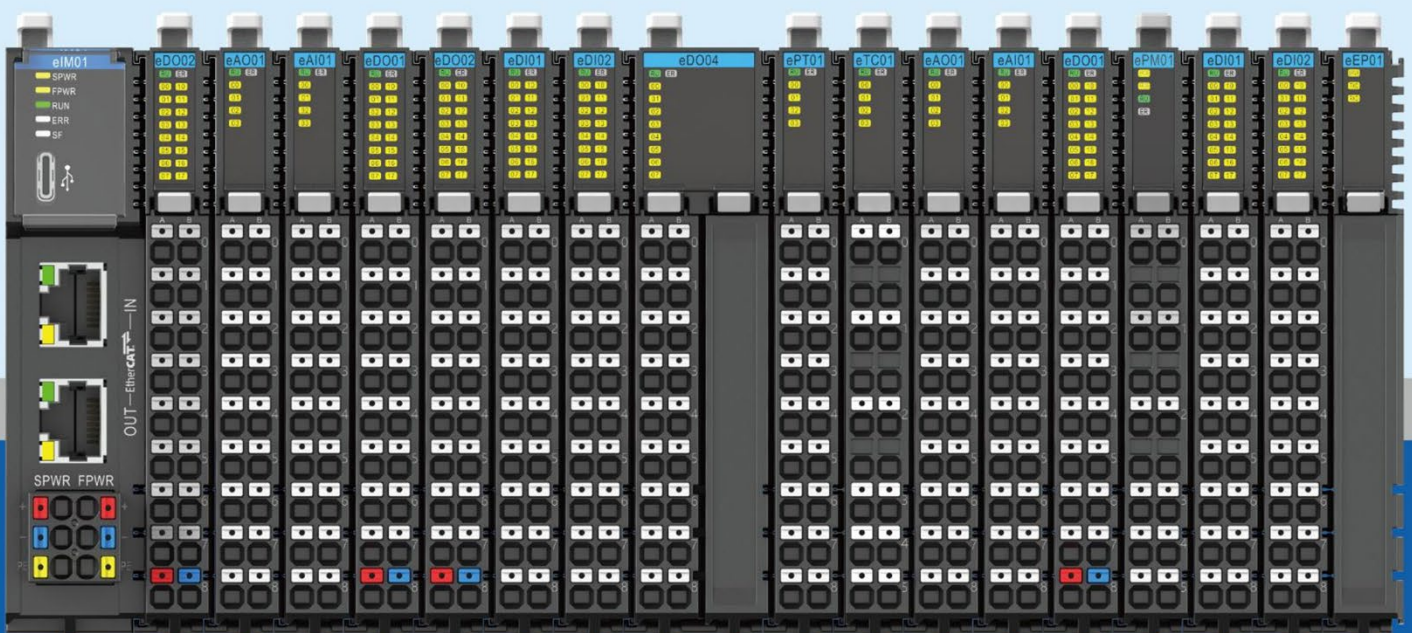


LT-e series

Distributed I/O

LT Intelligent Tool
Usage Guide



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Chapter 1 Preface

Document Overview

This document primarily introduces the usage of the LT Intelligent Tool software.

Intended Audience

This manual is intended for engineers with expertise in automation and control systems, or related technical professionals.

Usage Statement

- The content of this manual has been tested according to regulations, and the diagrams correspond to the described software and hardware products. However, errors are inevitable, and complete consistency cannot be guaranteed. If you have any suggestions for improving or correcting the content of this manual, please inform us promptly, and we will make corrections in the next version.
- Due to product iteration and updates, relevant parameters and informations in this manual may change. If you have any questions, please consult technical support.
- Since the equipment described in this manual has a variety of uses, users and persons responsible for the operation of the equipment must ensure the suitability of each method. HollySys shall not be held legally liable for any direct or indirect losses resulting from the use or misuse of the equipment.
- Due to uncertainties in actual application scenarios, HollySys cannot assume responsibility or liability for actual use based upon the data provided in this manual.

Safety Statement

- Before using this product, please read and comply with these safety precautions.
- To ensure personal and equipment safety, strictly adhere to the identification information on the product and the safety precautions in the manual when using this product.
- The "Note", "Caution", "Warning", and "Danger" items in the manual do not represent all safety measures to be followed but serve as supplements to all safety precautions.
- This product must be used in environments that meet the design specifications; otherwise, malfunctions may occur. Damage caused by failure to follow relevant regulations is not covered under the product warranty.
- HollySys is not responsible for any personal safety accidents or property losses resulting from any operations performed not in accordance with this manual or by unqualified personnel.

Symbols and Conventions

For your personal safety and to avoid property loss, please pay attention to the warning prompts in this manual. The following warning prompts indicate hazard levels from high to low. When multiple hazard levels exist, only the highest level is prompted. If the highest level is a

warning leading to personal injury, there may also be warnings leading to property loss.

Symbol	Meaning
	Danger. Indicates that improper operation may cause serious accidents resulting in equipment damage or personal injury/death.
	Warning. Indicates that improper operation may cause equipment failure, electric shock, or personal injury accidents.
	Caution. Indicates content that requires special attention during operation.
	Note. Indicates supplementary explanatory content.

Revision History

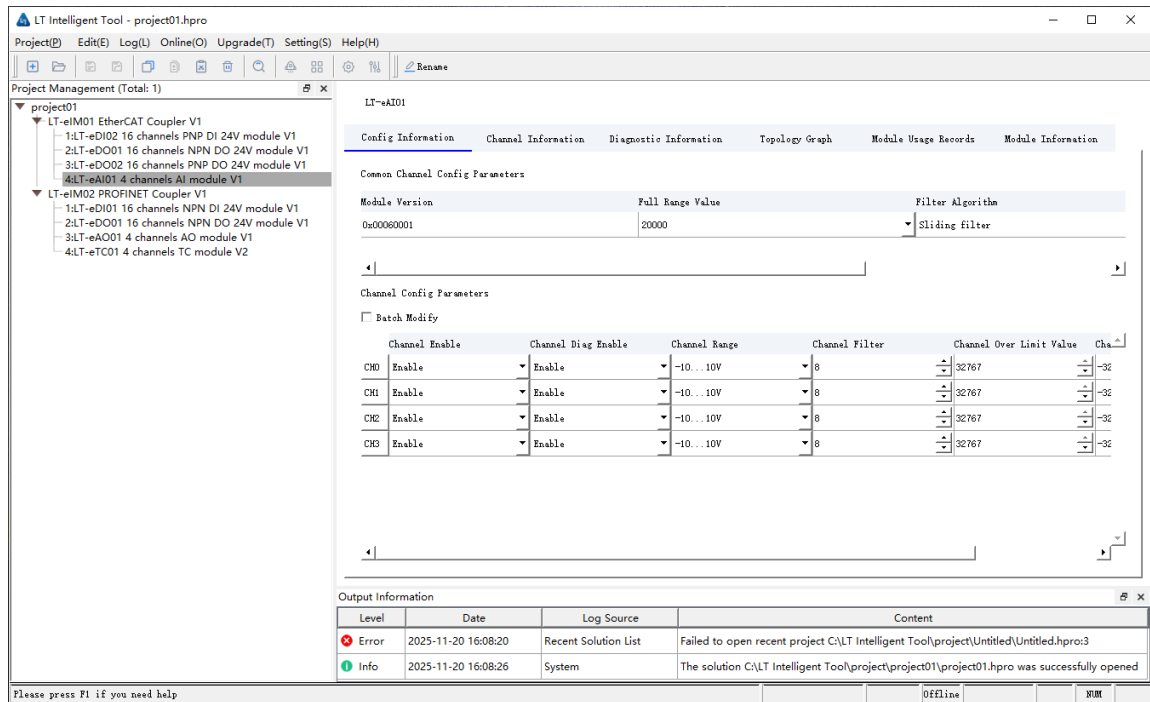
Date	Version	Description
2025.12.30	V1.0	First official release.

Chapter 2 Software Introduction

LT Intelligent Tool software is a configuration software supporting HollySys LT series products. It is a software configuration platform used for hardware configuration, parameter setting, firmware upgrade, and data monitoring.

- Collects coupler information via serial port for data display, and downloads data information for hardware configuration.
- Manages the hardware and software of an automation system through projects.
- Supports two languages: Chinese and English.
- Possesses fault recovery functionality.

Software Interface Schematic



Chapter 3 Software Installation and Uninstallation

3.1 Installation Requirements

The following software and hardware requirements must be met when installing the LT Intelligent Tool software:

Environment	Type	Requirement
Hardware Environment	Display	Color CRT or LCD screen
	Input/Output	Standard keyboard and mouse
	USB Interface	At least 1 USB 2.0 port
	Graphics Card	Resolution support for 1366×768
	CPU	Intel Pentium 2.4 GHz or higher
	Memory	4GB or higher
	Hard Disk	256GB or higher
Software Environment	Ethernet Card	At least one 100 Mbps Ethernet card
	Operating System	• Windows 7 Professional 32-bit • Windows 7 Professional 64-bit • Windows 10 Professional 64-bit • Windows 11 Professional 64-bit

3.2 Installation

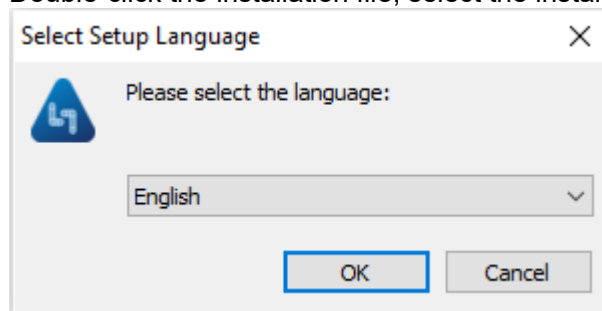
Operation Steps

Step 1 Log in to www.hollyfa.com.

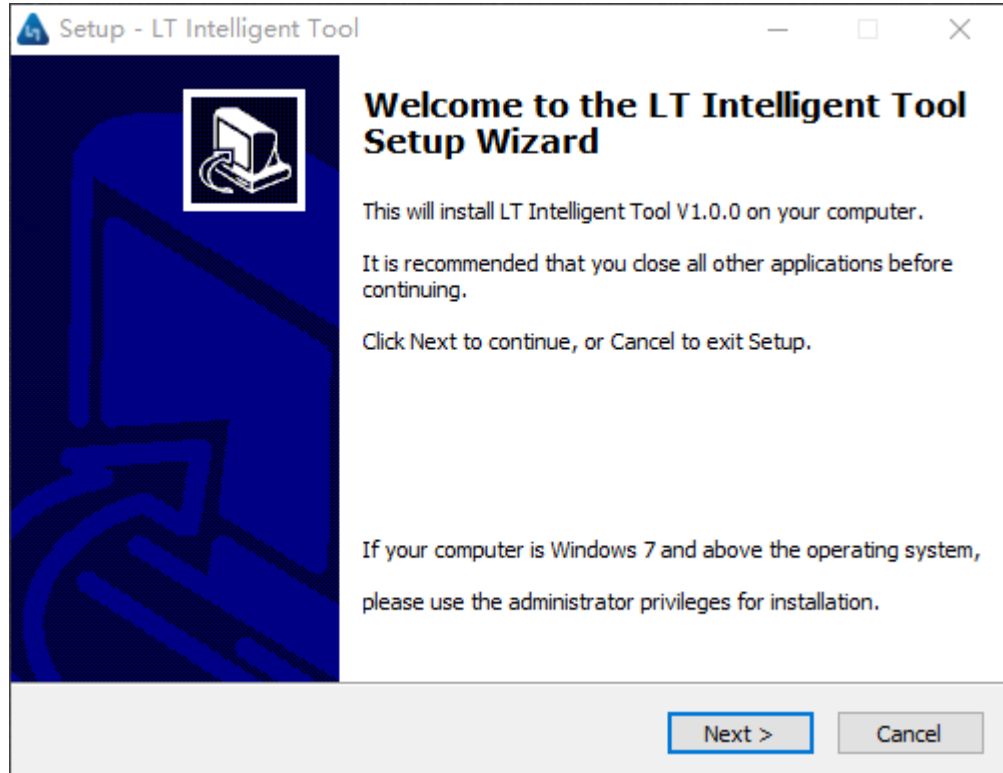
Step 2 Search for the LT Intelligent Tool software, download and save it locally.

Step 3 Extract the downloaded software.

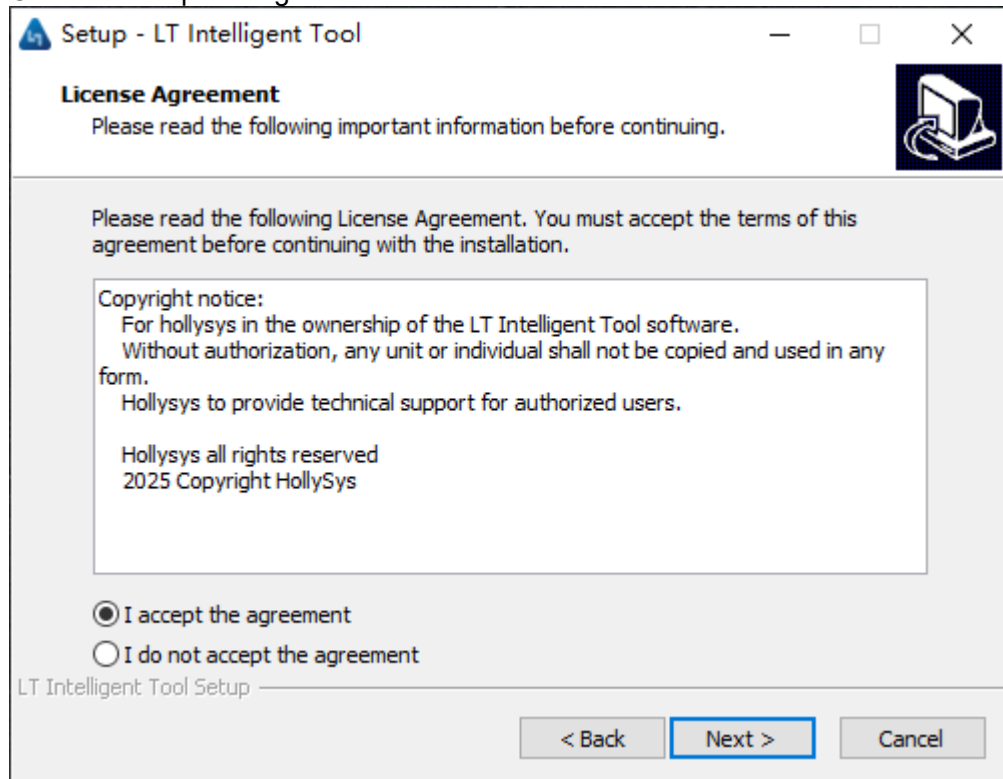
Step 4 Double-click the installation file, select the installation language, and click "OK".



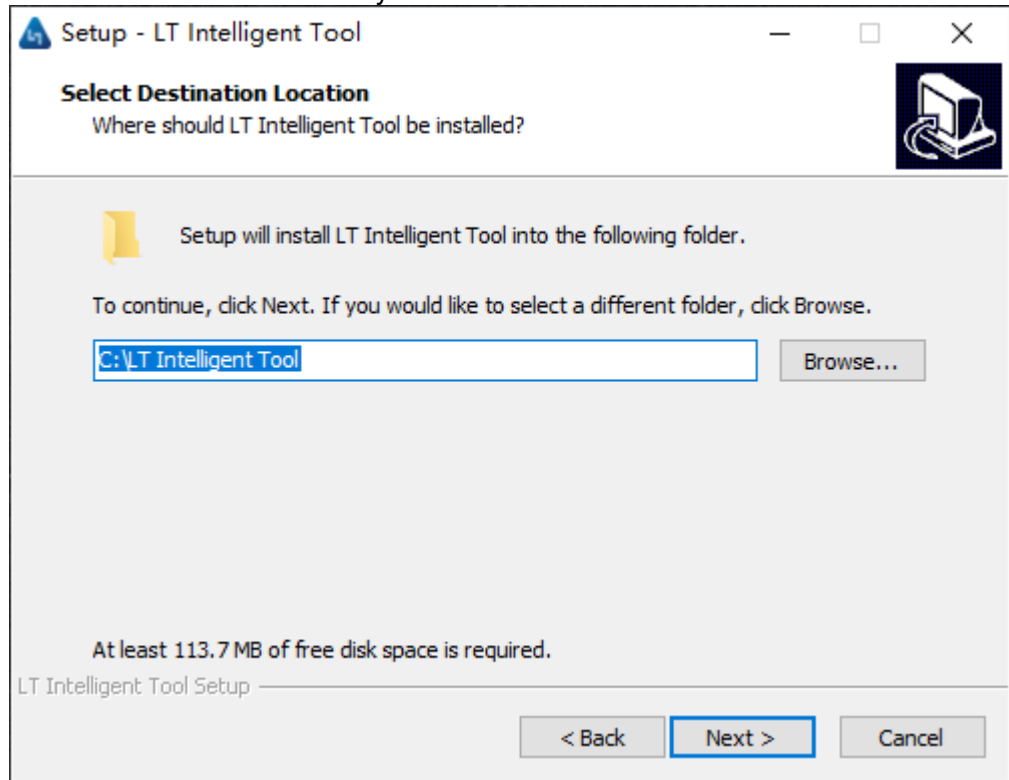
Step 5 Enter the installation wizard and click "Next".



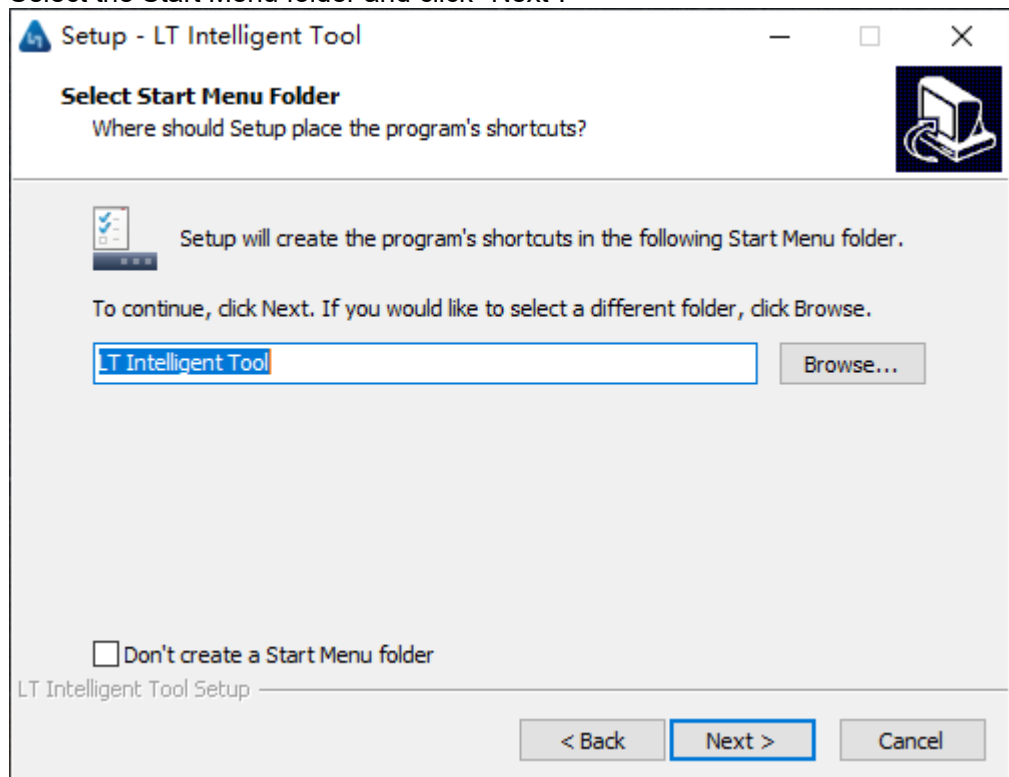
Step 6 Check "I accept the agreement" and click "Next".



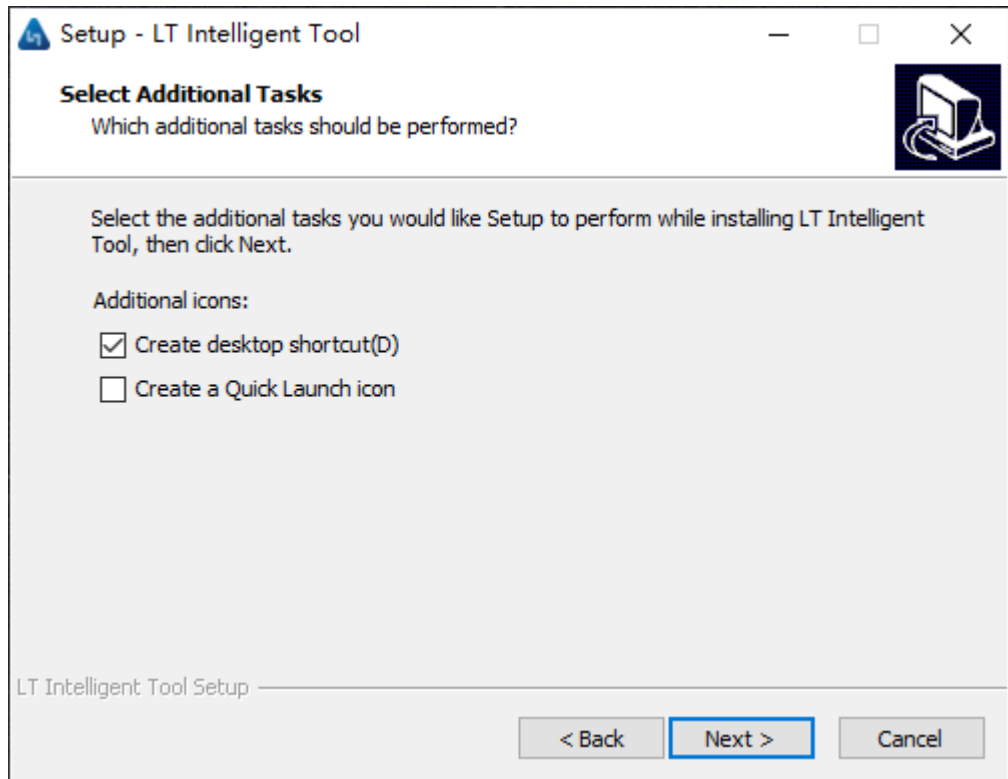
Step 7 Select the installation directory and click "Next".



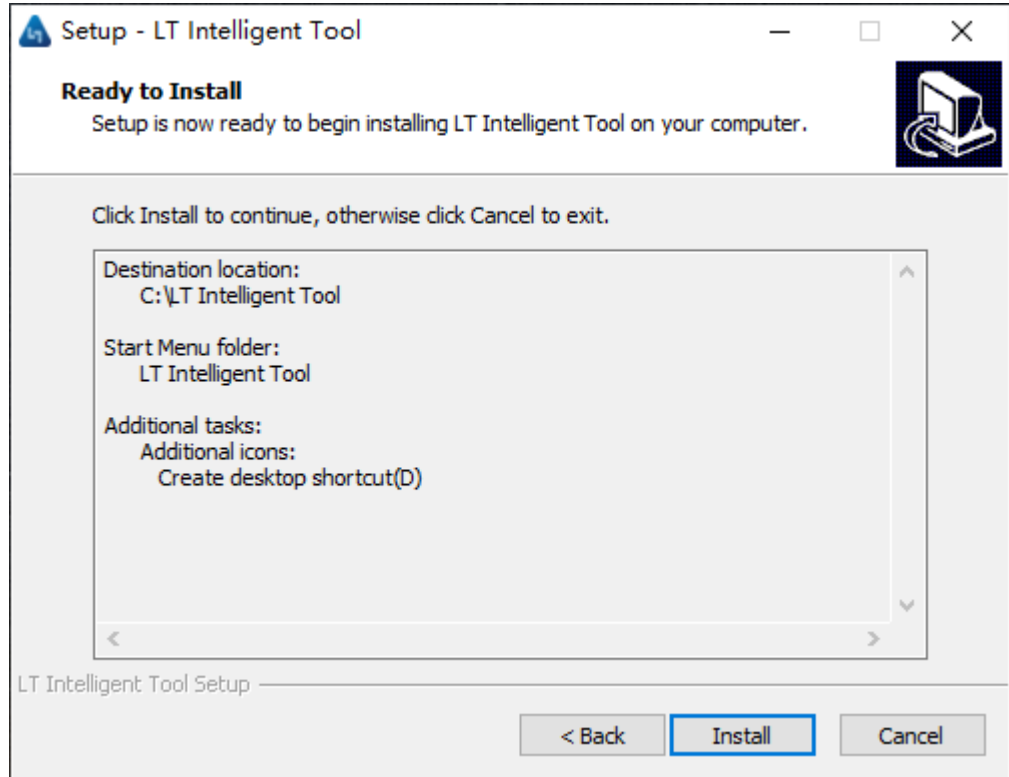
Step 8 Select the Start Menu folder and click "Next".



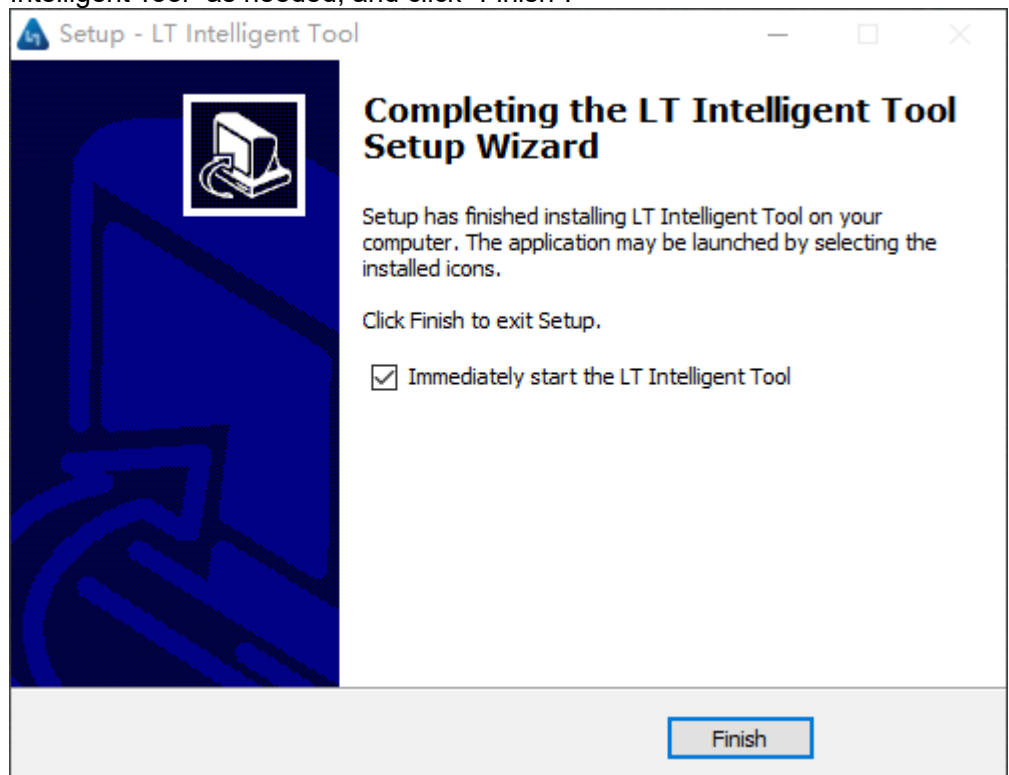
Step 9 Check "Create desktop shortcut(D)" and "Create a Quick Launch icon" as needed, then click "Next".



Step 10 After confirming the installation information is correct, click "Install".



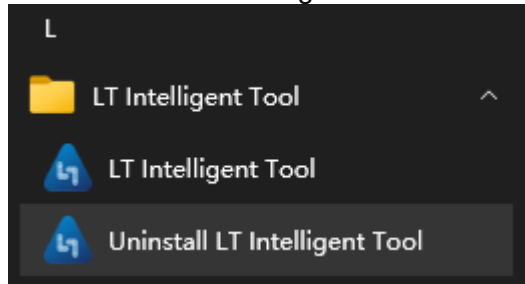
Step 11 Wait for the software installation to complete, check "Immediately start the LT Intelligent Tool" as needed, and click "Finish".



3.3 Uninstallation

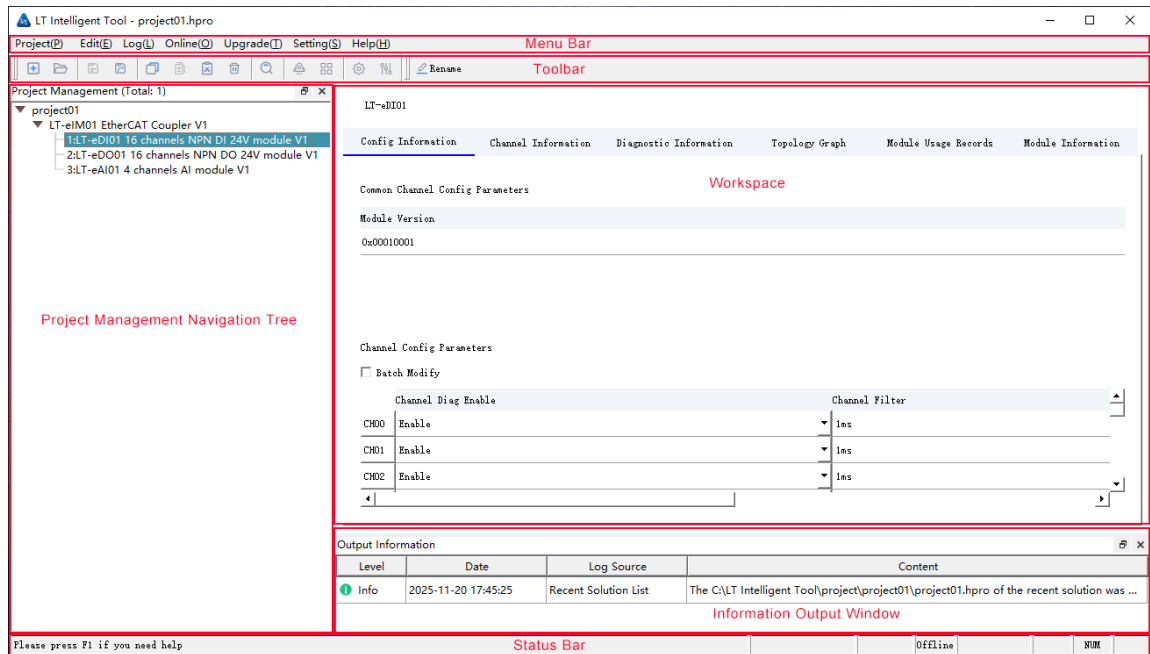
Operation Steps

Step 1 Select "Start > LT Intelligent Tool > Uninstall LT Intelligent Tool".



Step 2 Follow the on-screen instructions to complete the software uninstallation.

Chapter 4 Interface Introduction



Menu Bar

Provides a series of menu options. Clicking the corresponding option expands a dropdown box to display more options. Users can execute various commands or access different parts of the software through these options, such as: creating a new project, viewing operation logs, system settings, etc.

Toolbar

Intuitively displays commonly used functions in the form of icons, allowing quick execution of corresponding commands by clicking the icons. The content displayed on the toolbar may vary slightly depending on the operation being performed; please refer to the actual situation.

Project Management Navigation Tree

Manages couplers and I/O modules through a project navigation tree. Supports adding multiple projects, and each project supports adding multiple couplers. When clicking on different modules, the workspace displays the parameters and attribute information of that module.

Workspace

The main operation area, displaying module parameters and attribute information, while also supporting the modification of module configuration parameters. When online, it can monitor the module's channel information, diagnostic information, and module usage record.

information.

Information Output Window

The operation log output display area, recording important user operations and significant software behaviors.

Status Bar

Used to display the current application or system status information. The left side displays help shortcuts, the right side displays the online status of the current coupler, and the middle displays some process information.

Chapter 5 Project Management

5.1 Creating New Project

LT Intelligent Tool software manages couplers and I/O modules through a project navigation tree. Before configuring modules, you need to create a project. One LT Intelligent Tool software window supports the creation of multiple projects. Each project is independent, and one or more coupler modules can be added under each project.

Operation Steps

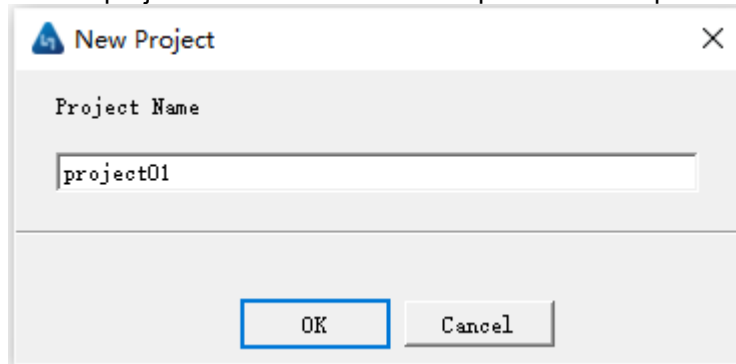
Step 1 On the software menu bar, select "Project > New Project".



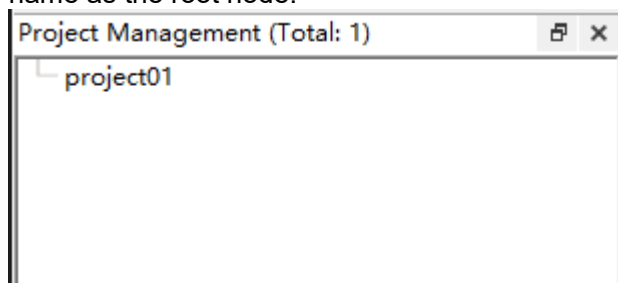
A maximum of 20 projects are supported.

Step 2 In the pop-up interface, enter the project name and click "OK".

- The project name cannot exceed 32 characters. UTF-8 encoding is used, and one Chinese character occupies a length of 1.
- The project name cannot be the same as an existing project name in the current workspace.
- The project name cannot contain spaces or the special characters: \ " V : | * ? < >



Step 3 In the left project management area, you can see a navigation tree with the project name as the root node.



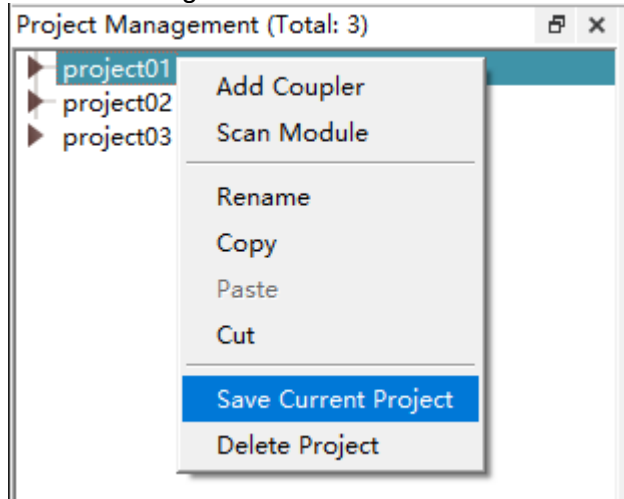
5.2 Saving/Saving As Project

Save Current Project

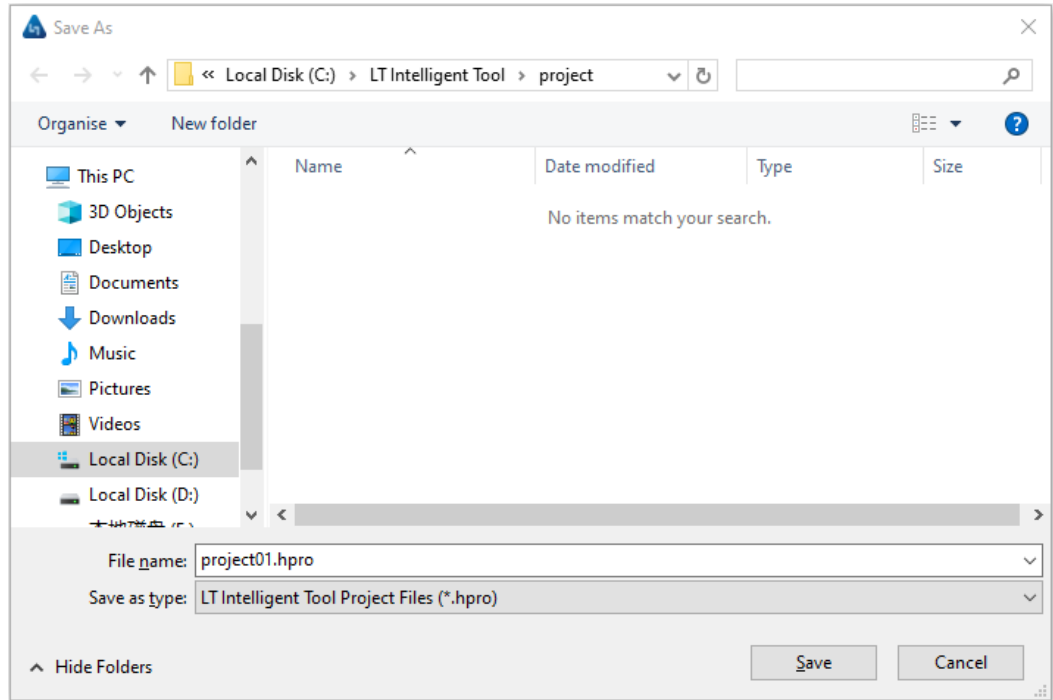


To save the current project, you need to operate in the right-click menu. The commonly used Ctrl+S shortcut is for saving all projects. Please refer to [Save All Projects](#).

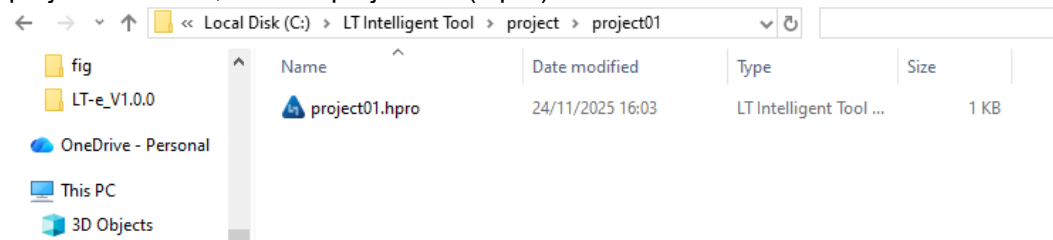
Step 1 After adding a project for the first time, right-click the project that needs to be saved in the left navigation tree and select "Save Current Project".



Step 2 In the pop-up dialog box, select the save path, set the file name, and click "Save".



Step 3 The system will create a folder at the selected path. The folder name is the set project file name, and the project file (.hpro) will be saved in this folder.

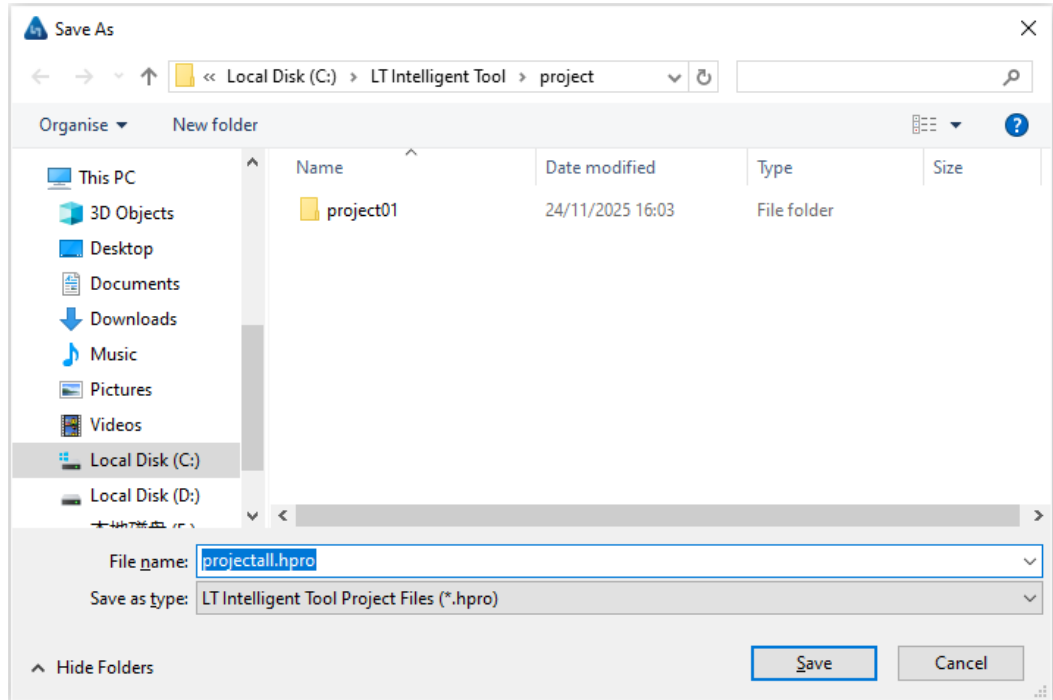


Save All Projects

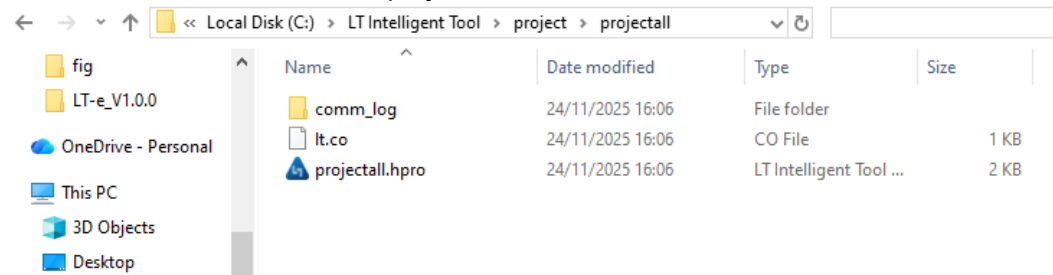
When there are multiple projects in an LT Intelligent Tool software window, it supports saving all projects in one project file (.hpro).

Step 1 After adding multiple projects for the first time, select "Project > Save" from the menu bar of the software interface.

Step 2 In the pop-up dialog box, select the save path, set the file name, and click "Save".



Step 3 The system will create a folder at the selected path. The folder name is the set project file name, and the project file (.hpro) will be saved in this folder. This project file contains information for all projects.



Step 4 When saving subsequent project changes, it is no longer necessary to set the save path and name.



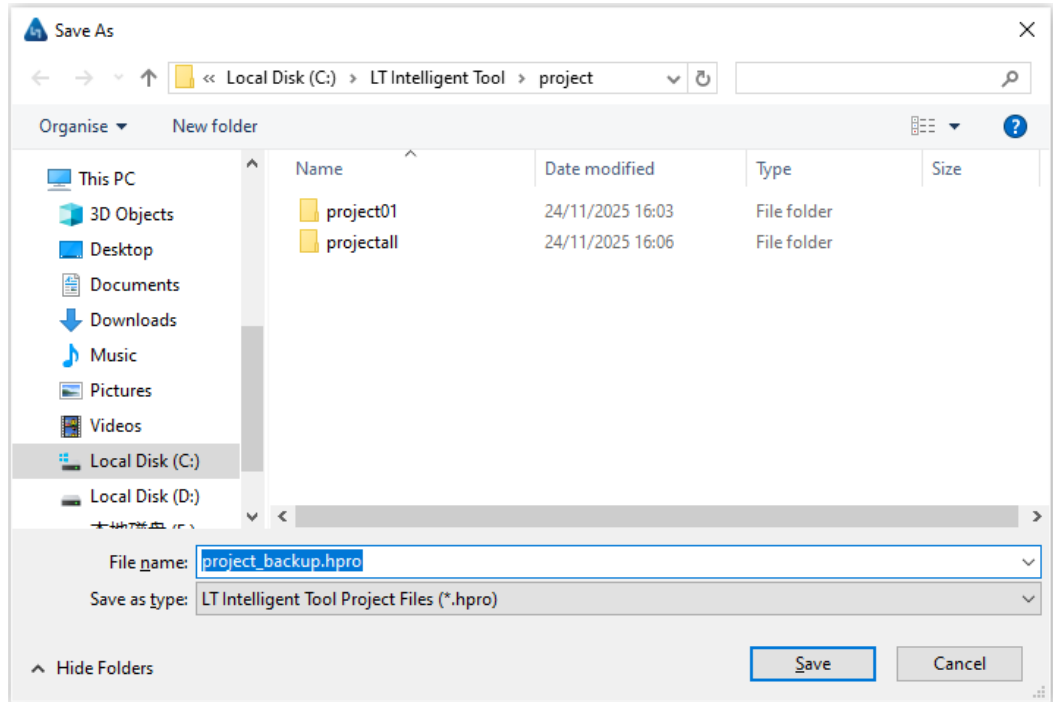
If you need to save all projects to a different path, please refer to [Save As Project](#).

Save As Project

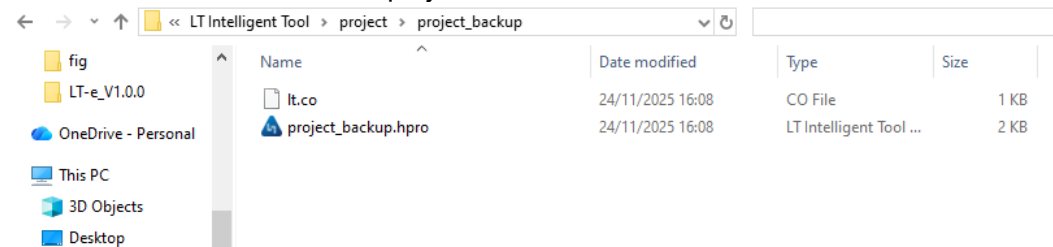
Save As Project saves all projects in the current LT Intelligent Tool software window into one project file (.hpro) and creates a copy of this file to the specified path for backup purposes.

Step 1 In the menu bar of the software interface, select "Project > Save As".

Step 2 In the pop-up dialog box, select the save path, set the file name, and click "Save".



Step 3 The system will create a folder at the selected path. The folder name is the set project file name, and the project file (.hpro) will be saved in this folder. This project file contains information for all projects.



5.3 Setting System Parameters

Users can configure general settings such as software properties and parameter information according to their personal usage habits, for example: display language, log retention period, etc.

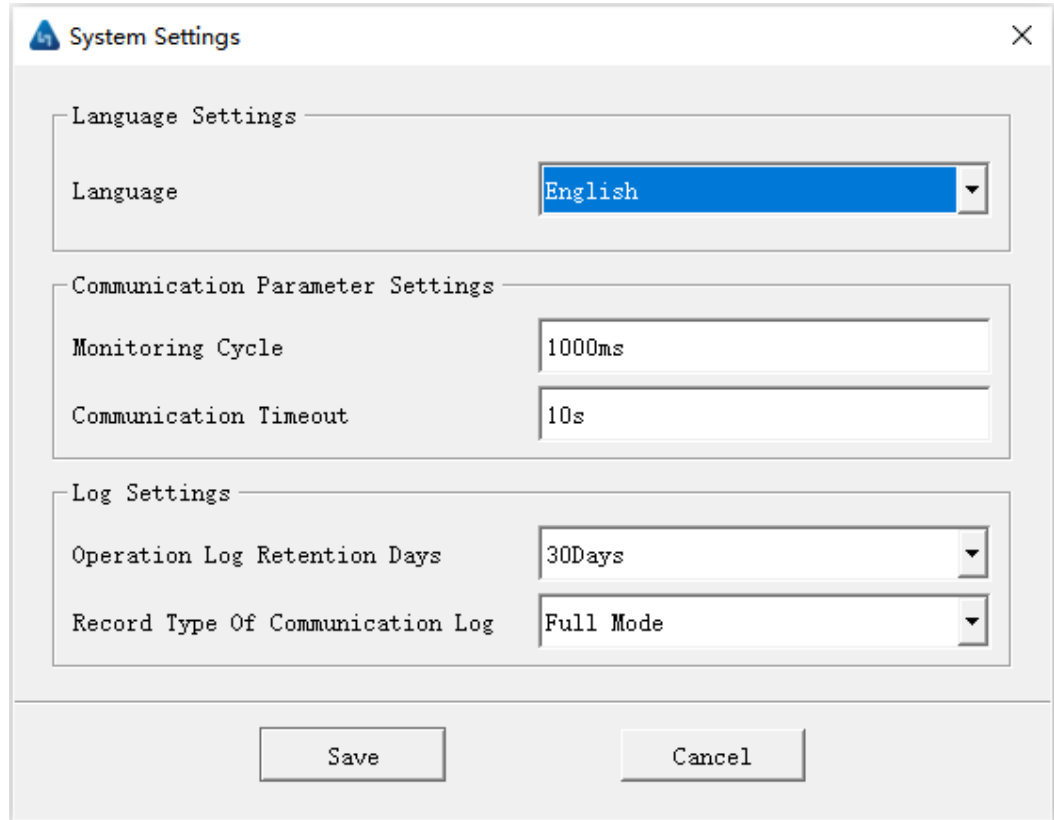
Operation Steps

Step 1 On the software menu bar, select "Setting > System Settings".

Step 2 In the pop-up dialog box, configure parameters as required.

Parameter	Description	Configuration Principle
Language Settings		
Language	The display language of the software.	Default: The language selected during software installation

		Value Range: • Chinese: The software interface is displayed in Chinese. • English: The software interface is displayed in English.
Communication Parameter Settings		
Monitoring Cycle	After the module goes online, the cycle at which the software reads channel data and diagnostic information.	Default: 1000ms Value Range: [500ms, 5000ms]
Communication Timeout	The timeout period for communication between the coupler and the local PC. If there is no response beyond the set time, it is considered a communication exception.	Default: 10s Value Range: [10s, 30s]
Log Settings		
Operation Log Retention Days	The retention duration for operation logs. Logs exceeding the configured time will be deleted.	Default: 30Days Value Range: • 1Day • 3Days • 7Days • 30Days • 90Days • Permanent
Record Type of Communication Log	The method for recording communication logs between the coupler and the local PC.	Default: Full Mode Value Range: • Not Logged • Downsizing Mode: Only records the number of bytes sent and received during communication. • Full Mode: Records the details of bytes sent and received during communication.



The image shows a 'System Settings' dialog box with a close button (X) in the top right corner. It is divided into three sections: 'Language Settings', 'Communication Parameter Settings', and 'Log Settings'. The 'Language Settings' section has a 'Language' dropdown menu set to 'English'. The 'Communication Parameter Settings' section has a 'Monitoring Cycle' text box with '1000ms' and a 'Communication Timeout' text box with '10s'. The 'Log Settings' section has an 'Operation Log Retention Days' dropdown menu set to '30Days' and a 'Record Type Of Communication Log' dropdown menu set to 'Full Mode'. At the bottom are 'Save' and 'Cancel' buttons.

Section	Parameter	Value
Language Settings	Language	English
Communication Parameter Settings	Monitoring Cycle	1000ms
	Communication Timeout	10s
Log Settings	Operation Log Retention Days	30Days
	Record Type Of Communication Log	Full Mode

Step 3 Click "Save".

Chapter 6 Module Management

6.1 Setting Communication Parameters

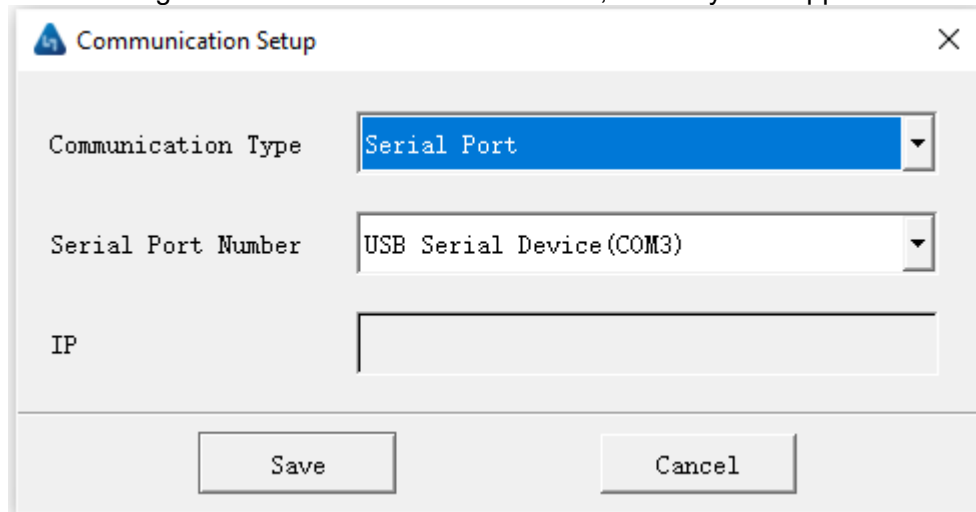
Set the communication type between the coupler and the PC to ensure the PC can properly connect to the coupler.

Operation Steps

Step 1 On the software interface menu bar, select "Setting > Communication Settings".

Step 2 In the pop-up dialog box, configure the following parameters.

- Communication Type: Indicates the communication type between the coupler and the PC. Currently, only serial communication is supported, i.e., Type-C communication.
- Serial Port Number: Select the PC serial port number connected to the coupler from the dropdown list.
- IP: Configurable for Ethernet communication, currently not supported.



Step 3 Click "Save".

6.2 Connecting Coupler

Before downloading configuration parameters or reading information from the coupler and I/O modules via a PC, you need to ensure that the PC and the coupler are in a connected state.

Prerequisites

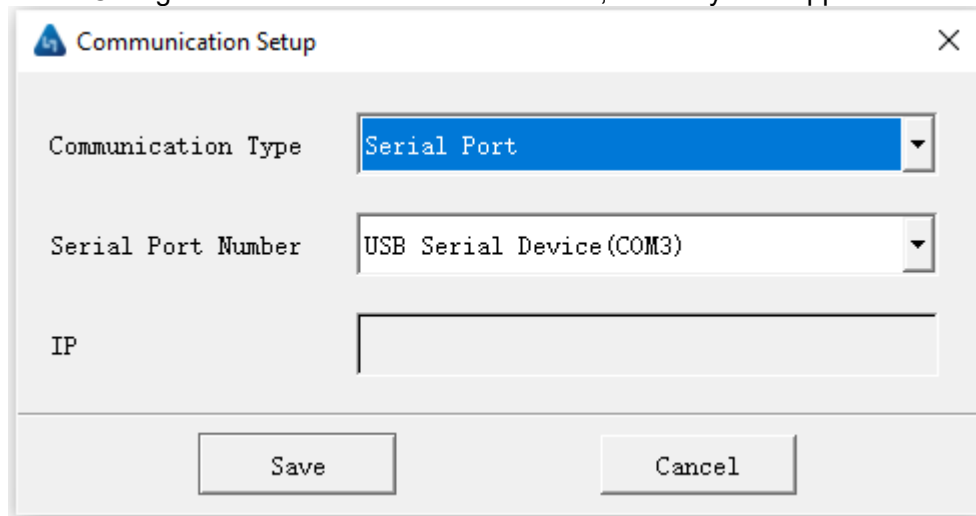
- The PC and the coupler are physically connected via a Type-C cable.
- The coupler is powered on.

Operation Steps

Step 1 In the software interface menu bar, select "Setting > Communication Settings".

Step 2 In the pop-up dialog box, configure the following parameters.

- Communication Type: Currently only serial communication is supported, i.e., Type-C communication
- Serial Port Number: Select the PC's serial port number connected to the coupler from the dropdown list
- IP: Configurable for Ethernet communication, currently not supported

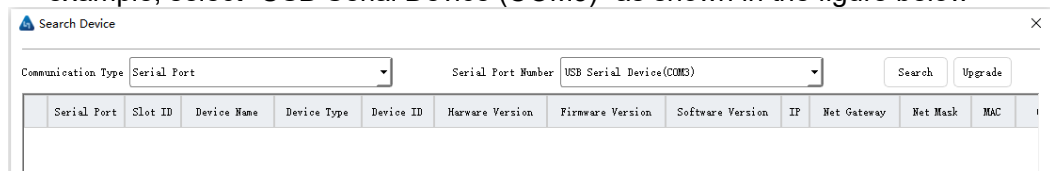


Step 3 Click "Save".

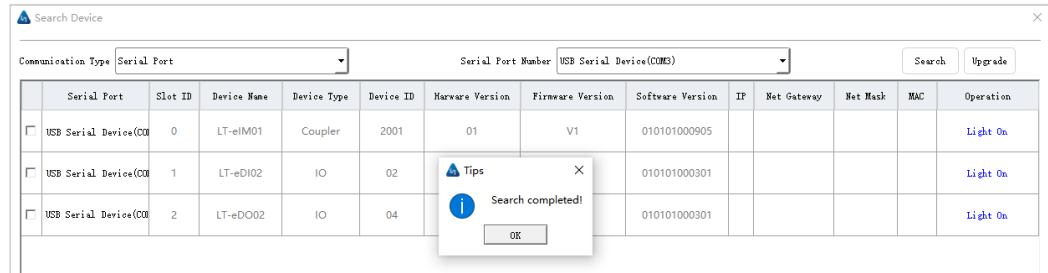
Step 4 Select "Edit > Search Devices" in the menu bar.

Step 5 In the pop-up dialog box, configure the following parameters.

- Communication Type: Select "Serial Port"
- Serial Port Number: Select based on the connected local PC's USB port, for example, select "USB Serial Device (COM3)" as shown in the figure below



Step 6 Click "Search", the software will automatically search for the coupler and I/O modules. If the modules can be identified, it indicates that the coupler connection is successful.



6.3 Searching for Devices

After the coupler is connected to the local PC, the configuration software can automatically scan and search for devices. The correspondence between the modules displayed by the software and the physical modules can be confirmed using the blink function.

Prerequisites

The coupler has been connected to the PC, referring to the [Connecting Coupler](#) section.

Operation Steps

Step 1 On the menu bar, select "Edit > Search Devices".

Step 2 In the pop-up dialog box, configure the following parameters.

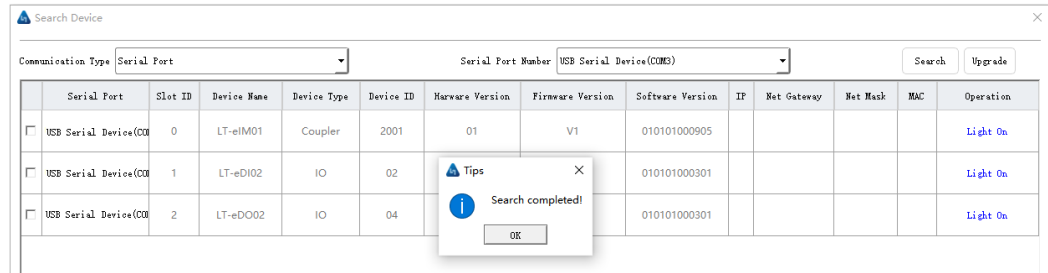
- Communication Type: Select "Serial Port"
- Serial Port Number: Select according to the connected USB port of the local PC, for example, select "USB Serial Device (COM3)" as shown in the figure below.



Step 3 Click "Search". The software automatically searches for the coupler and I/O modules, and displays basic information such as slot number, device name, and device ID.



Click "Upgrade" to jump to the firmware upgrade interface. For detailed operations on firmware upgrade, please refer to the [Upgrading Firmware](#) section.



Step 4 Click the "Light On" button on the right side of a module. The button name changes to "Light Off", and the signal light of the corresponding physical module starts flashing.

Step 5 Click "Light Off". The signal light of the physical module stops flashing.

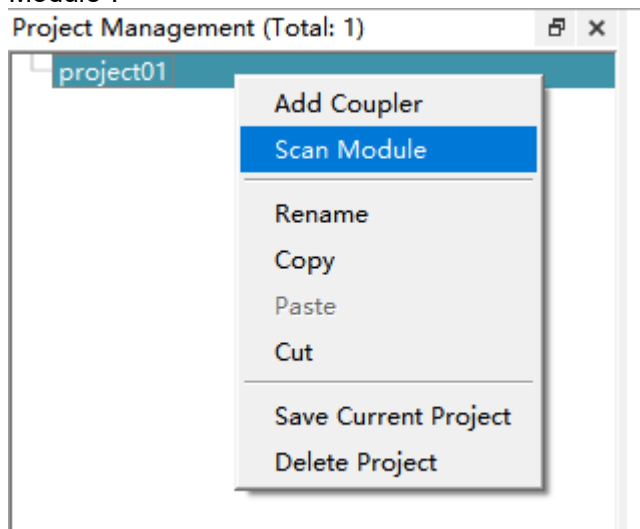
6.4 Adding Modules

Add the actual hardware topology from the field into the software to ensure the hardware in the software matches the actual field conditions. Otherwise, configuration information cannot be downloaded properly.

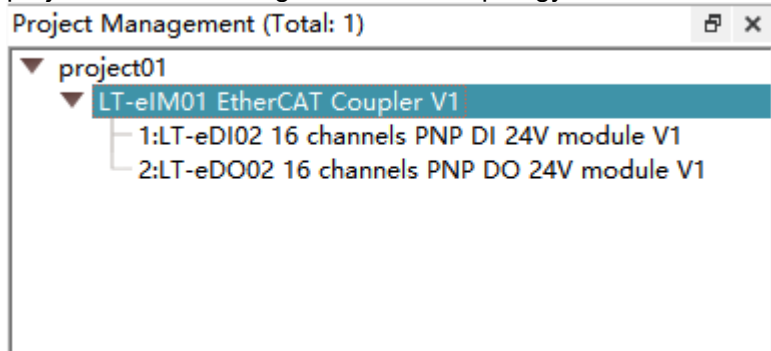
- A maximum of 20 couplers can be added to a project, and the couplers are independent of each other.
- A single coupler can add a maximum of 64 modules (including power relay modules).

Automatically Adding Modules

- Step 1 Refer to the [Connecting Coupler](#) section to connect the coupler to the PC and power on the coupler module.
- Step 2 In the configuration software interface, refer to the [Creating New Project](#) section to create a project (skip this step if a project already exists).
- Step 3 In the left project management area, right-click the project and select "Scan Module".



Step 4 The software automatically scans and adds the coupler and I/O modules to the project node according to the actual topology.

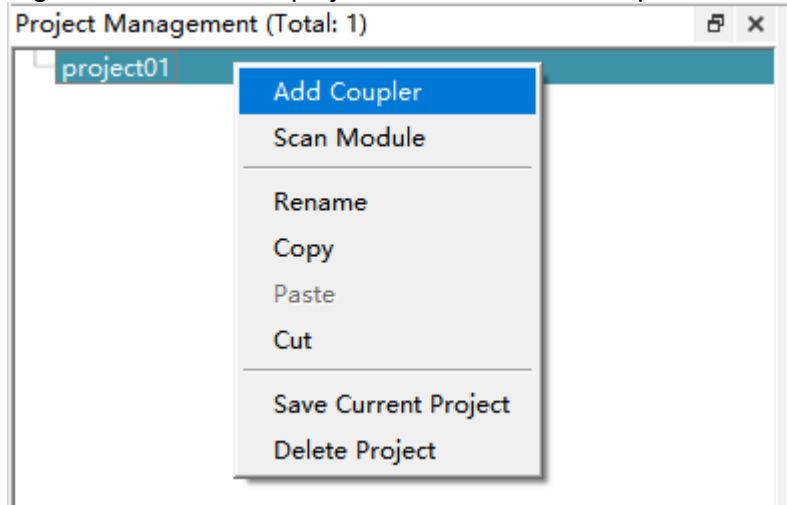


Manually Adding Modules

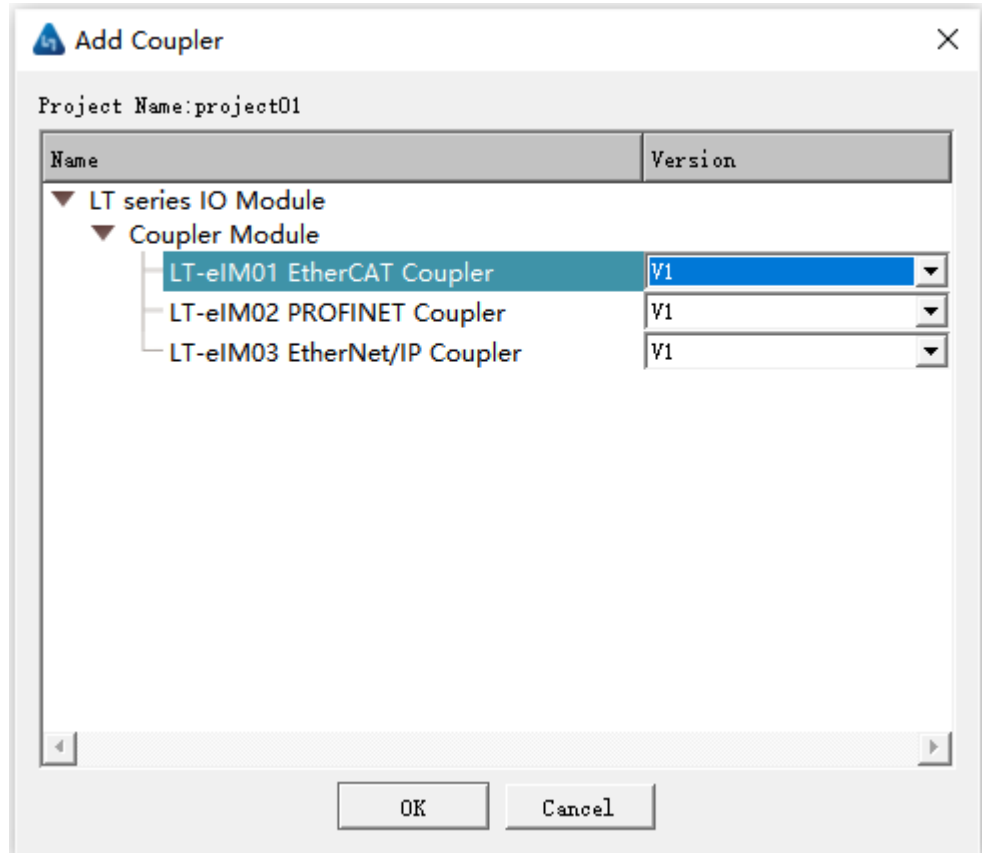
Step 1 Refer to the [Creating New Project](#) section to create a project (skip this step if a project already exists).

Step 2 Add the coupler module.

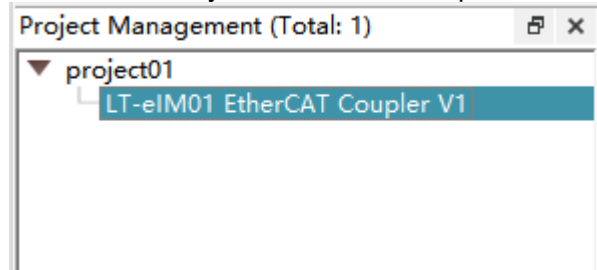
1. Right-click the created project and select "Add Coupler".



2. In the pop-up interface, select the coupler and version according to the actual situation.

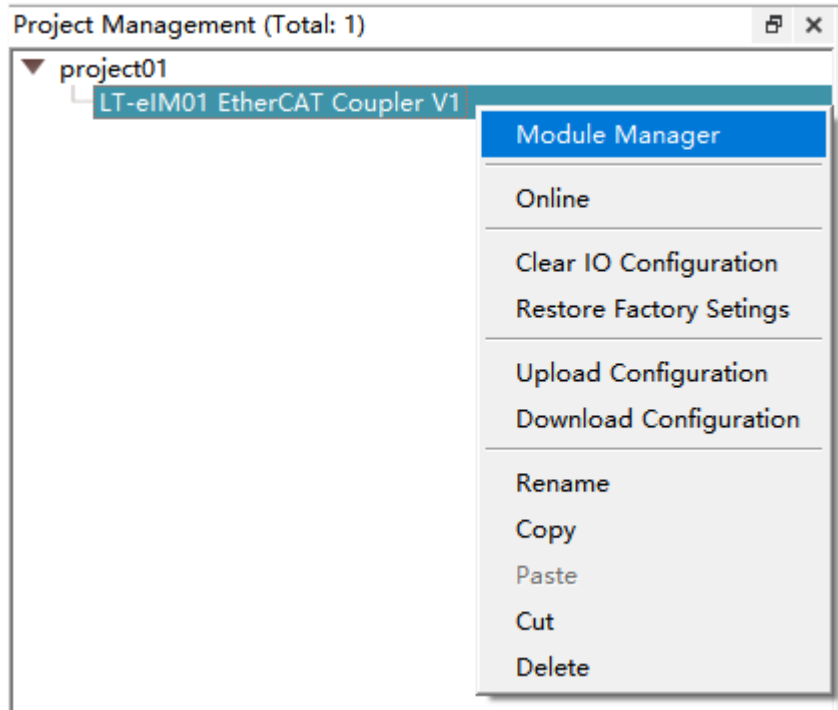


3. Click "OK", and you can see the coupler has been added to the project node.



Step 3 Add I/O modules according to the actual topology.

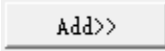
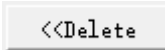
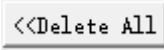
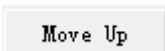
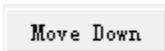
1. Right-click the coupler module added in the previous step and select "Module Manager".

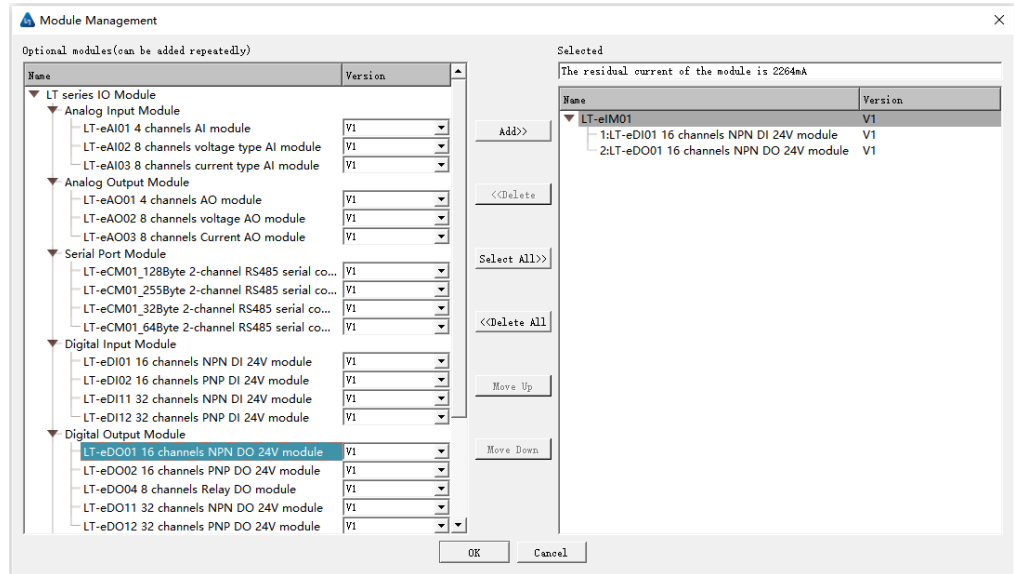


2. In the pop-up dialog box, add I/O modules according to the actual topology structure. The left side is the "Optional modules" list, and the right side is the "Selected" list.

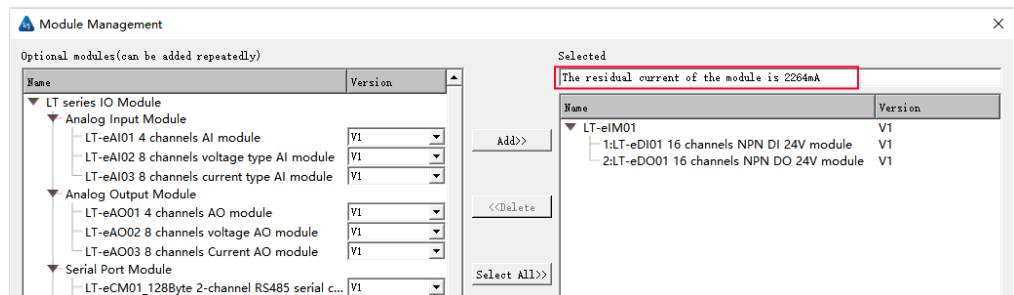


There are 4 LT-eCM01 modules in the "Optional modules" area, representing different cyclic communication data volumes. Please add them according to the actual situation.

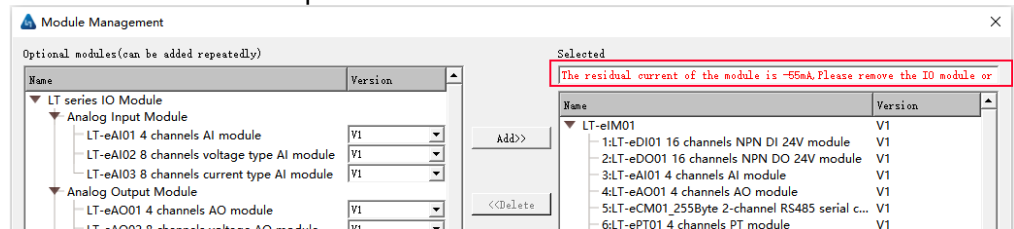
- In the "Optional modules" area, after selecting the version of the I/O module, double-click the module to add it to the "Selected" area on the right.
- Double-click a module in the right "Selected" area to remove the module from the "Selected" list.
- Select a module in the "Optional modules" area and set the version, click  to add this module to the "Selected" area.
- Select a module in the "Selected" area, click  to remove this module from the selected list; click  to remove all I/O modules.
- Click  to add all I/O modules from the "Optional modules" area to the "Selected" area in order from top to bottom.
- Select a module in the "Selected" area, click  or  to adjust the sequence of the I/O modules.



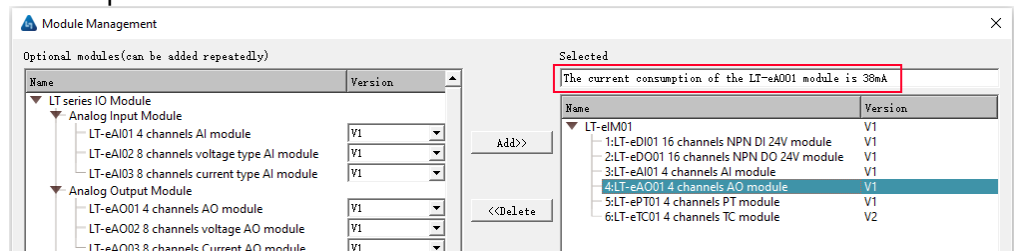
3. After configuration, the remaining current information is displayed at the top of the "Selected" area.



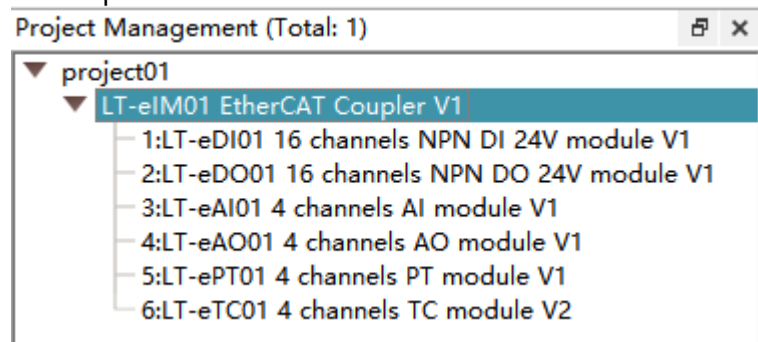
4. When the current is exhausted, the software prompts in red font that I/O modules need to be deleted or a power module needs to be added in a certain slot.



5. In the "Selected" area, after selecting an I/O module, you can view the current consumption of that module.

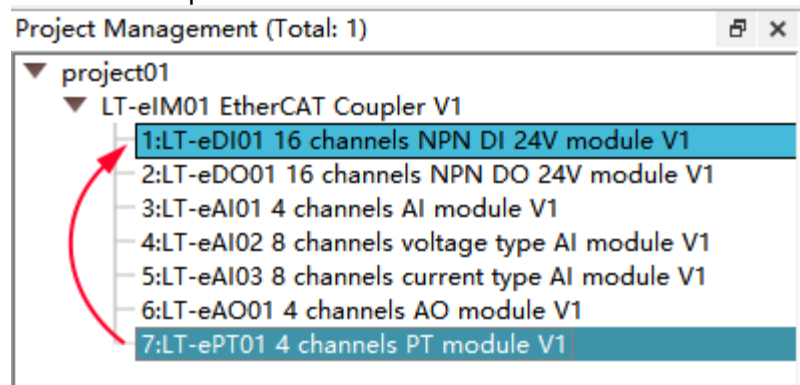


6. According to the actual topology, add all I/O modules sequentially. The addition order must be consistent with the actual topology, otherwise communication abnormalities may occur.
7. Click "OK", and you can see the selected I/O modules have been added under the coupler node.

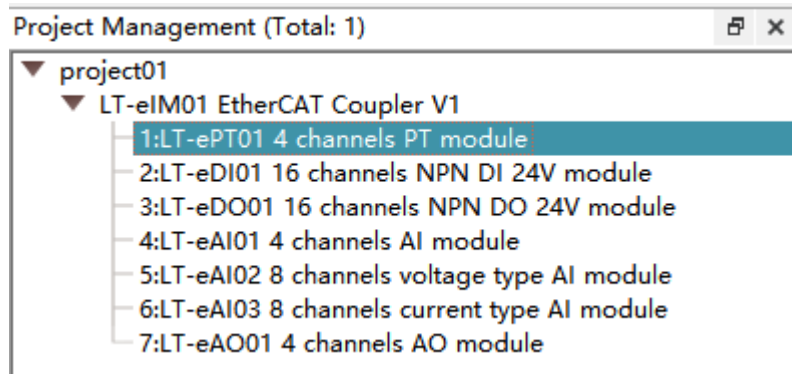


Step 4 When the module order in the software is inconsistent with the actual order, the sequence of I/O modules can be adjusted by dragging.

1. In the left navigation tree, select an I/O module and drag it to the target position. The target position will be highlighted. As shown below, drag the LT-ePT01 module to the position of LT-eDI01.



2. Release the mouse button, and the selected module will be inserted into the target position according to the following logic.
 - If the target position is above the dragged module, insert before the target position
 - If the target position is below the dragged module, insert after the target position



6.5 Viewing Module Information

After adding modules in the configuration software, you can view basic information such as module name, version, dimensions, etc. You can also view the module's topology structure and the overall topology dimensions, helping users macroscopically perceive the module configuration.

Prerequisites

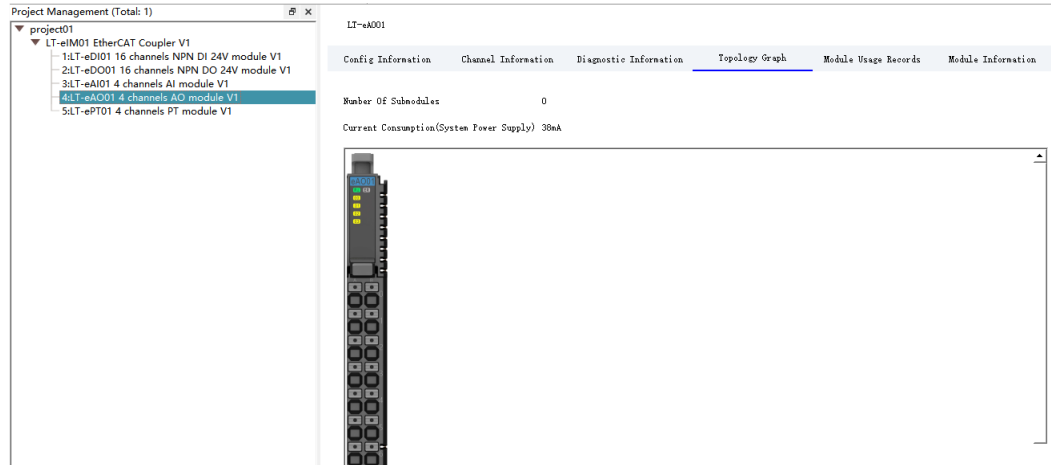
- The coupler has been connected to the PC and powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.

Operation Steps

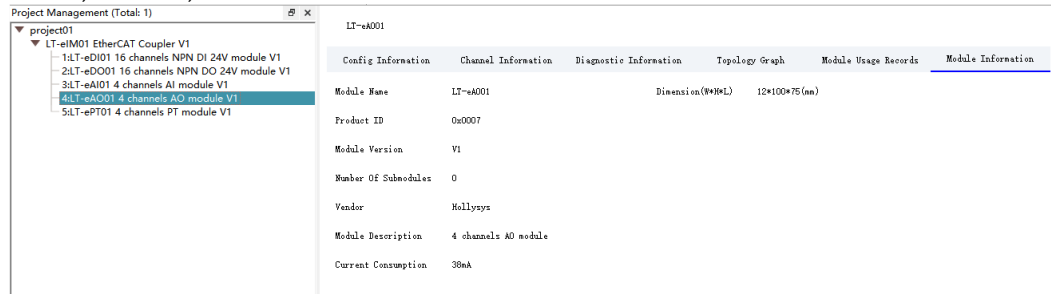


The screenshots in the following steps are for example only. The topology information and basic information displayed when viewing module information should be based on the actual display.

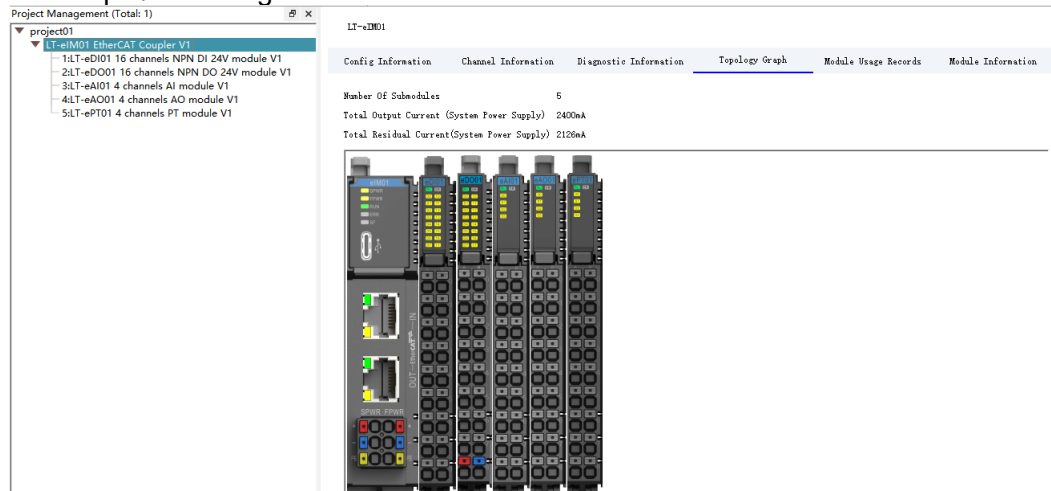
- Step 1 In the left navigation tree, select any I/O module. In the right work area, click the "Topology Graph" tab to view the module's appearance and current consumption.



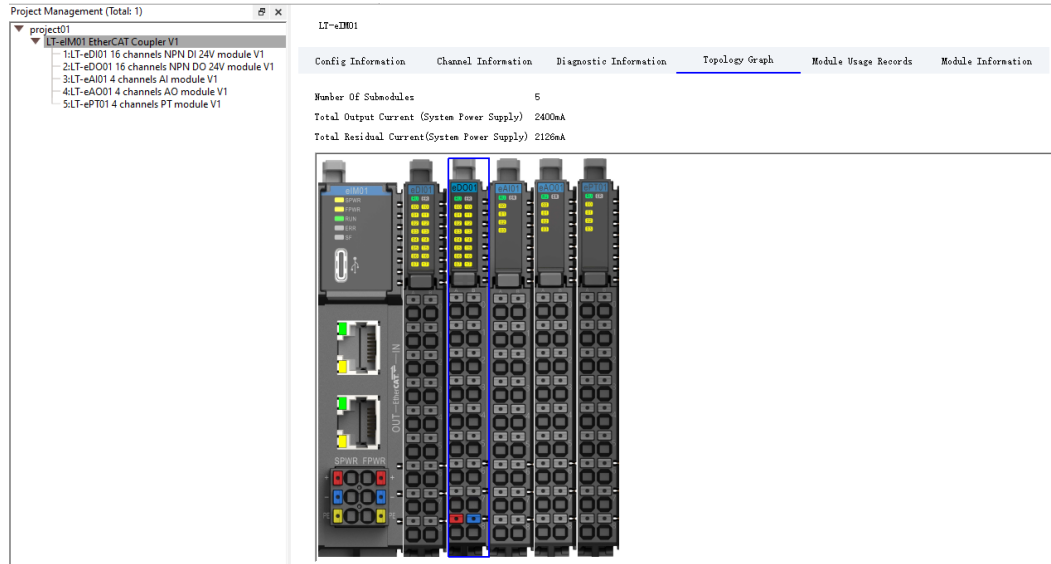
Step 2 Click the "Module Information" tab to view basic information such as the module's name, version, and dimensions.



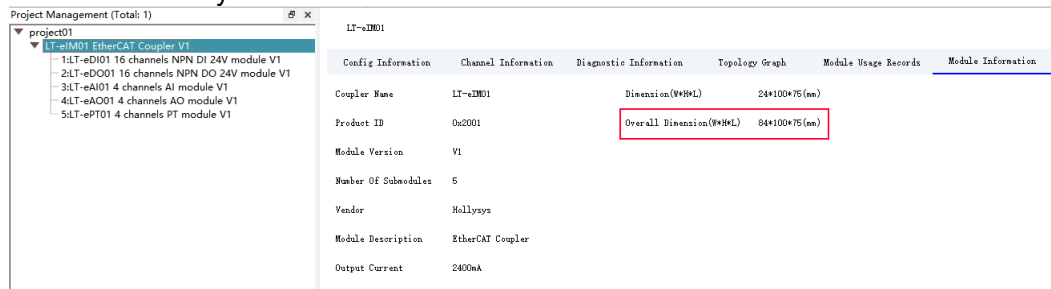
Step 3 In the left navigation tree, select the coupler module. In the right work area, click the "Topology Graph" tab to view the module's appearance, system topology structure, and output/remaining current.



Step 4 Click a module in the topology diagram; the module will be highlighted. Double-click the module to jump to its configuration interface.



Step 5 Click the "Module Information" tab to view the coupler module's basic information and the overall system dimensions.



6.6 Reading Module Configuration Parameters

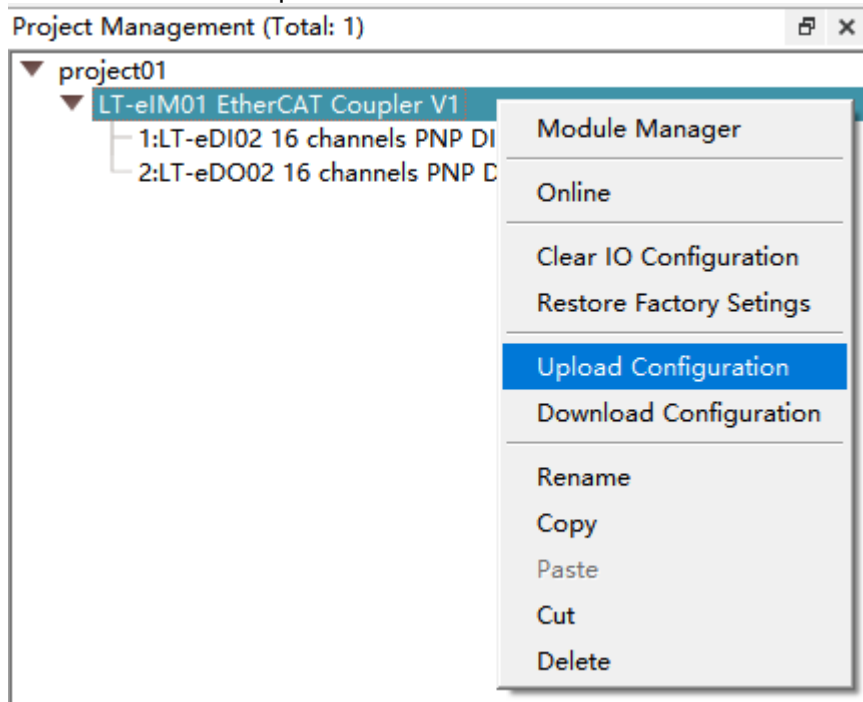
Helping users understand the configuration information of each module and each channel within the module. This helps to ensure the modules are used correctly and the system operates according to the intended plan. When system errors occur, reading configuration parameters helps quickly determine whether it is a hardware or configuration issue (such as address conflicts, improper parameter settings, etc.).

Prerequisites

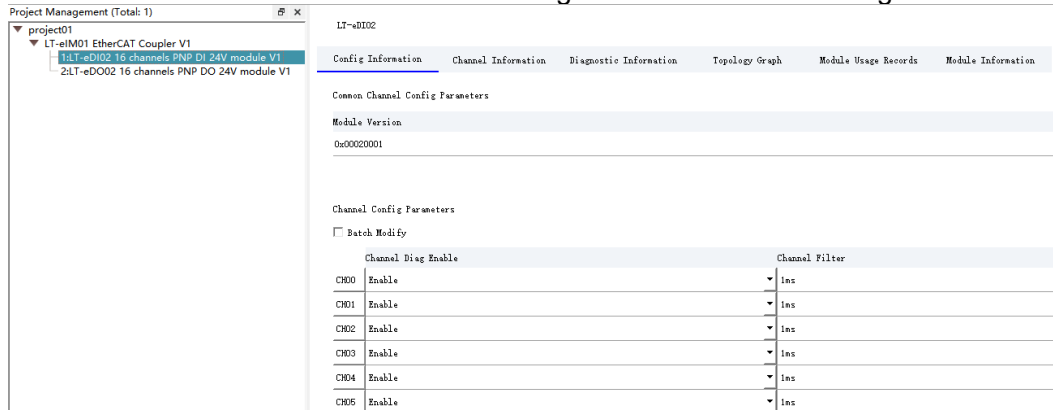
- The coupler has been connected to the PC and the coupler module has been powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.

Operation Steps

Step 1 In the left navigation tree, right-click the coupler module and select "Upload Configuration". The software will automatically read the configuration parameter information of the coupler and I/O modules.



Step 2 Select the module you want to view in the left navigation tree. The read parameter information can then be viewed in the "Config Information" tab of the right work area.



6.7 Configuring Module Parameters

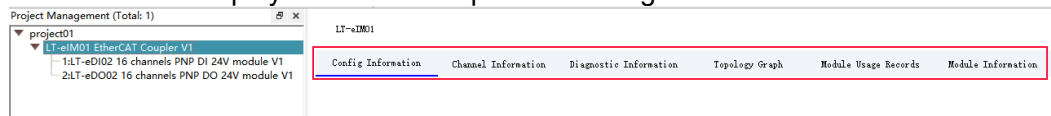
Configuring module parameters, channel parameters, ranges, etc., according to the actual application scenario to ensure the module operates as designed.

Prerequisites

- The coupler has been connected to the PC and powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.

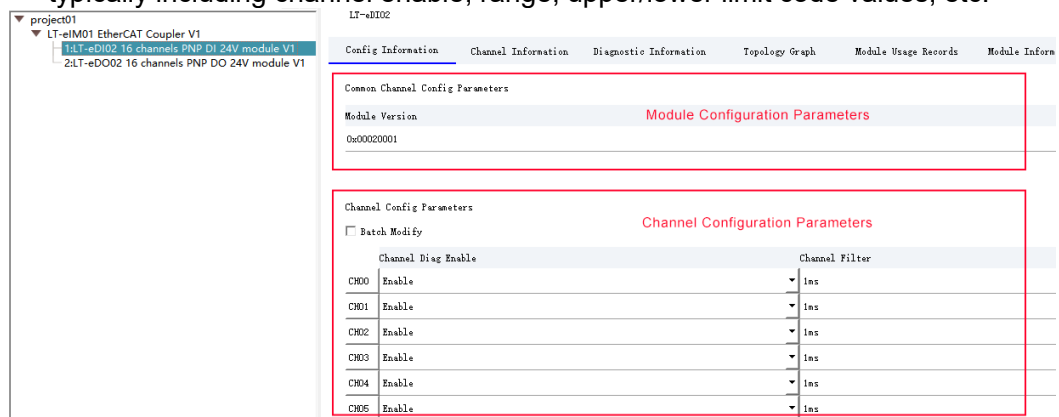
Operation Steps

Step 1 In the software interface, select any module. The configuration interface of that module will be displayed in the workspace on the right.

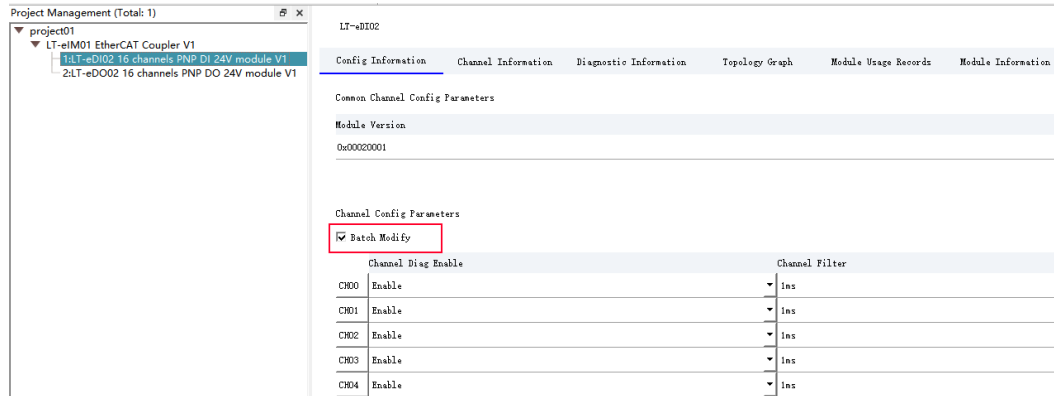


Step 2 Taking the LT-eDI02 module as an example, click on this module. The "Config Information" tab is displayed by default in the workspace on the right. Configuration parameters include "Module Configuration Parameters" and "Channel Configuration Parameters". For detailed information on the configuration parameters supported by each module, their meanings, value ranges, etc., please refer to the "LT-e Series Distributed I/O Module Manual".

- **Module Configuration Parameters:** Configured uniformly for the entire module, typically including full-scale code value, sampling cycle, etc.
- **Channel Configuration Parameters:** Configured individually for each channel, typically including channel enable, range, upper/lower limit code values, etc.

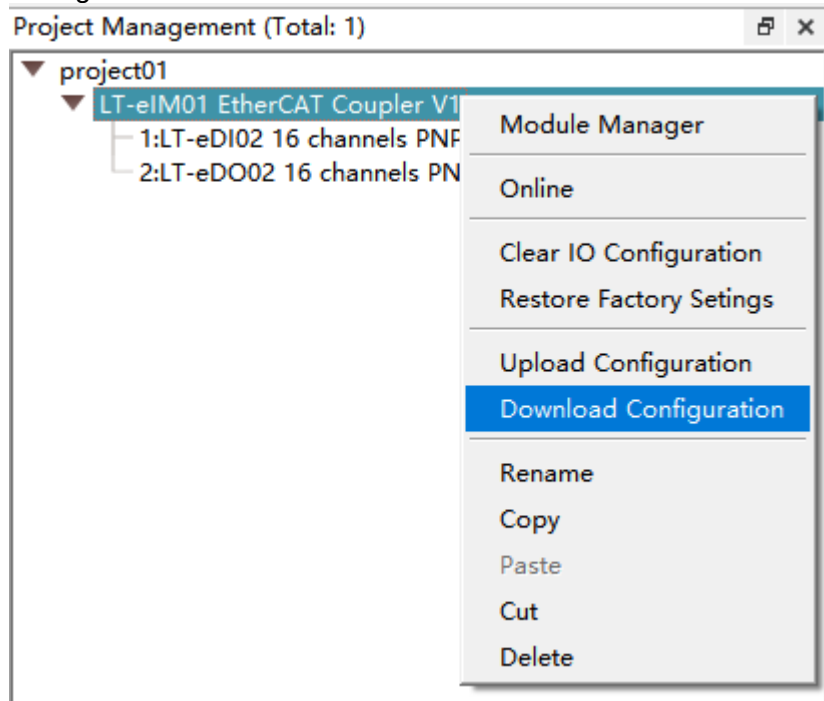


Step 3 Configure the various parameters of the module according to the actual application scenario. For channel configuration parameters, check the "Batch Modify" option to configure all channels uniformly for convenient operation.



Step 4 Repeat [Step 2~Step 3](#), to complete the parameter configuration for all modules.

Step 5 Right-click the coupler in the left navigation tree and select "Download Configuration".



Step 6 Complete the configuration and issue according to the interface prompts. The "Output Information" window displays the download details.



During configuration download, the coupler updates the configuration information. The I/O module cyclic data will be maintained for approximately 200ms, and will return to normal after the update is complete.

Output Information			
Level	Date	Log Source	Content
Info	2025-11-21 17:05:00	project01	Scan module was successful
Info	2025-11-21 17:05:08	0:Lt-eIM01	The online mode switch was successful
Info	2025-11-21 17:05:14	0:Lt-eIM01	Non-periodic diagnostic information updated successfully
Info	2025-11-21 17:05:22	0:Lt-eIM01	The offline mode switch was successful
Info	2025-11-21 17:05:27	0:Lt-eIM01	Configuration downloaded successfully

Step 7 After a successful download, the parameter source of the coupler will be set to "LT Intelligent Tool", meaning the parameters sent by the configuration software to the coupler and I/O modules take effect. If parameters from the controller need to take effect (this scenario is not supported by LT-eIM03), please refer to the [Setting Parameter Source](#) section to configure the parameter source as "Master".

6.8 Exporting EDS File

The EDS file contains configuration information such as module input/output data, device information, and connection information. The controller can only recognize the module through the EDS file. Use the configuration software to export the coupler's EDS file to the local machine, preparing for subsequent recognition by third-party controllers.

Prerequisites

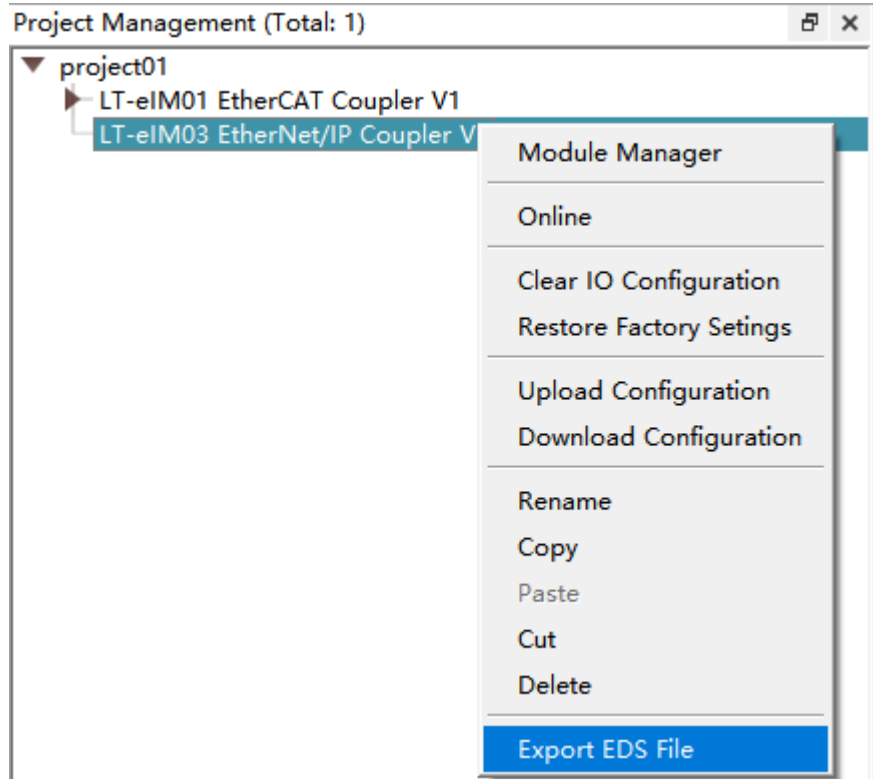
- A project has been created, referring to the [Creating New Project](#) section.
- The LT-eIM03 coupler module has been added, referring to the [Adding Modules](#) section.

Operation Steps

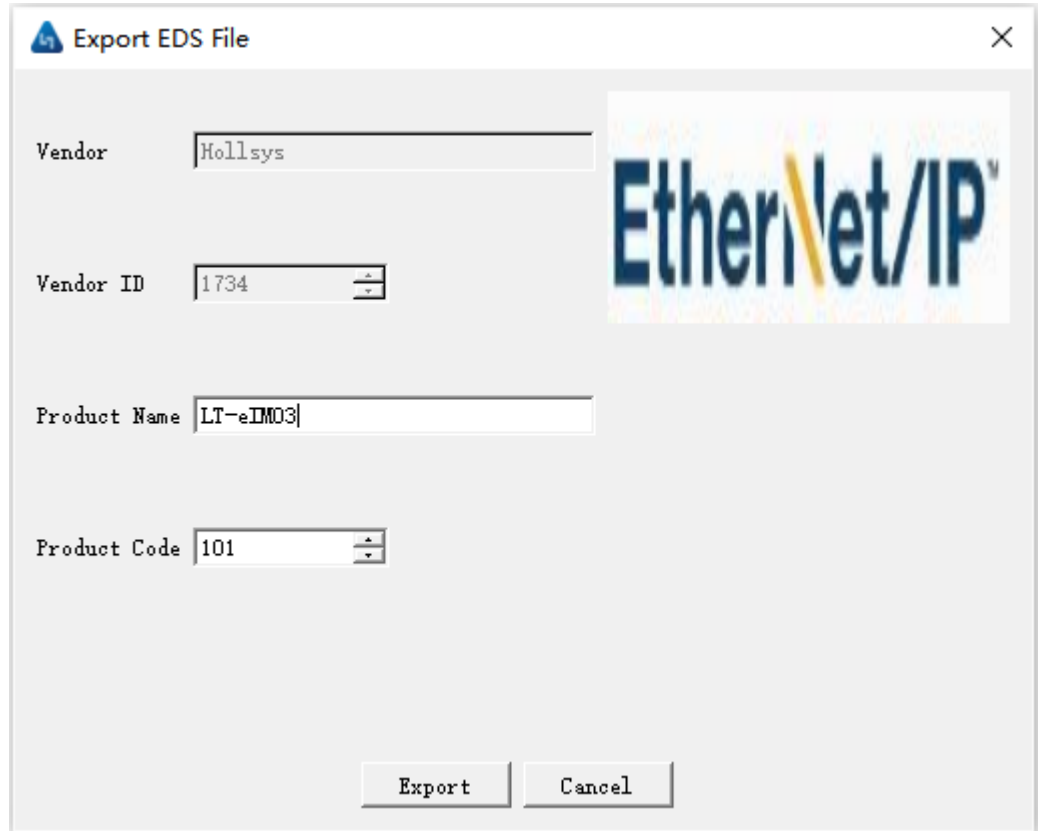
Step 1 In the software interface, right-click the LT-eIM03 EtherNet/IP coupler module in the navigation tree and select "Export EDS File".



Only the LT-eIM03 EtherNet/IP coupler module supports exporting EDS files.



Step 2 In the pop-up dialog box, configure the "Product Name" and "Product Code", then click "Export".



Step 3 In the pop-up dialog box, select the save directory and click "Save".

Step 4 The software exports automatically. After successful export, the EDS file can be obtained in the selected path (default name: HollySys *ProductName*-A01 EtherNet_IP EDS.eds).

Step 5 If the LT Intelligent Tool software is version V0.0.1 (excluding V0.0.1 patch version), please follow this step; otherwise, please skip it.

1. Is the I/O module in coupler configuration a pure input module.
 - Yes => Execute the next step.
 - No => End, no further action required.
2. Import the obtained EDS file into the configuration software on the main station side and add the LT-eIM03 coupler.
3. Edit the connection of LT-eIM03. When supporting modification, change the transmission type from "Exclusive Owner" to "Listen Only"; When modification is not supported, delete the "Exclusive Owner" connection and readd the connection, the transmission type needs to be configured as "Listen Only".

6.9 Upgrading Firmware

Firmware is software stored in hardware devices, responsible for controlling the operation of the hardware. Firmware upgrades are typically used to fix known issues, add new features,

improve performance, and ensure compatibility between the coupler and software or hardware.

Prerequisites

- The coupler has been connected to the PC and the coupler module has been powered on, referring to the [Connecting Coupler](#) section. The length of the Type-C cable between the PC and the coupler must be less than 2m, otherwise it may cause firmware upgrade failure.
- The required firmware version file (.bin file with the keyword 'App' in its name) for the upgrade has been prepared.

Operation Steps



- The LT-eIM02 module has two firmware version files. Both need to be upgraded during the process. There is no specific sequence requirement. However, during the upgrade, the cyclic communication data is uncontrollable. To ensure safety, PROFINET communication must be disconnected (PN master stops communication or the network cable is disconnected) before upgrading.
- For the following module models, the coupler's network cable must be disconnected during firmware upgrade. Otherwise, after the upgrade, the module needs to be power-cycled to ensure normal communication: LT-eCM01, LT-eAI02/03, LT-eAO02/03, LT-eDI11/12, LT-eDO11/12.
- For the LT-eAO01 module, ensure stable field power supply during firmware upgrade. Other modules do not have this restriction.
- Do not power off, unplug the USB cable, or close the software during the upgrade process.

Step 1 On the software menu bar, select "Upgrade > Firmware Upgrade".

Step 2 In the pop-up dialog box, configure the following parameters and click "Read Device Info".

- Communication Type: Select "Serial Port"
- Serial Port Number: Select according to the connected USB port of the local PC, for example, select "USB Serial Device (COM3)" as shown in the figure below.
- Baud Rate: Select from the dropdown list according to the actual situation.



Firmware Upgrade

Communication Type: Serial Port Serial Port Number: USB Serial Device (COM3) Baud Rate: 300000 Read Device Info

Step 3 The software automatically identifies the coupler and all I/O modules.

Firmware Upgrade

Communication Type

Serial Port

Serial Port Number

USB Serial Device (COM3)

Baud Rate

300000

Read Device Info

	Slot ID	Device Name	Device ID	Hardware Version	Software Version	Operation
☐	0	LT-eIM01	2001	01	010101000905	
☐	1	LT-eDI02	02	01	010101000301	
☐	2	LT-eDO02	04	01	010101000301	

Firmware

Browse

Firmware Information

Firmware Version

Device Name

Device ID

Hardware Number

Hardware Version

☒ Auto Restart Device

Cancel

Restart Device

Upgrade Immediately

- Step 4 Check the modules that require firmware upgrade (for multi-module upgrades, the selected modules must be of the same model). Click "Browse" to select the firmware version file (.bin file with the keyword 'App' in its name).
- Step 5 The software checks "Auto Restart Device" by default. The device will automatically restart after the firmware upgrade is complete. You can uncheck this option as needed.
- Step 6 After confirming everything is correct, click "Upgrade Immediately" and follow the on-screen prompts to complete the firmware upgrade operation.
- Step 7 It is normal for the system to report a watchdog fault after the firmware upgrade is complete. The fault is automatically cleared after the device restarts. If "Auto Restart Device" was not checked in [Step 5](#), you can click "Restart Device" to manually restart.

6.10 Restoring Factory Settings

Restoring factory settings resets the module to its default configuration, deleting all user data and configuration information. When module issues cannot be resolved through normal channels, attempting a factory reset can help locate or solve the problem.

Prerequisites

- The coupler has been connected to the PC and the coupler module has been powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.

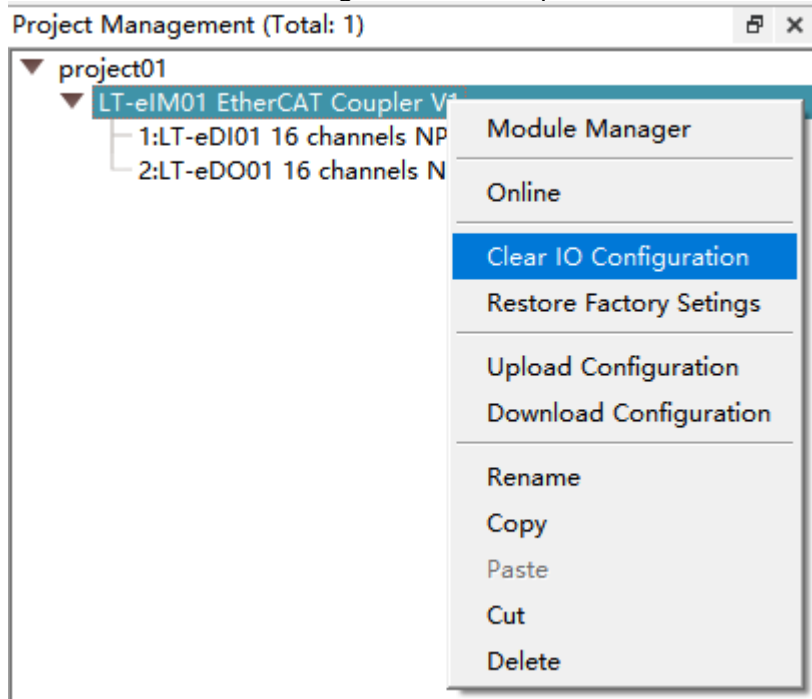
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.

Restoring I/O Modules



Restoring I/O modules to factory settings is achieved by "Clear IO Configuration". This operation will restore all I/O modules under the coupler.

Step 1 In the software interface, right-click the coupler and select "Clear IO Configuration".

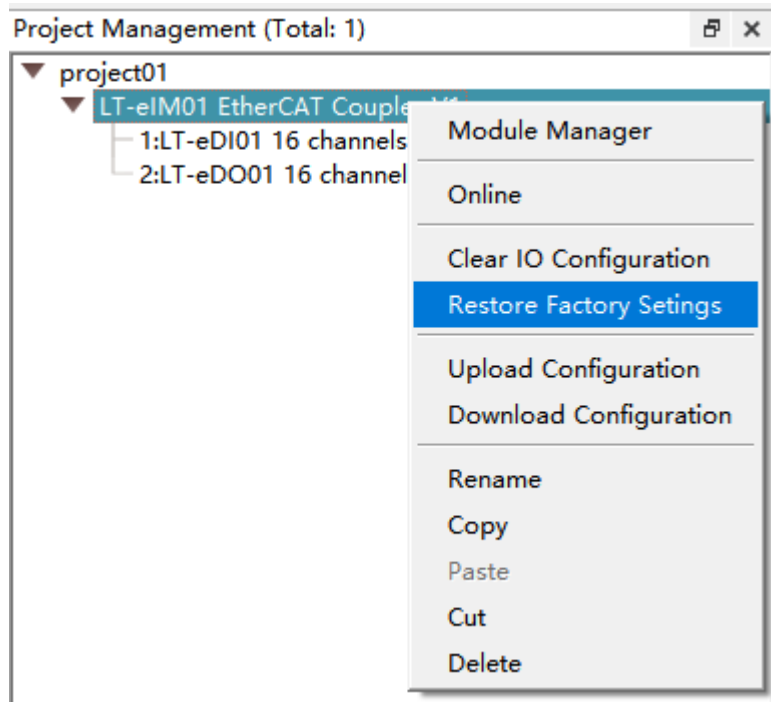


Step 2 Follow the on-screen prompts to complete the subsequent operations.

Step 3 After clearing the I/O configuration, power off and restart the device for the changes to take effect.

Restoring Coupler Module

Step 1 In the software interface, right-click the coupler and select "Restore Factory Settings".



Step 2 Follow the on-screen prompts to complete the subsequent operations.

Step 3 After restoring factory settings, power off and restart the device for the changes to take effect.

6.11 Updating Modules

When new modules are added to the LT Series Distributed I/O, or when communication between the software and modules fails due to version issues, it is necessary to update the modules promptly to ensure compatibility between the software and modules.

Prerequisites

The files required for updating modules (.zip file containing the module's .xml file) have been prepared.

Operation Steps

Step 1 On the software menu bar, select "Upgrade > Update Modules".

Step 2 In the pop-up dialog box, select the module file (.zip file) and click "Open".

Step 3 The software automatically updates the modules. The "Output Information" window displays the update details.

Chapter 7 Online Debugging

7.1 Online/Offline

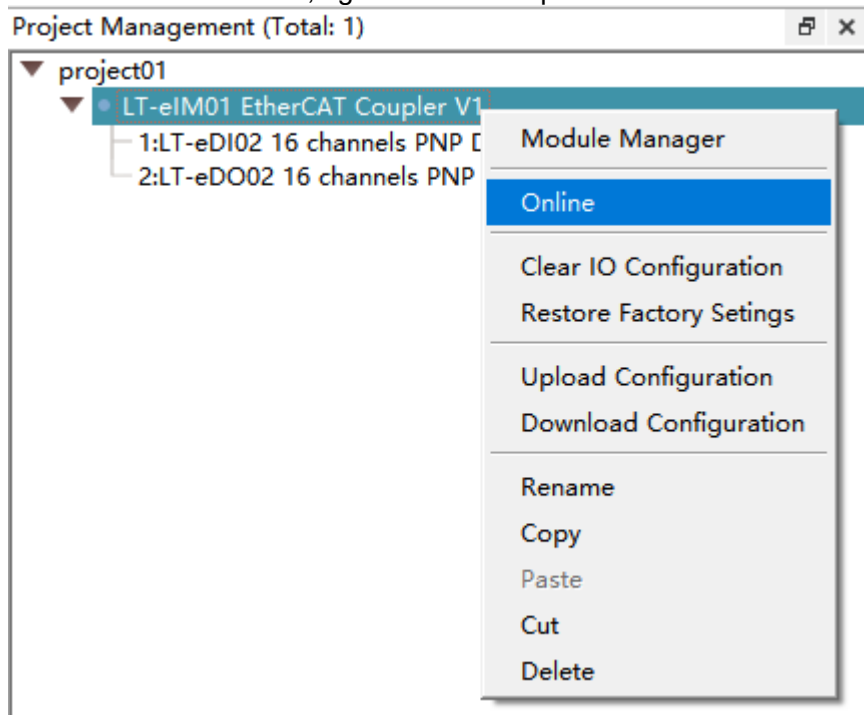
In the absence of a controller, use the configuration software to bring the LT-e series coupler and I/O modules online, enabling them to function normally to achieve data transmission and control functions.

Prerequisites

- The coupler has been connected to the PC and the coupler module has been powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.

Online

Step 1 In the software interface, right-click the coupler and select "Online".

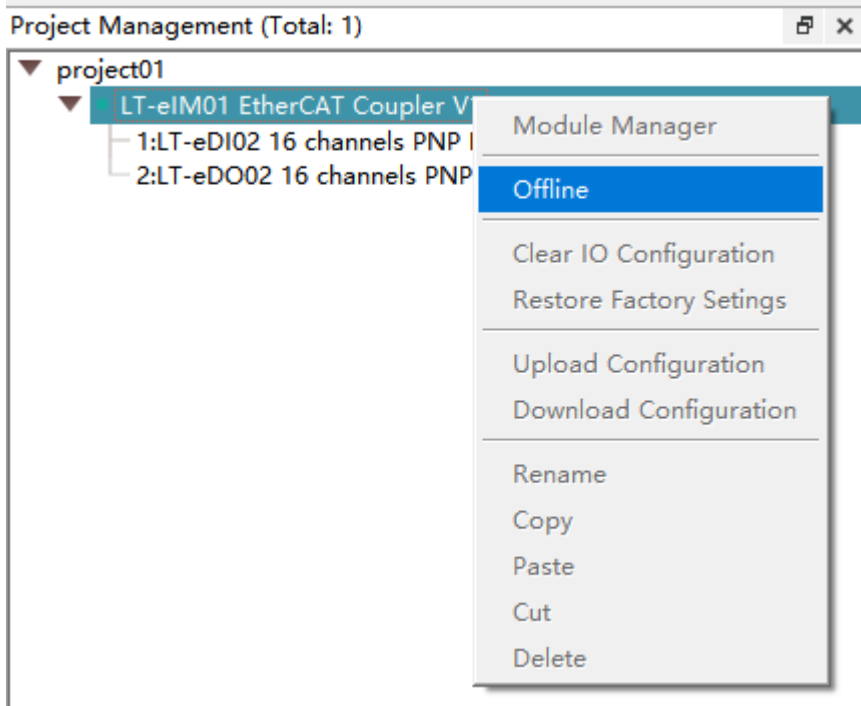


Step 2 The "Output Information" window prompts that the online status is successful.

Output Information			
Level	Date	Log Source	Content
Error	2025-11-24 09:10:07	0:LT-eIM01	Failed to switch to online mode:Serial port exception
Info	2025-11-24 09:10:10	System	Serial port COM3 configured successfully
Warning	2025-11-24 09:10:12	0:LT-eIM01	The project management tree topology is different from the actual topology. Stop the online switch over!
Info	2025-11-24 09:10:22	project01	Scan module was successful
Info	2025-11-24 09:10:24	0:LT-eIM01	The online mode switch was successful

Offline

Step 1 In the software interface, right-click the coupler and select "Offline".



Step 2 The "Output Information" window prompts that the offline status is successful.

Output Information			
Level	Date	Log Source	Content
Error	2025-11-24 09:10:07	0:LT-eIM01	Failed to switch to online mode:Serial port exception
Info	2025-11-24 09:10:10	System	Serial port COM3 configured successfully
Warning	2025-11-24 09:10:12	0:LT-eIM01	The project management tree topology is different from the actual topology. Stop the online switch over!
Info	2025-11-24 09:10:22	project01	Scan module was successful
Info	2025-11-24 09:10:24	0:LT-eIM01	The online mode switch was successful
Info	2025-11-24 09:10:28	0:LT-eIM01	The offline mode switch was successful

7.2 Setting Parameter Source

The module supports two methods for activating configuration parameters: from the master station or from the configuration software. Before configuring module parameters, it is necessary to specify the effective parameter source to ensure the module operates according to the intended design.

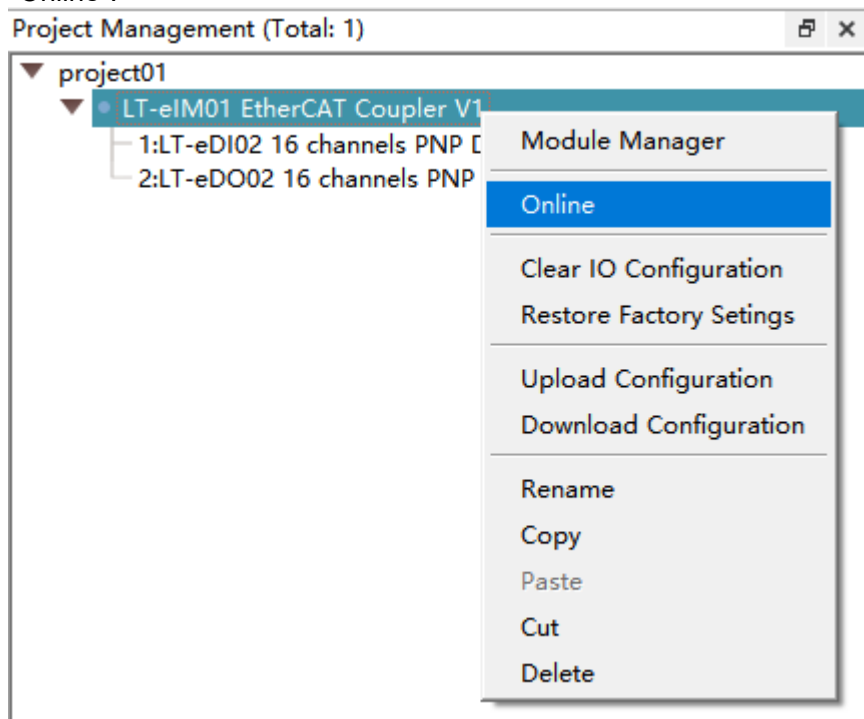
- Master: Parameters downloaded from the master station to the coupler and I/O modules take effect. This mode is often used in production environments where parameter modification for couplers and I/O modules via the controller is desired. This mode is not supported by the LT-eIM03.
- LT Intelligent Tool: Parameters downloaded from the configuration software to the coupler and I/O modules take effect.

Prerequisites

- The coupler has been connected to the PC and powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.

Operation Steps

Step 1 In the software interface, right-click the coupler in the left navigation tree and select "Online".



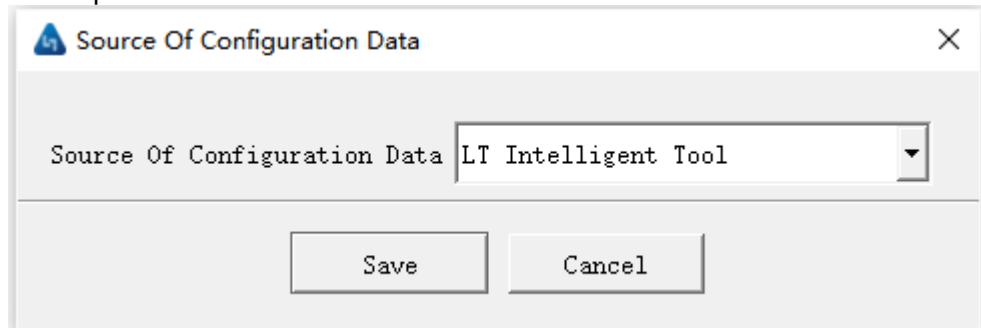
Step 2 The "Output Information" window prompts that the online status is successful.

Output Information			
Level	Date	Log Source	Content
Error	2025-11-24 09:10:07	0:LT-eIM01	Failed to switch to online mode:Serial port exception
Info	2025-11-24 09:10:10	System	Serial port COM3 configured successfully
Warning	2025-11-24 09:10:12	0:LT-eIM01	The project management tree topology is different from the actual topology. Stop the online switch over!
Info	2025-11-24 09:10:22	project01	Scan module was successful
Info	2025-11-24 09:10:24	0:LT-eIM01	The online mode switch was successful

Step 3 After the modules are online, choose "Online > Param Source" from the menu bar.

Step 4 In the pop-up dialog box, set the parameter configuration source according to the actual situation.

- Master: Parameters downloaded from the master station to the coupler and I/O modules take effect (This mode is not supported by LT-eIM03).
- LT Intelligent Tool: Parameters downloaded from the configuration software to the coupler and I/O modules take effect.



Step 5 Click "Save". The configuration takes effect immediately.

7.3 Viewing Diagnostic Information

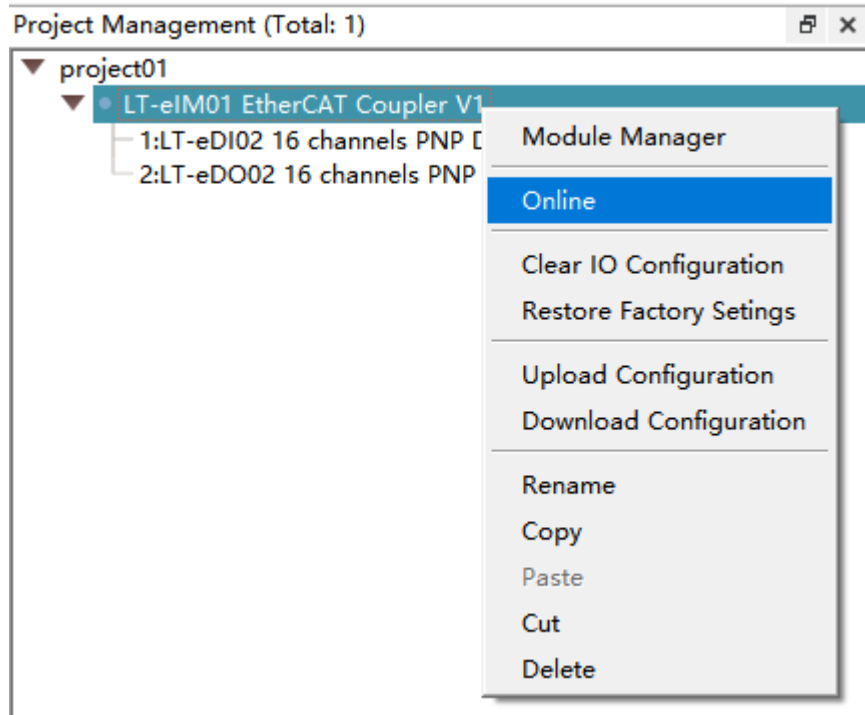
After the modules are online, monitor the operational status of the modules in real-time by viewing the channel data and diagnostic information of the coupler and I/O modules.

Prerequisites

- The coupler has been connected to the PC and the coupler module has been powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.

Operation Steps

Step 1 In the software interface, right-click the coupler in the left navigation tree and select "Online".



Step 2 The "Output Information" window prompts that the online status is successful.

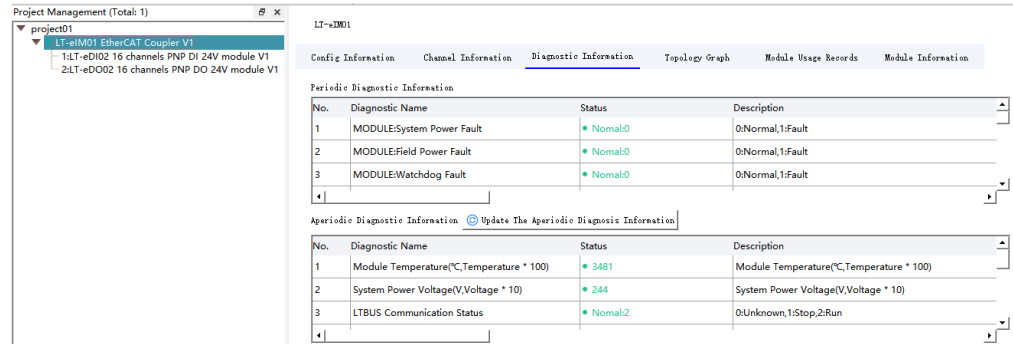
Output Information			
Level	Date	Log Source	Content
Error	2025-11-24 09:10:07	0:LT-eIM01	Failed to switch to online mode:Serial port exception
Info	2025-11-24 09:10:10	System	Serial port COM3 configured successfully
Warning	2025-11-24 09:10:12	0:LT-eIM01	The project management tree topology is different from the actual topology. Stop the online switch over!
Info	2025-11-24 09:10:22	project01	Scan module was successful
Info	2025-11-24 09:10:24	0:LT-eIM01	The online mode switch was successful

Step 3 After the modules are online, view the diagnostic information of the coupler and I/O modules to determine their status.



For detailed information on the diagnostic information supported by each module, the meaning of parameters, value ranges, etc., please refer to the "LT-e Series Distributed I/O Module Manual".

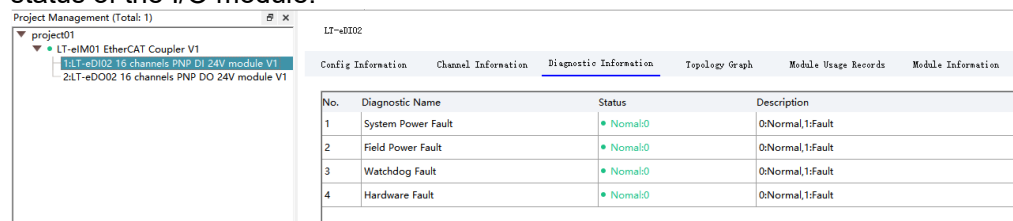
1. Taking LT-eIM01 as an example, select the LT-eIM01 module in the left navigation tree, select the "Diagnostic Information" tab in the right workspace, and view the status of the coupler.



- The diagnostic information of the coupler is divided into cyclic diagnostics and acyclic diagnostics. For acyclic diagnostic information, click

 **Update The Aperiodic Diagnosis Information** to update manually.

- Taking LT-eDI02 as an example, select the LT-eDI02 module in the left navigation tree, select the "Diagnostic Information" tab in the right workspace, and view the status of the I/O module.



- Similarly, view the diagnostic information of any module as needed.

7.4 Writing/Forcing Variable Values

After the modules are online, variables can be written or forced via the configuration software. Monitor the module's operation in real-time by viewing channel data and diagnostic information.

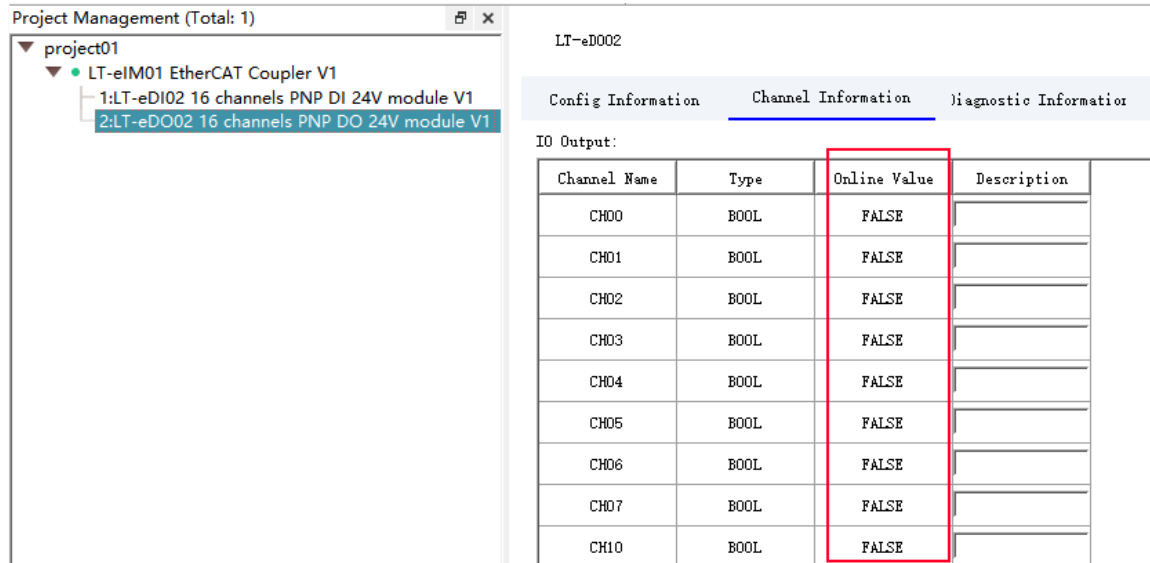
Prerequisites

- The coupler has been connected to the PC and the coupler module has been powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.
- The modules have been brought online, referring to the [Online/Offline](#) section.

Variable Debugging

After the modules are online, select any I/O module in the left navigation tree, then select the "Channel Information" tab in the right workspace to view the online values of the channels

(the coupler has no channel information). The figure below shows the channel information for the LT-eDO02 module.



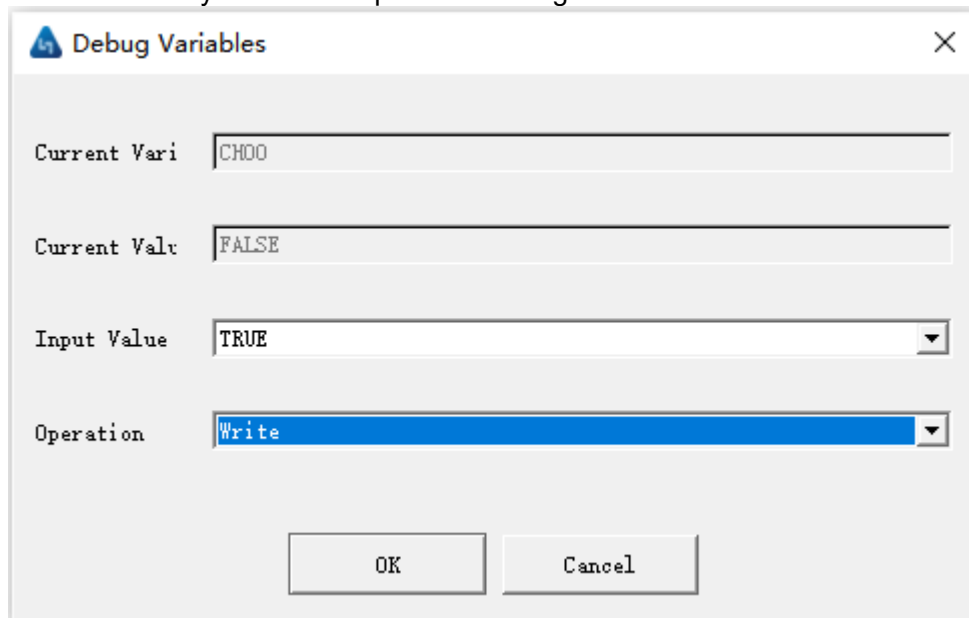
The screenshot shows the Project Management window with the following structure:

- Project Management (Total: 1)
 - project01
 - LT-eIM01 EtherCAT Coupler V1
 - 1:LT-eDI02 16 channels PNP DI 24V module V1
 - 2:LT-eDO02 16 channels PNP DO 24V module V1

The LT-eDO02 module is selected, and the Channel Information tab is active. The IO Output table is displayed:

Channel Name	Type	Online Value	Description
CH00	BOOL	FALSE	
CH01	BOOL	FALSE	
CH02	BOOL	FALSE	
CH03	BOOL	FALSE	
CH04	BOOL	FALSE	
CH05	BOOL	FALSE	
CH06	BOOL	FALSE	
CH07	BOOL	FALSE	
CH10	BOOL	FALSE	

Double-click any channel to open the "Debug Variables" Window:



The Debug Variables window is shown with the following fields:

- Current Vari: CH00
- Current Val: FALSE
- Input Value: TRUE
- Operation: Write

Buttons: OK, Cancel

- Write

Configure the "Input Value", select "Write" for the operation, and click "OK". The system will immediately replace the variable's current value with the configured value. Since the user program is running continuously, the written value may change due to program execution.

- Force

Because the user program runs continuously, variable values modified by a write operation might change due to program execution. If a variable needs to maintain a fixed value, use the Force operation. After a variable value is forced, it will not change due to program

execution. Even if the configuration software is exited, the forced value remains saved in the coupler until released via the "Release" operation.

For module power-off scenarios: since the forced variable table is stored in the coupler and does not have power-down retention, all forced values are released after the coupler module powers down. However, I/O module power-off does not affect forced values.

Configure the "Input Value", select "Force" for the operation, and click "OK". The software forces the variable value to the input value. After a successful force, the variable value turns red and becomes read-only:

Config Information

Channel Information

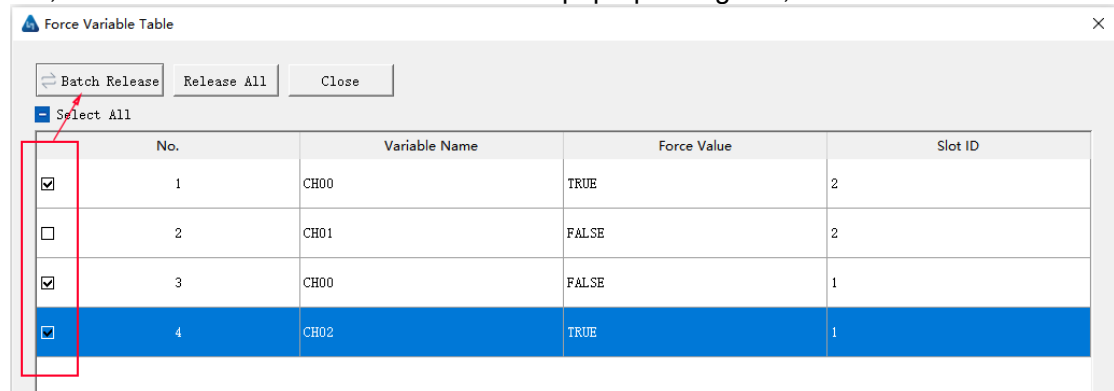
Diagnostic Information

IO Output:

Channel Name	Type	Online Value	Description
CH00	BOOL	TRUE	
CH01	BOOL	FALSE	
CH02	BOOL	FALSE	
CH03	BOOL	FALSE	

- Release

Select "Release" for the operation and click "OK". The software releases the currently forced variable value. For batch release, select "Online > Force Variable Table" from the menu bar, check the variables to be released in the pop-up dialog box, and click "Batch Release".



- Debug

Bind an expected value to a variable. This expected value is in an inactive state and can be activated later via batch write or force all operations. Once activated, the expected value is assigned to the bound variable. Using Pending Debug allows simultaneous assignment operations for multiple variables.

1. After configuring the "Input Value", select "Debug" for the operation and click "OK". The debug value is bound to the variable and remains inactive. The debug value is displayed next to the variable's Online Value in the format <Debug Value>.

Config Information

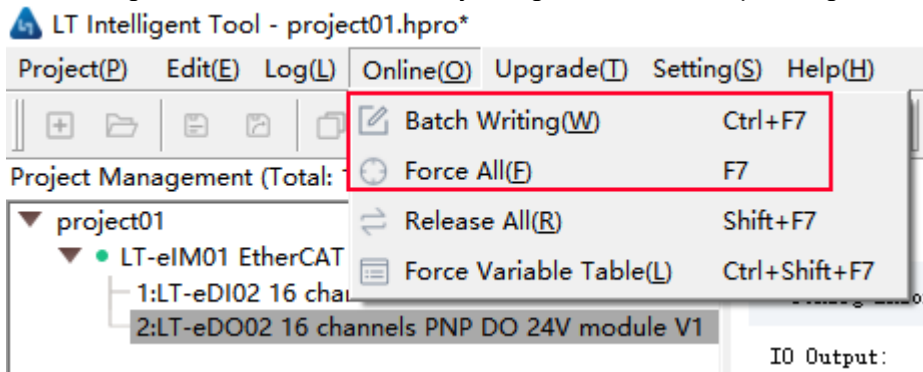
Channel Information

Diagnostic Information

IO Output:

Channel Name	Type	Online Value	Description
CH00	BOOL	FALSE<TRUE>	
CH01	BOOL	FALSE<TRUE>	
CH02	BOOL	FALSE<TRUE>	
CH03	BOOL	FALSE	
CH04	BOOL	FALSE	

2. Select "Online > Batch Writing" or "Online > Force All" from the menu bar. All variables with debug values are simultaneously assigned their corresponding values.



- Cancel Debug

Select "Undebug" for the operation and click "OK". The software cancels the debug value for the current variable.

7.5 Viewing Forced Variable List

The Forced Variable List summarizes all variables with forced values during the debugging process, facilitating user review and release.

Prerequisites

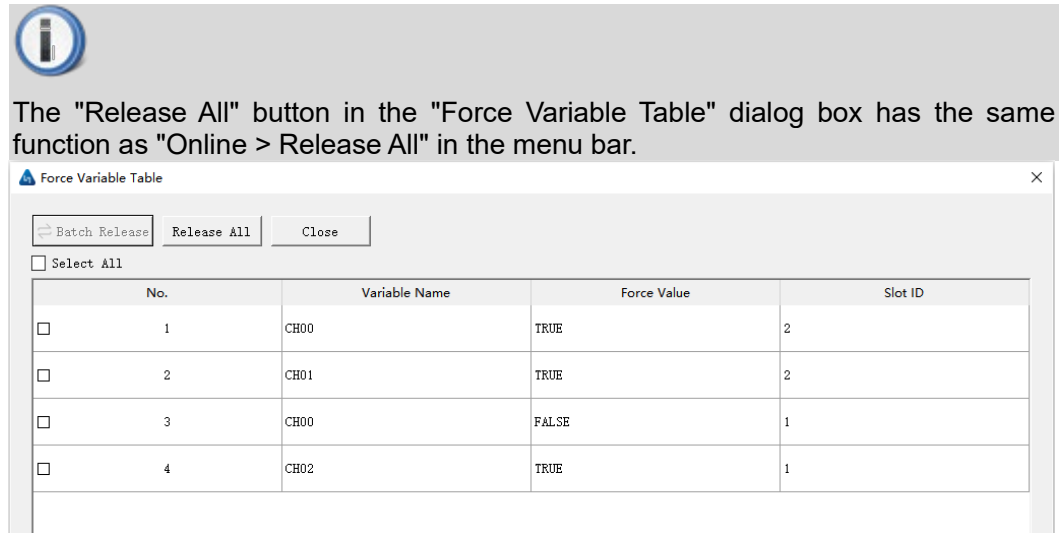
- The coupler has been connected to the PC and the coupler module has been powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.

- The modules have been brought online, referring to the [Online/Offline](#) section.

Operation Steps

Step 1 On the software menu bar, select "Online > Force Variable Table".

Step 2 In the pop-up dialog box, check the variables and click "Batch Release" to release the selected variables; click "Release All" to release all forced variables.



7.6 Viewing Module Usage Records

The software records in detail the operating time of the coupler and I/O modules, as well as the duration of each channel value for I/O modules, facilitating users to review module operation status.

Prerequisites

- The coupler has been connected to the PC and the coupler module has been powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.
- The modules have been brought online, referring to the [Online/Offline](#) section.

Operation Steps

Step 1 After the modules are online, select the coupler module in the left navigation tree, then select the "Module Usage Records" tab in the right workspace.

Project Management (Total: 1)

project01

- LT-eIM01 EtherCAT Coupler V1
 - 1xLT-eDI02 16 channels PNP DI 24V module V1
 - 2xLT-eDO02 16 channels PNP DO 24V module V1

LT-eDI01

Config Information Channel Information Diagnostic Information Topology Graph Module Usage Records Module Information

	Module Usage Time	Digital	Analog
LT-eIM01	Device Running Time:87h,51min,25s,922ms		
LT-eDI02	Device Running Time:128h,51min,28s,110ms		
CH00		On: 0h,14min,38s,570ms Off: 76h,45min,20s,590ms	
CH01		On: 0h,0min,0s,0ms Off: 76h,59min,59s,320ms	
CH02		On: 0h,0min,0s,0ms Off: 76h,59min,59s,480ms	
CH03		On: 0h,0min,0s,0ms Off: 76h,59min,59s,640ms	
CH04			

Update Module Usage Record

Step 2 The software records the operating time of the coupler and I/O modules, as well as the duration of each channel value for I/O modules.



The recorded time is calculated from the first power-on of the module and is not reset by power-off.

Step 3 Click  **Update Module Usage Record** to update the data.

Chapter 8 Log

8.1 Viewing Operation Logs

The software automatically records all operations related to projects and engineering, saving them in the operation log for convenient user review at any time.

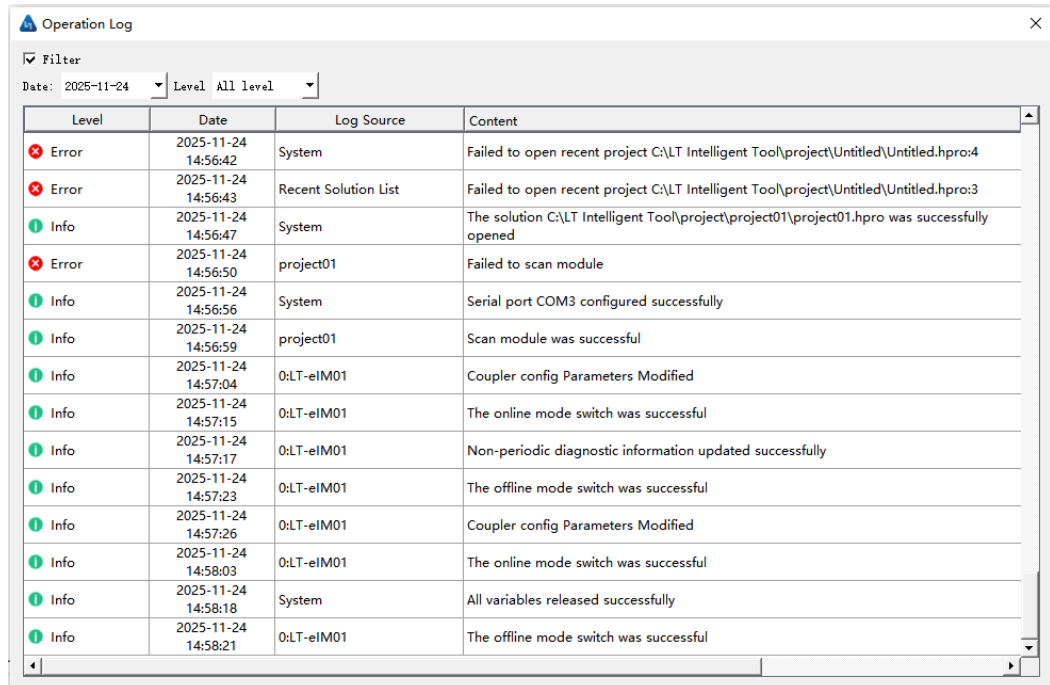
Prerequisites

- The coupler has been connected to the PC and the coupler module has been powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.
- The modules have been brought online, referring to the [Online/Offline](#) section.

Operation Steps

Step 1 On the software menu bar, select "Log > View Operation Log".

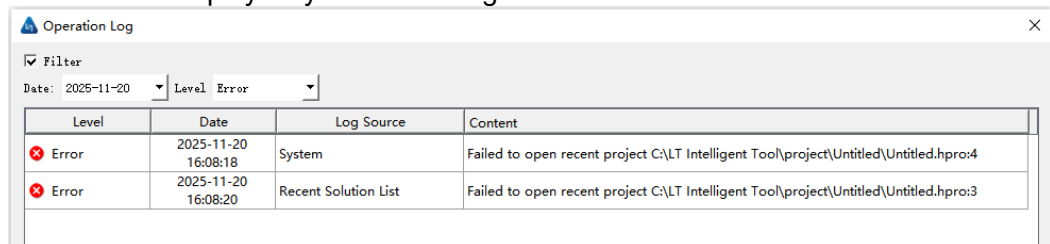
Step 2 In the pop-up dialog box, check "Filter", and the system will automatically filter logs that meet the criteria.



Level	Date	Log Source	Content
Error	2025-11-24 14:56:42	System	Failed to open recent project C:\LT Intelligent Tool\project\Untitled\Untitled.hpro:4
Error	2025-11-24 14:56:43	Recent Solution List	Failed to open recent project C:\LT Intelligent Tool\project\Untitled\Untitled.hpro:3
Info	2025-11-24 14:56:47	System	The solution C:\LT Intelligent Tool\project\project01\project01.hpro was successfully opened
Error	2025-11-24 14:56:50	project01	Failed to scan module
Info	2025-11-24 14:56:56	System	Serial port COM3 configured successfully
Info	2025-11-24 14:56:59	project01	Scan module was successful
Info	2025-11-24 14:57:04	0:LT-eIM01	Coupler config Parameters Modified
Info	2025-11-24 14:57:15	0:LT-eIM01	The online mode switch was successful
Info	2025-11-24 14:57:17	0:LT-eIM01	Non-periodic diagnostic information updated successfully
Info	2025-11-24 14:57:23	0:LT-eIM01	The offline mode switch was successful
Info	2025-11-24 14:57:26	0:LT-eIM01	Coupler config Parameters Modified
Info	2025-11-24 14:58:03	0:LT-eIM01	The online mode switch was successful
Info	2025-11-24 14:58:18	System	All variables released successfully
Info	2025-11-24 14:58:21	0:LT-eIM01	The offline mode switch was successful

Step 3 Set the "Date" and "Level", and the filtered results below will update automatically. As shown in the figure below, filtering for Error level logs on 2025-11-20.

- Date:
 - All data: All dates within the log retention period
 - YYYY-MM-DD: A specific specified date
- Level:
 - All level: Display all logs
 - Info: Display only Info level logs
 - Warning: Display only Warning level logs
 - Error: Display only Error level logs



Level	Date	Log Source	Content
Error	2025-11-20 16:08:18	System	Failed to open recent project C:\LT Intelligent Tool\project\Untitled\Untitled.hpro:4
Error	2025-11-20 16:08:20	Recent Solution List	Failed to open recent project C:\LT Intelligent Tool\project\Untitled\Untitled.hpro:3

8.2 Exporting Module Logs

Prerequisites

- The coupler has been connected to the PC and the coupler module has been powered on, referring to the [Connecting Coupler](#) section.
- A project has been created, referring to the [Creating New Project](#) section.
- The coupler module and I/O modules have been added, referring to the [Adding Modules](#) section.
- The modules have been brought online, referring to the [Online/Offline](#) section.

Operation Steps

- Step 1 In the left navigation tree, select the coupler module.
- Step 2 On the software menu bar, select "Log > Export Modules Log".
- Step 3 In the pop-up dialog box, check the modules to be exported, set the save path, and click "Export".

Module Logs

Option	No.	Project Name	Module Name	Module Description	Type	Slot ID
	1	project01	LT-eIM01	EtherCAT Coupler	Coupler Module	0
	2	project01	LT-eDI02	16 channels PNP DI 24V module	Digital Input Module	1
	3	project01	LT-eDO02	16 channels PNP DO 24V module	Digital Output Module	2

☐ Check Out All
☐ Select All

C:/Users/admin/Desktop

Browse
Export

Step 4 The software exports automatically. After successful export, the log file (.xlsx file) can be obtained in the selected path.



This log file is encrypted. Please contact HollySys to parse this file.



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