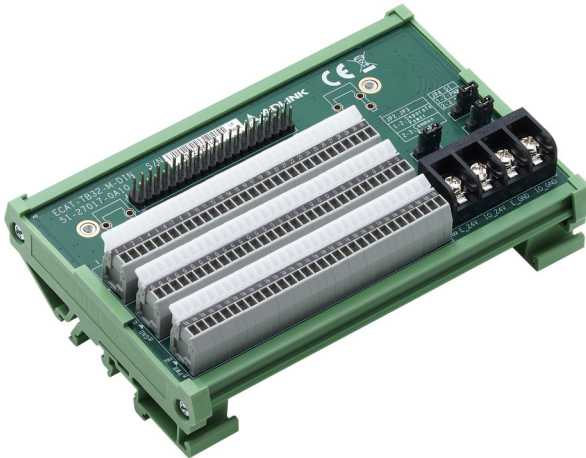


ECAT IO Terminal Board

User's Manual



Manual Rev.: 1.0

Revision Date: Sept. 5, 2023

Part No: 50M-27013-2000

Revision History

Revision	Release Date	Description of Change(s)
1.0	2023-09-05	Initial release

Preface

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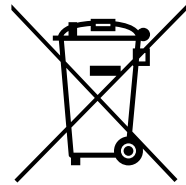
Disclaimer

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.

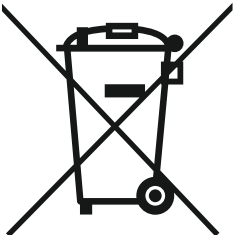
In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

Environmental Responsibility

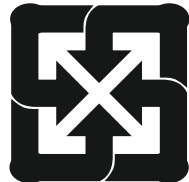
ADLINK is committed to fulfill its social responsibility to global environmental preservation through compliance with the European Union's Restriction of Hazardous Substances (RoHS) directive and Waste Electrical and Electronic Equipment (WEEE) directive. Environmental protection is a top priority for 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)



Li-ion



廢電池請回收

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.

Conventions

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



NOTE:

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



CAUTION:

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'exécution d'une tâche.



WARNING:

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 blessures corporelles graves, les dommages aux composants, la perte de données et/ou la corruption de programme lors de l'exécution d'une tâche spécifique.

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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

1.3 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 ($\pm 10\%$)
IO_Power	+24V DC ($\pm 10\%$)
Dimensions	128 mm x 85.6 mm x 40.44 mm (W x D x H)
Weight	155 g

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2 Getting Started

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

2.1 Unpacking the ECAT IO 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.

2.2 Mechanical Dimensions

All dimensions are in millimeters (mm) unless noted.

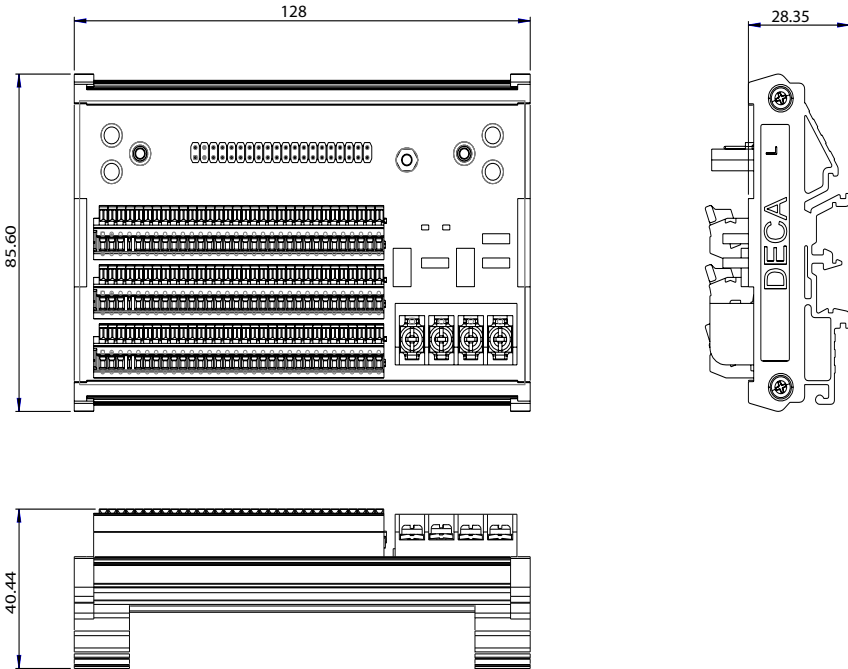


Figure 2-1: Mechanical Dimensions

2.3 Connectors and Indicators

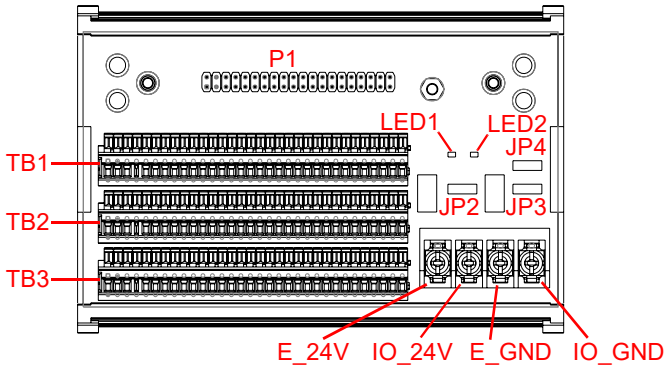


Figure 2-2: Connector and Indicator Layout

Table 2-1: Connector and Indicator Legend

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

2.3.1 40-Pin Signal Connector

The 40-pin signal connector provides input and output signals for ECAT IO series modules.

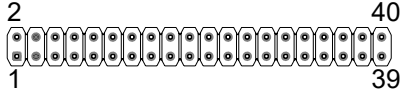


Figure 2-3: 40-Pin Signal Connector Pin Definitions

Table 2-2: ECAT-DI16DO16-M-NN Pin Assignment

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

2.3.2 Jumper Settings

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

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

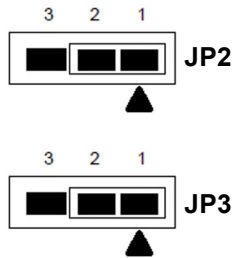


Figure 2-4: Power Settings (JP2, JP3): Separate Power/GND (Default)

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

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

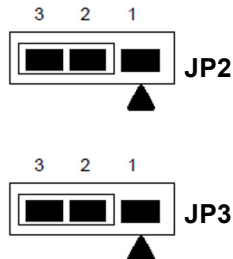


Figure 2-5: Power Settings (JP2, JP3): Common Power/GND

PNP/NPN Setting for DI (JP4)

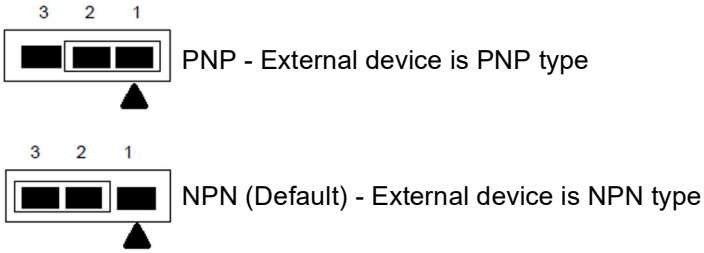


Figure 2-6: PNP/NPN Setting for DI (JP4)

Important 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.


- ▶ 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.
- ▶ The device can be operated at an ambient temperature of 45°C with DC input, and 35°C with adapter input.
- ▶ It is recommended that the device be installed in Information Technology Rooms that are in accordance with Article 645 of the National Electrical Code and NFPA 75.
- ▶ 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).
 - ▷ Only install/attach and operate device on stable surfaces and/or recommended mountings.
 - ▷ The power cord must be connected to a socket or outlet with a ground connection.
- ▶ 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.

- ▶ This equipment is not suitable for use in locations where children are likely to be present.
- ▶ 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
- ▶ 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 therefor, 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

	<p style="text-align: center;">BURN HAZARD</p> <p>Hot surface! Do not touch! Touching this surface could result in bodily injury. To reduce risk, allow the surface to cool before touching.</p>
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Consignes de Sécurité Importante

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.

- ▶ *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.*
- ▶ *L'appareil peut être utilisé à une température ambiante de 45°C avec entrée CC pour les série MVP-61; 35°C avec entrée adaptateur pour la série MVP-61.*
- ▶ *Il est recommandé d'installer l'appareil dans des salles de technologie de l'information conformes à l'article 645 du National Electrical Code et à la NFPA 75.*
- ▶ *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 le cordon d'alimentation).*
 - ▷ *Installez/fixez et utilisez l'appareil uniquement sur des surfaces stables et/ou sur les fixations recommandées.*
 - ▷ *Le cordon d'alimentation doit être connecté à une prise ou à une prise de courant avec mise à la terre.*

- ▶ Si l'appareil ne doit pas être utilisé pendant de longues périodes, éteignez-le et débranchez-le de sa source d'alimentation
- ▶ *N'essayez jamais de réparer l'appareil, qui ne doit être réparé que par un personnel technique qualifié à l'aide d'outils appropriés*
- ▶ *Une batterie de type Lithium peut être fournie pour une alimentation de secours ininterrompue ou d'urgence.*



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

- ▶ *Cet équipement ne convient pas à une utilisation dans des lieux pouvant accueillir des enfants.*
- ▶ *L'appareil doit être entretenu par des techniciens agréés lorsque:*
 - ▶ *Le cordon d'alimentation ou la prise est endommagé(e)*
 - ▶ *Un liquide a pénétré à l'intérieur de l'appareil.*
 - ▶ *L'appareil a été exposé à une forte humidité et/ou de la buée.*
 - ▶ *L'appareil ne fonctionne pas ou ne fonctionne pas selon le manuel de l'utilisateur.*
 - ▶ *L'appareil est tombé et/ou a été endommagé et/ou présente des signes évidents de dommage.*
- ▶ *Débranchez le cordon d'alimentation avant de desserrer les vis à oreilles et serrez toujours les vis à oreilles avec un tournevis avant de mettre le système en marche.*
- ▶ *Il est recommandé d'installer l'appareil uniquement dans une salle de serveurs ou une salle informatique où l'accès est:*
 - ▷ *Réservé au personnel de service qualifié ou aux utilisateurs familiarisés avec les restrictions appliquées à l'emplacement, aux raisons de ces restrictions et toutes les précautions requises*
 - ▷ *Uniquement autorisé par l'utilisation d'un outil, d'une serrure et d'une clé, ou d'un autre moyen de sécurité, et contrôlé par l'autorité responsable de l'emplacement.*

**RISQUE DE BRÛLURES**

Partie chaude! Ne touchez pas cette surface, cela pourrait entraîner des blessures. Pour éviter tout danger, laissez la surface refroidir avant de la toucher.

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Getting Service

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

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