

atIOLink

User Manual MTO-ADIOW1-V1.0-2202US

Thank you for purchasing an Autonics product.

This user manual contains information about the product and its proper use, and should be kept in a place where it will be easy to access.

Autonics

Contents

Preface	5
Manual Guide	7
Common Symbols in the Manual	9
1. atIOLink	11
1.1. Overview	11
1.2. Check Lists Before You Begin	12
1.3. Install the Software	13
2. Quick Start	15
3. Getting Started	17
3.1. Set up the Hardware	17
3.2. Change Your Language	17
3.3. Integrate the ADIO (IO-Link Master type)	18
3.4. Integrate the IO-Link Device	20
4. Options	23
5. IODD Catalog	25
6. Configure the IO-Link Master	27
6.1. Topology	27
6.1.1. Copy the Configuration of I/O Port	29
6.2. Master Control Tab	31
6.2.1. Configure the IO-Link Port	34
6.2.2. IO-Link Manual Mode	35
6.3. Property Tab	36
6.3.1. Configure the IP Address for ADIO-EI (EtherNet/IP) Model	36
6.3.2. Set the Device Name for ADIO-PN (PROFINET) Model	37
6.3.3. Common Functions	38
6.4. Firmware Update for the IO-Link Master	39
6.4.1. Check the Firmware Version	39
6.4.2. Firmware Update	39
7. Functions for the IO-Link Device	41
7.1. Check the IO-Link Device Information	42
7.2. Access the ISDU Parameters	44

7.2.1. Offline Mode	45
7.2.2. Online Mode	49
7.3. Monitor the C/Q SIO / Process Data	53
7.4. Data Storage	55
7.4.1. Configure the Data Storage	56
7.4.2. Usage Examples of the Data Storage	60
7.5. Restore to Factory Settings	63
7.6. Check the Errors	64
7.7. Replace the IO-Link Device	64
8. Message Log	65
9. Software Information	67

Preface

Thank you for purchasing Autonics products.

Be sure to read and follow the **Safety Precautions** thoroughly before use.

This manual contains information about the product and how to use it properly, so keep it in a place where users can easily find it.

Manual Guide

- Use the product after fully reading the contents of the manual.
- The manual explains the product functions in detail and does not guarantee the contents other than the manual.
- Any or all of the manual may not be edited or copied without permission.
- The manual is not provided with the product.
- Download and use from our website (www.autonics.com).
- The contents of the manual are subject to change without prior notice according to the improvement of the product's performance, and upgrade notices are provided through our website.
- We put a lot of effort to make the contents of the manual a little easier and more accurate. Nevertheless, if you have any corrections or questions, please feel free to comment through our website.

Common Symbols in the Manual



Failure to follow instructions may result in serious injury or death.



Failure to follow instructions may result in injury or product damage.



Supplementary explanation of the function



Example of that function



Important information about the feature

1. atIOLink



Be sure to see the product manual of the ADIO Series (IO-Link Master type) and follow the precautions.

This user manual describes the information based on Autonics devices.

1.1. Overview

atIOLink, comprehensive management software for the IO-Link communication, is a dedicated Port and Device Configuration Tool (PDCT) for configuration, diagnosis, and maintenance of ADIO series (IO-Link Master). You can configure the connected IO-Link device by connecting to the PDCT port and a PC or laptop with atIOLink installed each other without a network master (e.g., PLC).

The atIOLink supports the following functions.

Port configuration of the IO-Link Master

Convenient and easy to configure the operation mode and functions of each I/O port, and figure out the connected IO-Link devices at a glance.

Access ISDU parameters of the IO-Link device

- Offline mode
Available to change the parameters of IO-Link device without importing the IODD file.
- Online mode
Available to change the automatically imported parameters of IO-Link device.

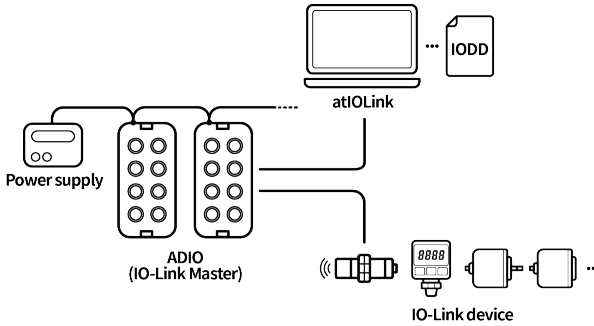
Real-time monitoring for the IO-Link device

The process data shows input and output data of the IO-Link device.

Maintenance and repair for the IO-Link device

- Data Storage
The upload and download of the parameter sets of the IO-Link device are available with the IO-Link Master. The data storage helps you to easily connect multiple IO-Link devices or apply the same configuration when replacing the IO-Link device.
- Event
The event notifies an error that occurred in the IO-Link device, helping you to have rapid troubleshooting.

1.2. Check Lists Before You Begin



1. PC for installing software

CPU	Intel i3, Ryzen 3 or above
OS	Windows 7 (X64) or higher ^{**}
RAM	6 GB or higher
Storages	At least 10 GB of available HDD space
Resolution	1280X800 or higher (1920X1080 recommended)
Other	RJ45 Ethernet port, GigE network interface card



If the Virtual COM Port Driver is not successfully installed in Windows XP or Windows 7, be sure to install the driver suitable for your OS at the atIOLink installation path:
C:\Program Files (x86)\AUTONICS\atIOLink\Driver\Virtual COM Port driver

2. IO-Link Master

- ADIO series (IO-Link Master type)
- Connector cables for the PDCT port and power supply port on the ADIO.

3. IO-Link devices

- Sensor and actuators that support the IO-Link communication
- IODD file of the IO-Link device

1.3. Install the Software

1. Download the setup file of atIOLink on Autonics website (www.autonics.com).
2. Launch the setup file to install.
3. Install the Microsoft Visual C++.
4. Install the IODD Checker.
5. Restart your PC.
6. A shortcut icon is created on the desktop. The atIOLink installation is completed.



2. Quick Start

This chapter describes the straightforward procedure of atIOLink for those who are familiar with the IO-Link. For detailed information for using the atIOLink, refer to the following chapters.

For detailed information for connecting the devices, refer to the product manual of the ADIO series (IO-Link Master type).

1. Connect the PDCT port on the ADIO and PC.
2. Connect the IO-Link device to the I/O port on the ADIO.
3. Connect the power to the power supply port on the ADIO.
4. Check the operating status via the indicator of the connected IO-Link device.
5. Download the IODD file of the connected IO-Link device.
6. Install the atIOLink.
7. Integrate the ADIO to atIOLink.
8. Integrate the IO-Link device to atIOLink.

3. Getting Started

3.1. Set up the Hardware

1. Connect the ADIO to a PC with atIOLink installed and a device for the power supply.
2. Connect the ADIO and IO-Link devices.
3. Be sure to check the operating status of the connected IO-Link device via its indicators, if the IO-Link devices support that service.



The power of the IO-Link device is supplied by the ADIO.

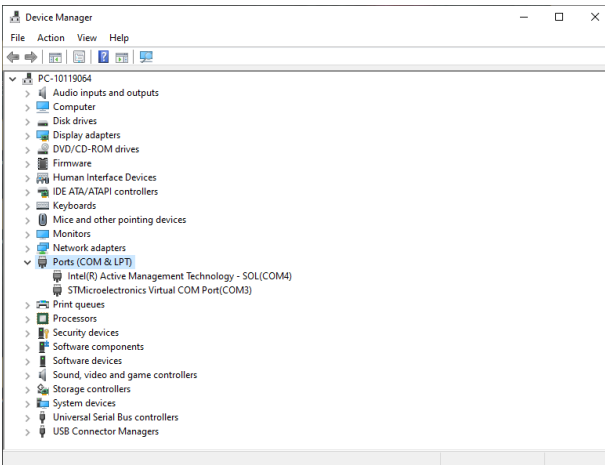
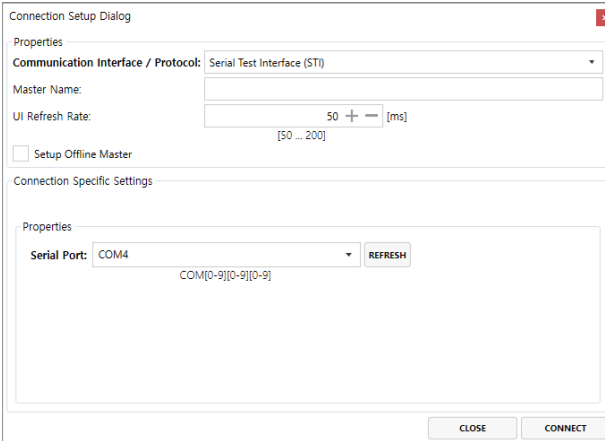
3.2. Change Your Language

It is recommended to select the display language first. Changing the language restarts the atIOLink and does not save the configuration of the ADIO.

1. Launch the atIOLink.
2. In **Tools » Options » Customize » Language**, select your language and click **APPLY**.
 - Supported languages: Korean and English
3. The atIOLink will restart.

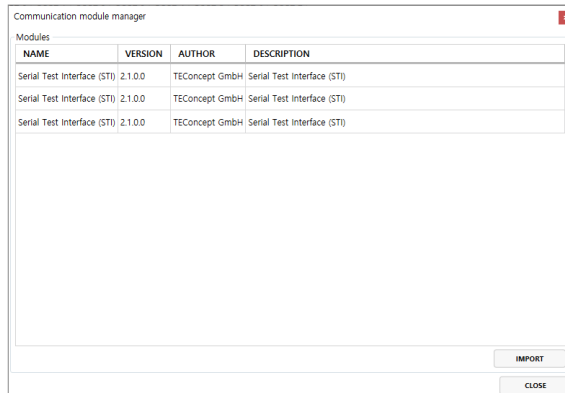
3.3. Integrate the ADIO (IO-Link Master type)

1. Select **+** in the TOPOLOGY.
2. In the Connection Setup Dialog, select the **Serial Port** connected to the PDCT port on the ADIO and select **CONNECT**. The serial port can be found in the **Device Manager** » **Ports** » **USB Serial Device**.



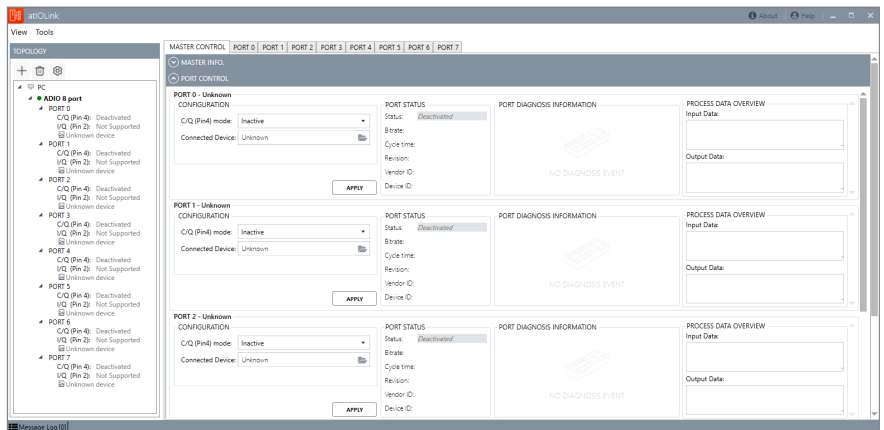
If you cannot find the Serial Test Interface (STI) in the field of **Communication Interface / Protocol** on the Connection Setup Dialog window,

1. Open **Tools » Communication module manager** in the top menu.
2. Select **IMPORT**.



3. Open **TEConcept.STIWrapper.dll** in the installation path of atIOLink: **C:\Program Files (x86) \AUTONICS\atIOLink**.

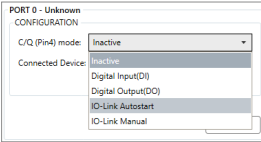
3. Integrating the ADIO is completed.



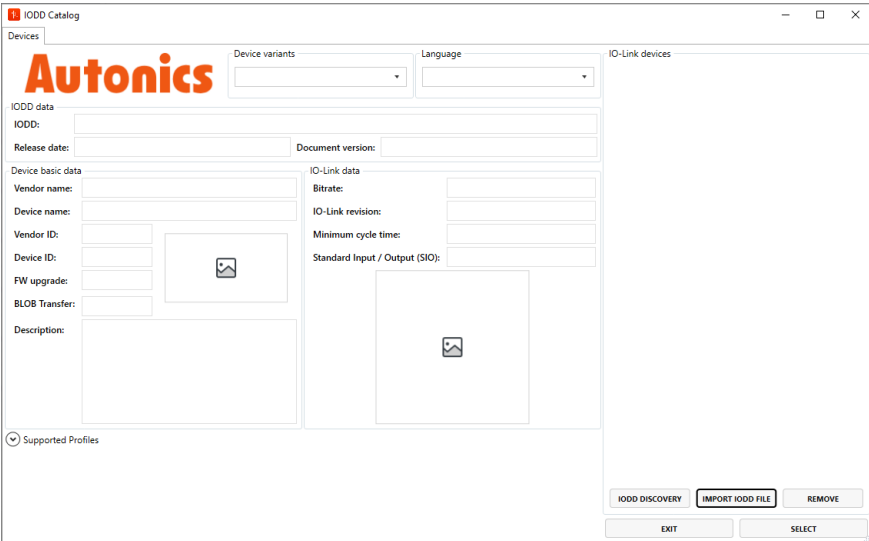
3.4. Integrate the IO-Link Device

This chapter describes how to easily integrate an IO-Link device to the atIOLink. The IO-Link device is connected to port 0 on the ADIO.

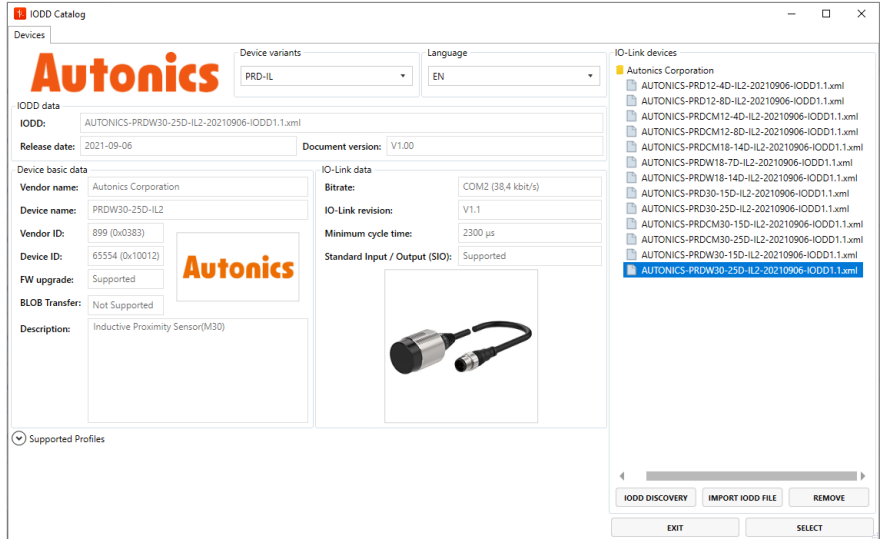
1. Select the IO-Link Autostart in the drop-down list of the **PORT CONTROL » PORT 0 » C/Q (Pin 4) mode**.



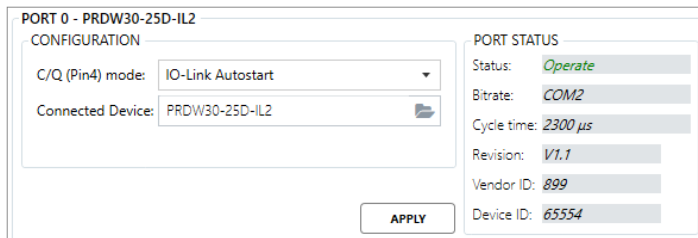
2. Select  in the field of the **PORT CONTROL » PORT 0 » Connected Device**.
3. The IODD Catalog window opens. Select **IMPORT IODD FILE**.



- Select the IODD file saved on your PC.
- Select the .xml file in the panel of IO-Link devices. The IODD information is displayed as shown below. Select **SELECT**.



- Select **APPLY** in the **PORT CONTROL » PORT 0**. The IO-Link device has been successfully integrated since the **PORT STATUS** shows **Operate**.

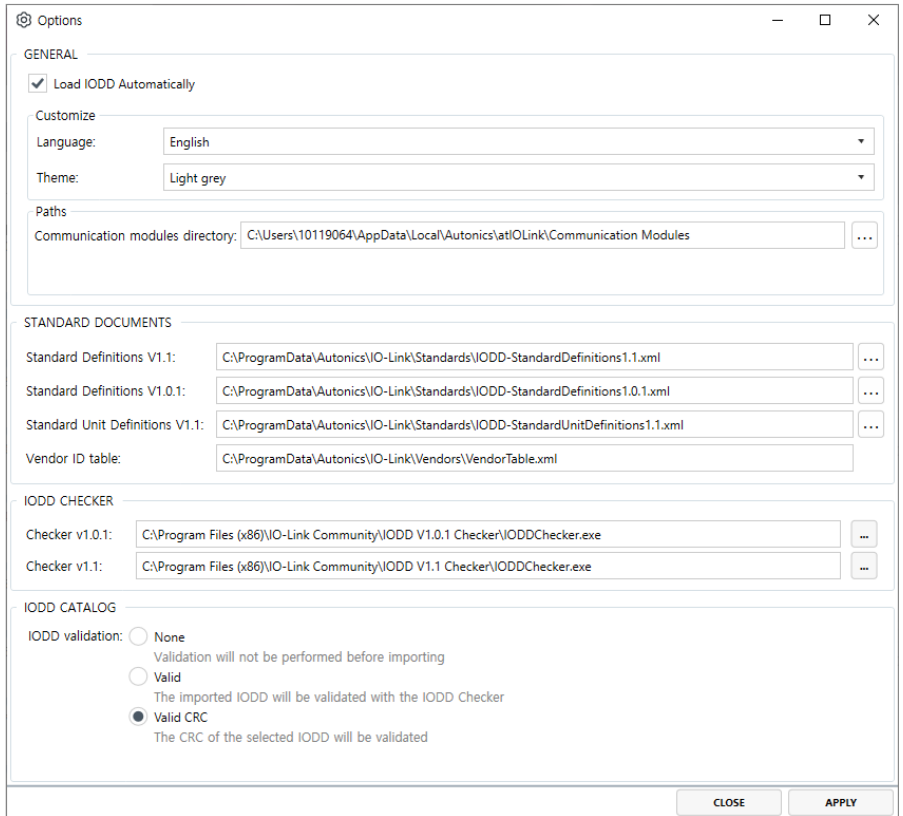


- You can now use the functions of the IO-Link device.

4. Options

The Options supports you to set the properties and functions of the atIOLink.

- Select the **Tools » Options** in the top menu.



Load IODD Automatically

- Check the checkbox of this function when using the IO-Link Autostart.
- When connecting the same model of IO-Link device again, the corresponding IODD file is imported.

Language and Theme

- Language: Korean and English
- Theme: Light grey, Teal, and Blue

IODD validation

Select the validation method for the imported IODD file.

It is recommended to select the Valid CRC for the validation method.

- **None**

- **Valid**

The installed IODD Checker validates the IODD files.

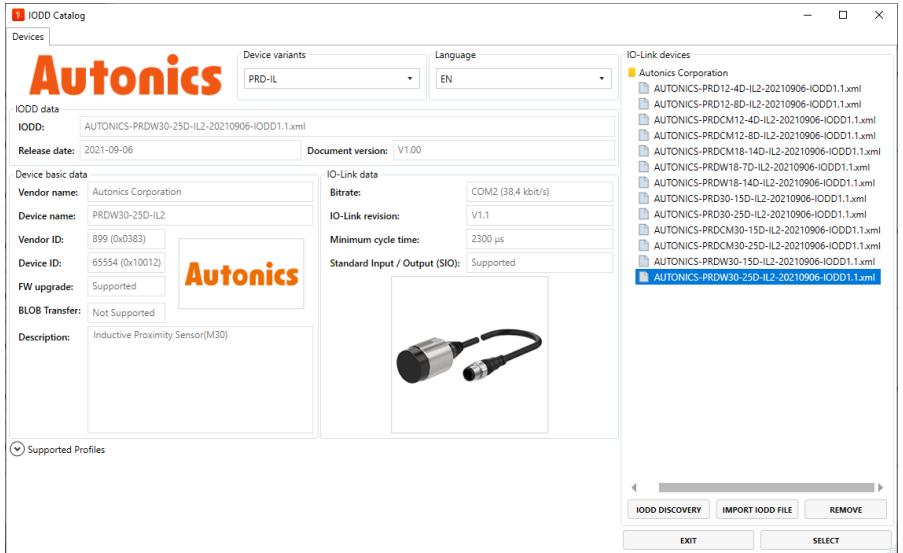
- **Valid CRC**

The value of Stamp CRC in the IODD file is checked.

5. IODD Catalog

You can find, import and manage the IODD files of the IO-Link devices.

- You can check the IODD information in the **IODD Catalog window » Devices tab.**



① The panel of IO-Link devices

It shows classified IODD files by the manufacturer to manage imported IODD files.

- **IODD DISCOVERY:** Searches for the download directory to import multiple IODD files.
- **IMPORT IODD FILE:** Imports one IODD file.
- **REMOVE:** Deletes the selected IODD file in the IODD Catalog.
- **SELECT:** Selects one IODD file and import it.
- **EXIT:** Closes the IODD Catalog window.

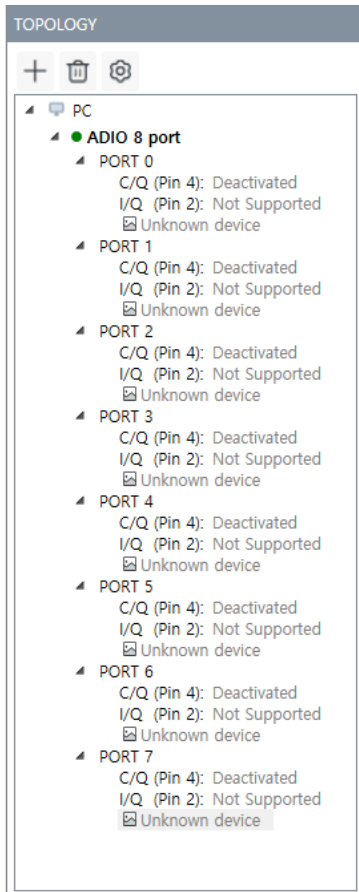
② The panel of IODD data

Display the detailed information of the selected IODD file.




6. Configure the IO-Link Master

atIOLink can communication with an IO-Link Master configured as the daisy chain, but only one IO-Link Master can be activated and used. This chapter describes how to configure the IO-Link Master.

6.1. Topology






① Top menu buttons

- : Adds the IO-Link Master
- : Deletes the selected IO-Link Master
- : Opens the Connection Setup Dialog window of the selected IO-Link Master

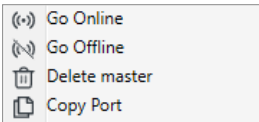
② The panel of TOPOLOGY

TOPOLOGY shows the configuration and status of the integrated IO-Link Master.

- Activated IO-Link Master: The Master device displayed in bold
- Connection status of the IO-Link Master
 - : Online
 - : Offline
 - : Disconnected
- PORT no.: Number of port on the IO-Link Master
- C/Q (Pin 4): Status of Pin 4 (C/Q)
- Device image: Shows connected IO-Link device (when the IODD file is imported)

③ Shortcut

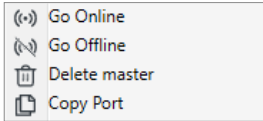
Right-click on the name of the IO-Link Master.



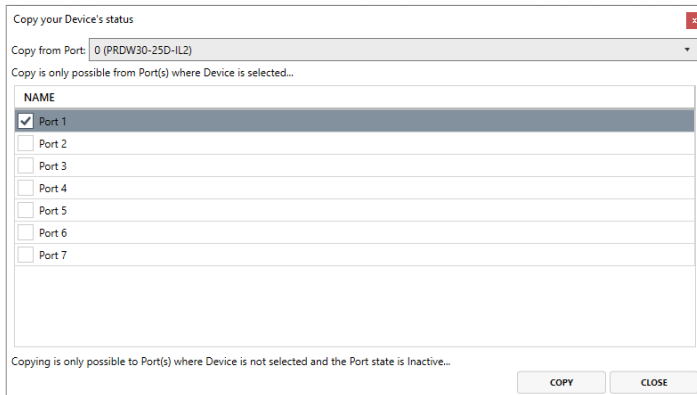
6.1.1. Copy the Configuration of I/O Port

You can copy the configuration of the port to the different I/O port(s).

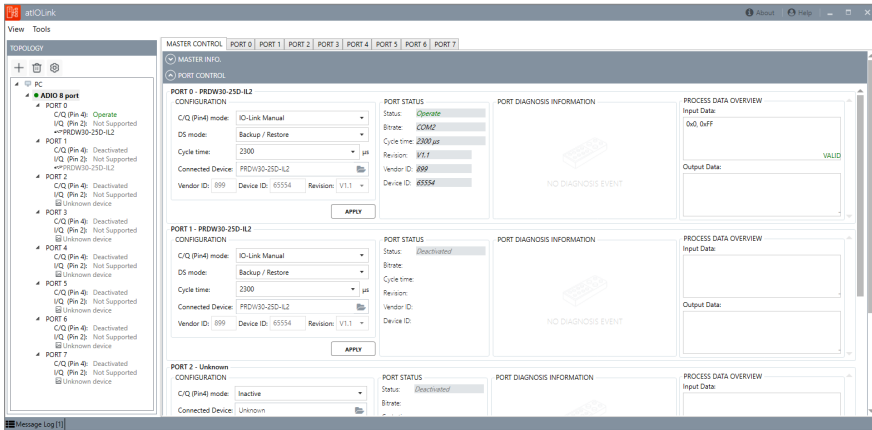
1. Select the **TOPOLOGY** » **Right-click the name of IO-Link Master** » **Copy Port**.



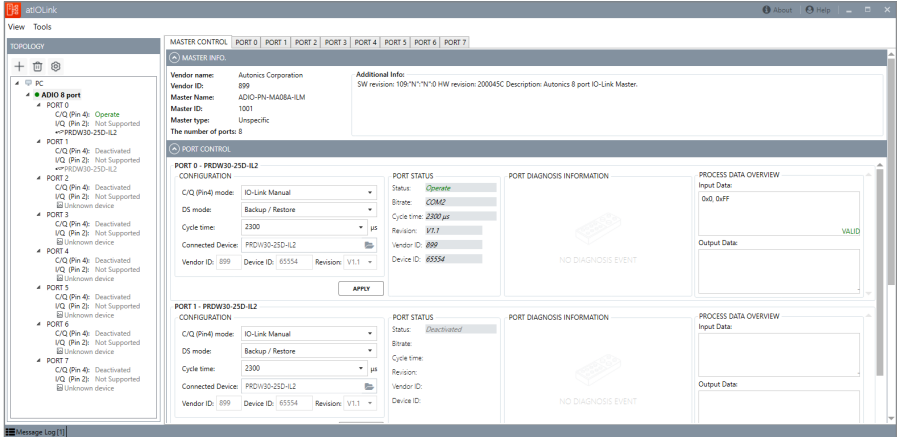
2. The Copy your Device's status window opens.
3. Check the checkbox of a different port to be copied the configuration and select **COPY**.
For instance, the configuration of port 0 is copied to port 1 in the figure below.



4. Copying the port is completed.



6.2. Master Control Tab



① MASTER INFO.

It shows the information about the connected IO-Link Master: Vendor ID, the number of ports, and more.

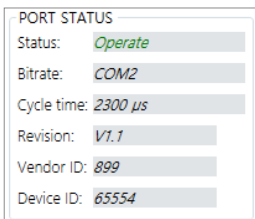
② PORT CONTROL

• CONFIGURATION

You can configure the operation mode and functions of each I/O port on the IO-Link Master. For detailed information, refer to 6.2.1, “Configure the IO-Link Port”.







• PORT STATUS

It shows the current port status and the information of the connected IO-Link device.



• **PORT DIAGNOSIS INFORMATION**

It shows diagnostic information about the port in the IO-Link mode.

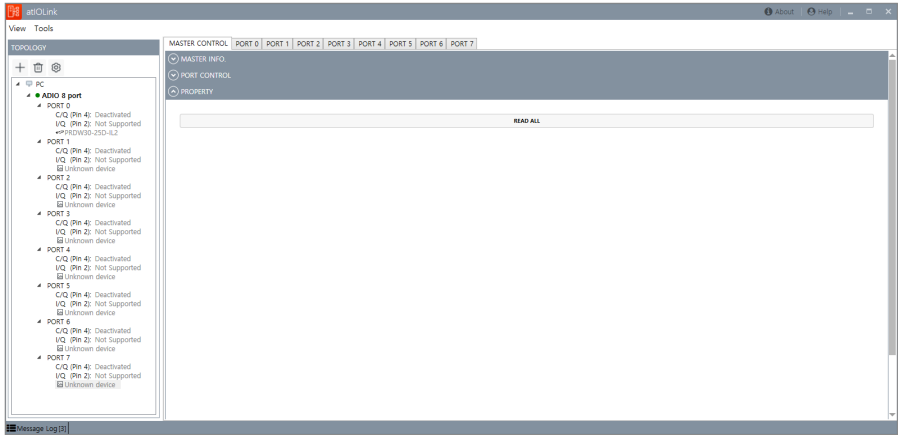
<p>PORT STATUS</p> <p>Status: <i>Port Diagnosis</i></p> <p>Bitrate:</p> <p>Cycle time:</p> <p>Revision:</p> <p>Vendor ID:</p> <p>Device ID:</p>	<p>PORT DIAGNOSIS INFORMATION</p> <table border="1"> <tr> <td style="text-align: center;">  Incorrect VendorID – Inspection Level mismatch </td> <td> Mode: <i>SingleShot</i> Code: <i>6146</i> Instance: <i>Application</i> Source: <i>Master</i> </td> </tr> <tr> <td style="text-align: center;">  Incorrect DeviceID – Inspection Level mismatch </td> <td> Mode: <i>SingleShot</i> Code: <i>6147</i> Instance: <i>Application</i> Source: <i>Master</i> </td> </tr> </table>	 Incorrect VendorID – Inspection Level mismatch	Mode: <i>SingleShot</i> Code: <i>6146</i> Instance: <i>Application</i> Source: <i>Master</i>	 Incorrect DeviceID – Inspection Level mismatch	Mode: <i>SingleShot</i> Code: <i>6147</i> Instance: <i>Application</i> Source: <i>Master</i>
 Incorrect VendorID – Inspection Level mismatch	Mode: <i>SingleShot</i> Code: <i>6146</i> Instance: <i>Application</i> Source: <i>Master</i>				
 Incorrect DeviceID – Inspection Level mismatch	Mode: <i>SingleShot</i> Code: <i>6147</i> Instance: <i>Application</i> Source: <i>Master</i>				

• **PROCESS DATA OVERVIEW**

When the status of port is **Operate**, it shows input and output process data depending on the port configuration. The validity of the process data is displayed in the lower right corner.

<p>PROCESS DATA OVERVIEW</p> <p>Input Data:</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>0x0, 0x0, 0x0, 0xE, 0x0, 0x0, 0x0, 0x0</p> </div> <p style="text-align: right; color: green; font-weight: bold;">VALID</p> <p>Output Data:</p> <div style="border: 1px solid black; padding: 5px;"> <p>0x0, 0x0</p> </div> <p style="text-align: right; color: red; font-weight: bold;">INVALID</p>

③ PROPERTY



When connecting the ADIO-EI (EtherNet/IP) and ADIO-PN (PROFINET) models to the atIOLink, the functions below can be used in the PROPERTY tab.

For detailed information, refer to 6.3, “Property Tab”.

- Configure the communication address
- Check the number of rotary switches on the ADIO model
- Restore the ADIO to the factory settings
- Restart the ADIO

6.2.1. Configure the IO-Link Port



- The configuration of I/Q (Pin 2) is not supported.
- Be sure to select **Apply** to transmit the configuration to the IO-Link Master.
- The port configuration is not permanently saved. When launching the atIOLink again, the configuration will be initialized.

C/Q (Pin 4) mode

PORT 0 - Unknown
CONFIGURATION


C/Q (Pin4) mode: Inactive

Connected Device: Inactive

- Digital Input(DI)
- Digital Output(DO)
- IO-Link Autostart
- IO-Link Manual

- **Inactive**
Unused port
- **Digital Input(DI)**
Configure the operation mode of each I/O port to the standard input.
- **Digital Output(DO)**
Configure the operation mode of each I/O port to the standard output.
- **IO-Link Autostart**
Configure the operation mode of each I/O port to the IO-Link without the validation.
It is recommended to set the **Options » Load IODD Automatically**.
- **IO-Link Manual**
Configure the operation mode of each I/O port to the IO-Link with the validation.
For detailed information, refer to 6.2.2, “IO-Link Manual Mode”.

Connected device

- Select  to import the IODD file from the IODD Catalog window.
- It shows the connected IO-Link device.

6.2.2. IO-Link Manual Mode

The IO-Link Manual mode supports the following functions: selecting Data Storage mode and Cycle time, and checking Vendor ID, Device ID, and Revision of the connected IO-Link device.

PORT 0 - PRDW30-25D-IL2
CONFIGURATION

C/Q (Pin4) mode: IO-Link Manual

DS mode: Backup / Restore

Cycle time: 2300 μ s

Connected Device: PRDW30-25D-IL2

Vendor ID: 899 Device ID: 65554 Revision: V1.1

APPLY

DS mode

Select the data storage mode. It supports the IO-Link version 1.1 or higher. For detailed information on the data storage, refer to 7.4, “Data Storage”.

- Disabled
- Restore
- Backup / Restore

Cycle time

You can set the cycle time within the range supported by the IO-Link device.

- **Setting range**
400 to 132800 μ s
- **0 (as fast as possible)**
Set to the minimum cycle time of the connected IO-Link device.

6.3. Property Tab



- Selecting **READ ALL** in the PROPERTY makes the IO-Link Master goes to the Offline state. Change the status of the IO-Link Master to the Online in the TOPOLOGY after completing the parameter settings.
- For detailed information on the rotary switches, refer to the product manual of the ADIO series (IO-Link Master type).

6.3.1. Configure the IP Address for ADIO-EI (EtherNet/IP) Model

When connecting the ADIO-EI to the atIOLink, the IP address can be configured in the **MASTER CONTROL » PROPERTY**. The address configured on the atIOLink is stored in the ADIO-EI's EEPROM.

1. Select the **MASTER CONTROL » PROPERTY**.
2. Select **READ ALL**. The values stored in EEPROM are displayed.

READ ALL					
NAME	DESCRIPTION	VALUE	INPUT	HEXADECIMA	RANGE
IO-Link Master Model	Product model name	ADIO-EI-MAG8AP-ILM		DATA	
FW Revision	FW revision of ADIO series	1.1.473		DATA	
Rotary Switches' Setting	3 rotary switch values	5		DATA	0-255
Default MAC Address	Product unique MAC ID (fixed at the factory)	58.68.08.2F.90.58		DATA	
IP Address	The default IP address of the product	192.168.2.3		WRITE	
Port Number	The default port number of the product	2222		WRITE	1-65535
Subnet Mask	The default subnet mask address of the product	255.255.255.0		WRITE	
Gateway Address	The default gateway address of the product	192.168.2.1		WRITE	
User MAC Address	MAC ID of the product directly entered by the user	58.68.08.2F.90.58		WRITE	
DNS 1	The default domain name service address 1 of the product	0.0.0.0		WRITE	
DNS 2	The default domain name service address 2 of the product	0.0.0.0		WRITE	
Administrator Mode	Activate the setting window for technical support to obtain product produc			WRITE	0-0
Restore to Factory Settings	Restore product settings to factory defaults			WRITE	0-1
Device Restart	Reset the product by SW			WRITE	0-1

3. Enter the desired address and select **WRITE**.

Name	Factory settings	Access
IP address	192.168.2.3	RW
(TCP/IP) port number	2222	RW
Subnet mask	255.255.255.0	RW
Gateway address	192.168.2.1	RW
User MAC address	58.E8.08.00.8C.CA	RW
DNS 1,2	0.0.0.0	RW

6.3.2. Set the Device Name for ADIO-PN (PROFINET) Model

When connecting the ADIO-PN to the atIOLink, the PROFINET device name can be set in the **MASTER CONTROL » PROPERTY**. The device name set on the atIOLink is stored in the ADIO-PN's EEPROM.

1. Select the **MASTER CONTROL » PROPERTY**.
2. Select **READ ALL**. The values stored in EEPROM are displayed.

READ ALL						
NAME	DESCRIPTION	VALUE	INPUT	HEXADEDECIMAL	RANGE	
ID-Link Master Model	Product model name	ADIO-PN-MA08AP-ILM		<input type="button" value="DATA"/>		
PW Revision	PW revision of ADIO series	1.00.444		<input type="button" value="DATA"/>		
Rotary Switches' Setting	3 rotary switch values	0		<input type="button" value="DATA"/>	0-999	
Default MAC Address	Product unique MAC ID (fixed at the factory)	00:0E:C4:09:B2:19		<input type="button" value="DATA"/>		
PROFINET Device Name	PROFINET device name	adio-pn-ma08a-ilm		<input type="button" value="WRITE"/>		
Administrator Mode	Activate the setting window for technical support to obtain product produc			<input type="button" value="WRITE"/>		
Restore to Factory Settings	Restore product settings to factory defaults			<input type="button" value="WRITE"/>	0-1	
Device Restart	Reset the product by SW			<input type="button" value="WRITE"/>	0-1	

3. Enter the PROFINET device name and select **WRITE**.

Name	Factory settings	Access
PROFINET device name	ADIO-PN-MA08□-ILM	RW



To designate a PROFINET device name should follow the rules below.

- Lowercase letters (a to z), number, hyphens (-), periods (.)
- Do not enter the hyphens and periods at the first and last places of the PROFINET device name.

6.3.3. Common Functions

Name	Description	Access
IO-Link Master model	The model name of the connected IO-Link Master.	RO
Firmware revision	The firmware revision of the connected IO-Link Master.	RO
Rotary switches' setting	The current number of rotary switches on the ADIO.	RO
Default MAC address	The MAC ID of the connected IO-Link Master.	RO
Restore to factory settings	To restore the parameter values to the factory settings, enter 1 and select WRITE .	WO
Device restart	To restart the ADIO, enter 1 and select WRITE .	WO

6.4. Firmware Update for the IO-Link Master

6.4.1. Check the Firmware Version

Check the SW revision in the **MASTER CONTROL** » **MASTER INFO.** » **Additional info.**

MASTER INFO.	
Vendor name:	Autonics Corporation
Vendor ID:	899
Master Name:	ADIO-EI-MA08A-ILM
Master ID:	1001
Master type:	Unspecific
The number of ports:	8
Additional Info:	SW revision: 110.'N':.'N':.'0 HW revision: 200045C Description: Autonics 8 port IO-Link Master.

6.4.2. Firmware Update

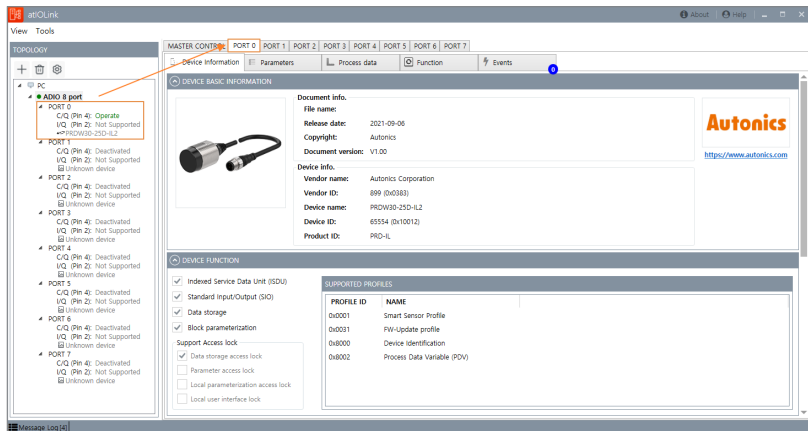
Please contact the Autonics to update the firmware of ADIO (IO-Link master type).

7. Functions for the IO-Link Device



The screens in this document may differ depending on the imported IODD file.

The IO-Link device is connected to the PC via the IO-Link Master. In the upper right corner of the screen, select the port number that the IO-Link device is connected to use the tabs below.




- **Device Information**
- **Parameters**
- **Process data**
- **Function**
- **Events**

7.1. Check the IO-Link Device Information

• DEVICE BASIC INFORMATION


The information about the IO-Link file including the distribution date, version, Device ID, Vendor ID, and more.

DEVICE BASIC INFORMATION



Document info.
File name:
Release date: 2021-09-06
Copyright: Autonics
Document version: V1.00

Device info.
Vendor name: Autonics Corporation
Vendor ID: 899 (0x0383)
Device name: PRDW30-25D-IL2
Device ID: 65554 (0x10012)
Product ID: PRD-IL



<https://www.autonics.com>

• DEVICE FUNCTION

The supported functions and profiles of the IO-Link device.

DEVICE FUNCTION

- Indexed Service Data Unit (ISDU)
- Standard Input/Output (SIO)
- Data storage
- Block parameterization

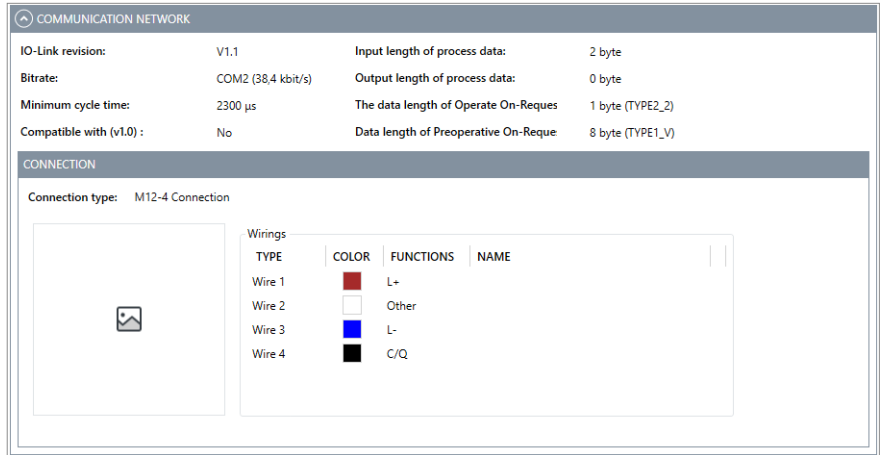
Support Access lock

- Data storage access lock
- Parameter access lock
- Local parameterization access lock
- Local user interface lock

SUPPORTED PROFILES	
PROFILE ID	NAME
0x0001	Smart Sensor Profile
0x0031	FW-Update profile
0x8000	Device Identification
0x8002	Process Data Variable (PDV)

• **COMMUNICATION NETWORK**

The information about the version, transmission speed, data length, connector, and wirings of the IO-Link device.



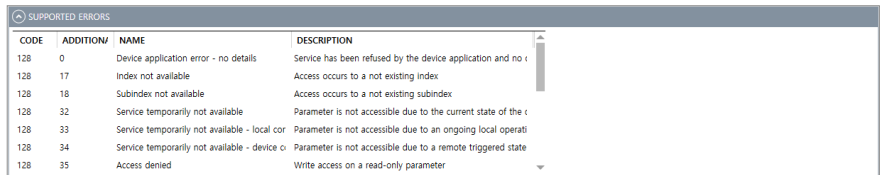
• **SUPPORTED EVENTS**

The list of defined events on the IO-Link device.



• **SUPPORTED ERRORS**

The list of defined errors on the IO-Link device.



7.2. Access the ISDU Parameters

You can change the parameter value of the IO-Link device in the parameters tab. It supports the offline and online mode.

Offline mode

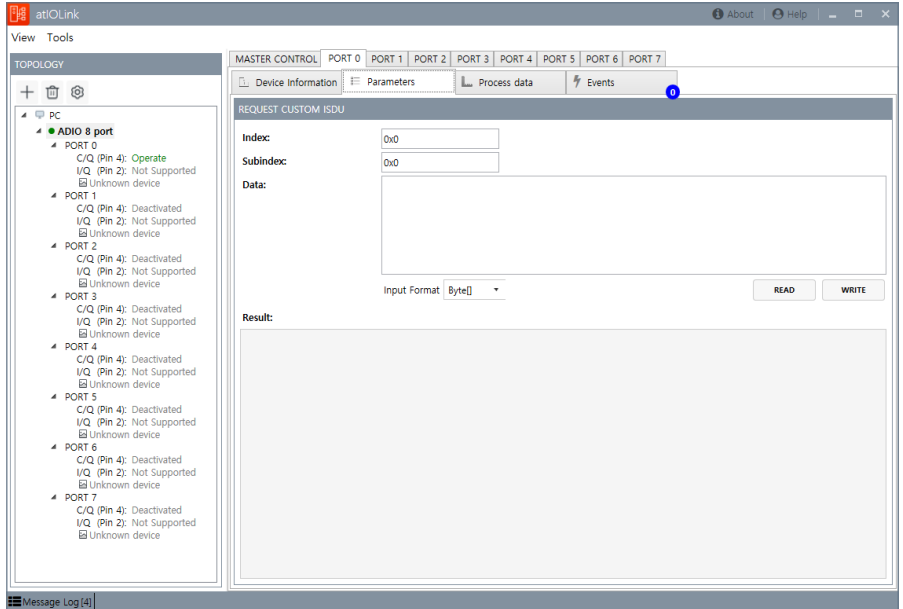
- Port status: Operate
- C/Q (Pin 4) mode: IO-Link Autostart
- IODD files: None

Online mode

- Port status: Operate
- C/Q (Pin 4) mode: IO-Link Autostart, IO-Link Manual
- IODD file: Imported

7.2.1. Offline Mode

You can change the parameter values using the index and subindex defined on the IO-Link device. In general, you can find the related information on the instructions manual of the IO-Link device.



- **Index**

Range: 0 to 65535

Format: Decimal and hexadecimal

- **Subindex**

Range: 0 to 255

Format: Decimal and hexadecimal

- **Data**

Enter the data to be written.

Format: Byte[] and UTF-8

- **Result**

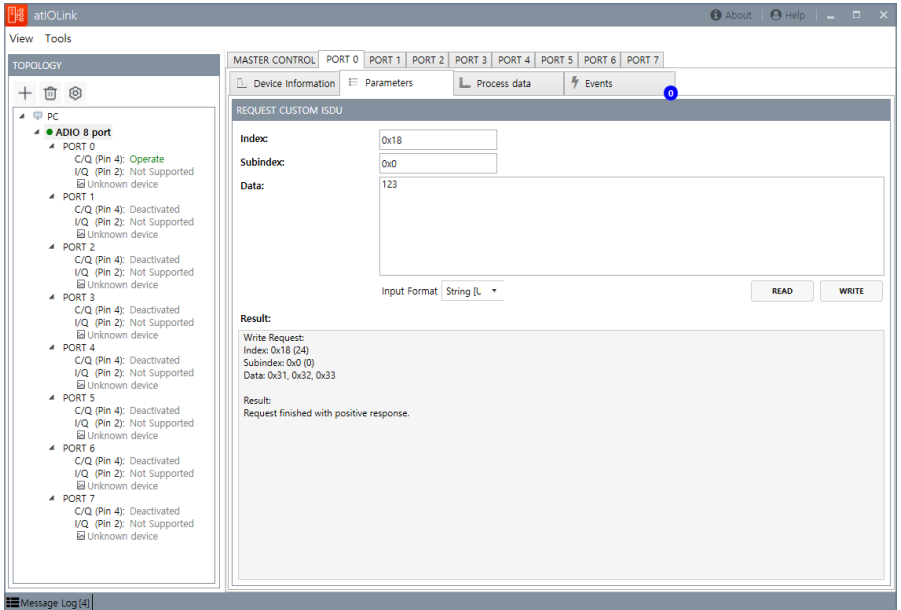
It shows the result of read and write.

Format: ASCII text

7.2.1.2. Write the Parameter



- Suggested index: 24 (0x18, Application specific tag)
- Data to be written: 123
- The decimal format is automatically converted to the hexadecimal.

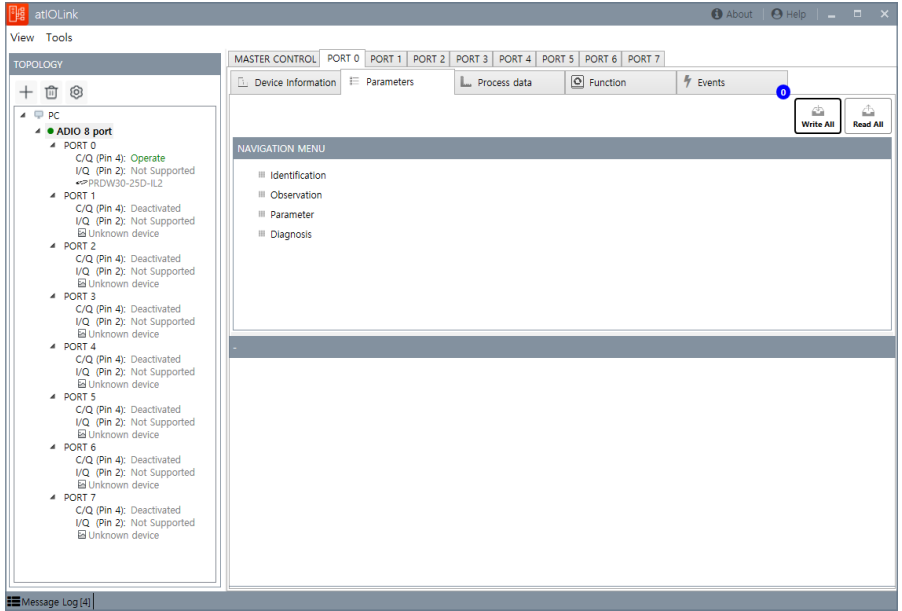


1. **Index** : Enter the parameter index of the IO-Link device.
Data: Select the input format and enter the data to be written.
2. Select **WRITE**.
3. Check the result.

7.2.2. Online Mode


The parameters tab shows the parameter menu defined in the IODD file. You can check the list of parameters in the right of the screen by selecting the each menu.

Select **Write All** / **Read All** to read and write all corresponding parameters.




7.2.2.1. Read and Write the Parameters


The status of parameter

: Unknown values. Read the parameters.

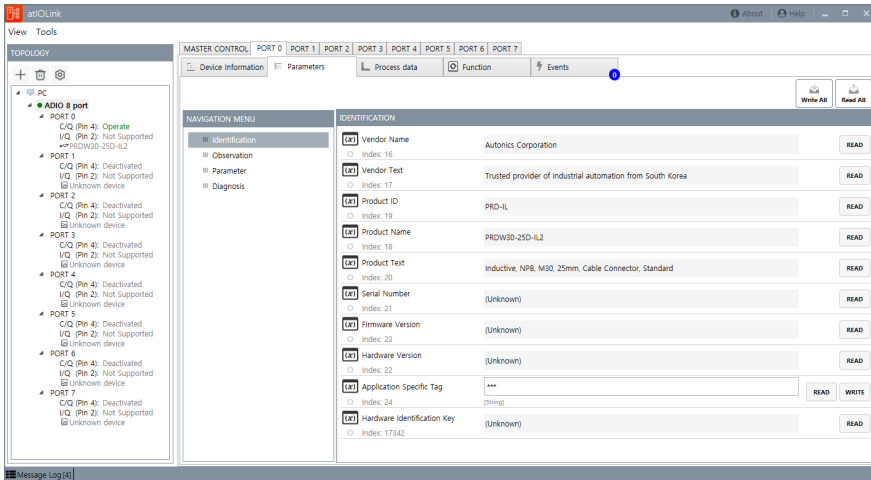


: The parameter value is changed but you need to write the value to the IO-Link device.

: The read/write of the parameters completed.

: The read/write of the parameters failed.

1. Select the Parameters tab to check the parameter list of the IO-Link device.

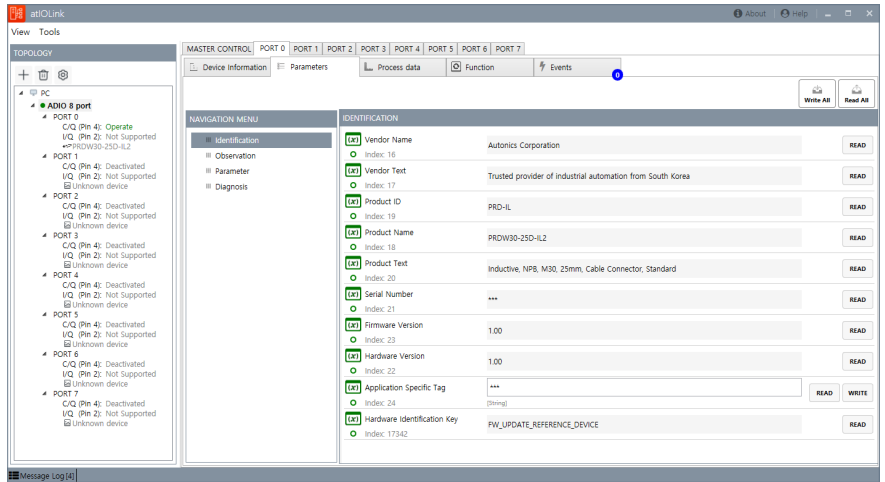


The screenshot shows the atIOLink software interface. The 'Parameters' tab is selected for PORT 0. The 'IDENTIFICATION' section displays a list of parameters with their current values and status. The 'NAVIGATION MENU' on the left shows the 'Parameters' option is selected.

Parameter Name	Value	Status
Vendor Name (Index: 16)	Autonics Corporation	READ
Vendor Text (Index: 17)	Trusted provider of industrial automation from South Korea	READ
Product ID (Index: 19)	PRD-IL	READ
Product Name (Index: 18)	PRDW30-25D-IL2	READ
Product Text (Index: 20)	Inductive, NP8, M30, 25mm, Cable Connector, Standard	READ
Serial Number (Index: 21)	(Unknown)	READ
Firmware Version (Index: 23)	(Unknown)	READ
Hardware Version (Index: 22)	(Unknown)	READ
Application Specific Tag (Index: 24)	***	READ WRITE
Hardware Identification Key (Index: 17342)	(Unknown)	READ

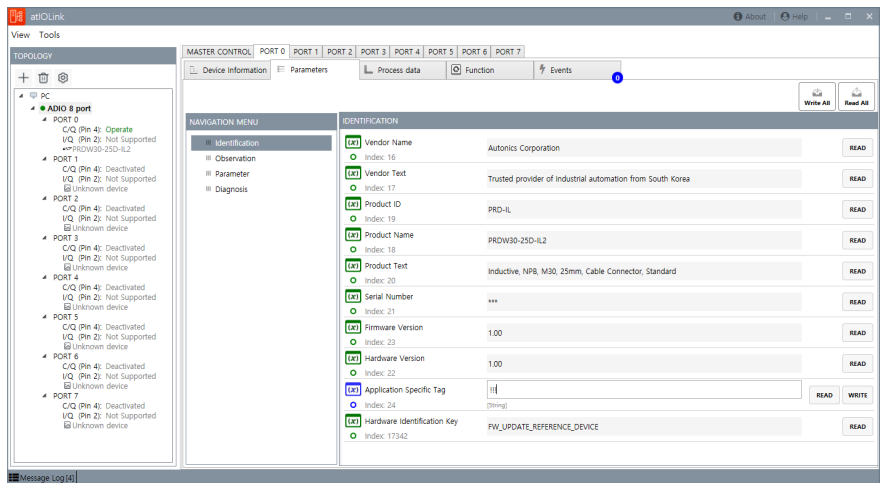
2. Select **Read All** on the right of the screen.

When the read is complete, the status icon of parameter is displayed in green.



3. Let's change the value of the Application specific tag to "!!!".

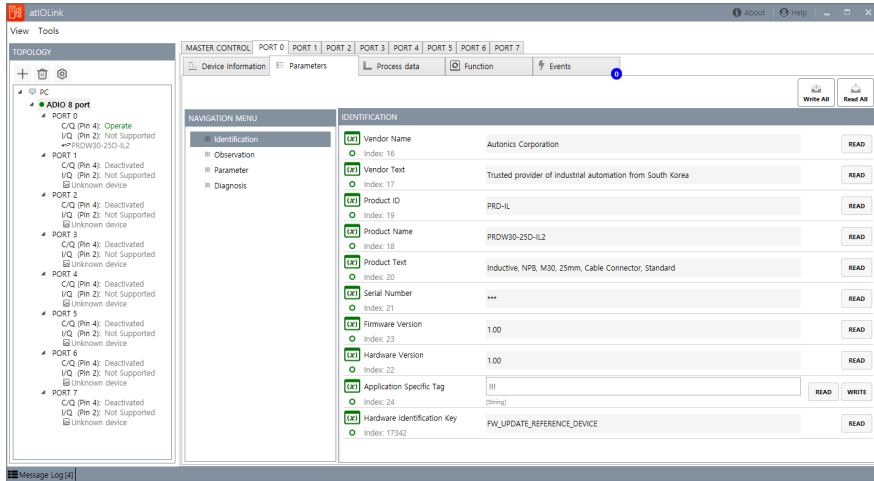
The status icon of parameter is displayed in blue during the modification.



4. Select **WRITE** to apply the data to the IO-Link device.

When the write is complete, the status icon of parameter is displayed in green.

Select **READ** to check the written data.



7.3. Monitor the C/Q SIO / Process Data

The process data tab shows the input and output process data depending on the C/Q (Pin 4) mode. In case of the output process data, you can set the output value.

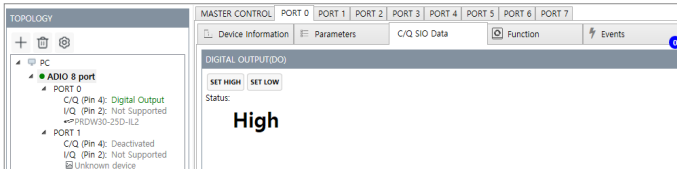
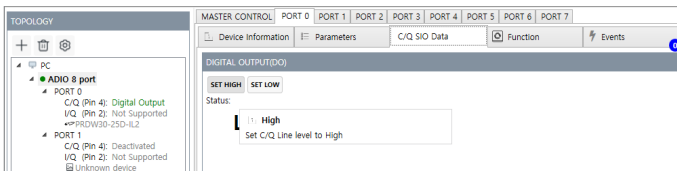
DIGITAL INPUT (DI)

- It displays the status High and Low.



DIGITAL OUTPUT (DO)

- You can change the output value by selecting **SET HIGH** or **SET LOW**.



IO-Link mode (IO-Link Autostart, IO-Link Manual)

- You can check the input data and change the output data of the IO-Link device.

The screenshot displays the IO-Link software interface. On the left, a 'TOPOLOGY' tree shows a hierarchy of ports (PORT 0 to PORT 7) under an 'ADIO 8 port' group. PORT 0 is selected. The main window is titled 'MASTER CONTROL' and shows 'PORT 0' selected. Below the title bar, there are tabs for 'Device Information', 'Parameters', 'Process data', 'Function', and 'Events'. The 'Process data' tab is active, showing 'PROCESS DATA INPUT (V_PST)'. Under this, 'VALIDITY: VALID | LENGTH: 8 byte' is shown. The 'RAW DATA' section displays '0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0, 0x0'. Below this is a table with columns 'NAME', 'VALUE', and 'UNIT'. The table contains five rows of switch states: 'Switchstate Port 0 - Pin 4: false (false)', 'Switchstate Port 1 - Pin 4: false (false)', 'Switchstate Port 2 - Pin 4: false (false)', 'Switchstate Port 3 - Pin 4: false (false)', and 'Switchstate Port 4 - Pin 4: false (false)'. Below the input section, the 'PROCESS DATA OUTPUT (V_PST)' section is visible, showing 'LENGTH: 2 byte | INVALIDATE | SET'. The 'RAW DATA' section displays '0x0, 0x0'. Below this is another table with columns 'NAME', 'VALUE', and 'UNIT'. The table contains five rows of switch states: 'Switchstate Port 0 - Pin 4: false (false)', 'Switchstate Port 1 - Pin 4: true (true)', 'Switchstate Port 2 - Pin 4: false (false)', 'Switchstate Port 3 - Pin 4: false (false)', and 'Switchstate Port 4 - Pin 4: false (false)'. The 'true (true)' value for Port 1 is highlighted.

7.4. Data Storage

The data storage can be used under the following conditions.

- IO-Link version: 1.1 or higher
- C/Q (Pin 4) mode: IO-Link Manual

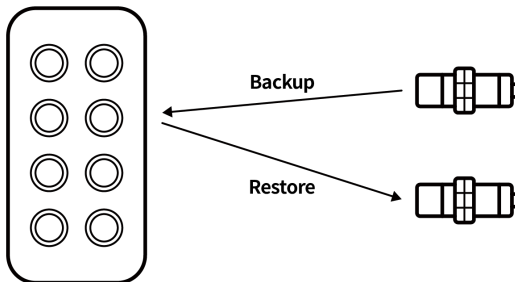
DS mode

1. Restore

Apply/download the last updated parameters stored in the IO-Link Master to the compatible IO-Link device.

2. Backup / Restore

The whole parameters of IO-Link device are stored/uploaded in the IO-Link Master and apply/download it to the connected IO-Link device.



7.4.1. Configure the Data Storage



- DS port: port 0
- Suggested parameter of the IO-Link device: Target too Close
- Parameter index of Target too Close: 65 (0x41)

1. Configure the port as shown below to use the data storage.

PORT 0 - PRDW30-25D-IL2

CONFIGURATION

C/Q (Pin4) mode:

DS mode:

Cycle time: μ s

Connected Device:

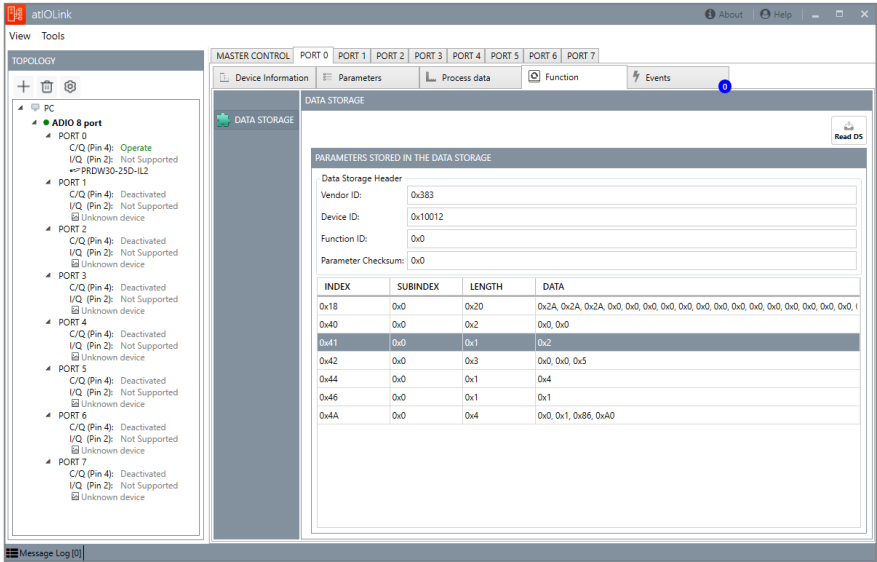
Vendor ID: Device ID: Revision:

2. Check that the button of Read DS is activated in the **PORT 0 » Function tab » DATA STORAGE**.

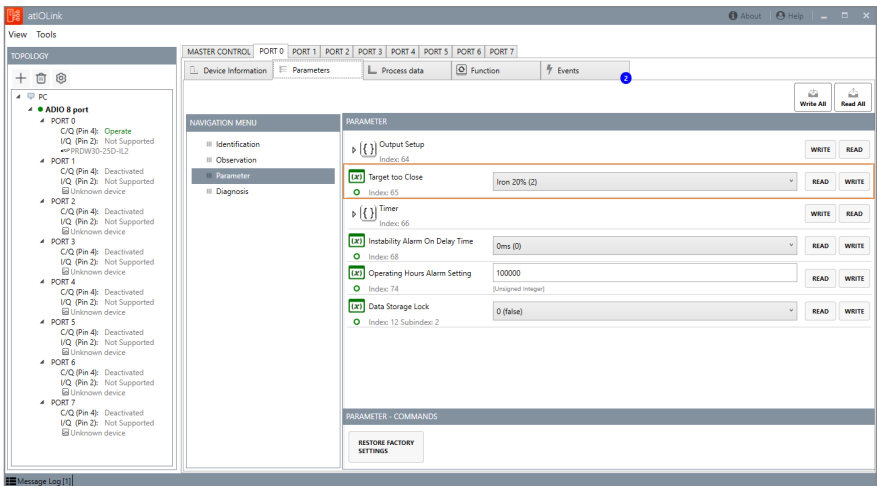
The screenshot shows the atIOLink software interface. On the left, a tree view shows the topology with 'ADIO 8 port' expanded to show 'PORT 0'. The main window displays the 'DATA STORAGE' configuration for PORT 0. The 'Function' tab is active, and the 'Read DS' button is visible in the top right corner. The 'PARAMETERS STORED IN THE DATA STORAGE' section shows fields for Vendor ID, Device ID, and Function ID, along with a Parameter Checksum field. Below these fields is a table with columns for INDEX, SUBINDEX, LENGTH, and DATA.

INDEX	SUBINDEX	LENGTH	DATA
-------	----------	--------	------

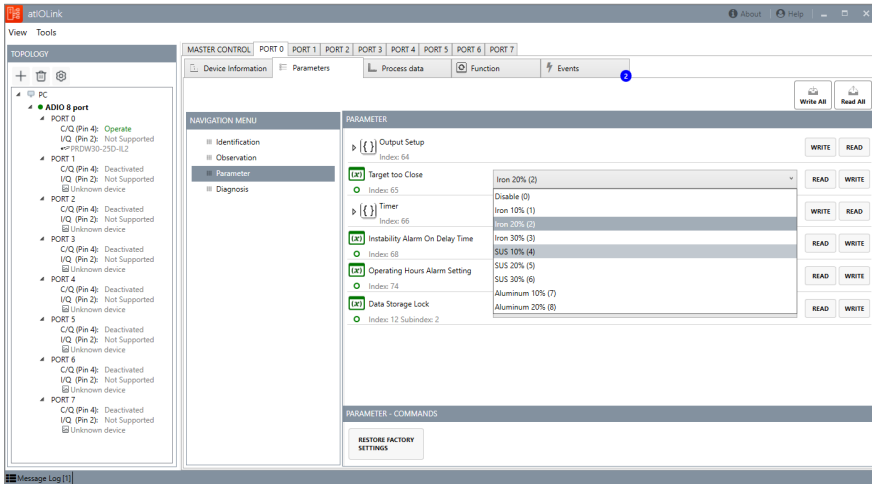
3. Select **Read DS** to see the accessible parameter index for the Data Storage.
 You can find the index of Target too Close in the INDEX.



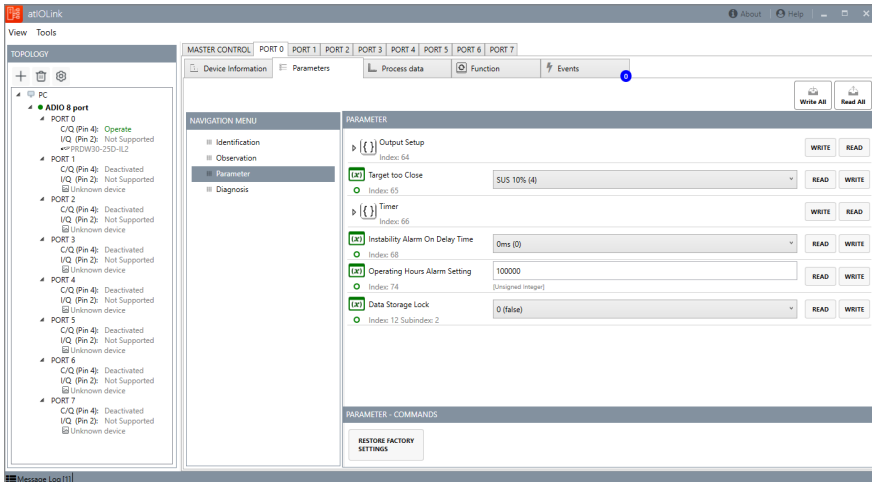
4. Let's change the parameter value to check the DS mode.
 Check the Target too Close in **PORT 0** » **Parameters tab** » **NAVIGATION MENU** » **Parameter**.



5. The current value of Target too Close is 2. In the figure below, the value has been changed to 4.

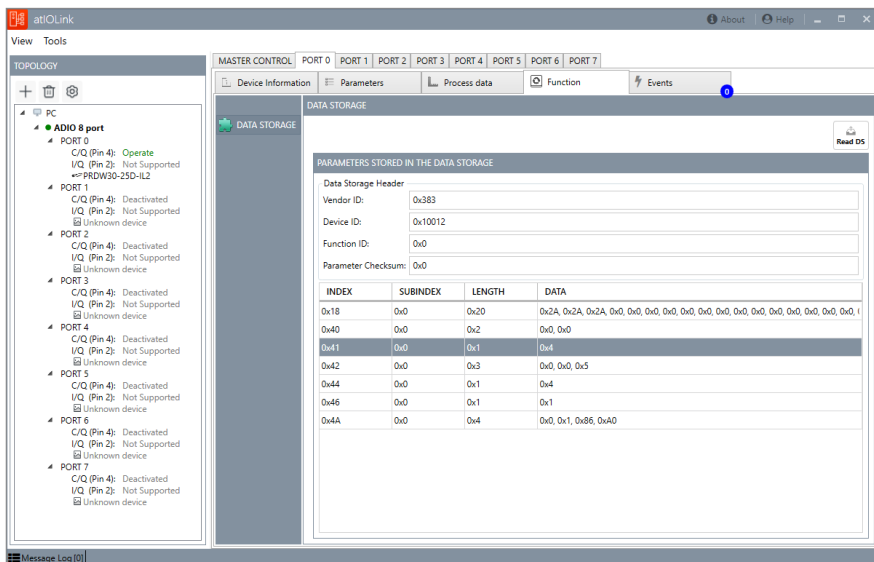


6. Select **WRITE** to apply the parameter value.



7. Select **Read DS** in the **PORT 0 » Function tab » DATA STORAGE**.

You can figure out the data of index 0x41 (Target too Close) has been changed to 0x4 (4) as shown in the figure below.



8. The changed parameter value is applied to port 0 on the IO-Link Master and the IO-Link device.

7.4.2. Usage Examples of the Data Storage



1. When the same IO-Link device is connected to a different port

Connect the IO-Link device on the port 0 to port 1 and check the Restore.

1. Disconnect the IO-Link device and connect it to port 1. The port configuration of port 1 is IO-Link Autostart.

PORT 1 - PRDW30-25D-IL2

CONFIGURATION

C/Q (Pin4) mode:

Connected Device:

2. Check Target too Close in the **PORT 1 » Parameters tab » NAVIGATION MENU » Parameter**. The maintained value of Target too Close is 4.

The screenshot shows the atIOLink software interface. The main window is titled "atIOLink" and has a menu bar with "About" and "Help". Below the menu bar is a "View Tools" section. The interface is divided into several panes:

- TOPOLOGY**: A tree view on the left showing the system structure. It includes a "PC" section and an "ADIO 8 port" section with sub-items for PORT 0 through PORT 7. PORT 1 is highlighted.
- MASTER CONTROL**: A row of tabs for PORT 0, PORT 1, PORT 2, PORT 3, PORT 4, PORT 5, PORT 6, and PORT 7. PORT 1 is selected.
- Parameters**: A sub-tab within the PORT 1 section, containing "Device Information", "Parameters", "Process data", "Function", and "Events". The "Parameters" sub-tab is active.
- NAVIGATION MENU**: A list of categories: "Identification", "Observation", "Parameter", and "Diagnosis". "Parameter" is selected.
- PARAMETER**: A detailed view of the selected parameter. It shows a list of parameters with their current values and actions (READ, WRITE). The "Target too Close" parameter is highlighted, showing a value of "SUS 10% (4)". Other parameters include "Output Setup", "Timer", "Instability Alarm On Delay Time", "Operating Hours Alarm Setting", and "Data Storage Lock".
- PARAMETER - COMMANDS**: A section for commands, including a "RESTORE FACTORY SETTINGS" button.

2. When connecting a new IO-Link device to the DS port



Connect a new IO-Link device (same model) to port 0 for the data storage and check Backup / Restore.

1. Check Target too Close in the **PORT 4 » Parameters tab » NAVIGATION MENU » Parameter**. The value of Target too Close in port 4 is 2.

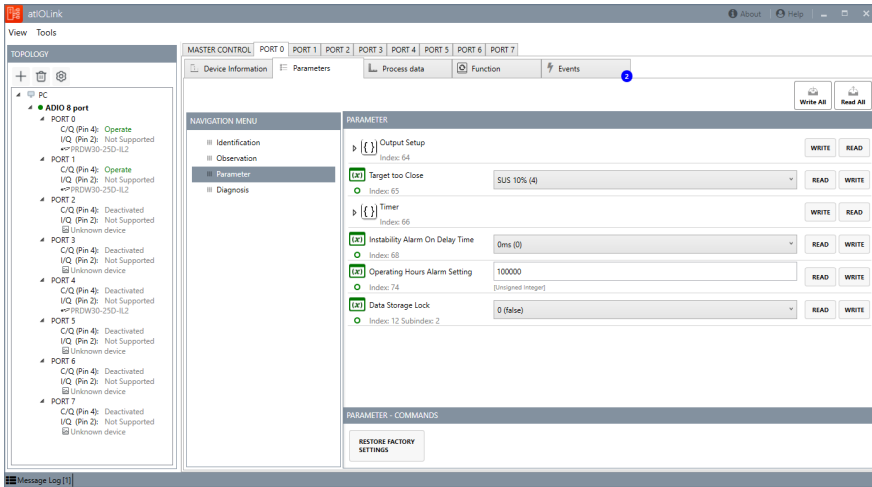
The screenshot shows the anOLink software interface. The 'TOPOLOGY' pane on the left lists ports 0 through 7. The 'NAVIGATION MENU' for PORT 4 is expanded to the 'Parameter' tab. The 'PARAMETER' pane shows the following settings:

Parameter Name	Index	Value	Actions
Output Setup	64		WRITE READ
Target too Close	65	Iron 20% (2)	READ WRITE
Timer	66		WRITE READ
Instability Alarm On Delay Time	68	0ms (0)	READ WRITE
Operating Hours Alarm Setting	74	100000	READ WRITE
Data Storage Lock	12 Subindex 2	0 (false)	READ WRITE

At the bottom of the parameter list, there is a 'PARAMETER - COMMANDS' section with a 'RESTORE FACTORY SETTINGS' button.

2. Connect the new IO-Link device to port 0 for the DS.

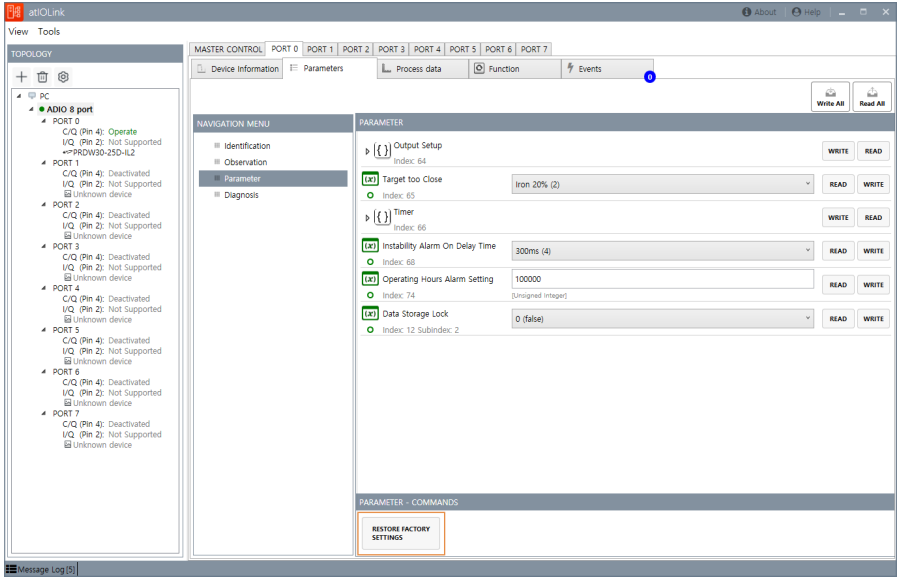
- Check Target too Close in the **PORT 0 » Parameters tab » NAVIGATION MENU » Parameter**.
 Changed value of Target too Close is 4.



7.5. Restore to Factory Settings

You can reset the IO-Link device to the factory settings if the connected IO-Link device supports it.

- Select **RESTORE FACTORY SETTINGS** in the Parameters tab.



7.6. Check the Errors

The Events tab shows error lists occurred in the IO-Link Master and IO-Link devices. The events for IO-Link device are defined in the IODD file.

Event indicator

- Blue: Notification type
- Orange: Warning type
- Red: Error type

7.7. Replace the IO-Link Device



1. Prepare a new IO-Link device with the factory settings.
2. A new IO-Link device supports the IO-Link version 1.1 or higher.

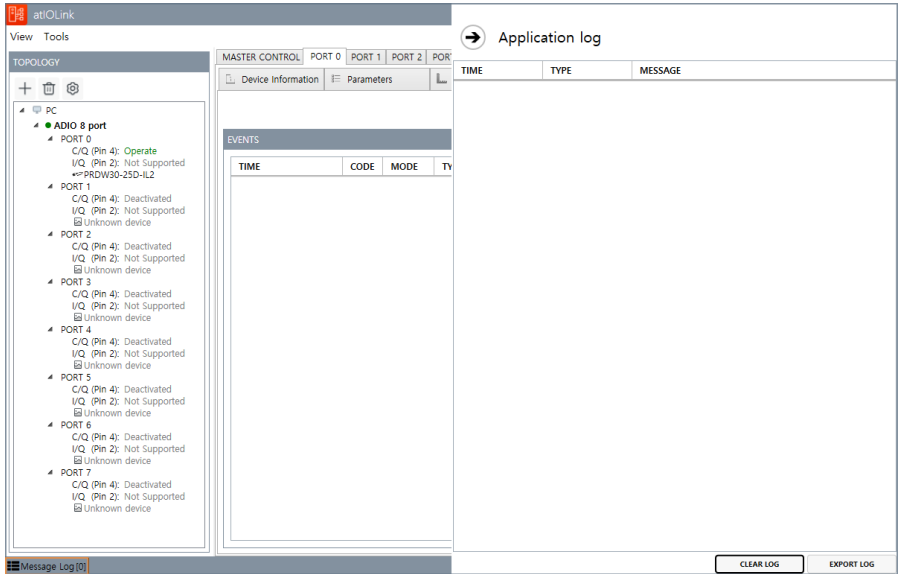
1. Disconnect the old or damaged IO-Link device on the IO-Link Master.
2. Connect the new IO-Link device to the same port.
3. Apply/download the parameter sets stored in the IO-Link Master to the connected IO-Link device. Refer to 7.4.1, “Configure the Data Storage”.

8. Message Log

It shows errors occurred in the software application.

Select **EXPORT LOG** to save the error list with a text file.

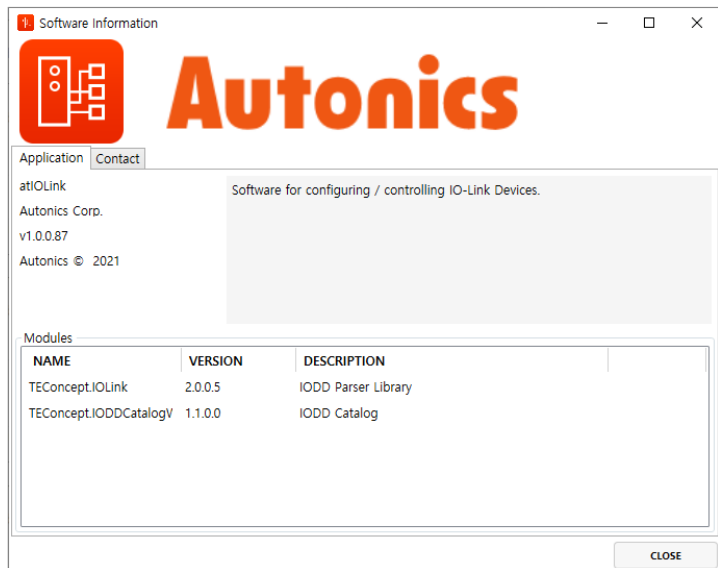
- Select the Message Log at the bottom left of the screen.



9. Software Information

You can check the version of atIOLink.

- Select **About** at the upper right corner of the screen.



Autonics

Dimensions or specifications on this manual are subject to change and some models may be discontinued without notice.

www.autonics.com