node doivent être serrées avec un outil après l'installation initiale et lors de l'utilisation suivante.*
- *Il est recommandé d'installer l'appareil uniquement dans une salle de serveurs ou une salle informatique dont l'accès est :*

  - *Réservé au personnel de service qualifié ou aux utilisateurs familiers avec les restrictions appliquées à l'emplacement, les raisons de celles-ci et les précautions requises.*
  - *Autorisé uniquement par l'utilisation d'un outil ou d'une serrure et d'une clé, ou d'autres moyens de sécurité, et contrôlé par l'autorité responsable du lieu.*

Veuillez utiliser une source d'alimentation approuvée et certifiée par la norme IEC ou UL. Si vous avez besoin d'un adaptateur, d'accessoires en option ou d'une assistance supplémentaire, veuillez contacter ADLINK pour plus d'informations.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Getting Service

Ask an Expert: https://www.adlinktech.com/en/Askanexpert

ADLINK Technology, Inc.
Address: No. 66, Huaya 1st Road, Guishan District
Taoyuan City 333, Taiwan
Tel: +886-3-216-5088
Fax: +886-3-328-5723
Email: service@adlinktech.com

Ampro ADLINK Technology, Inc.
Address: 6450 Via Del Oro, San Jose, CA 95119-1208, USA
Tel: +1-408-360-0200
Toll Free: +1-800-966-5200 (USA only)
Fax: +1-408-600-1189
Email: info@adlinktech.com

ADLINK Technology (China) Co., Ltd.
Address: 300 Fang Chun Rd., Zhangjiang Hi-Tech Park, Pudong New Area
Shanghai, 201203 China
Tel: +86-21-5132-8988
Fax: +86-21-5132-3588
Email: market@adlinktech.com

ADLINK Technology GmbH
Address: Hans-Thoma-Strasse 8-10, 68163 Mannheim, Germany
Tel: +49-621-43214-0
Fax: +49-621 43214-30
Email: emea@adlinktech.com

Please visit the Contact page at www.adlinktech.com for information on how to contact the ADLINK regional office nearest you.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000