IAI
Quality and Innovation

ICD-CTU / WLBT / ETSE

Smart Web Unit

WLAN/**Bluetooth**® Converter

Ethernet/RS-485 Converter

Instruction Manual First Edition ME0495-1B



IAI Corporation

Introduction	Ch.1
Overview	Ch.2
Specifications	Ch.3
Wiring	Ch.4
Parameter	Ch.5
Maintenance and Inspection	Ch.6
Troubleshooting	Ch.7
Wireless Device Parameter Setup Tool	Ch.8
Web Application for Smart Web Unit	Ch.9
Warranty	Ch.10
Revision History	Ch.11

The **Bluetooth**® word mark and logos are the registered trademarks owned by Bluetooth SIG, Inc.

IAI Corporation uses these marks and logos under their license. All other trademarks and registered trademarks are the property of their respective owners.

Contents

Chapter 1 Introduction

1.1 Please Read Before Use 1-1
1.2 ICD-CTU Instruction Manual Configuration 1-2
1.3 Safety Guide 1-3
1.3.1 Safety Precautions for Our Products 1-3
1.3.2 Alert Indication 1-11
1.4 Precautions for Handling 1-12
1.5 International Standard Compliance 1-13
1.6 Precautions for Handling Wireless Operation 1-14
1.7 Precautions for Axis Operation with Wireless Connection 1-16
1.8 Security Precautions 1-17
1.9 WLAN Risks 1-18

Chapter 2 Overview

2.1 Overview 2-1
2.2 System Configuration 2-4
2.3 Names and Functions of Each Part 2-5
2.3.1 Names and functions of each part of Smart Web Unit 2-5
2.3.2 Names and functions of each part of WLAN/Bluetooth Converter 2-8
2.3.3 Names and functions of each part of Ethernet/RS-485 Converter 2-13
2.4 Controller Version 2-20
2.5 Teaching Tool Version 2-21

Chapter 3 Specifications

3.1 Components 3-1
3.1.1 Smart Web Unit Components 3-1
3.1.2 WLAN/Bluetooth Converter Components 3-2
3.1.3 Ethernet/RS-485 Converter Components 3-3
3.2 How to Read the Model Plate 3-4
3.2.1 Smart Web Unit Model Plate 3-4
3.2.2 WLAN/Bluetooth Converter Model Plate 3-5
3.2.3 Ethernet/RS-485 Converter Model Plate 3-5
3.3 How to Read the Model 3-7
3.3.1 Smart Web Unit Model 3-7
3.3.2 WLAN/Bluetooth Converter Model 3-7
3.3.3 Ethernet/RS-485 Converter Model 3-8
3.4 List of Basic Specifications 3-9
3.4.1 Basic Specifications and Environmental Conditions of Smart Web Unit 3-9
3.4.2 Basic Specifications and Environmental Conditions of WLAN/Bluetooth Converter . . 3-10

3.4.3 Basic Specifications and Environmental Conditions of Ethernet/RS-485 Converter . . 3-12
3.5 External view 3-15
3.5.1 Smart Web Unit Exterior View 3-15
3.5.2 WLAN/Bluetooth Converter Exterior View 3-15
3.5.3 Ethernet/RS-485 Converter Exterior View 3-16
3.6 Equipped with AC adapter 3-17
3.6.1 AC adapter (UNXVX3024-240010SA) 3-17
3.6.2 AC Adapter Specifications 3-17
3.7 Installation and Protected Environment 3-18
3.7.1 Installation Environment 3-18
3.7.2 Storage and Preservation Environment 3-18
3.8 Installation and Mounting 3-19
3.8.1 Installation of Smart Web Unit 3-19
3.8.2 Installation of WLAN/Bluetooth Converter 3-19
3.8.3 Installation of Ethernet/RS-485 Converter 3-20
3.9 WLAN Wireless Specifications 3-22
3.9.1 WLAN Wireless Standards 3-22
3.9.2 Reference for WLAN Wireless Reachable Distance 3-22
3.9.3 WLAN Directivity 3-22
3.10 Bluetooth Wireless Specifications 3-24
3.10.1 Bluetooth Wireless Standards 3-24
3.10.2 Reference for Bluetooth Wireless Reachable Distance 3-24
3.10.3 Bluetooth Directivity 3-24

Chapter 4 Wiring

4.1 Wiring for Smart Web Unit 4-1
4.1.1 Preparation Before Wiring (ICD-CTU) 4-1
4.1.2 Wiring Diagram (ICD-CTU) 4-2
4.2 Wiring for WLAN/Bluetooth Converter 4-3
4.2.1 Preparation Before Wiring (ICD-WLBT) 4-3
4.2.2 Configuration After Wiring (ICD-WLBT) 4-4
4.3 Wiring for Ethernet/RS-485 Converter 4-13
4.3.1 Preparation Before Wiring (ICD-ETSE) 4-13
4.3.2 Wiring Diagram (ICD-ETSE) 4-14
4.3.3 When Connecting Multiple Controllers (ICD-ETSE) 4-15

Chapter 5 Parameter

5.1 Smart Web Unit Parameters 5-1
5.1.1 Parameter List (ICD-CTU) 5-1
5.1.2 Parameter Description (ICD-CTU) 5-1
5.1.3 Other Settings (ICD-CTU) 5-2
5.2 WLAN/Bluetooth Converter Parameters 5-4

5.2.1 Parameter List (ICD-WLBT) 5-4
5.2.2 Parameter Description (ICD-WLBT) 5-4
5.2.3 Other Settings (ICD-WLBT) 5-7
5.3 Ethernet/RS-485 Converter Parameters 5-9
5.3.1 Parameter List (ICD-ETSE) 5-9
5.3.2 Parameter Description (ICD-ETSE) 5-9

Chapter 6 Maintenance and Inspection

6.1 Maintenance and Inspection of Smart Web Unit 6-1
6.1.1 Consumable Parts (ICD-CTU) 6-1
6.1.2 Maintenance Parts (ICD-CTU) 6-1
6.1.3 Precautions for Inspection (ICD-CTU) 6-2
6.2 Maintenance and Inspection of WLAN/Bluetooth Converter 6-3
6.2.1 Consumable Parts (ICD-WLBT) 6-3
6.2.2 Maintenance Parts (ICD-WLBT) 6-3
6.2.3 Precautions for Inspection (ICD-WLBT) 6-3
6.3 Maintenance and Inspection of Ethernet/RS-485 Converter 6-4
6.3.1 Consumable Parts (ICD-ETSE) 6-4
6.3.2 Maintenance Parts (ICD-ETSE) 6-4
6.3.3 Precautions for Inspection (ICD-ETSE) 6-4

Chapter 7 Troubleshooting

7.1 Smart Web Unit Troubleshooting 7-1
7.1.1 Action to Be Taken upon Occurrence of Problem (ICD-CTU) 7-1
7.1.2 Fault Diagnosis (ICD-CTU) 7-1
7.2 WLAN/Bluetooth Converter Troubleshooting 7-3
7.2.1 Action to Be Taken upon Occurrence of Problem (ICD-WLBT) 7-3
7.2.2 Fault Diagnosis (ICD-WLBT) 7-4
7.3 Ethernet/RS-485 Converter Troubleshooting 7-8
7.3.1 Action to Be Taken upon Occurrence of Problem (ICD-ETSE) 7-8
7.3.2 Fault Diagnosis (ICD-ETSE) 7-9

Chapter 8 Wireless Device Parameter Setup Tool

8.1 Overview (Wireless Device Parameter Setup Tool) 8-1
8.1.1 Introduction (Wireless Device Parameter Setup Tool) 8-1
8.1.2 Supported Languages of the Wireless Device Parameter Setup Tool 8-1
8.1.3 How to Install Wireless Device Parameter Setup Tool 8-1
8.2 Specifications and Preparation for the Wireless Device Parameter Setup Tool 8-2
8.2.1 Operating Environment for Wireless Device Parameter Setup Tool 8-2
8.2.2 Communication Interfaces of Wireless Device Parameter Setup Tool 8-2
8.2.3 Function List of the Wireless Device Parameter Setup Tool 8-2
8.2.4 Screen Configuration of Wireless Device Parameter Setup Tool 8-3

8.2.5 Application Settings of Wireless Device Parameter Setup Tool 8-11

Chapter 9 Web Application for Smart Web Unit

9.1 Overview (Web Application for Smart Web Unit) 9-1
9.1.1 Introduction (Web Application for Smart Web Unit) 9-1
9.1.2 Supported Languages of the Web Application 9-1
9.1.3 How to Open a Web Application 9-1
9.2 Web application execution environment and specifications, etc. 9-2
9.2.1 Execution Environment of Web Application 9-2
9.2.2 Maximum Number of Connected Axes for Web Application 9-2
9.2.3 Web App Precautions 9-2
9.2.4 Supported Models for Web Applications 9-2
9.2.5 Web Application Support Functions 9-4
9.3 Web Application Screen Transitions 9-5
9.3.1 Transitions from Menu 9-5
9.3.2 Transitions from [Communication] 9-5
9.3.3 Transitions from [Position data] 9-5
9.3.4 Transitions from [Monitor] 9-6
9.3.5 Transitions from [Backup] 9-7
9.3.6 Transitions from [Maintenance] 9-8
9.3.7 Transitions from [Information] 9-8
9.3.8 Transitions from [Other] 9-8
9.4 User Authentication (Web Application for Smart Web Unit) 9-10
9.4.1 Initial Setup (Web Application for Smart Web Unit) 9-10
9.5 Function Description (Web Application for Smart Web Unit) 9-12
9.5.1 Menu 9-12
9.5.2 Communication 9-14
9.5.3 Position data 9-16
9.5.4 Monitor 9-21
9.5.5 Backup 9-35
9.5.6 Maintenance 9-41
9.5.7 Information 9-43
9.5.8 Other 9-46

Chapter 10 Warranty

10.1 Warranty Period 10-1
10.2 Scope of the Warranty 10-2
10.3 Honoring the Warranty 10-3
10.4 Limited Liability 10-4
10.5 Conformance with Applicable Standards/Regulations, etc., and Application Conditions . . . 10-5
10.6 Other Items Excluded from Warranty 10-6

Chapter 11 Revision History

11.1 Revision History 11-1

ICD-CTU/WLBT/ETSE

1

Introduction

1.1 Please Read Before Use. 1-1
1.2 ICD-CTU Instruction Manual Configuration. 1-2
1.3 Safety Guide 1-3
1.3.1 Safety Precautions for Our Products. 1-3
1.3.2 Alert Indication. 1-11
1.4 Precautions for Handling. 1-12
1.5 International Standard Compliance. 1-13
1.6 Precautions for Handling Wireless Operation. 1-14
1.7 Precautions for Axis Operation with Wireless Connection. 1-16
1.8 Security Precautions. 1-17
1.9 WLAN Risks. 1-18

1.1 Please Read Before Use

Thank you for purchasing our product.
This instruction manual explains the handling methods, structure and maintenance of this product, providing the information you need in order to use the product safely.
Before using the product, be sure to read this manual and fully understand the contents explained herein to ensure safe use of the product.
Please downloaded the user's manual from our website.
You can download it free of charge. User registration is required for the first time downloading.
URL : [www.iai-robot.co.jp/data_dl/CAD_MANUAL/]
When using the product, print out of the necessary portions of the relevant manual, or please display it on your computer, tablet terminal, etc. so that you can check it immediately.
After reading the instruction manual, keep it in a convenient place so that whoever is handling the product can refer to it quickly when necessary.

Important

- This instruction manual is an original document dedicated for this product.
- This product cannot be used in ways not shown in this instruction manual. IAI shall not be liable for any result whatsoever arising from the use of the product in any other way than what is noted in the manual.
- The information contained in this instruction manual is subject to change without notice for the purpose of product improvement.
- If any issues arise regarding the information contained in this instruction manual, contact our customer center or the nearest sales office.
- Use or reproduction of this instruction manual in full or in part without permission is prohibited.
- The company names, names of products and trademarks of each company shown in the text are registered trademarks.

1.2 ICD-CTU Instruction Manual Configuration

Product name	Instruction manual name	Control number
ICD-CTU/ICD-WLBT/ICD-ETSE	This document	[ME0495]
PC Software	XSEL PC Software (XSEL2 Edition) Instruction Manual	[ME0483]
PC Software	XSEL PC Software (RSEL Edition) Instruction Manual	[ME0398]
PC Software IA-OS	PC Software IA-OS First Step Guide	[ME0391]
Touch Panel Teaching Pendant TB-03	TB-03/03E Position Controller, ELECYLINDER Wireless Link Instruction Manual	[ME0375]
XSEL2	Instruction Manual	[ME0478]
RSEL	Instruction Manual	[ME0392]
RCON	Instruction Manual	[ME0384]
REC	Instruction Manual	[ME0394]
SCON2-CG	Instruction Manual	[ME0458]
SCON-CB/CGB	Instruction Manual	[ME0340]
PCON-CB/CGB	Instruction Manual	[ME0342]
PCON-CYB/PLB/POB	Instruction Manual	[ME0353]
ACON-CB/CGB	Instruction Manual	[ME0343]
ACON-CYB/PLB/POB	Instruction Manual	[ME0354]
DCON-CB/CGB	Instruction Manual	[ME0343]
DCON-CYB/PLB/POB	Instruction Manual	[ME0354]

1.3 Safety Guide

“Safety Guide” has been written to use the machine safely and so prevent personal injury or property damage beforehand.
Make sure to read it before the operation of this product.

1.3.1 Safety Precautions for Our Products

The common safety precautions for the use of any of our robots in each operation.

No.	Operation Description	Description
1	Model Selection	■ This product has not been planned and designed for the application where high level of safety is required, so the guarantee of the protection of human life is impossible. Accordingly, do not use it in any of the following applications. ■ Medical equipment used to maintain, control or otherwise affect human life or physical health. ■ Mechanisms and machinery designed for the purpose of moving or transporting people (For vehicle, railway facility or air navigation facility) ■ Important safety parts of machinery (Safety device, etc.) ■ Do not use the product outside the specifications. Failure to do so may considerably shorten the life of the product. ■ Do not use it in any of the following environments. ■ Location where there is any inflammable gas, inflammable object or explosive ■ Place with potential exposure to radiation ■ Location with the ambient temperature or relative humidity exceeding the specification range ■ Location where radiant heat is added from direct sunlight or other large heat source ■ Location where condensation occurs due to abrupt temperature changes ■ Location where there is any corrosive gas (sulfuric acid or hydrochloric acid) ■ Location exposed to significant amount of dust, salt or iron powder ■ Location subject to direct vibration or impact ■ For an actuator used in vertical orientation, select a model which is equipped with a brake. If selecting a model with no brake, the moving part may drop when the power is turned OFF and may cause an accident such as an injury or damage on the work piece.

2	Transportation	■ When carrying a heavy object, do the work with two or more persons or utilize equipment such as crane. ■ When the work is carried out with 2 or more persons, make it clear who is to be the “leader” and who to be the “follower(s)” and communicate well with each other to ensure the safety of the workers. ■ When in transportation, consider well about the positions to hold, weight and weight balance and pay special attention to the carried object so it would not get hit or dropped. ■ Transport it using an appropriate transportation measure. The actuators available for transportation with a crane have eyebolts attached or there are tapped holes to attach bolts. Follow the instructions in the instruction manual for each model. ■ Do not step or sit on the package. ■ Do not put any heavy thing that can deform the package, on it. ■ When using a crane capable of 1t or more of weight, have an operator who has qualifications for crane operation and sling work. ■ When using a crane or equivalent equipments, make sure not to hang a load that weighs more than the equipment’s capability limit. ■ Use a hook that is suitable for the load. Consider the safety factor of the hook in such factors as shear strength. ■ Do not get on the load that is hung on a crane. ■ Do not leave a load hung up with a crane. ■ Do not stand under the load that is hung up with a crane.
3	Storage and Preservation	■ The storage and preservation environment conforms to the installation environment. However, especially give consideration to the prevention of condensation. ■ Store the products with a consideration not to fall them over or drop due to an act of God such as earthquake.

4	Installation and Start	(1) Installation of Robot Main Body and Controller, etc. ■ Make sure to securely hold and fix the product (including the work part). A fall, drop or abnormal motion of the product may cause a damage or injury. Also, be equipped for a fall-over or drop due to an act of God such as earthquake. ■ Do not get on or put anything on the product. Failure to do so may cause an accidental fall, injury or damage to the product due to a drop of anything, malfunction of the product, performance degradation, or shortening of its life. ■ When using the product in any of the places specified below, provide a sufficient shield. ■ Location where electric noise is generated ■ Location where high electrical or magnetic field is present ■ Location with the mains or power lines passing nearby ■ Location where the product may come in contact with water, oil or chemical droplets
		(2) Cable Wiring ■ Use our company's genuine cables for connecting between the actuator and controller, and for the teaching tool. ■ Do not scratch on the cable. Do not bend it forcibly. Do not pull it. Do not coil it around. Do not insert it. Do not put any heavy thing on it. Failure to do so may cause a fire, electric shock or malfunction due to leakage or continuity error. ■ Perform the wiring for the product, after turning OFF the power to the unit, so that there is no wiring error. ■ When the direct current power (+24V) is connected, take the great care of the directions of positive and negative poles. If the connection direction is not correct, it might cause a fire, product breakdown or malfunction. ■ Connect the cable connector securely so that there is no disconnection or looseness. Failure to do so may cause a fire, electric shock or malfunction of the product. ■ Never cut and/or reconnect the cables supplied with the product for the purpose of extending or shortening the cable length. Failure to do so may cause the product to malfunction or cause fire.

4	Installation and Start	(3) Grounding ■ The grounding operation should be performed to prevent an electric shock or electrostatic charge, enhance the noise-resistance ability and control the unnecessary electromagnetic radiation. ■ For the ground terminal (PE) on the AC power cable of the controller and the grounding plate in the control panel, make sure for grounding work. For security grounding, it is necessary to select an appropriate wire thickness suitable for the load. Perform wiring that satisfies the specifications (electrical equipment standards and criteria). For detail, follow the description in [an instruction manual of each controller or controller built-in actuator]. ■ Conduct functional grounding on the FG terminal for a controller supplying 24V DC or a controller built-in type actuator. In order to minimize influence to mechanical operation given by electromagnetic interference (noise) to an electrical device or insulation failure, conduct grounding on a terminal or a conductor that is electrically stable. The reference impedance should be Type D (Former Class 3, ground resistance 100Ω or less).

4	Installation and Start	(4) Safety Measures ■ When the work is carried out with 2 or more persons, make it clear who is to be the “leader” and who to be the “follower(s)” and communicate well with each other to ensure the safety of the workers. ■ When the product is under operation or in the ready mode, take the safety measures (such as the installation of safety and protection fence) so that nobody can enter the area within the robot’s movable range. When the robot under operation is touched, it may result in death or serious injury. ■ Make sure to install the emergency stop circuit so that the unit can be stopped immediately in an emergency during the unit operation. ■ Take the safety measure not to start up the unit only with the power turning ON. Failure to do so may start up the machine suddenly and cause an injury or damage to the product. ■ Take the safety measure not to start up the machine only with the emergency stop cancellation or recovery after the power failure. Failure to do so may result in an electric shock or injury due to unexpected power input. ■ When the installation or adjustment operation is to be performed, give clear warnings such as “Under Operation; Do not turn ON the power!” etc. Sudden power input may cause an electric shock or injury. ■ Take the measure so that the work part is not dropped in power failure or emergency stop. ■ Wear protection gloves, goggle or safety shoes, as necessary, to secure safety. ■ Do not insert a finger or object in the openings in the product. Failure to do so may cause an injury, electric shock, damage to the product or fire. ■ When releasing the brake on a vertically oriented actuator, exercise precaution not to pinch your hand or damage the work parts with the actuator dropped by gravity.

5	Teaching	■ When the work is carried out with 2 or more persons, make it clear who is to be the “leader” and who to be the “follower(s)” and communicate well with each other to ensure the safety of the workers. ■ Perform the teaching operation from outside the safety protection fence, if possible. In the case that the operation is to be performed unavoidably inside the safety protection fence, prepare the “Stipulations for the Operation” and make sure that all the workers acknowledge and understand them well. ■ When the operation is to be performed inside the safety protection fence, the worker should have an emergency stop switch at hand with him so that the unit can be stopped any time in an emergency. ■ When the operation is to be performed inside the safety protection fence, in addition to the workers, arrange a watchman so that the machine can be stopped any time in an emergency. Also, keep watch on the operation so that any third person can not operate the switches carelessly. ■ Place a sign “Under Operation” at the position easy to see. ■ When releasing the brake on a vertically oriented actuator, exercise precaution not to pinch your hand or damage the work parts with the actuator dropped by gravity. * Safety protection Fence : In the case that there is no safety protection fence, the movable range should be indicated.

6	Trial Operation	■ When the work is carried out with 2 or more persons, make it clear who is to be the “leader” and who to be the “follower(s)” and communicate well with each other to ensure the safety of the workers. ■ After the teaching or programming operation, perform the check operation one step by one step and then shift to the automatic operation. ■ When the check operation is to be performed inside the safety protection fence, perform the check operation using the previously specified work procedure like the teaching operation. ■ Make sure to perform the programmed operation check at the safety speed. Failure to do so may result in an accident due to unexpected motion caused by a program error, etc. ■ Do not touch the terminal block or any of the various setting switches in the power ON mode. Failure to do so may result in an electric shock or malfunction.
7	Automatic Operation	■ Check before starting the automatic operation or rebooting after operation stop that there is nobody in the safety protection fence. ■ Before starting automatic operation, make sure that all peripheral equipment is in an automatic-operation-ready state and there is no alarm indication. ■ Make sure to operate automatic operation start from outside of the safety protection fence. ■ In the case that there is any abnormal heating, smoke, offensive smell, or abnormal noise in the product, immediately stop the machine and turn OFF the power switch. Failure to do so may result in a fire or damage to the product. ■ When a power failure occurs, turn OFF the power switch. Failure to do so may cause an injury or damage to the product, due to a sudden motion of the product in the recovery operation from the power failure.

8	Maintenance and Inspection	■ When the work is carried out with 2 or more persons, make it clear who is to be the “leader” and who to be the “follower(s)” and communicate well with each other to ensure the safety of the workers. ■ Perform the work out of the safety protection fence, if possible. In the case that the operation is to be performed unavoidably inside the safety protection fence, prepare the “Stipulations for the Operation” and make sure that all the workers acknowledge and understand them well. ■ When the work is to be performed inside the safety protection fence, basically turn OFF the power switch. ■ When the operation is to be performed inside the safety protection fence, the worker should have an emergency stop switch at hand with him so that the unit can be stopped any time in an emergency. ■ When the operation is to be performed inside the safety protection fence, in addition to the workers, arrange a watchman so that the machine can be stopped any time in an emergency. Also, keep watch on the operation so that any third person can not operate the switches carelessly. ■ Place a sign “Under Operation” at the position easy to see. ■ For the grease for the guide or ball screw, use appropriate grease according to the instruction manual for each model. ■ Do not perform the dielectric strength test. Failure to do so may result in a damage to the product. ■ When releasing the brake on a vertically oriented actuator, exercise precaution not to pinch your hand or damage the work parts with the actuator dropped by gravity. ■ The slider or rod may get misaligned OFF the stop position if the servo is turned OFF. Be careful not to get injured or damaged due to an unnecessary operation. ■ Pay attention not to lose the removed cover or screws, and make sure to put the product back to the original condition after maintenance and inspection works. Use in incomplete condition may cause damage to the product or an injury. * Safety protection Fence : In the case that there is no safety protection fence, the movable range should be indicated.

9	Modification and Dismantle	■ Do not modify, disassemble, assemble or use of maintenance parts not specified based at your own discretion.
10	Disposal	■ When the product becomes no longer usable or necessary, dispose of it properly as an industrial waste. ■ When removing the actuator for disposal, pay attention to drop of components when detaching screws. ■ Do not put the product in a fire when disposing of it. The product may burst or generate toxic gases.
11	Other	■ Do not come close to the product or the harnesses if you are a person who requires a support of medical devices such as a pacemaker. Doing so may affect the performance of your medical device. ■ See Overseas Specifications Compliance Manual to check whether complies if necessary. ■ For the handling of actuators and controllers, follow the dedicated instruction manual of each unit to ensure the safety. ■ Using the devise in a way not indicated by IAI may lose the protection performance equipped to the device.

1.3.2 Alert Indication

The safety precautions are divided into “Danger”, “Warning”, “Caution” and “Notice” according to the warning level, as follows, and described in the instruction manual for each model.

Level	Degree of Danger and Damage	Symbol
Danger	This indicates an imminently hazardous situation which, if the product is not handled correctly, will result in death or serious injury.	Danger
Warning	This indicates a potentially hazardous situation which, if the product is not handled correctly, could result in death or serious injury.	Warning
Caution	This indicates a potentially hazardous situation which, if the product is not handled correctly, may result in minor injury or property damage.	Caution
Notice	This indicates lower possibility for the injury, but should be kept to use this product properly.	Notice

1.4 Precautions for Handling

1 **Make sure to follow the usage condition, environment and specification range of the product.**
In case it is not secured, it may cause a drop in performance or malfunction of the product.

2 **Use the correct teaching tool.**
Refer to the Teaching tool and use compatible tools for PC software and teaching pendant usable for this controller.

3 **Back up data in order to be prepared for a breakdown.**
Non-volatile memory is used for backup memory of this controller. Registered position data and parameters are written in this memory and backed up. Therefore, these data will normally not be lost even if the power is turned off. However, be sure to save the latest data to enable a quick recovery process in case this controller needs to be replaced with a substitute due to breakdown, etc.
How to save

(1) Save to an external memory or a hard disk using PC software
(2) Record position table and parameters in writing

1.5 International Standard Compliance

This product complies with the following overseas standards.

Refer to the Overseas Standard Compliance Manual (ME0287) for more detailed information.

Standard		**Contents**
European Directives	EMC Directive	EN 55011:2016/A1:2017/A11:2020, EN 61000-6-2:2005
	RoHS Directive	RoHS3 Directive (2011/65/EU + (EU)2015/863)
	Low Voltage Directive	Not Applicable
	Machinery Directive	Not Applicable
UL Standard		-

* The WLAN/Bluetooth converter is not compliant with European Directives (only the RoHS Directive is supported).

1.6 Precautions for Handling Wireless Operation

The WLAN/Bluetooth converter supports wireless communication. Certificates and self declarations regarding the wireless function are handled under the model name below for the device.
Model name : ICD-WLBT
Use of this device is permitted within the following countries (regions) only. Use in other countries(regions) requires certification to be obtained based on the laws and regulations of the relevant country (region).

登録モデル名／Registered model name		ICD-WLBT
無線周波数／Wireless frequency		WLAN (2.4GHz band): 2,400 to 2,484MHz WLAN (5GHz band): 5,150 to 5,250MHz Bluetooth: 2,400 to 2,483.5MHz
無線出力／Wireless output		WLAN (2.4GHz band): +16.3dBm WLAN (5GHz band): +15.1dBm Bluetooth: +5dBm
メーカー名／Manufacturer name		株式会社アイエイアイ／IAI CORPORATION
製造国／Country of manufacture		日本／（Made in Japan）
日本／Japan	WLAN	201-190033
	Bluetooth	201-230017
アメリカ／US	IAI America, Inc.	IAI America, Inc.
カナダ／Canada	IAI America, Inc.	IAI America, Inc.

This product uses the 2.4 GHz radio band and 5 Ghz band known as an ISM band. This frequency range is used by various devices such as microwave ovens and wireless LAN, so that communication may be disrupted by radio disturbance.
Note that outdoor use of the 5 GHz band is prohibited by the laws and regulations of the countries of use, such as Japan and Europe.

[日本]
本製品で使用している無線モジュールは、工事設計認証を受けていますので、以下の事項を行うと法律で罰せられることがあります。

- ■ 無線モジュールを分解/改造すること

[US]
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference and

2. This device must accept any interference received, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure limits. This transmitter must not be colocated or operating with any other antenna or transmitter.

[CANADA]

This device complies with Industry Canada licence-exempt RSS standards.

Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence

L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IC RF Radiation Exposure Statement:

To comply with IC RF exposure requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

Pour se conformer aux exigences de conformité RF canadienne l'exposition, cet appareil et son antenne ne doivent pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.

1.7 Precautions for Axis Operation with Wireless Connection

This system allows the electric actuators of IAI to operate while connected wirelessly. For operation with wireless connection, secure safety by following the precautions below before use.

- When connected wirelessly, be sure to provide a device or circuit for emergency stopping.
- For axis operation with wireless connection, operation testing (position move, jog operation, inching operation, brake forcible release) is possible, but the control device is not designed for purposes of automatic operation. Construct a mechanical system based on the risks of the operating environment.
- Carry out risk assessment based on the standard/spec requirements of the machinery for installation. Dangerous operation, such as that requiring an automatic stop when control signals cannot be received (including disabled communication) is not acceptable.
- Stopping axis operation by wireless network cannot be used as a safety feature as defined in EN ISO 13849-1: 2023.
  It is also not compliant with Safety Category B or Categories 1 to 4 stated in EN ISO 13849-1: 2023.

1.8 Security Precautions

The WLAN/Bluetooth Converter provides Ethernet and WLAN communication functions as a device that relays communication packets using the Modbus protocol among controllers, PC softwares and other equipments for industrial robots provided by IAI. To ensure safe use of these communication functions within your network environment, the following conditions are recommended:

1. Connect to a local area network that does not have access to the Internet.
2. When using WLAN, ensure that you understand the associated risks and implement appropriate security measures.
   * Refer to the section of [1.9WLAN Risks] for details on potential hazards of using WLAN.

It is recommended that appropriate security measures are implemented to use this product at your own discretion and responsibility.
Be advised that we shall not be liable for any damages arising from security issues.

1.9 WLAN Risks

WLAN uses radio waves for communication instead of Ethernet cables, allowing network access within the coverage area of the signal. While this offers convenience, radio waves can also be received by third parties, which may lead to the following risks:

1. Eavesdropping – Unauthorized interception and recording of communications
2. Unauthorized access – Unauthorized intrusion into the network environment
3. Information leakage – Leakage of personal or confidential information
4. Spoofing – Impersonation of a specific individual
5. Data tampering – Alteration and retransmission of intercepted data
6. Data destruction – Destruction of data or systems through computer viruses, etc.

The WLAN/Bluetooth Converter and WLAN products are equipped with security features, and using these functions can help reduce the above risks.

ICD-CTU/WLBT/ETSE

2

Overview

2.1 Overview. 2-1
2.2 System Configuration. 2-4
2.3 Names and Functions of Each Part 2-5
2.3.1 Names and functions of each part of Smart Web Unit. 2-5
2.3.2 Names and functions of each part of WLAN/Bluetooth Converter. 2-8
2.3.3 Names and functions of each part of Ethernet/RS-485 Converter. 2-13
2.4 Controller Version. 2-20
2.5 Teaching Tool Version. 2-21

2.1 Overview

This product (Smart Web Unit, WLAN/Bluetooth® Converter, and Ethernet/RS-485 Converter) enhances the convenience of operations such as collecting operating status information and teaching by supplementing data communication between information processing terminals* and controllers via both wireless and wired connections. The same functionality is also provided for teaching boxes equipped with wireless communication capabilities.

* Personal computers (hereinafter referred to as “PCs”), as well as smartphones and tablet devices

Smart Web Unit

The Smart Web Unit enables teaching of multiple controllers through a single interface by connecting to IAI controllers via Ethernet. In addition, this unit is equipped with a built-in web application, allowing teaching operations using a general-purpose web browser on smartphones and tablet devices.
The main functions and features are as follows:

- Integrated single-board computer and switching hub structure
  This unit combines a single-board computer and a switching hub.
  By incorporating a switching hub, a small-scale system can build a control panel network and perform wireless teaching using only this unit.
  It is also possible to expand the network by connecting a commercially available switching hub to this unit.
- Teaching via smartphones, tablets, and PCs
  Since this unit has a built-in web application, it can be accessed via wireless LAN from smartphones, tablets, and PCs, enabling teaching through their standard web browsers.
  The built-in web application supports teaching for all positioner types*1 and EC.
- Batch monitoring of operating status via smartphones, tablets, and PCs
  The unit periodically collects operation data from IAI products connected under it and stores the collected data internally. The stored data can be read, displayed, and saved as files on smartphones, tablets, and PCs.
- Backup of setting data via smartphones, tablets, and PCs
  The unit automatically collects setting data such as position data and parameters from IAI products connected under it and stores the collected data internally.
  The stored data can be read, displayed, and saved as files on smartphones, tablets, and PCs.

WLAN/Bluetooth Converter

The WLAN/Bluetooth Converter is a device used to enable wireless teaching by connecting ELECYLINDER in wireless specifications, ROBO PUMP, and TB-03 units to a wireless LAN. It enables wireless teaching by relaying data communication between tablet devices, smartphones, and PCs, and ELECYLINDER applicable for wireless specifications, TB-03 and CON series controllers.

The main functions and features are as follows:

■ Bluetooth wireless communication function

(1) ELECYLINDER in wireless specifications
Communication over the wireless segment can be performed between the WLAN/Bluetooth converter and wireless-spec ELECYLINDER for teaching from tablet devices, smartphones (via the Smart Web Unit), or PCs.

(2) TB-03
Communication over the wireless segment can be performed between the WLAN/Bluetooth Converter and TB-03 for teaching CON series controllers on the network.

■ Ethernet communication function
Communication over the network segment can be performed between tablet devices, smartphones (via the Smart Web Unit), or PCs and the WLAN/Bluetooth Converter for teaching wireless-spec ELECYLINDER connected to the converter.
Communication over the network segment can also be performed between CON series controllers and the WLAN/Bluetooth Converter for teaching via TB-03 connected to the converter.

■ WLAN wireless communication function
Communication over the network segment can be performed in the same manner as the Ethernet communication function by connecting the WLAN/Bluetooth Converter to a WLAN access point.

■ Network connection system switching function
The connection method can be switched between wired Ethernet and wireless WLAN according to the network environment of the user.

■ USB port equipped
It is to be used for parameter configuration. Parameters can be set using power supplied from the USB port. (bus power)

Ethernet/RS-485 Converter

The Ethernet/RS-485 Converter is a device used to connect CON-series controllers to Ethernet. It enables wireless teaching for CON-series controllers that do not have an Ethernet interface.
The main functions and features are as follows:

■ Modbus/TCP ⇔ Modbus/RTU conversion function
Modbus/TCP query messages received via the LAN connector gets converted into Modbus/RTU query messages and transmitted to the RS-485 connector.
It also converts Modbus/RTU response messages received via the RS-485 connector into Modbus/TCP response messages and transmits them to the LAN connector.

■ At startup of the automatic bit rate change function for CON series controllers connected to the RS-485 connector, a break signal is sent to the CON series controllers connected to the RS-485 connector, changing the bit rate of the connected CON series controllers to 230400 bps.

■ Connection to multiple CON series single-axis controllers
By connecting an SIO relay box to the RS-485 connector, multi-drop connection of CON series

single-axis controllers is possible. Up to 16 units can be connected, and a separate external power supply (24V) is required. (RCON, REC, and CON series multi-axis controllers cannot be connected.)

■ USB port equipped

It is to be used for parameter configuration. Parameters can be set using power supplied from the USB port. (bus power)

*1 Hereafter, positioner-type controllers are referred to as CON-series, and program-type controllers are referred to as SEL-series.

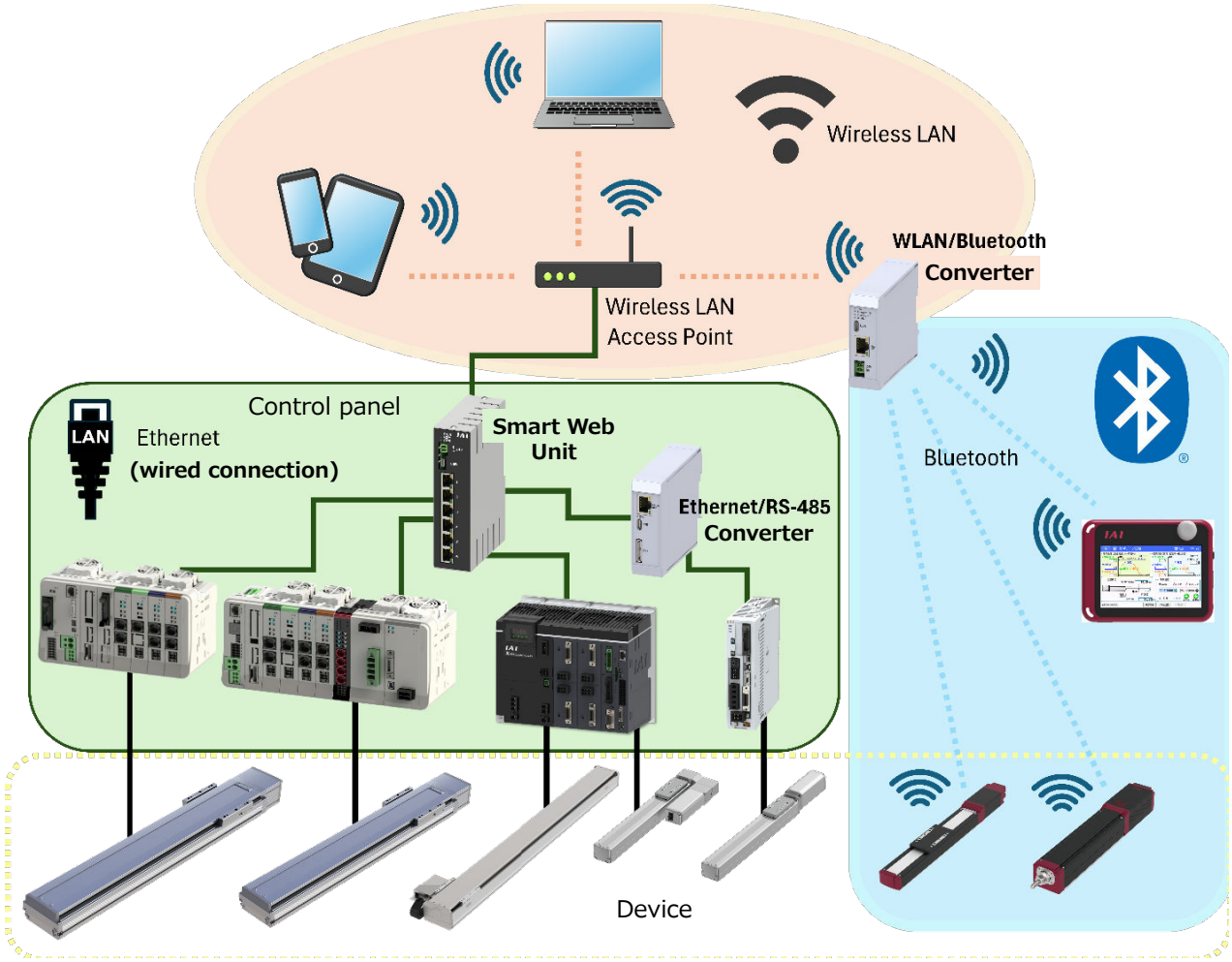
* Keep this manual in a place where it can be readily accessed for reference when needed.

* While every effort has been made to ensure the accuracy of this manual, if you notice any errors or have any questions, please contact us.

The **Bluetooth**® word mark and logos are the registered trademarks owned by Bluetooth SIG, Inc.
IAI Corporation uses these marks and logos under their license.
All other trademarks and registered trademarks are the property of their respective owners.

2.2 System Configuration

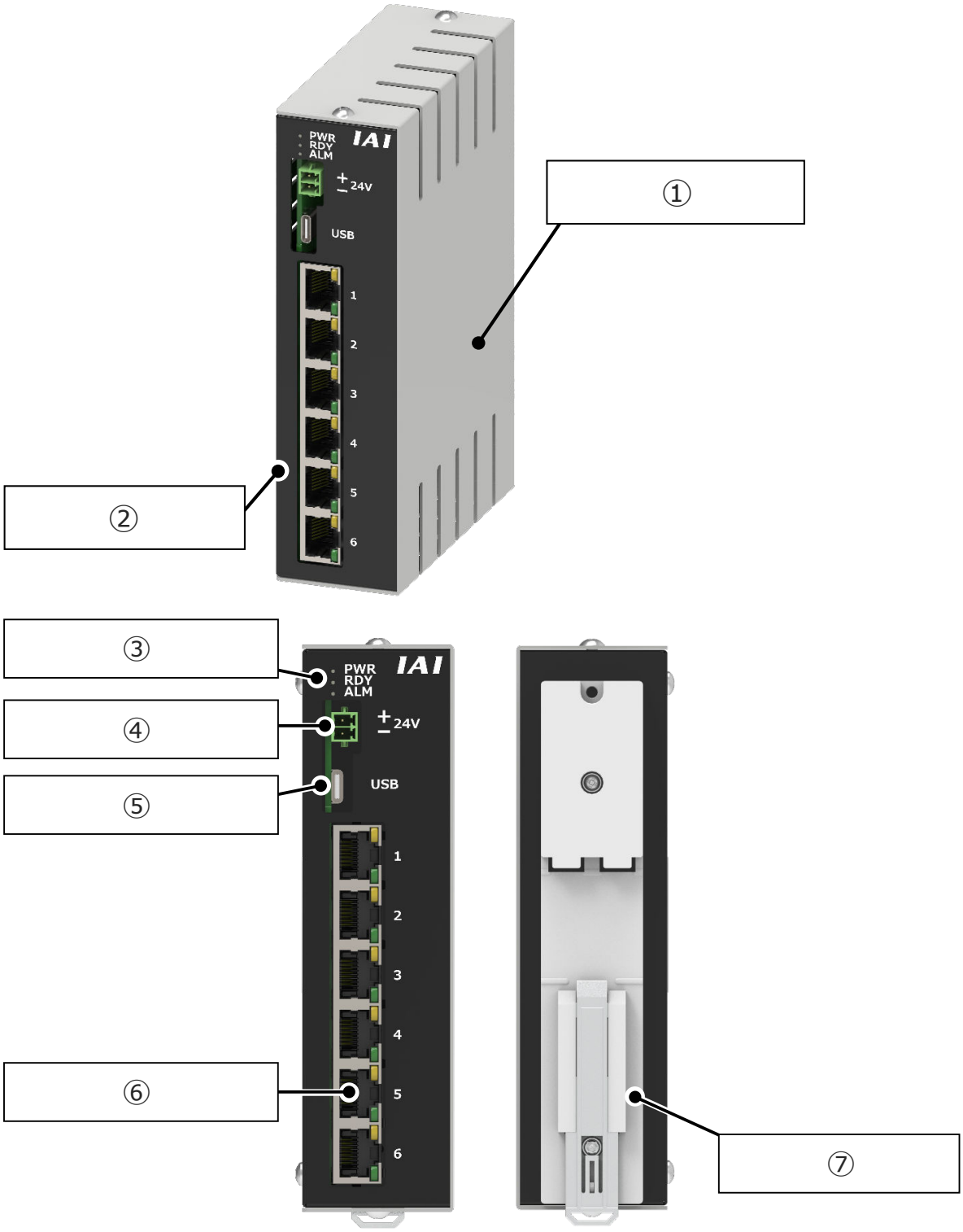
The following shows the system configuration.



2.3 Names and Functions of Each Part

2.3.1 Names and functions of each part of Smart Web Unit

Part Names



External view

①	Top cover
②	Lower cover
③	System status LED
④	Connector for 24V power supply
⑤	USB connector
⑥	Ethernet connector ×6
⑦	DIN rail mounting bracket

System Status LED Display

Panel notation	Display color	Status	Description
PWR	Green	Light ON	Power ON
	Light OFF		Power OFF
RDY	Green	Light ON	Connection to IAI products completed
	Green	Blinking	Connection to IAI products not completed
	Light OFF		Power off or Web application not activated
ALM	Red	Light ON	Web application terminated abnormally
	Light OFF		Power off or Web application activated

Ethernet Connector LED Display

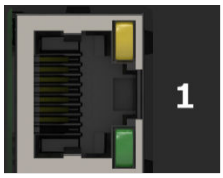
Display color	Status	Description
Green	Light ON	Detecting link status
	Light OFF	Link inactive
Orange	Blinking	Activity present
	Light OFF	No activity

Ethernet Connector

This is a connector for Ethernet connection.

A Category 5 or higher straight STP cable is recommended for the connection.

Refer to Overseas Standards Compliance Manual (ME0287) as necessary.

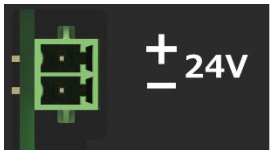


Pin No.	Signal name	Description
1	TXP	Transmit data + side
2	TXN	Transmit data - side
3	RXP	Receive data + side
4	NC	Not connected
5	NC	Not connected
6	RXN	Receive data - side
7	NC	Not connected
8	NC	Not connected

24V Power Connector

This is a connector for supplying power to the Smart Web Unit.

Ensure that the input voltage at this connector is 24V +/-10%.



Pin No.	Signal name	Description
1	+24V	24V power input
2	-24V	0V

USB Connector

This is a connector for connecting to the wireless device parameter setting tool.

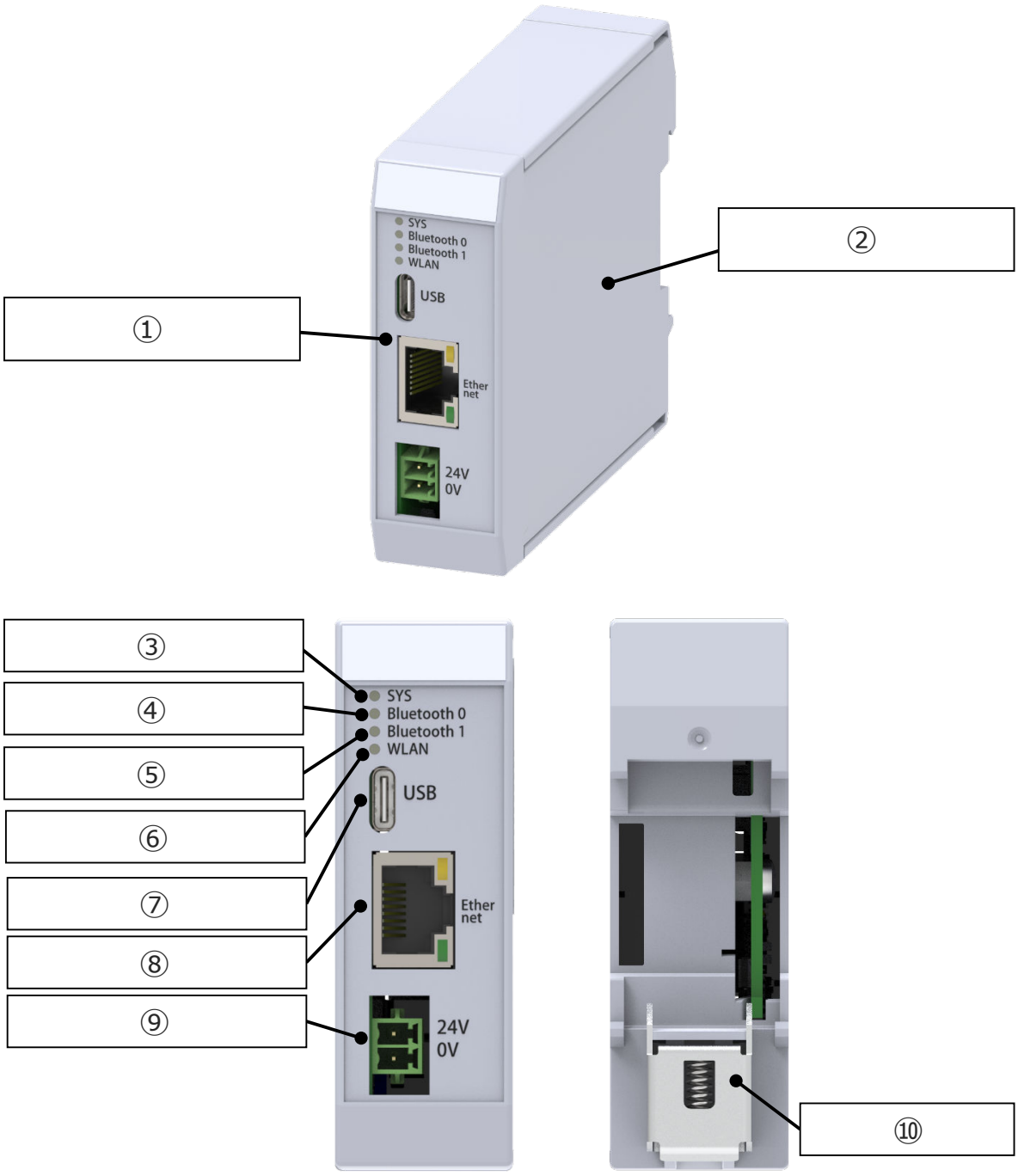
The maximum USB cable length should be 4m.



Pin No.	Signal name	Description
A1	GND	0V
A4	VBUS	Bus power supply
A5	CC1	For connection configuration
A6	D+	USB communication line +
A7	D-	USB communication line -
A8	NC	Not connected
A9	VBUS	Bus power supply
A12	GND	0V
B1	GND	0V
B4	VBUS	Bus power supply
B5	CC2	For connection configuration
B6	D+	USB communication line +
B7	D-	USB communication line -
B8	NC	Not connected
B9	VBUS	Bus power supply
B12	GND	0V

2.3.2 Names and functions of each part of WLAN/Bluetooth Converter

Part Names



External view

①	Case body Upper part
②	Mounting base housing
③	System status LED
④	Bluetooth 0 status LED
⑤	Bluetooth 1 status LED
⑥	WLAN status LED
⑦	USB Connector
⑧	Ethernet Connector
⑨	Connector for 24V power supply
⑩	DIN rail mounting bracket

System Status LED Display

Panel notation	Display color	Status	Description
SYS *	Green	Light ON	TCP connection established
		Blinking	TCP connection not established
	Red	Light ON	System error
		Blinking	Parameter error
	Light OFF		Power OFF

* It is off when operating on USB bus power supply.

Bluetooth0 Status LED Display

Panel notation	Display color	Status	Description
Bluetooth 0 *1	Green	Blinking (high speed) *2	Bluetooth connection established
		Blinking (slow speed) *3	Waiting for Bluetooth connection to be established
		Blinking (single)	Bluetooth device detection *4
	Red	Light ON	Bluetooth error
	Light OFF		Power OFF

*1 It is off when operating on USB bus power supply.

*2 Blinks at 0.5-second intervals.

*3 Blinks at 2-second intervals.

*4 Momentarily blinks each time a device is detected (function available only on the Bluetooth 0 side).

Bluetooth1 Status LED Display

Panel notation	Display color	Status	Description
Bluetooth 1 *1	Green	Blinking (high speed) *2	Bluetooth connection established
		Blinking (slow speed) *3	Waiting for Bluetooth connection to be established
	Red	Light ON	Bluetooth error
	Light OFF		Power OFF

*1 It is off when operating on USB bus power supply.

*2 Blinks at 0.5-second intervals.

*3 Blinks at 2-second intervals

WLAN Status LED Display

Panel notation	Display color	Status	Description
WLAN *1	Green	Blinking (high speed) *2	WLAN connection established
		Blinking (slow speed) *3	Waiting for WLAN connection to be established
	Red	Light ON	WLAN error
	Light OFF		Power OFF

*1 It is off when operating on USB bus power supply.

*2 Blinks at 0.5-second intervals.

*3 Blinks at 2-second intervals

Ethernet Connector Status LED Display

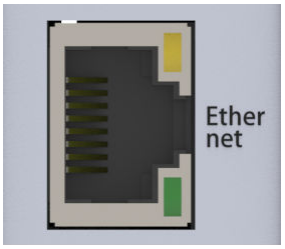
Display color	Status	Description
Green	Light ON	Detecting link status
	Light OFF	Link inactive
Red	Light ON	100Mbps connection
	Light OFF	10Mbps connection

Ethernet Connector

This is a connector for Ethernet connection.

A Category 5 or higher straight STP cable is recommended for the connection.

Refer to Overseas Standards Compliance Manual (ME0287) as necessary.



Pin No.	Signal name	Description
1	TXP	Transmit data + side
2	TXN	Transmit data - side
3	RXP	Receive data + side
4	NC	Not connected
5	NC	Not connected
6	RXN	Receive data - side
7	NC	Not connected
8	NC	Not connected

USB Connector

This is a connector for connecting to the wireless device parameter setting tool.

The maximum USB cable length should be 3m.

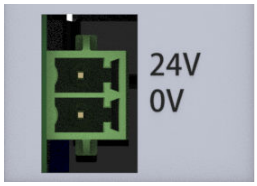
Refer to Overseas Standards Compliance Manual (ME0287) as necessary.



Pin No.	Signal name	Description
A1	GND	0V
A4	VBUS	Bus power supply
A5	CC1	For connection configuration
A6	D+	USB communication line +
A7	D-	USB communication line -
A9	VBUS	Bus power supply
A12	GND	0V
B1	GND	0V
B4	VBUS	Bus power supply
B5	CC2	For connection configuration
B6	D+	USB communication line +
B7	D-	USB communication line -
B9	VBUS	Bus power supply
B12	GND	0V

24V Power Connector

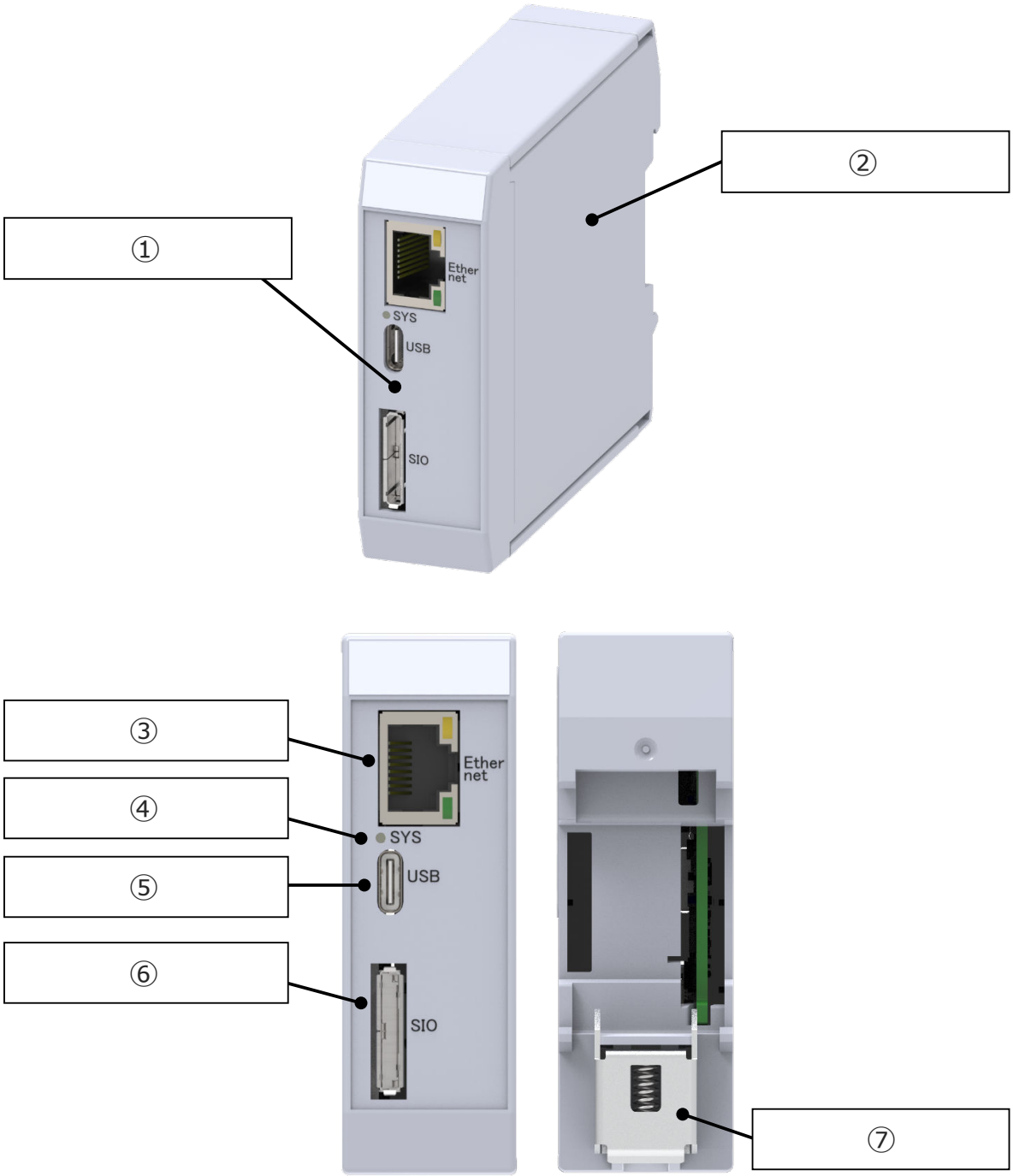
This is a connector for supplying power to the WLAN/Bluetooth Converter.
The maximum power supply cable length should be 3m.
Refer to Overseas Standards Compliance Manual (ME0287) as necessary.



Pin No.	Signal name	Description
1	24V	24V power input
2	0V	0V

2.3.3 Names and functions of each part of Ethernet/RS-485 Converter

Part Names



External view

①	Case body Upper part
②	Mounting base housing
③	Ethernet Connector
④	System status LED
⑤	USB Connector
⑥	SIO Connector
⑦	DIN rail mounting bracket

System Status LED Display

Panel notation	Display color	Status	Description
SYS *	Green	Light ON	TCP connection established
		Blinking	TCP connection not established
	Red	Light ON	System error
		Blinking	Parameter error
	Light OFF		Power OFF

* It is off when operating on USB bus power supply.

Ethernet Connector LED

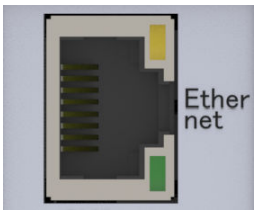
Display color	Status	Description
Green	Light ON	Detecting link status
	Light OFF	Link inactive
Orange	Light ON	100Mbps connection
	Light OFF	10Mbps connection

Ethernet Connector

This is a connector for Ethernet connection.

A Category 5 or higher straight STP cable is recommended for the connection.

Refer to Overseas Standards Compliance Manual (ME0287) as necessary.



Pin No.	Signal name	Description
1	TXP	Transmit data + side
2	TXN	Transmit data - side
3	RXP	Receive data + side
4	NC	Not connected
5	NC	Not connected
6	RXN	Receive data - side
7	NC	Not connected
8	NC	Not connected

USB Connector

This is a connector for connecting to the wireless device parameter setting tool.

The maximum USB cable length should be 3m.



Pin No.	Signal name	Description
A1	GND	0V
A4	VBUS	Bus power supply
A5	CC1	For connection configuration
A6	D+	USB communication line +
A7	D-	USB communication line -
A9	VBUS	Bus power supply
A12	GND	0V
B1	GND	0V
B4	VBUS	Bus power supply
B5	CC2	For connection configuration
B6	D+	USB communication line +
B7	D-	USB communication line -
B9	VBUS	Bus power supply
B12	GND	0V

SIO Connector

It is a connector for connecting to CON series controllers.

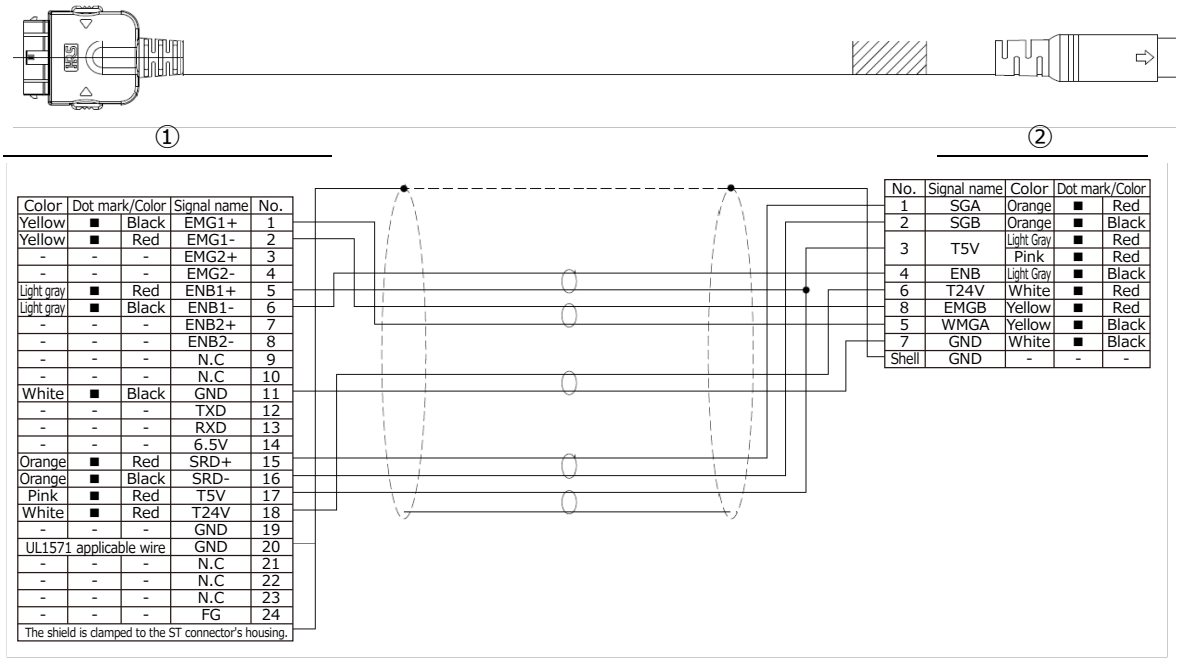


Pin No.	Signal name	Description
1	EMG1+	Stop line 1 + side
2	EMG1-	Stop line 1 - side
5	ENB1+	Enable signal 1 + side
6	ENB1-	Enable signal 1 - side
11	GND	0V
15	SRD+	RS-485 differential signal + side
16	SRD-	RS-485 differential signal - side
17	T5V	5V input
18	T24V	24V power input
19	T24G	0V
20	T24G	0V
24	FG	Frame ground

* The power for the Ethernet/RS-485 Converter is supplied from the controller connected to this connector.

TB-03 Controller Connection Cable CON Connection Specification 0.5m: CB-TB3-C005

It connects the Ethernet/RS-485 Converter to the CON-series controller.



①	Ethernet/RS-485 Converter side
②	Controller side

2.4 Controller Version

Pay attention to the firmware when using the following controllers in the system of the Smart Web Unit.

Part Name	Compatible Version
SCON2	V000D or later
RCON-GW	V000D or later
RSEL	V1.20 or later
XSEL2	V1.06 or later (main CPU)

2.5 Teaching Tool Version

Pay attention to the software when using the following teaching tools in the system of the Smart Web Unit.

Part Name	Compatible Version
IA-OS	V17.00.00.00 or later
IA-101	V15.00.04.00 or later
TB-03	V5.30 or later
Wireless device parameter setting tool	V1.0.0.0 or later

ICD-CTU/WLBT/ETSE

3

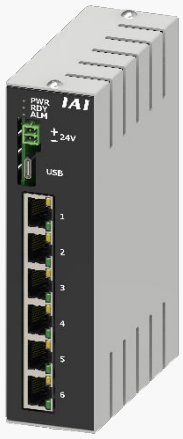
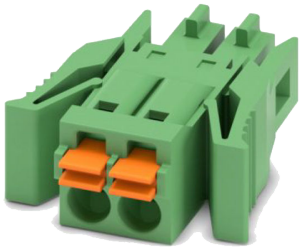
Specifications

3.1 Components 3-1
3.1.1 Smart Web Unit Components. 3-1
3.1.2 WLAN/Bluetooth Converter Components. 3-2
3.1.3 Ethernet/RS-485 Converter Components. 3-3
3.2 How to Read the Model Plate 3-4
3.2.1 Smart Web Unit Model Plate. 3-4
3.2.2 WLAN/Bluetooth Converter Model Plate. 3-5
3.2.3 Ethernet/RS-485 Converter Model Plate. 3-5
3.3 How to Read the Model 3-7
3.3.1 Smart Web Unit Model. 3-7
3.3.2 WLAN/Bluetooth Converter Model. 3-7
3.3.3 Ethernet/RS-485 Converter Model. 3-8
3.4 List of Basic Specifications 3-9
3.4.1 Basic Specifications and Environmental Conditions of Smart Web Unit. 3-9
3.4.2 Basic Specifications and Environmental Conditions of WLAN/Bluetooth Converter. . 3-10
3.4.3 Basic Specifications and Environmental Conditions of Ethernet/RS-485 Converter. . 3-12
3.5 External view 3-15
3.5.1 Smart Web Unit Exterior View. 3-15
3.5.2 WLAN/Bluetooth Converter Exterior View. 3-15

3.5.3 Ethernet/RS-485 Converter Exterior View. 3-16
3.6 Equipped with AC adapter 3-17
3.6.1 AC adapter (UNXVX3024-240010SA). 3-17
3.6.2 AC Adapter Specifications. 3-17
3.7 Installation and Protected Environment 3-18
3.7.1 Installation Environment. 3-18
3.7.2 Storage and Preservation Environment. 3-18
3.8 Installation and Mounting 3-19
3.8.1 Installation of Smart Web Unit. 3-19
3.8.2 Installation of WLAN/Bluetooth Converter. 3-19
3.8.3 Installation of Ethernet/RS-485 Converter. 3-20
3.9 WLAN Wireless Specifications 3-22
3.9.1 WLAN Wireless Standards. 3-22
3.9.2 Reference for WLAN Wireless Reachable Distance. 3-22
3.9.3 WLAN Directivity. 3-22
3.10 Bluetooth Wireless Specifications 3-24
3.10.1 Bluetooth Wireless Standards. 3-24
3.10.2 Reference for Bluetooth Wireless Reachable Distance. 3-24
3.10.3 Bluetooth Directivity. 3-24

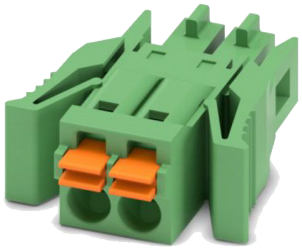
3.1 Components

3.1.1 Smart Web Unit Components

	Part Name	Shape	Quantity	Remarks
Body	Smart Web Unit		1	Model example: ICD-CTU
Accessories	24V Power Connector		1	Enclosed to main unit Model: FMC 1.5/2-ST-3.5-RF (PHOENIX CONTACT) Applicable cable size: AWG24 to AWG16
	AC adapter *1		1	Model: UNXVX3024-240010SA
	Safety Guide		1	Shown in the figure is an image.

*1 It is included only when the model is ICD-CTU (with AC adapter).

3.1.2 WLAN/Bluetooth Converter Components

	Part Name	Shape	Quantity	Remarks
Body	WLAN/ Bluetooth Converter		1	Model: ICD-WLBT-*
Accessories	Connector for 24V power supply (wire side)		1	Enclosed to main unit Model: FMC 1.5/2-ST-3.5-RF (PHOENIX CONTACT) Applicable cable size: AWG24 to AWG16
	AC adapter *		1	Model: UNXVX3024-240010SA
	Safety Guide		1	Shown in the figure is an image.

* Model: Only the ICD-WLBT (with AC adapter) model is included.

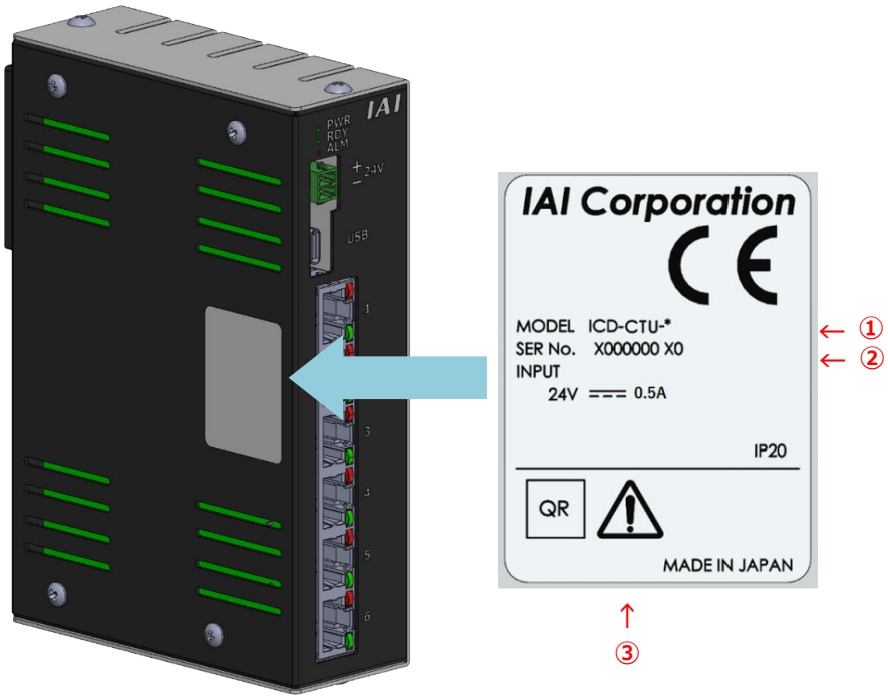
3.1.3 Ethernet/RS-485 Converter Components

	Part Name	Shape	Quantity	Remarks
Body	Ethernet/RS-485 Converter		1	Model: ICD-ETSE-*
Accessories	TB-03 Controller connection cable CON connection specification 0.5m		1	Enclosed to main unit Cable model: CB-TB3-C005
	Safety Guide		1	Shown in the figure is an image.

3.2 How to Read the Model Plate

The places to attach the model code plates on this product and how to read them are as shown below.

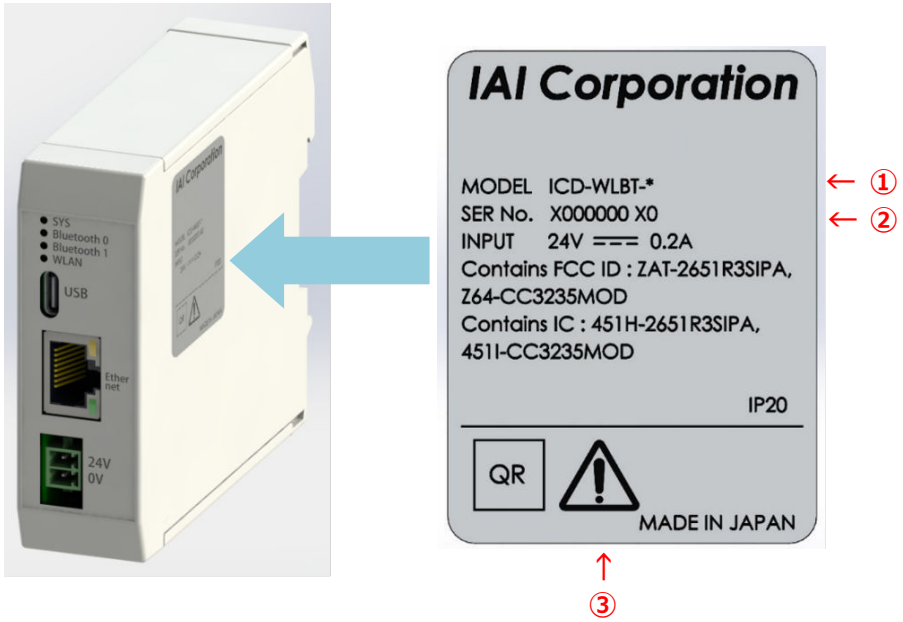
3.2.1 Smart Web Unit Model Plate



①	Model
②	Serial number
③	Caution mark

Mark	Explanation of Mark
	Use IAI specified cables only

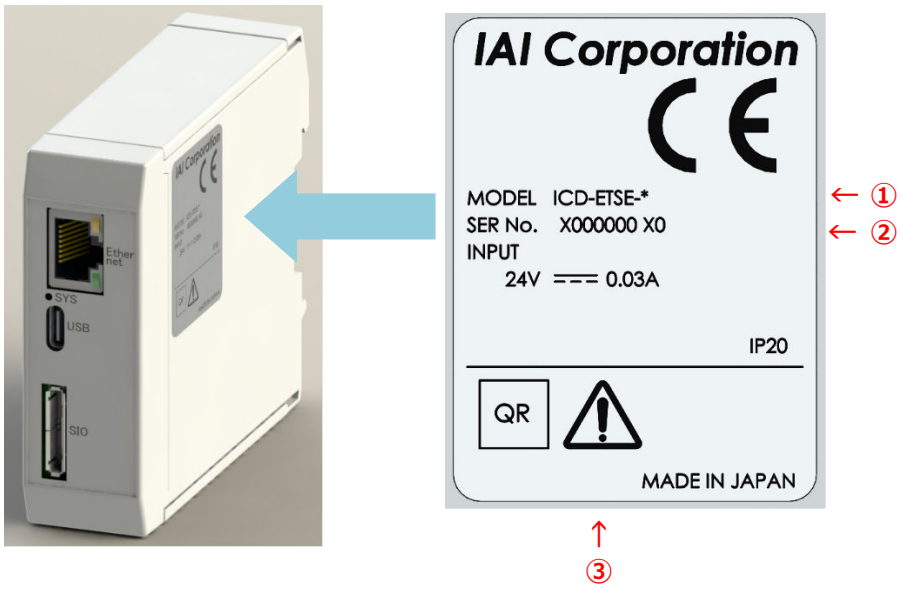
3.2.2 WLAN/Bluetooth Converter Model Plate



①	Model
②	Serial number
③	Caution mark

Mark	Explanation of Mark
	Use IAI specified cables only

3.2.3 Ethernet/RS-485 Converter Model Plate

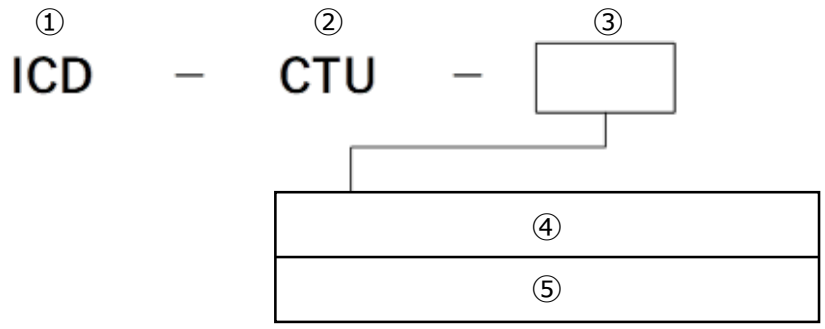


①	Model
②	Serial number
③	Caution mark

Mark	Explanation of Mark
	Use IAI specified cables only

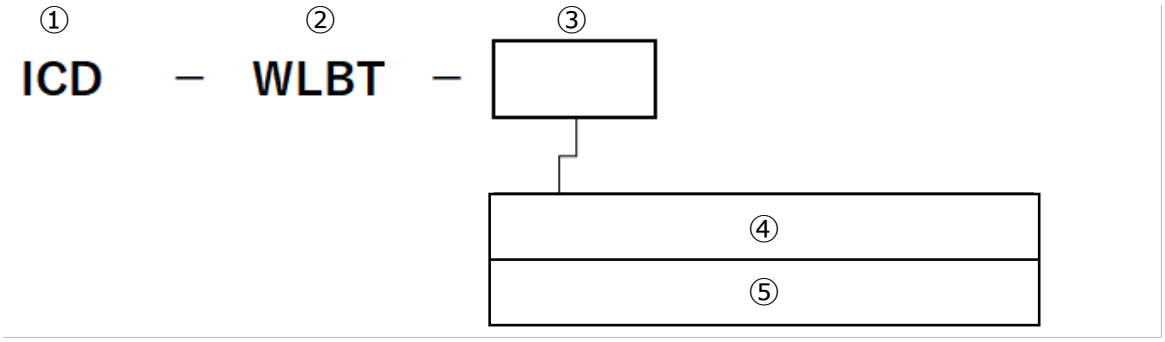
3.3 How to Read the Model

3.3.1 Smart Web Unit Model



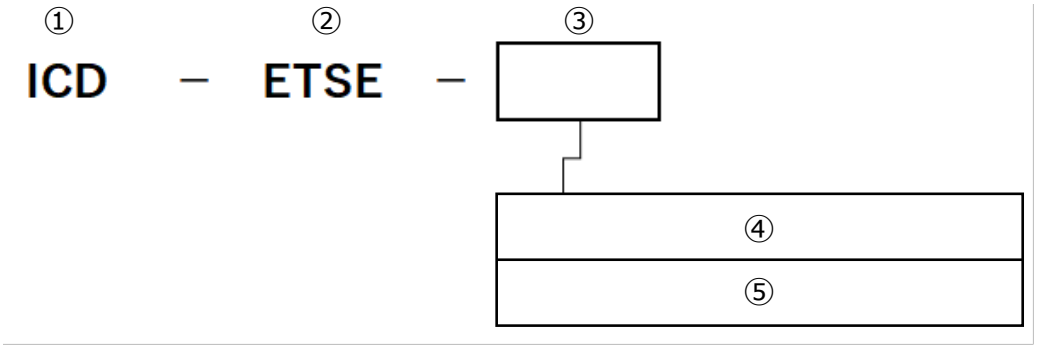
①	Series name	
②	Type	
③	Accessory cable	
④	No symbol	With AC adapter (Japan, North America, Europe, China)
⑤	N	No AC adapter

3.3.2 WLAN/Bluetooth Converter Model



①	Series name	
②	Type	
③	Accessory cable	
④	No symbol	With AC adapter (Japan, North America, Europe)
⑤	N	No AC adapter

3.3.3 Ethernet/RS-485 Converter Model



①	Series name	
②	Type	
③	Accessory cable	
④	No symbol	With cable (CB-TB3-C005)
⑤	N	Equipped with no cable

3.4 List of Basic Specifications

3.4.1 Basic Specifications and Environmental Conditions of Smart Web Unit

Basic Specifications

Item	Specifications	Conditions etc.
Rated Voltage	DC24V±10%	
Operating Voltage Range	21.6 to 26.4V DC	
Power Consumption *1	12W (In-rush Current 1A)	Specified under rated input/ output conditions at ambient temperature of 25℃
Insulation Resistance	10 MΩ or more between board grounding and housing at DC 500 V	
Connectable Controller *2	RCON SCON2-CG (only Ethernet/IP specification) RSEL XSEL2 Ethernet/RS-485 Converter WLAN/Bluetooth Converter	Connection to the xCON-CB controller is possible by using the Ethernet/RS-485 converter. By using the WLAN/Bluetooth converter, connection with wireless-spec EC units is possible.
Maximum Number of Connectable Controllers	Depends on specifications of Web application	If a large number of units are connected, the data update interval may become longer.
Data Entry Method	By PC Tool	
Ethernet Communication Function	Communication speed 10M/100Mbps Applicable for 10BASE-T/100BASE-TX	
USB Communication Function	USB 2.0 compatible (Type-C connector)	
External Dimensions	W40mm × H150mm × D100mm	DIN mounting bracket not included
Mass	Approx. 300g	

*1 Assume that the heat generation per unit time is approximately the same.

*2 Only with Ethernet port

Environmental Conditions

Item	Standard Value
Surrounding Air Temperature	0 to 55℃ (Should be no-freezing or condensing)
Surrounding Humidity	5% RH to 85% RH or less (Should be no-freezing or condensing)
Surrounding Storage Temperature	-20 to 70℃
Surrounding Storage Humidity	5% RH to 85% RH or less (Should be no-freezing or condensing)
Atmosphere	Avoid corrosive gas and in particular avoid excessive dust
Altitude	1,000m above sea level or less
Vibration Resistance	Frequency: 10 to 57Hz/Amplitude: 0.075mm Frequency: 57 to 150Hz/Acceleration: 9.8m/S^2 XYZ Each direction Sweep Time: 10min. Number of Sweep Times: 10 times
Drop During Packaging	Drop height: 800 mm 1 corner, 3 edges, 6 faces
Pollution Degree	2
Electric Shock Protection Class	III
Protection Class	IP20
Cooling Method	Natural air-cooling

3.4.2 Basic Specifications and Environmental Conditions of WLAN/ Bluetooth Converter

Basic Specifications

Item	Specifications	Conditions etc.
Rated Voltage	DC24V±10%	
Operating Voltage Range	21.6 to 26.4V DC	
Power Consumption *	3.2W	Specified under rated input/output conditions at ambient temperature of 25℃
Connectable Devices	ELECYLINDER, TB-03 and WLAN access point	
Maximum Number of Connectable Devices	ELECYLINDER: 1 unit, TB-03: 1 unit WLAN access point: 1 unit	Simultaneous connection possible
Relay-capable controllers and peripheral devices	R-unit (excludes RSEL), xCON-CB, SCON2, ELECYLINDER, Smart Web Unit, Ethernet/ RS-485 Converter and TB-03	
Data Entry Method	By PC Tool	
Wireless connection/Bluetooth function	Bluetooth 5.2	
Wireless connection/WLAN function	IEEE 802.11 a/b/g/n: 2.4GHz band 5GHz band	
Ethernet Communication Function	Communication speed 10M/100Mbps Applicable for 10BASE-T/100BASE-TX (auto MDIX)	
External Dimensions	W25mm × H77.5mm × D94mm	
Mass	Approx. 80g	

* Assume that the heat generation per unit time is approximately the same.

Environmental Conditions

Item	Standard Value
Surrounding Air Temperature	0 to 40℃ (Should be no-freezing or condensing)
Surrounding Humidity	5% RH to 85% RH or less (Should be no-freezing or condensing)
Surrounding Storage Temperature	-20 to 70℃
Surrounding Storage Humidity	5% RH to 85% RH or less (Should be no-freezing or condensing)
Atmosphere	Avoid corrosive gas and in particular avoid excessive dust
Altitude	1,000m above sea level or less
Vibration Resistance	Frequency: 10 to 57Hz/Amplitude: 0.075mm Frequency: 57 to 150Hz/Acceleration: 9.8m/S^2 XYZ Each direction Sweep Time: 10min. Number of Sweep Times: 10 times
Drop during packaging	Drop height: 800 mm 1 corner, 3 edges, 6 faces
Pollution Degree	2
Electric Shock Protection Class	III
Protection Class	IP20
Cooling Method	Natural air-cooling

3.4.3 Basic Specifications and Environmental Conditions of Ethernet/ RS-485 Converter

Basic Specifications

Item	Specifications	Conditions etc.
Rated Voltage	DC24V±10% (Supplied from controller), DC5V±10% (Supplied from USB connector)	
Operating Voltage Range	21.6 to 26.4V DC (Supplied from controller), 4.5 to 5.5V DC (Supplied from USB connector)	
Power Consumption *	0.8W	Specified under rated input/output conditions at ambient temperature of 25℃
Insulation Resistance	10 MΩ or more between GND-FG at DC 500 V	
Connectable Controllers	RCON/REC SCON2-CG SCON-CB/CGB PCON-CB/CGB/CFB/CGFB/CYB/PLB/POB PCON-CBP/CGBP ACON-CB/CGB/CYB/PLB/POB DCON-CB/CGB/CYB/PLB/POB	
Maximum Number of Connectable Controllers	When connecting to CON-series single-axis controllers: Up to 16 units (when using SIO relay box) When connecting to RCON or REC: Up to 1 unit (Multi-axis CON and single-axis CON cannot be connected simultaneously)	
Data Entry Method	By PC Tool	
Serial Communication Function	Communication method RS-485 Communication speed 230.4 kbps	Break communication function available
Ethernet Communication Function	Communication speed 10M/100Mbps Applicable for 10BASE-T/100BASE-TX	
External Dimensions	W25mm × H77.5mm × D94mm	
Mass	Approx. 70g	

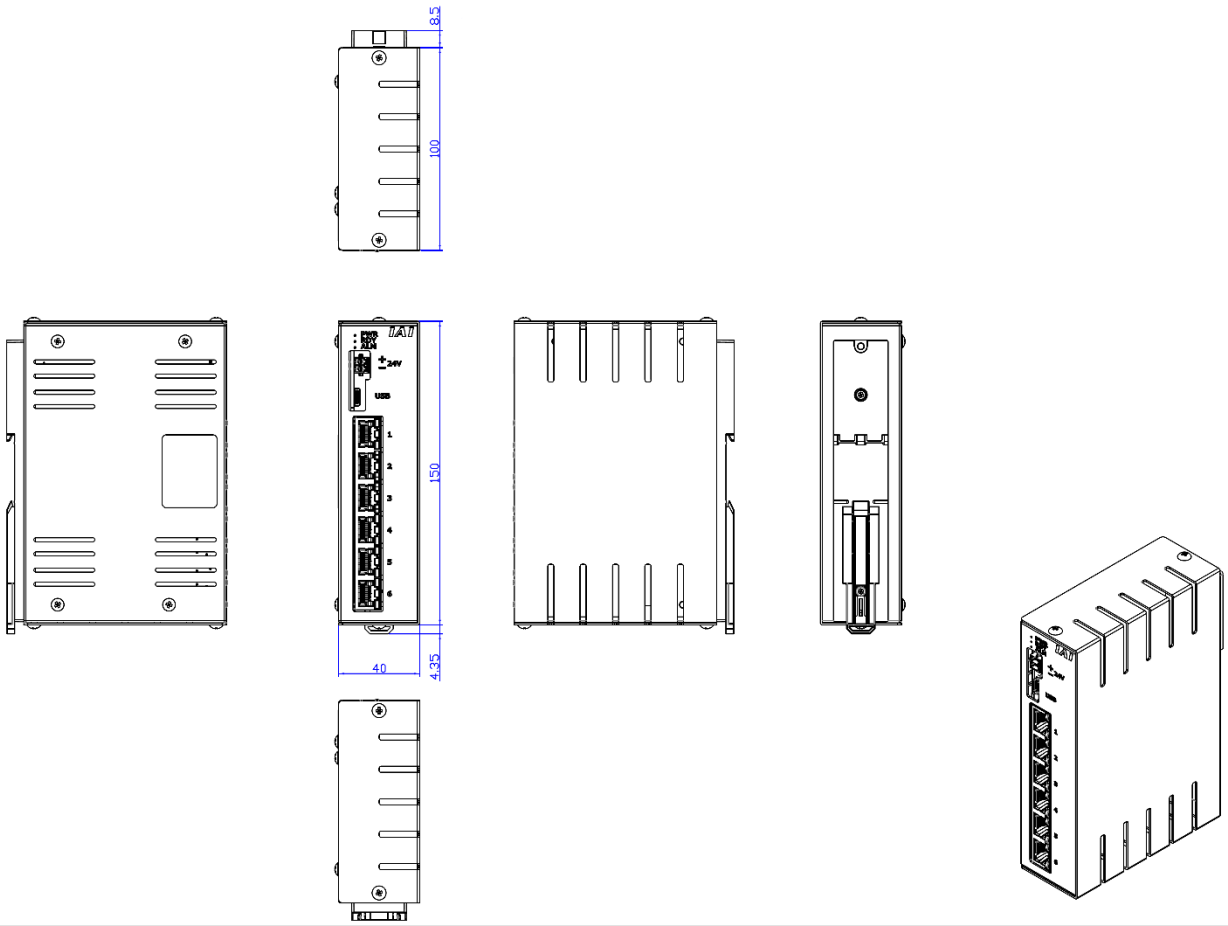
* Assume that the heat generation per unit time is approximately the same.

Environmental Conditions

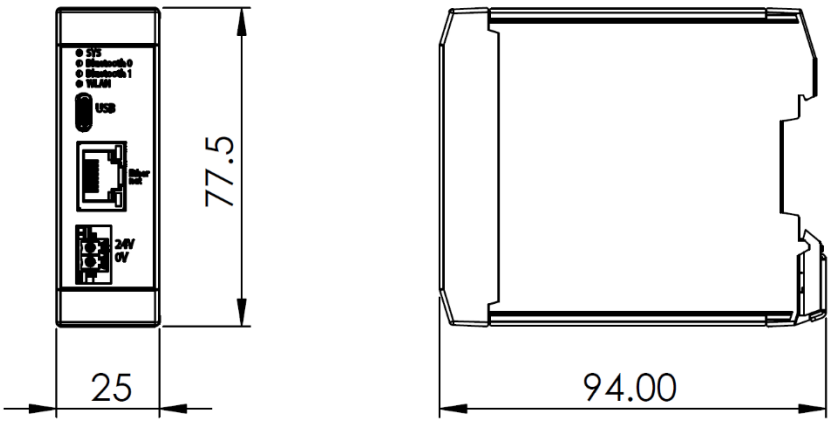
Item	Standard Value
Surrounding Air Temperature	0 to 55℃ (Should be no-freezing or condensing)
Surrounding Humidity	5% RH to 85% RH or less (Should be no-freezing or condensing)
Surrounding Storage Temperature	-20 to 70℃
Surrounding Storage Humidity	5% RH to 85% RH or less (Should be no-freezing or condensing)
Atmosphere	Avoid corrosive gas and in particular avoid excessive dust
Altitude	1,000m above sea level or less
Vibration Resistance	Frequency: 10 to 57Hz/Amplitude: 0.075mm Frequency: 57 to 150Hz/Acceleration: 9.8m/S^2 XYZ Each direction Sweep Time: 10min. Number of Sweep Times: 10 times
Drop during packaging	Drop height: 800 mm 1 corner, 3 edges, 6 faces
Pollution Degree	2
Electric Shock Protection Class	III
Protection Class	IP20
Cooling Method	Natural air-cooling

3.5 External view

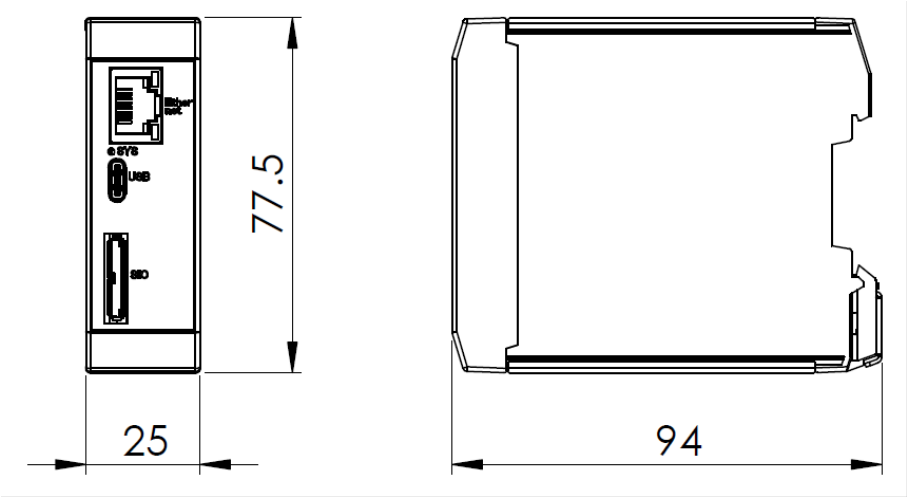
3.5.1 Smart Web Unit Exterior View



3.5.2 WLAN/Bluetooth Converter Exterior View



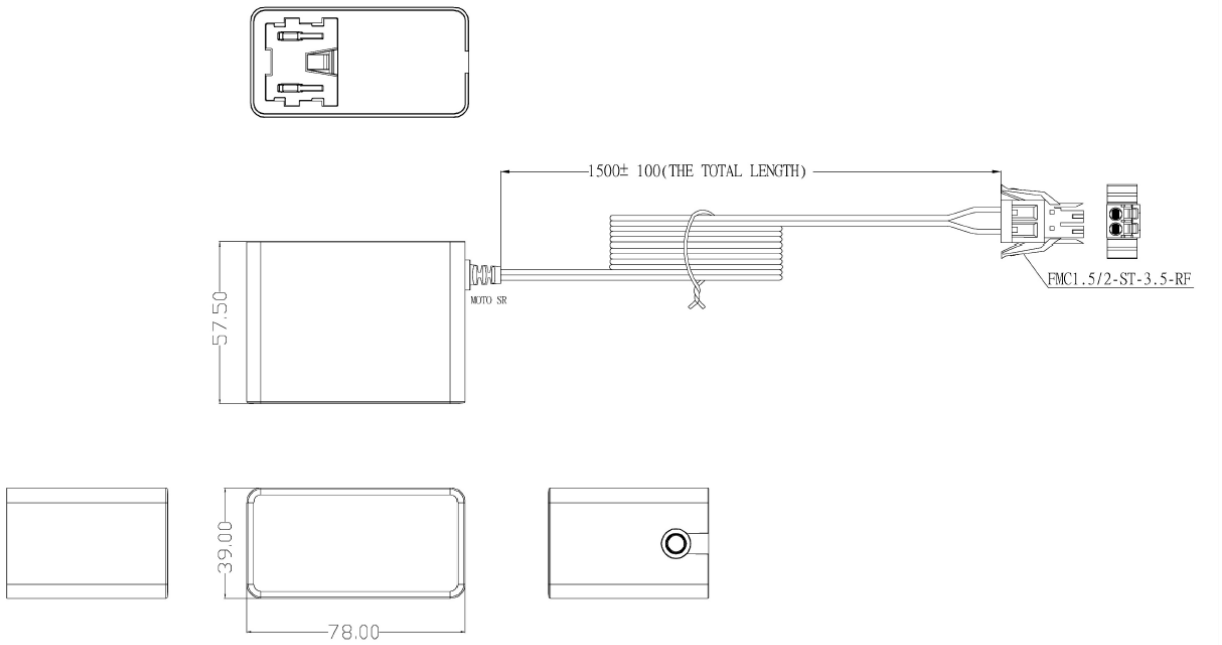
3.5.3 Ethernet/RS-485 Converter Exterior View



3.6 Equipped with AC adapter

It is used with the Smart Web Unit and the WLAN/Bluetooth converter.

3.6.1 AC adapter (UNXVX3024-240010SA)



3.6.2 AC Adapter Specifications

Item	Specifications	Conditions etc.
Input Voltage	AC100V±10% / AC240V±10% (AC90V to AC264V)	
Power Supply Frequency	50Hz / 60Hz	
Input Current	0.5A (Rated)	
In-rush Current	85A (Max.)	
Output Voltage	DC24V±5%	
Output Current	1A (Max.)	
Surrounding Air Temperature	0 to 40℃	
Surrounding Storage Temperature	-20 to 65℃	

3.7 Installation and Protected Environment

This product is capable for use in the environment of pollution degree 2*1 or equivalent.

*1 Pollution Degree 2 : Environment that may cause non-conductive pollution or transient conductive pollution by frost (IEC60664-1)

3.7.1 Installation Environment

Do not use this product in the following environment.

- Locations where the ambient temperature exceeds the range specified below
  Smart Web Unit and Ethernet/RS-485 Converter: 0 to 55℃
  WLAN/Bluetooth Converter: 0 to 40℃
- Location where condensation occurs due to abrupt temperature changes
- Location where relative humidity is out of the range between 5%RH and 85%RH
- Location exposed to corrosive gases or combustible gases
- Location exposed to significant amount of dust, salt or iron powder
- Location subject to direct vibration or impact
- Location exposed to direct sunlight
- Location where the product may come in contact with water, oil or chemical droplets
- Location with altitude higher than 1,000m

If the unit is used in any of the following locations, provide sufficient shielding measures:

- Where noise is generated due to static electricity, etc.
- Location where high electrical or magnetic field is present
- Where mains or power lines pass nearby

3.7.2 Storage and Preservation Environment

Storage and preservation environment follows the installation environment. Especially in a long-term storage, consider to avoid condensation of surrounding air.

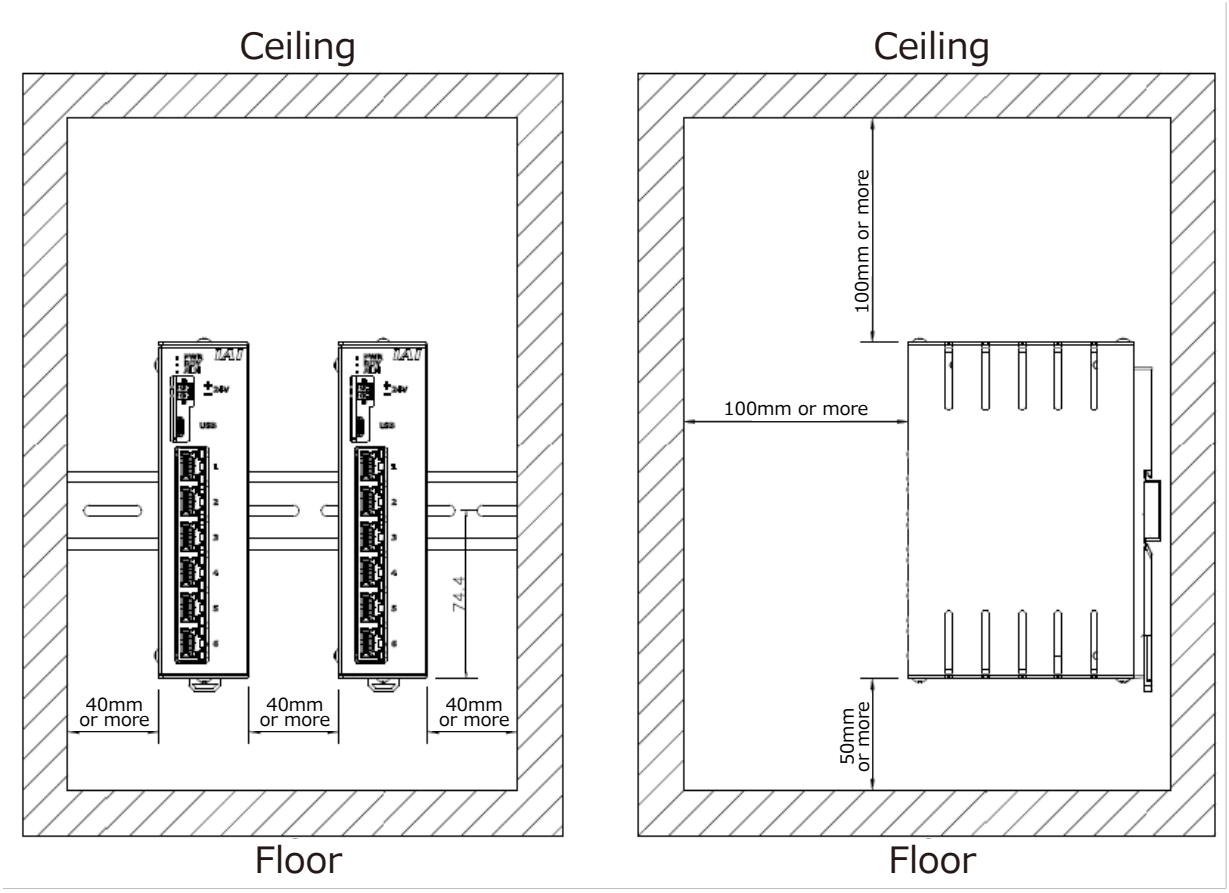
Unless specially specified, moisture absorbency protection is not included in the package when the machine is delivered. In the case that the machine is to be stored in an environment where dew condensation is anticipated, take the condensation preventive measures from outside of the entire package, or directly after opening the package.

3.8 Installation and Mounting

3.8.1 Installation of Smart Web Unit

Consider such facts as size of control panel, layout of a controller and cooling performance in design and setup so the ambient temperature falls into the range from 0 to 55℃.

Item		
Installation	Installation direction	Vertical mounting
	Installation method	DIN rail mounting
	Installation conditions	See the figure below and the notes



* Follow the installation conditions of the respective controller for spacing from other controllers.

3.8.2 Installation of WLAN/Bluetooth Converter

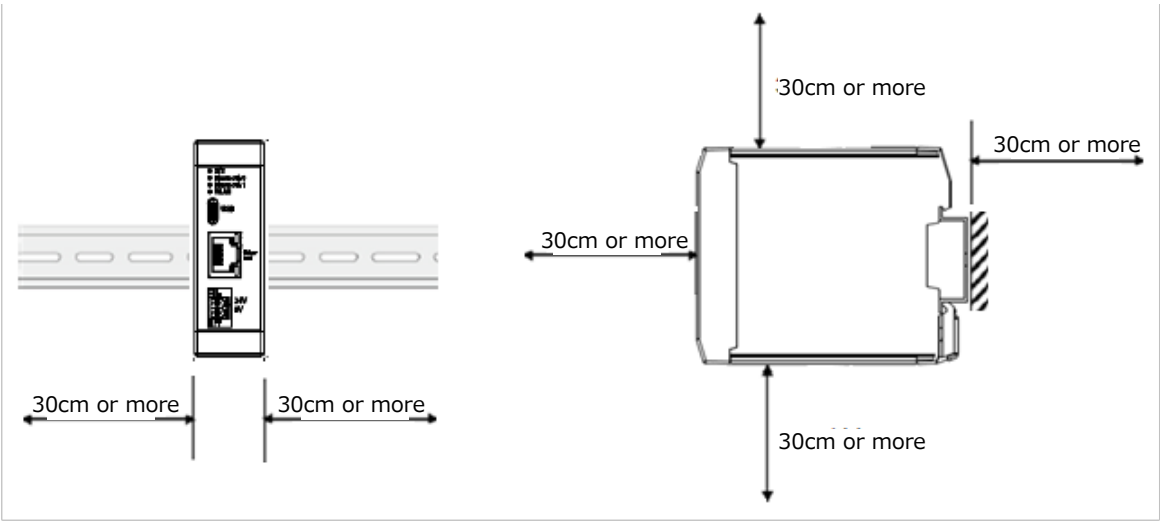
Consider such facts as size of control panel, layout of a controller and cooling performance in design and setup so the ambient temperature falls into the range from 0 to 40℃.

Item		
Installation	Installation direction	Vertical mounting
	Installation method	DIN rail mounting
	Installation conditions	See the figure below and the notes

Precautions for Installing a WLAN/Bluetooth Converter

To prevent wireless communication errors, pay careful attention to the installation location of the WLAN/ Bluetooth converter.
In addition, changes in the environment may cause conditions to differ from those at the time of installation, which may result in communication errors after operation begins.

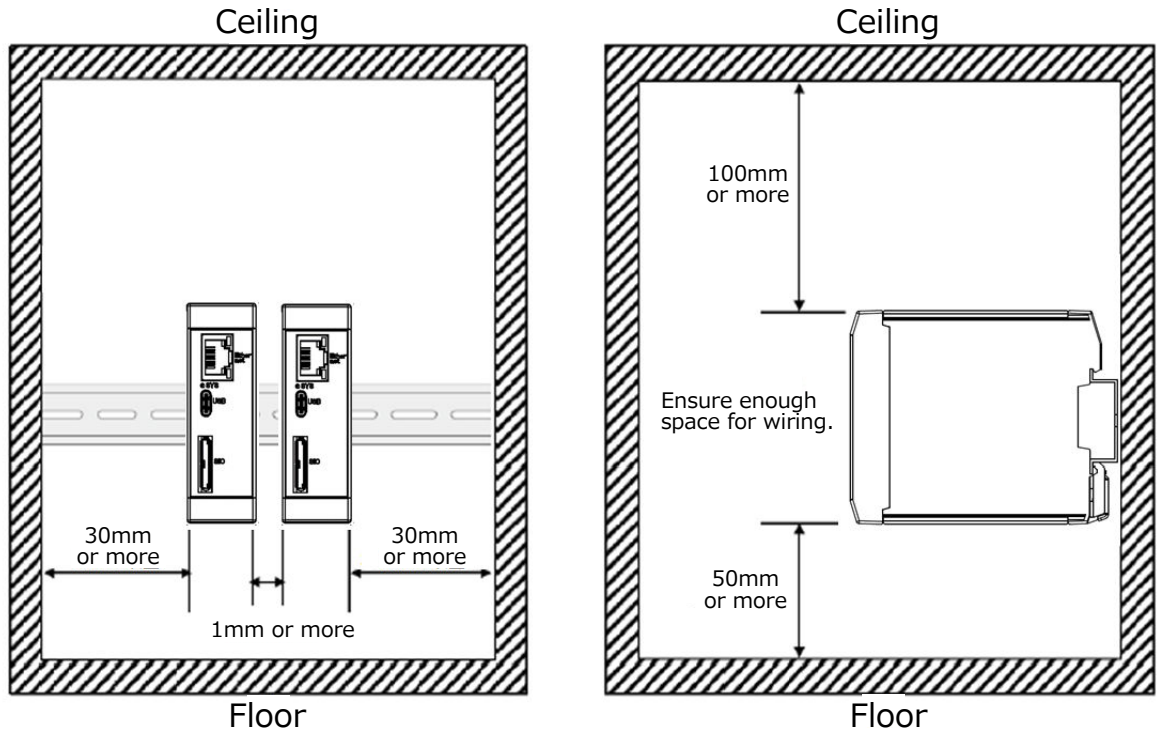
- Install as far away from metal as possible and in a location with a clear line of sight.
- Install at least 30 cm away from metal walls, plates, etc.
- Be aware that wireless communication errors are more likely to occur between rooms separated by concrete walls. (Concrete blocks radio waves.)
- Keep as far away as possible from objects that generate noise (such as electronic equipment and fluorescent lights). (Install at least 1 m away.)
- Materials with high moisture content, such as plants and soil, absorb radio waves. Avoid placing them between devices that communicate wirelessly.
- Do not place directly on the ground.



3.8.3 Installation of Ethernet/RS-485 Converter

Consider such facts as size of control panel, layout of a controller and cooling performance in design and setup so the ambient temperature falls into the range from 0 to 55℃.

Item		
Installation	Installation direction	Vertical mounting
	Installation method	DIN rail mounting
	Installation conditions	See the figure below and the notes



* Follow the installation conditions of the respective controller for spacing from other controllers.

3.9 WLAN Wireless Specifications

3.9.1 WLAN Wireless Standards

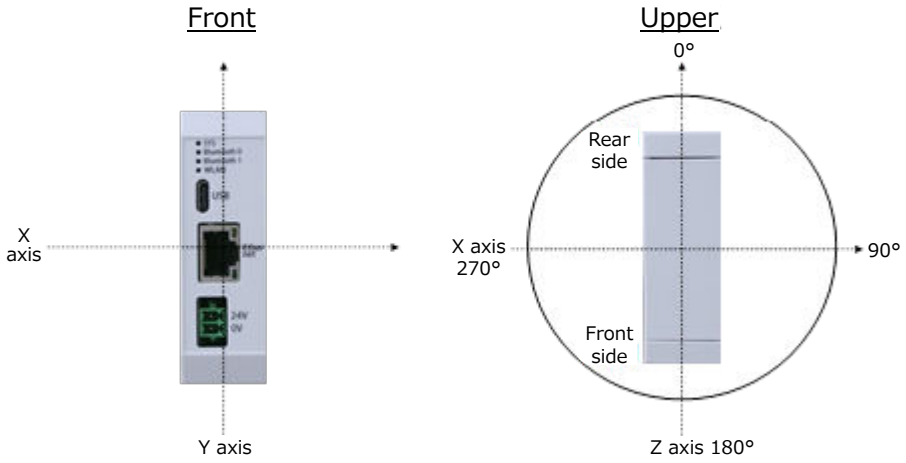
IEEE802.11 a/b/g/n

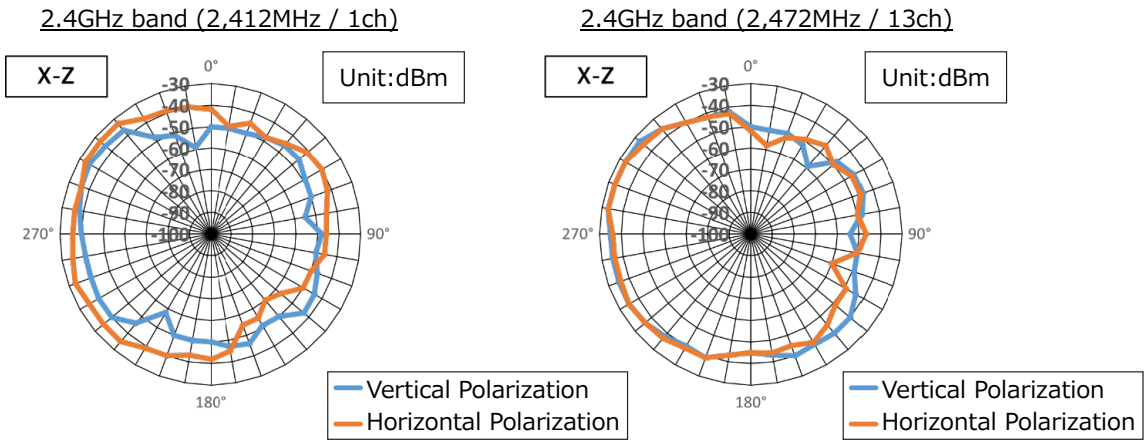
3.9.2 Reference for WLAN Wireless Reachable Distance

Use within 30m with a clear line of sight is recommended for the distance between the WLAN/Bluetooth converter and the WLAN access point.
Depending on the surrounding environment, the connection may become unstable even at distances less than 30m.
Even if a connection is possible at distances greater than 30m, the connection becomes increasingly unstable as the distance between the WLAN/Bluetooth converter and the WLAN access point increases.

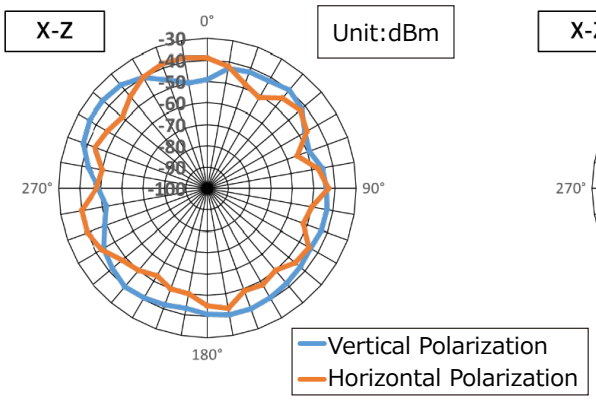
3.9.3 WLAN Directivity

The results of WLAN directivity measurements are shown below.

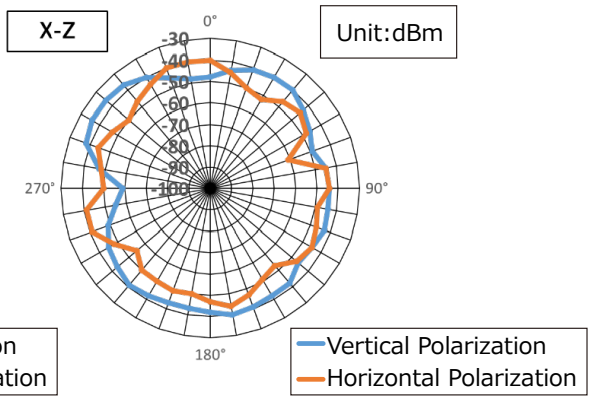




5GHz band (5,180MHz / 36ch)



5GHz band (5,240MHz / 48ch)



3.10 Bluetooth Wireless Specifications

3.10.1 Bluetooth Wireless Standards

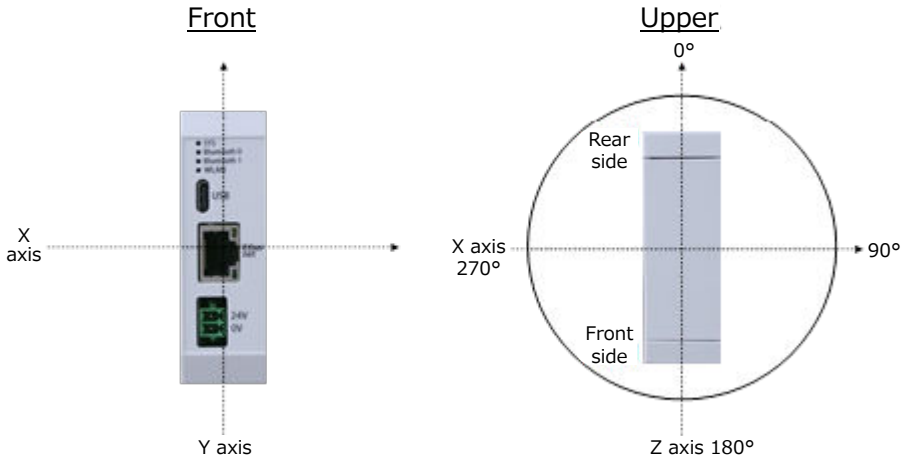
Bluetooth 5.2 Class 2

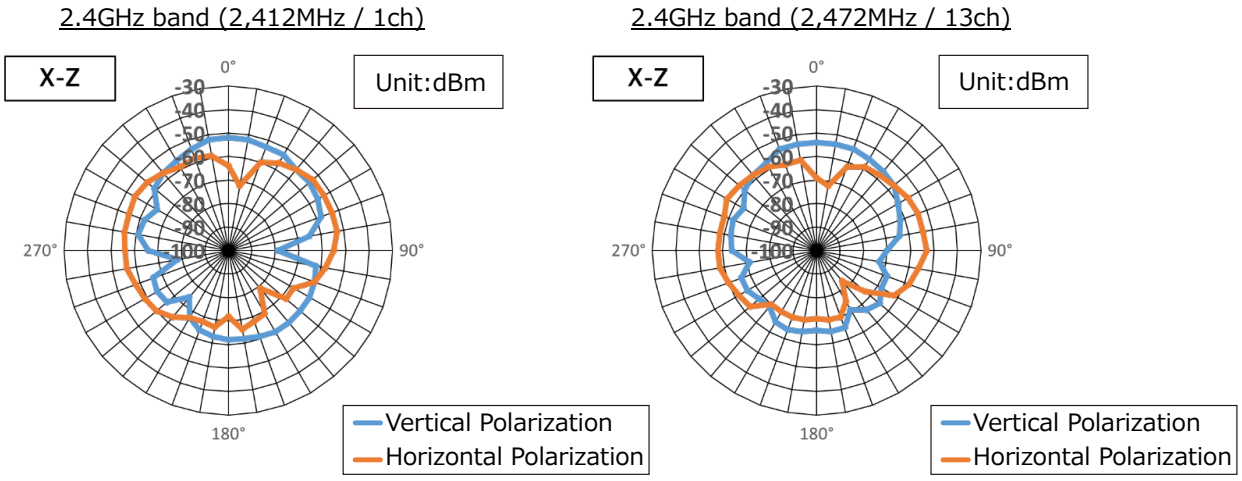
3.10.2 Reference for Bluetooth Wireless Reachable Distance

Use within 5m with line of sight is recommended between the WLAN/Bluetooth converter and the ELECYLINDER or TB-03.
Depending on the surrounding environment, the connection may become unstable even at distances less than 5m.
Also, when the distance exceeds 5m, the connection becomes increasingly unstable as the distance between the WLAN/Bluetooth converter and the ELECYLINDER or TB-03 increases.

3.10.3 Bluetooth Directivity

The results of Bluetooth directivity measurements are shown below.





ICD-CTU/WLBT/ETSE

4

Wiring

4.1 Wiring for Smart Web Unit 4-1
4.1.1 Preparation Before Wiring (ICD-CTU). 4-1
4.1.2 Wiring Diagram (ICD-CTU). 4-2
4.2 Wiring for WLAN/Bluetooth Converter 4-3
4.2.1 Preparation Before Wiring (ICD-WLBT). 4-3
4.2.2 Configuration After Wiring (ICD-WLBT). 4-4
4.3 Wiring for Ethernet/RS-485 Converter 4-13
4.3.1 Preparation Before Wiring (ICD-ETSE). 4-13
4.3.2 Wiring Diagram (ICD-ETSE). 4-14
4.3.3 When Connecting Multiple Controllers (ICD-ETSE). 4-15

4.1 Wiring for Smart Web Unit

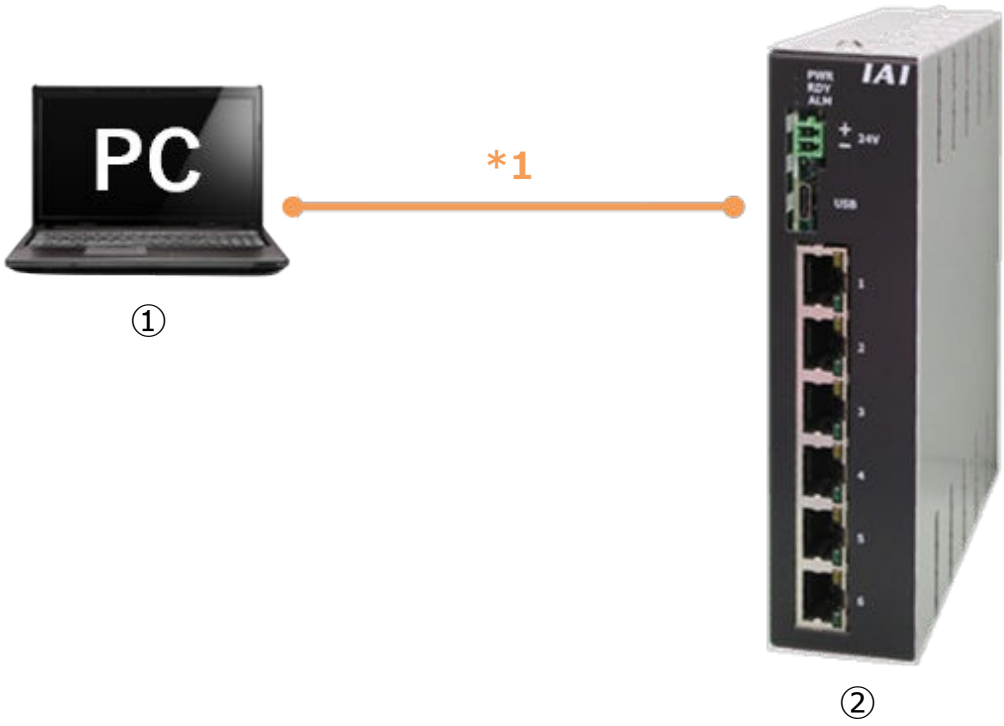
4.1.1 Preparation Before Wiring (ICD-CTU)

Set parameters such as the IP address before wiring.

Requisite Devices

USB cable (USB Type-C connector (This unit side)): 1

Connection Diagram



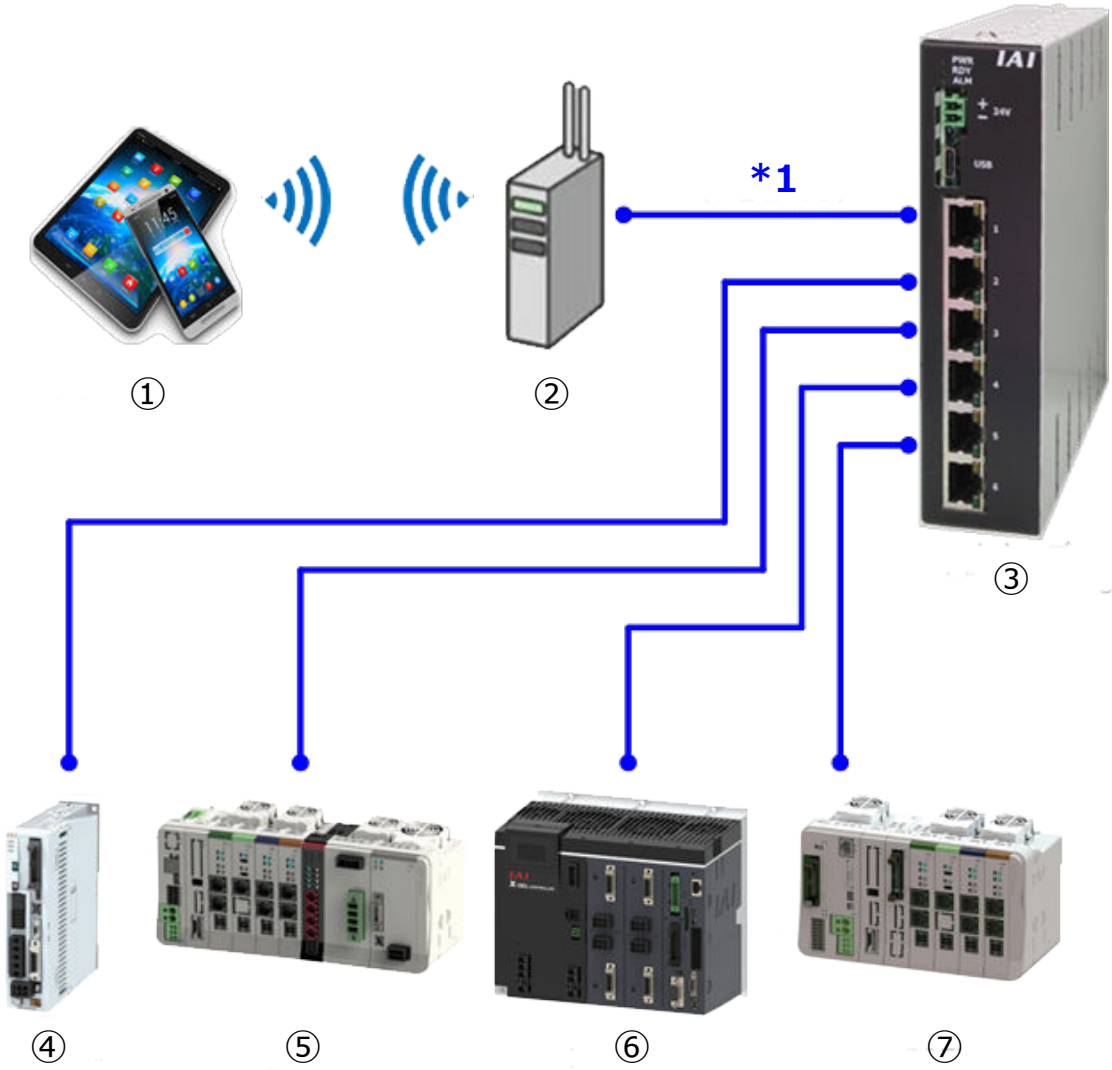
*1 USB cable (To be prepared by user)

①	PC software	Wireless device parameter setup tool
②	Smart Web Unit	Model: ICD-CTU-*

Wireless Device Parameter Setup Tool

Start the wireless device parameter setup tool on the PC software and set up the parameters.
For details of the setting parameters, refer to [5.1Smart Web Unit Parameters] .
After assigning an individual IP address to this product, parameter configuration can be performed via the network connected through Ethernet.
When connected via USB, the parameters that can be set should be limited.

4.1.2 Wiring Diagram (ICD-CTU)



*1 LAN cable (To be prepared by user)

①	Tablets and smartphones	To be prepared by user
②	WLAN access point	To be prepared by user
③	Smart Web Unit	Model: ICD-CTU-*
④	Single axis CON	
⑤	RCON	
⑥	XSEL2	
⑦	RSEL	

* For wiring when using the WLAN/Bluetooth converter or the Ethernet/RS-485 converter, refer to the respective sections for each of the WLAN/Bluetooth converter and the Ethernet/RS-485 converter.

4.2 Wiring for WLAN/Bluetooth Converter

4.2.1 Preparation Before Wiring (ICD-WLBT)

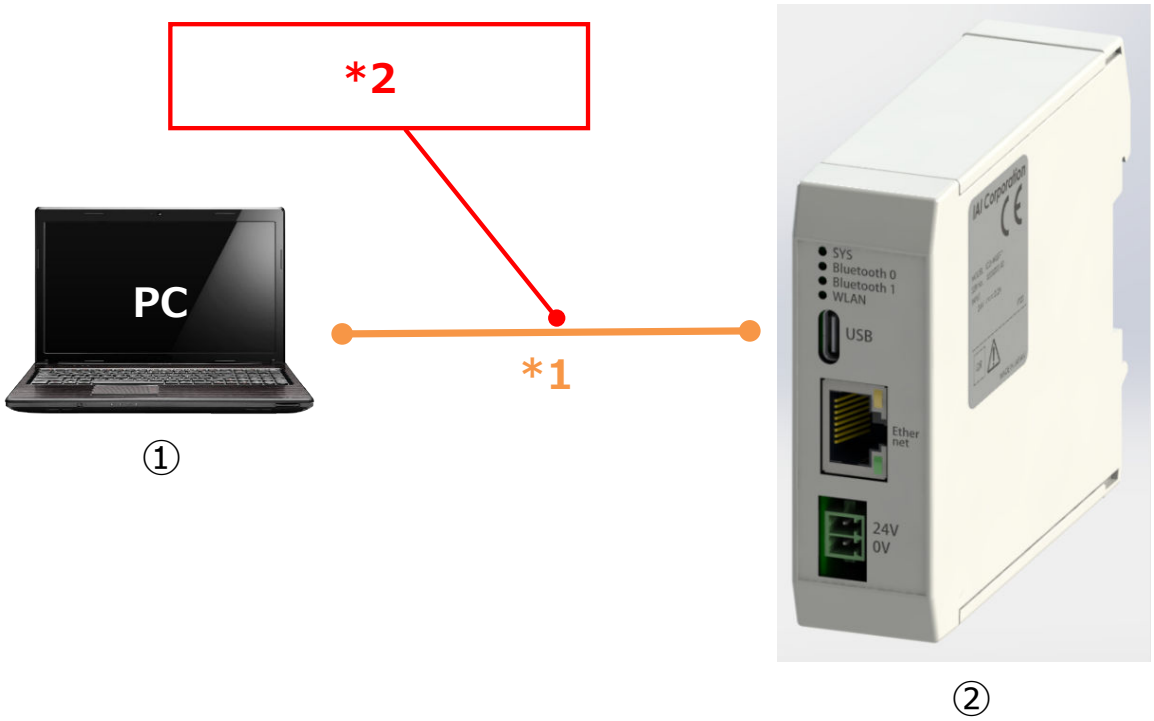
Set parameters such as the IP address and WLAN settings before wiring.

Requisite Devices

USB cable (USB Type-C connector (This unit side)): 1

Connection Diagram

Parameter settings can also be configured using power supplied via the USB port.*1 (Bus power)



*1 USB cable (To be prepared by user)

*2 USB connection takes priority.

Be aware that other functions (Ethernet, Bluetooth, WLAN) will be disabled when connected via USB.

①	PC software	Wireless Device Parameter Setup Tool
②	WLAN/Bluetooth Converter	Model: ICD-WLBT-*

*1 Excluding WLAN access point search.

*2 When the USB is disconnected, other functions (Ethernet, Bluetooth, WLAN) will start operating.

Wireless Device Parameter Setup Tool

Start the wireless device parameter setup tool and configure the parameters.
For details of the setting parameters, refer to [5.2.1WLAN/Bluetooth Converter Parameters] .
After assigning an individual IP address to this unit, parameter configuration can be performed via a network connected through Ethernet or WLAN.

4.2.2 Configuration After Wiring (ICD-WLBT)

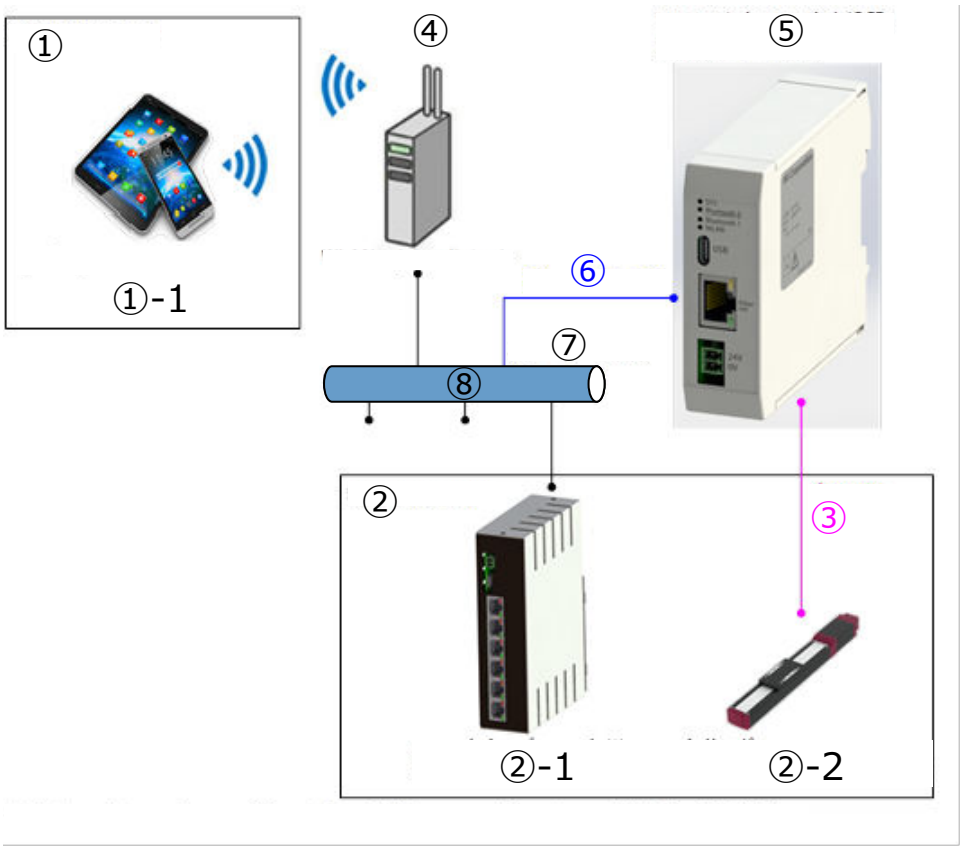
With the configuration after wiring, the following operations are possible:
Operation of ELECYLINDER compatible for wireless communication from a tablet or smartphone
Operation of ELECYLINDER compatible for wireless communication from dedicated PC teaching software
Operation of various controllers from the TB-03
The WLAN/Bluetooth converter supports communication via Ethernet (wired) or WLAN (wireless) to connect to the network environment of the user.
The following sections on configuration devices, required components, and connection diagrams describe the configurations after wiring, combinations of communication systems, and the necessary peripheral devices (for reference). The required peripheral devices should be prepared by the user according to the configuration of the connection diagram being used.

Configuration Devices, Required Components, and Connection Diagrams

Below are connection diagrams for tablet/smartphone, PC, and TB-03 cases, showing both wired and wireless connection systems.

1. Operation of ELECYLINDER compatible for wireless communication from a tablet or smartphone

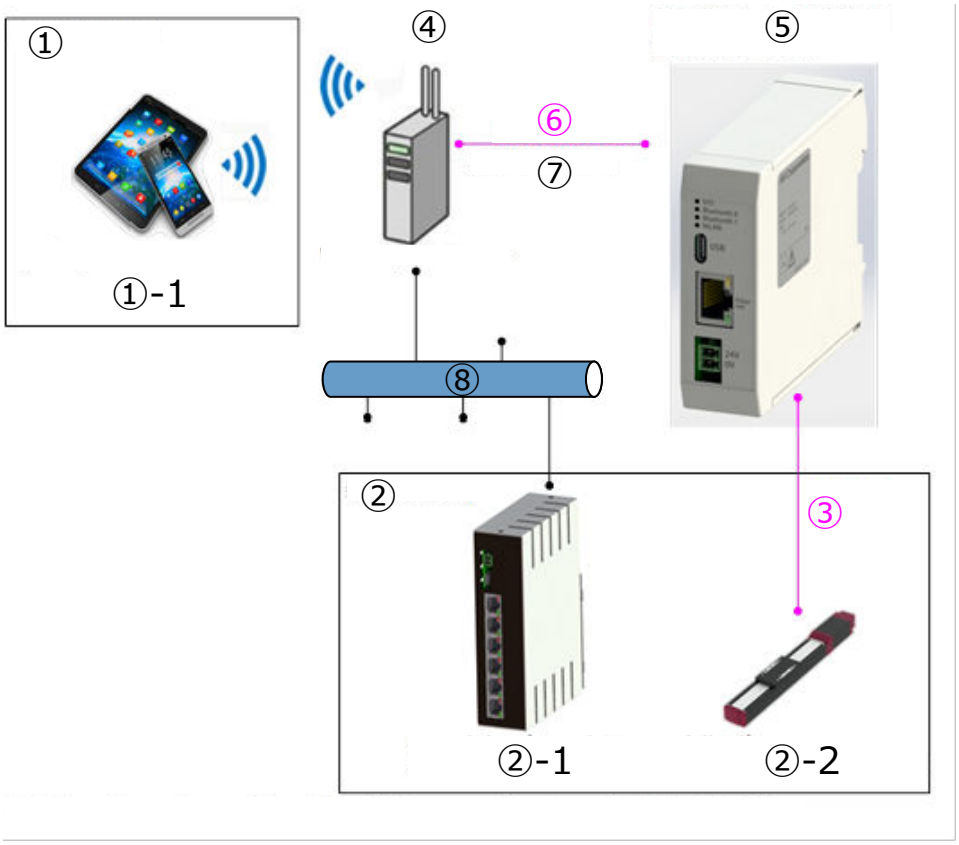
- Wired System



①	Device Peripheral Area	
①-1	Tablets and smartphones*	
②	Equipment installation area	
②-1	Smart Web Unit*	Model: ICD-CTU-*
②-2	ELECYLINDER	Wireless communication specification/Wireless axis operation specification
③	Wireless communication	Bluetooth
④	WLAN access point	
⑤	WLAN/Bluetooth Converter	Model: ICD-WLBT-*
⑥	Ethernet cable	
⑦	Network connection	
⑧	Local area network	

* Tablet/smartphone communicates via the Smart Web Unit equipped with a web server.

■ Wireless System

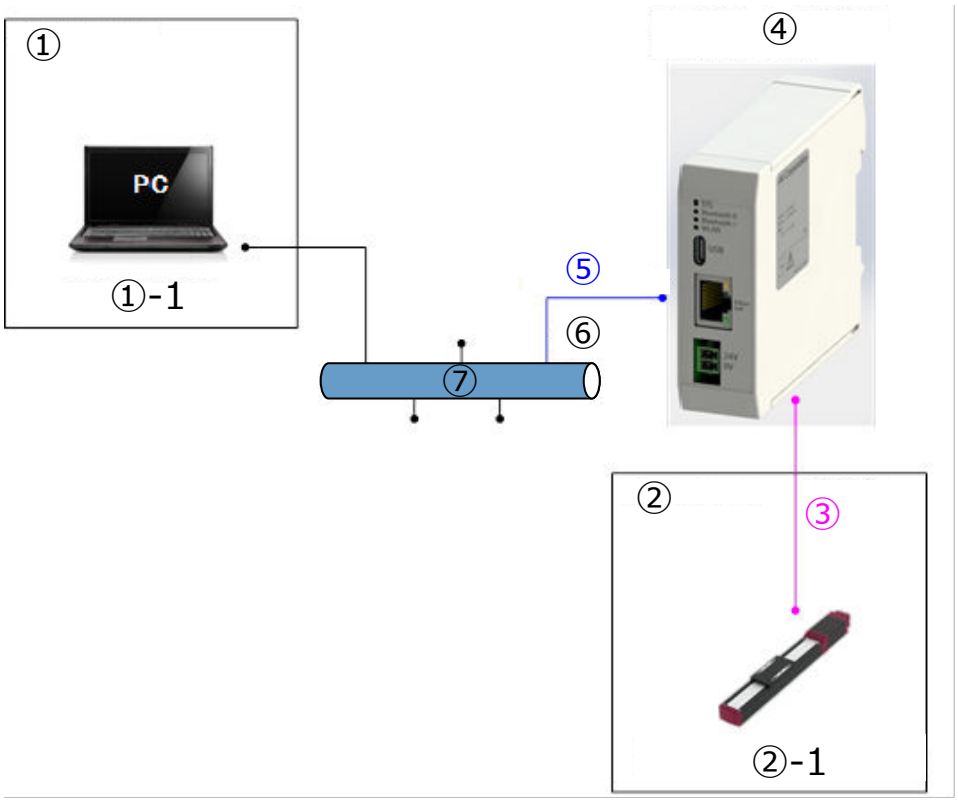


①	Device Peripheral Area	
①-1	Tablets and smartphones*	
②	Equipment installation area	
②-1	Smart Web Unit*	Model: ICD-CTU-*
②-2	ELECYLINDER	Wireless communication specification/Wireless axis operation specification
③	Wireless communication	Bluetooth
④	WLAN access point	
⑤	WLAN/Bluetooth Converter	Model: ICD-WLBT-*
⑥	Wireless communication	WLAN
⑦	Network connection	
⑧	Local area network	

* Tablet/smartphone communicates via the Smart Web Unit equipped with a web server.

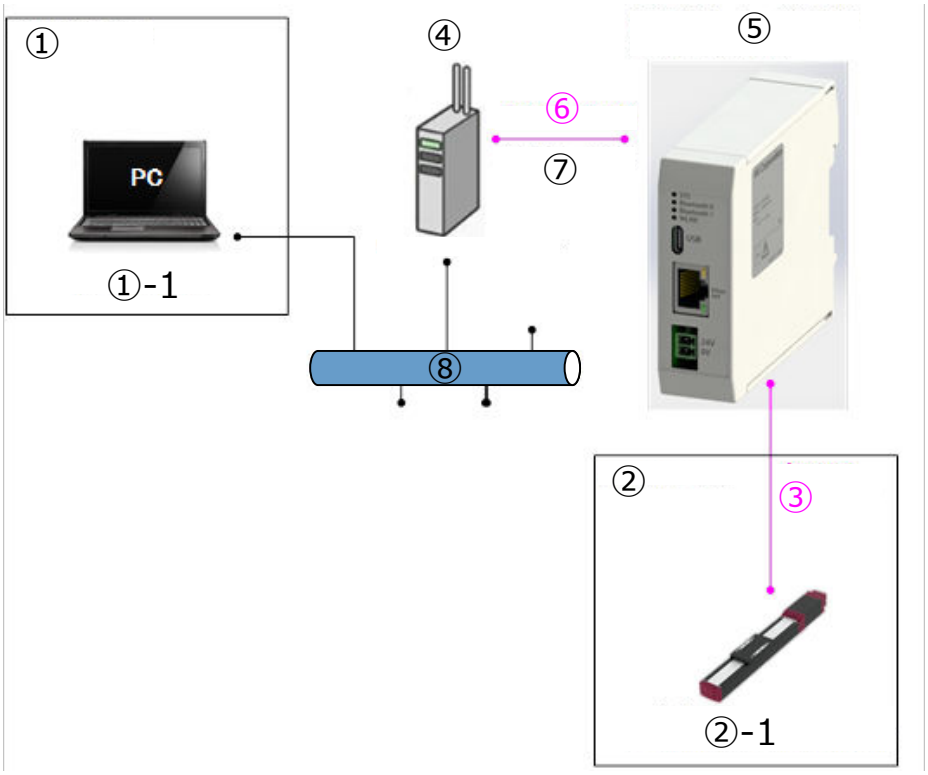
2. Operation of ELECYLINDER compatible for wireless communication from a PC

■ Wired System



①	Device Peripheral Area	
①-1	PC software	IA-OS
②	Equipment installation area	
②-1	ELECYLINDER	Wireless communication specification/Wireless axis operation specification
③	Wireless communication	Bluetooth
④	WLAN/Bluetooth Converter	Model: ICD-WLBT-*
⑤	Ethernet cable	
⑥	Network connection	
⑦	Local area network	

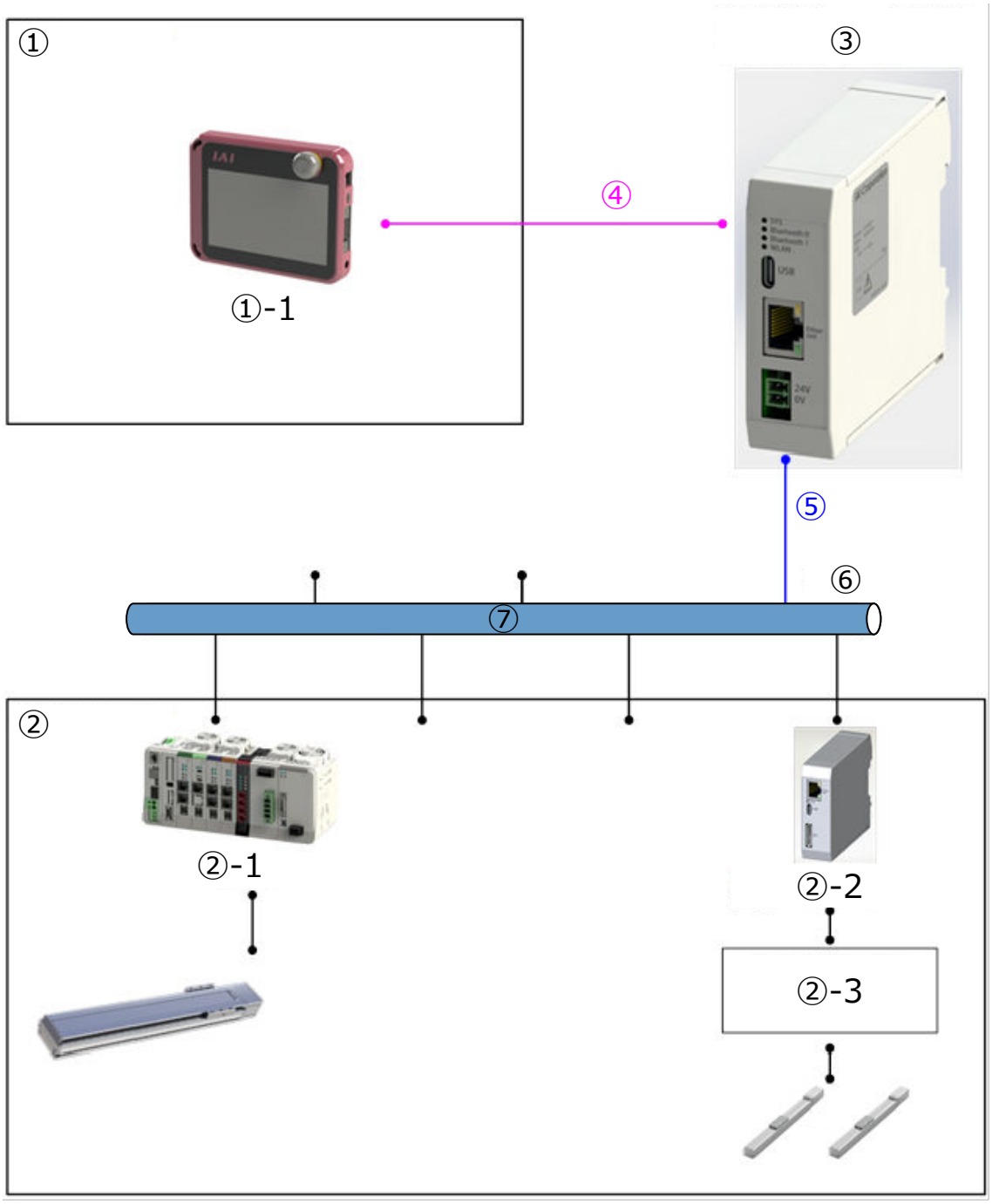
■ Wireless System



①	Device Peripheral Area	
①-1	PC software	IA-OS
②	Equipment installation area	
②-1	ELECYLINDER	Wireless communication specification/Wireless axis operation specification
③	Wireless communication	Bluetooth
④	WLAN access point	
⑤	WLAN/Bluetooth Converter	Model: ICD-WLBT-*
⑥	Wireless communication	WLAN
⑦	Network connection	
⑧	Local area network	

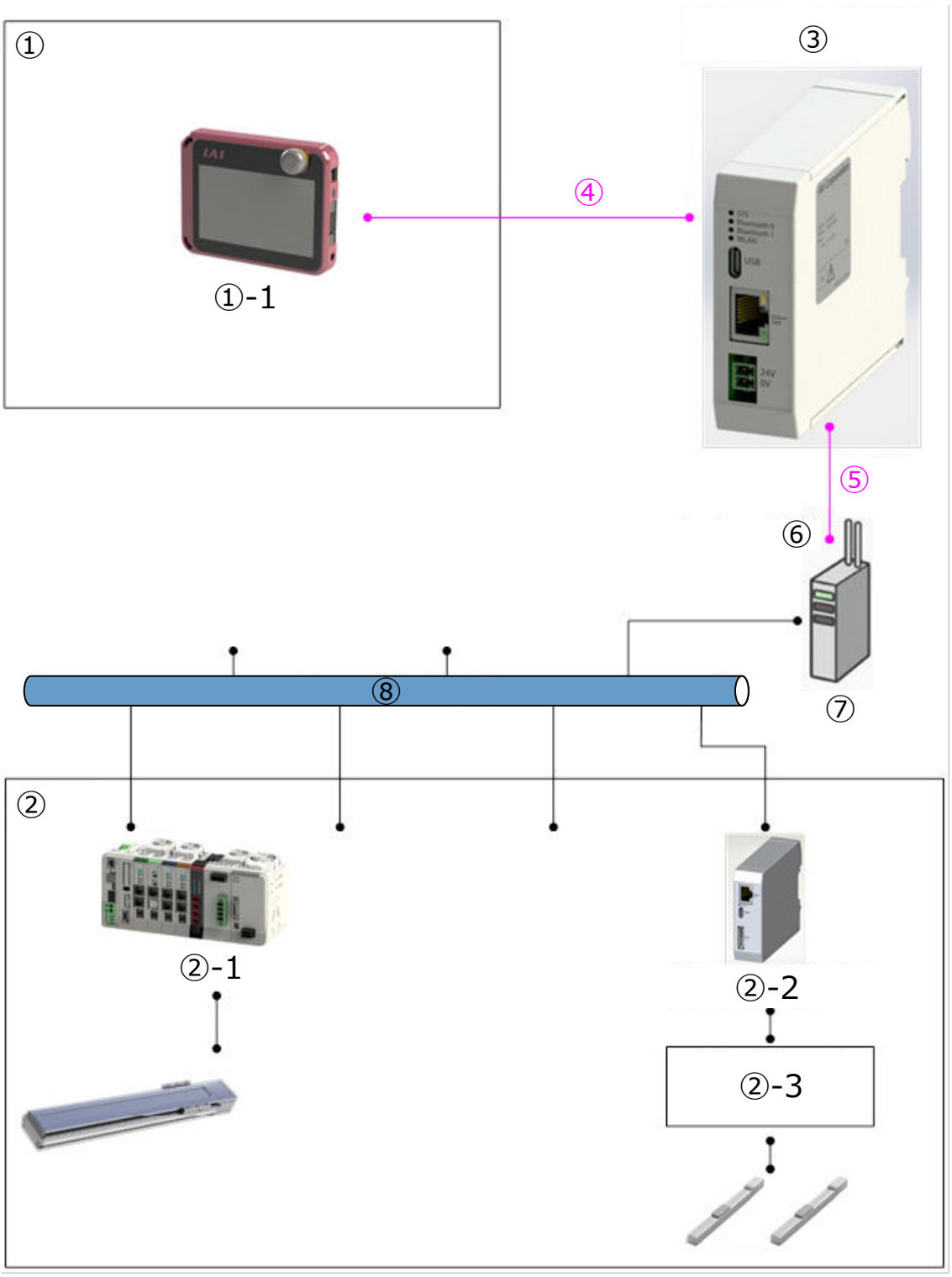
3. Operation of various controllers from the TB-03

■ Wired System


①
①-1
③
④
⑤
⑥
⑦
②
②-1
②-2
②-3

①	Device Peripheral Area	
①-1	TB-03	
②	Equipment installation area	
②-1	RCON	
②-2	Ethernet/RS-485 Converter	Model: ICD-ETSE-*
②-3	Single-axis and multi-axis CON series controllers	Non-Ethernet compatible model
③	WLAN/Bluetooth Converter	Model: ICD-WLBT-*
④	Wireless communication	Bluetooth
⑤	Ethernet cable	
⑥	Network connection	
⑦	Local area network	

■ Wireless System


①
①-1
③
④
⑤
⑥
⑦
⑧
②
②-1
②-2
②-3

①	Device Peripheral Area	
①-1	TB-03	
②	Equipment installation area	
②-1	RCON	
②-2	Ethernet/RS-485 Converter	Model: ICD-ETSE-*
②-3	Single-axis and multi-axis CON series controllers	Non-Ethernet compatible model
③	WLAN/Bluetooth Converter	Model: ICD-WLBT-*
④	Wireless communication	Bluetooth
⑤	Wireless communication	WLAN
⑥	Network connection	
⑦	WLAN access point	
⑧	Local area network	

4.3 Wiring for Ethernet/RS-485 Converter

4.3.1 Preparation Before Wiring (ICD-ETSE)

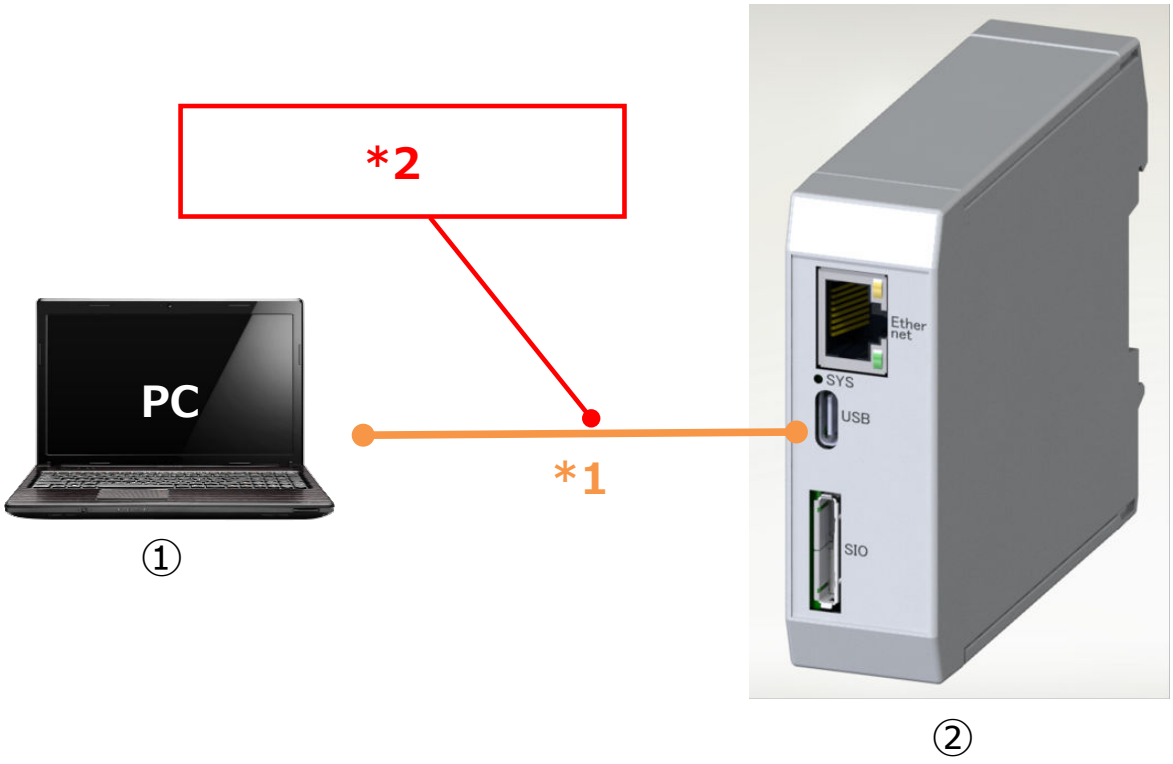
Set the parameters before wiring.

Requisite Devices

USB cable (USB Type-C connector (This unit side)): 1

Connection Diagram

Parameter settings can also be configured using power supplied via the USB port. (bus power)



*1 USB cable (To be prepared by user)

*2 USB connection takes priority.

Be aware that other functions (Ethernet, RS-485) will be disabled when connected via USB.

①	PC software	Wireless Device Parameter Setup Tool
②	Ethernet/RS-485 Converter	Model: ICD-ETSE-*

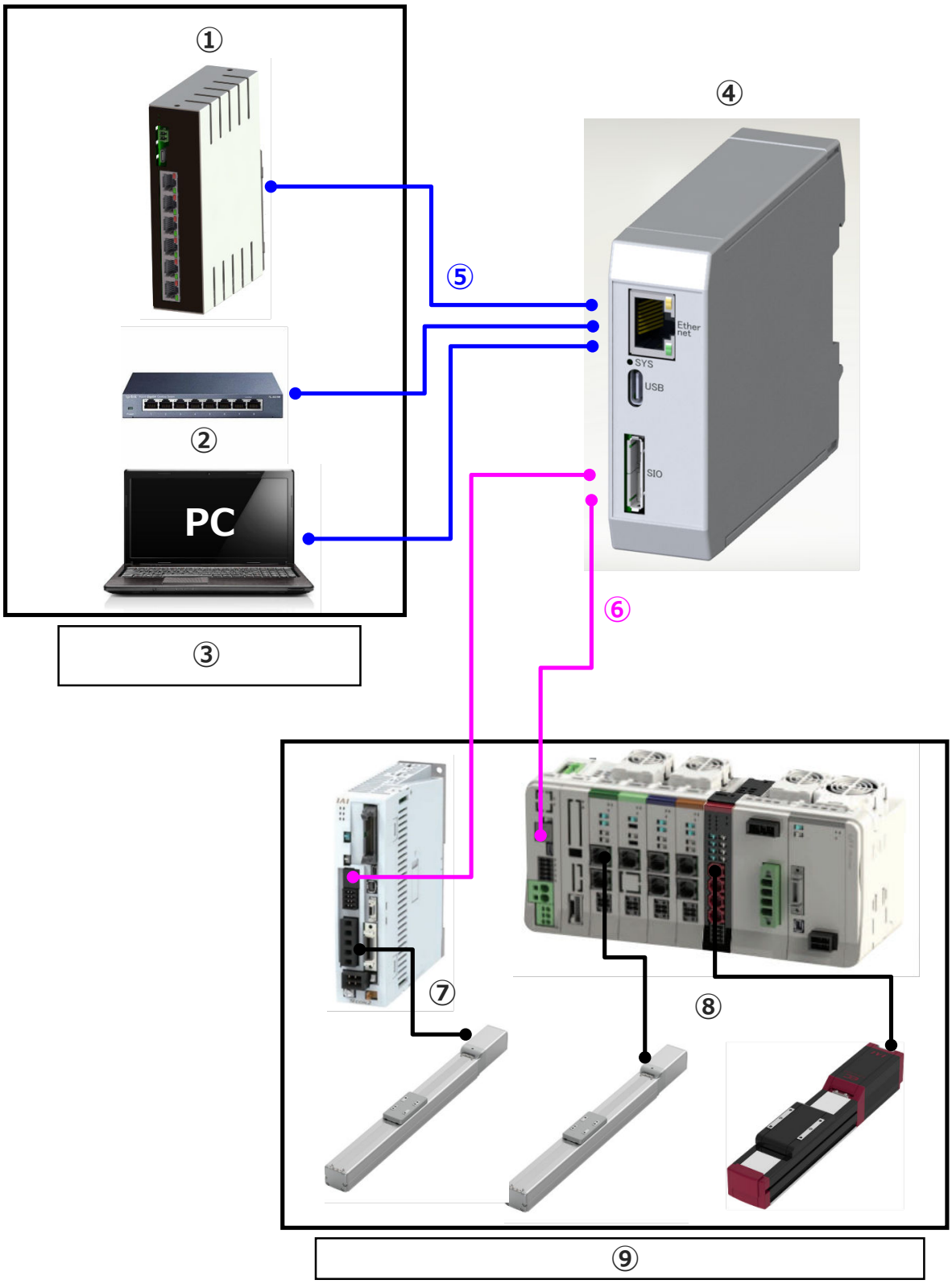
* When the USB is disconnected, other functions (Ethernet, RS-485) will start operating.

Wireless Device Parameter Setup Tool

Start the wireless device parameter setup tool and configure the parameters.

For details of the setting parameters, refer to [5.3.1Ethernet/RS-485 Converter Parameters].

4.3.2 Wiring Diagram (ICD-ETSE)



①	Smart Web Unit	Model: ICD-CTU-*	
②	HUB		
③	Host system	To be prepared by user	
④	Ethernet/RS-485 Converter	Model: ICD-ETSE-*	
⑤	LAN cable		
⑥	CB-TB3-Cxxx	TB-03 Controller connection cable	CON connection specification
⑦	Single axis CON		
⑧	Multi axis CON		
⑨	Controller and actuator	RCON etc. ... To be prepared by user	

4.3.3 When Connecting Multiple Controllers (ICD-ETSE)

Requisite Devices

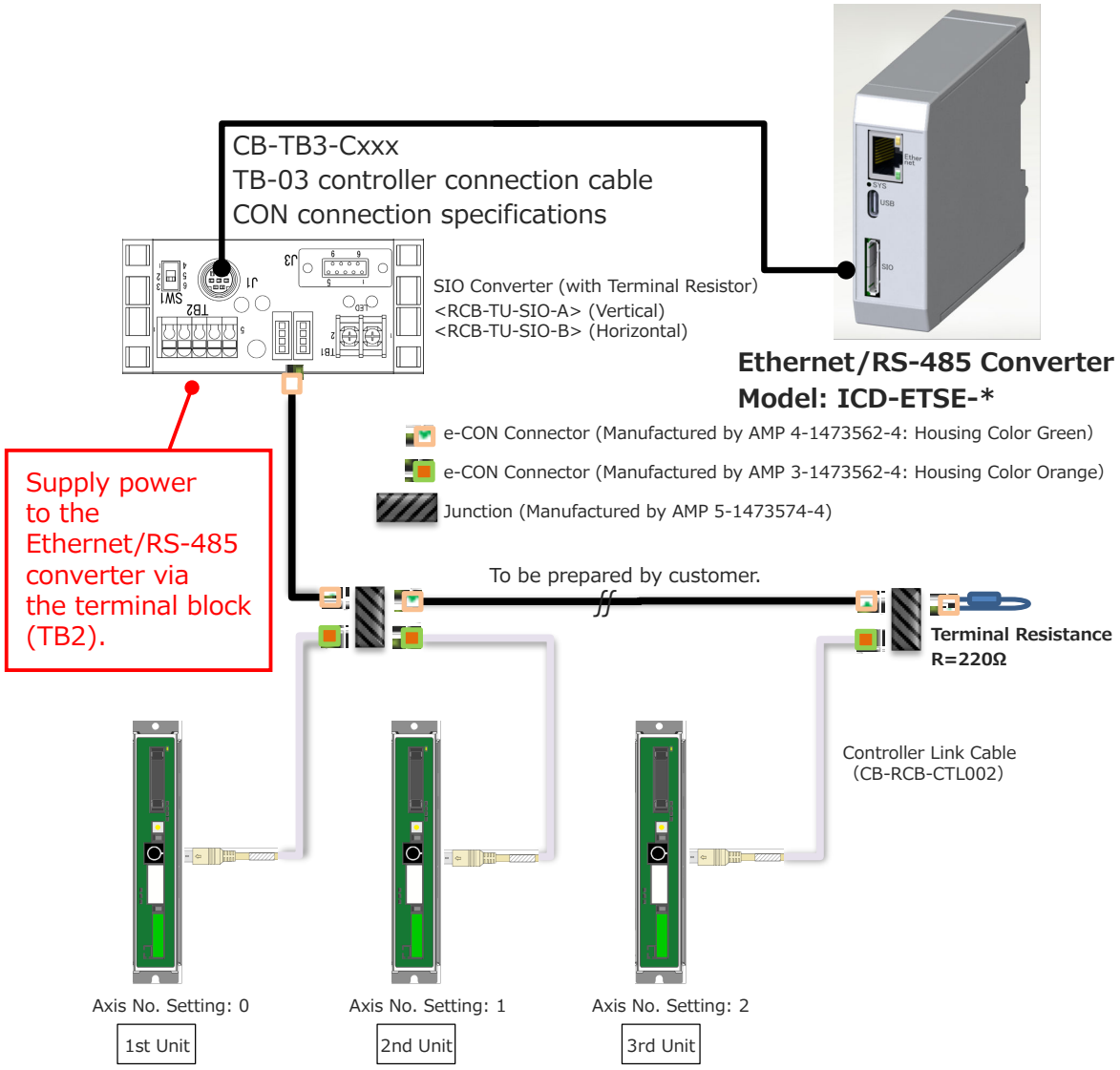
1. SIO Converter (RCB-TU-SIO-A or RCB-TU-SIO-B): 1 unit
2. Controller Link Cable (CB-RCB-CTL002): Required by the number of controllers

Accessories

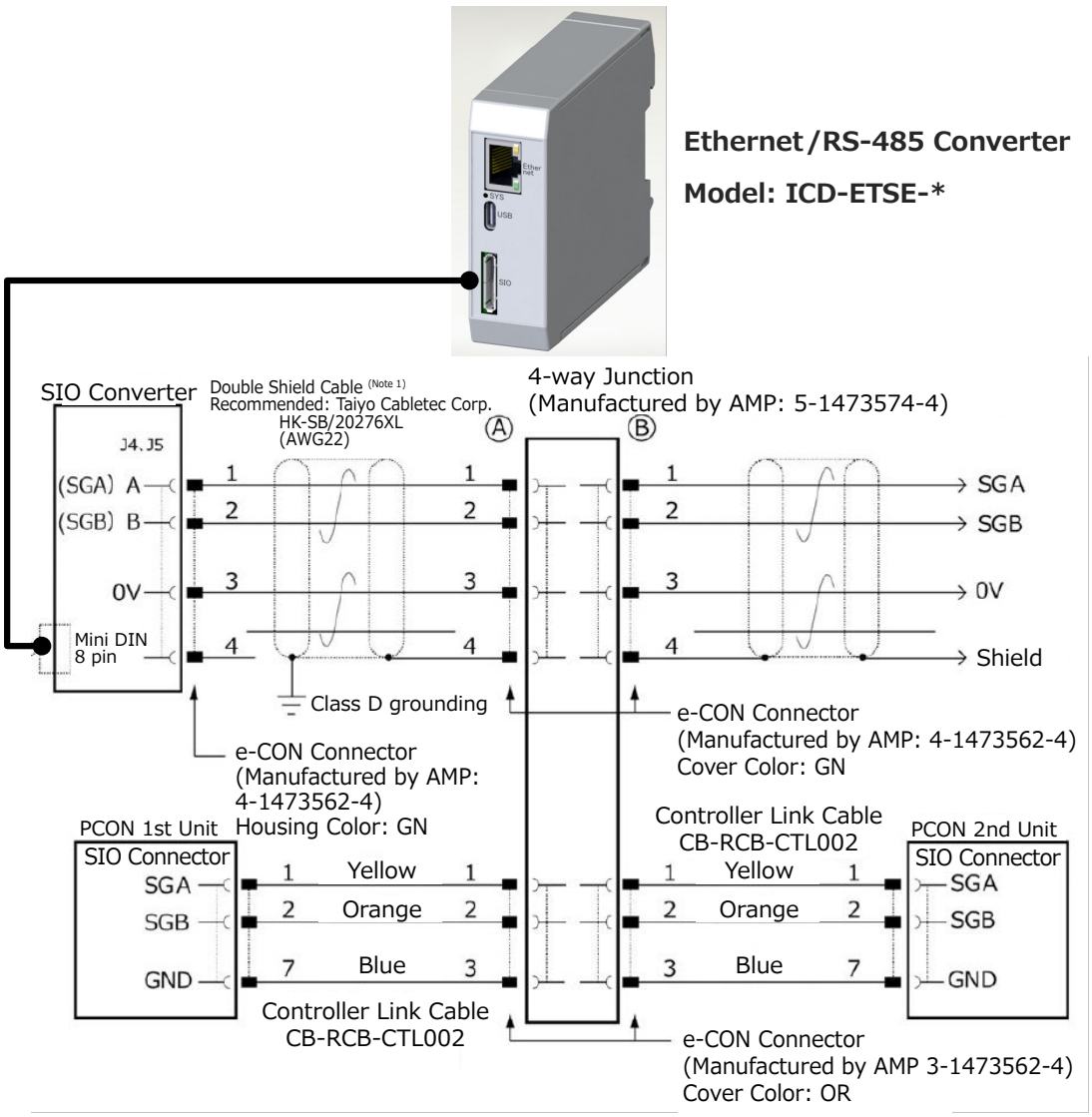
- 4-way junction (Manufactured by AMP 5-1473574-4): 1 unit
- e-CON Connector (Manufactured by AMP 4-1473562-4): 1 unit
- Terminal Resistance (220Ω, with a e-CON connector): 1 unit

Instead of the e-CON cable attached to the controller link cable, a terminal block may be used. In this configuration, disconnect the e-CON connector from the controller link cable.

Connection examples



Detailed Connection Diagram of Communication Lines



* Apply a 2-pair shielded cable.

When connecting a cable other than recommended to (A) and (B), make sure to use a hard-cored cable equivalent to the vinyl cable (KIV) dedicated for control devices with the sheath outer diameter from 1.35 to 1.60mm. Using cables with outer diameter out of the specification may cause poor contact to occur.

⚠ Caution

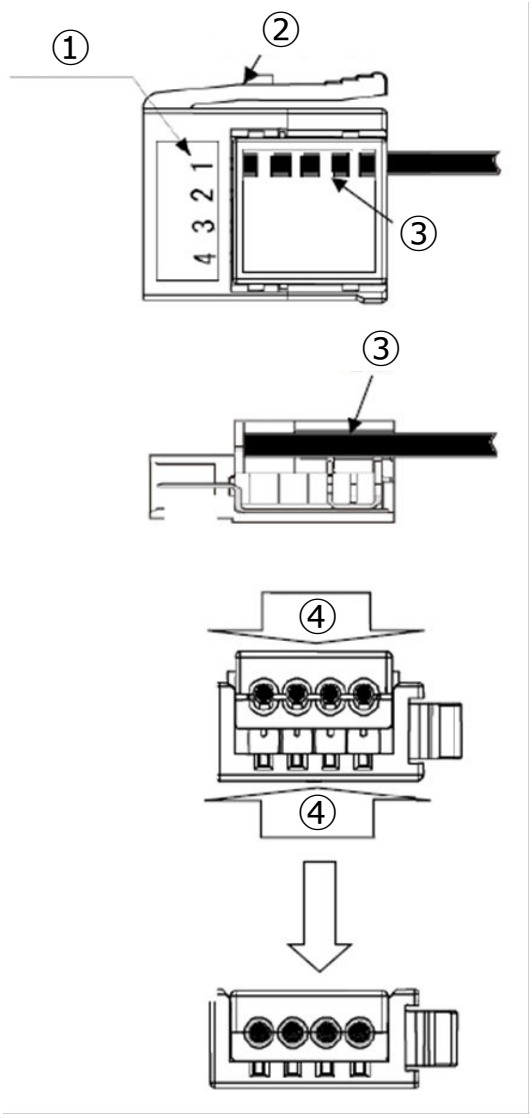
■ When cables with outer diameter out of the specification are used, use a terminal block instead of 4-direction junction. In this configuration, disconnect the e-CON connector of the link cable.

If an error possibly caused by poor contact occurs frequently, replace the junction with the terminal block.

Axis No. Setting

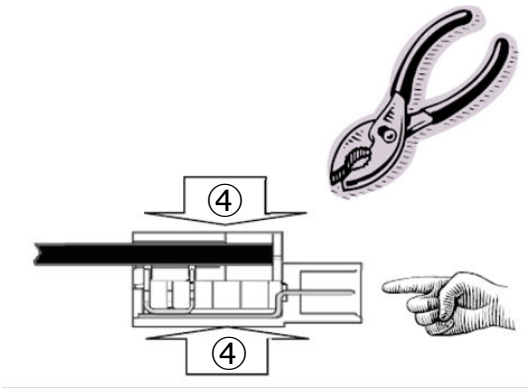
Possible axis numbers range from 0 to F by 16 axes. After configuration, reboot the controller power supply. Also, ensure that axis numbers are not duplicated.

Handling of e-CON Connector (How to Connect)



①	Pin No.
②	Clamp Lever
③	Wire
④	Press welding

1. Check the applicable cable size.
   Check the applicable cable. If it is not applicable, it may cause a connection failure or a breakage of the connector.
2. Check the pin numbers, do not reveal the sheath, and insert the cable till it reaches the end.
   Revealing the sheath may cause a failure such as short circuit or cable fall out.



3. Use a (generally purposed) parallel plier with the width of 10mm or more to press-weld the cable from top and bottom.
   Use the parallel plier from the direction of image below, grip it while checking the condition of press-welding to make sure the press is in right angle and press it until it becomes completely flat to the housing.
   If the inserting is not enough, it may not be able to attach to the socket or may cause a contact failure.



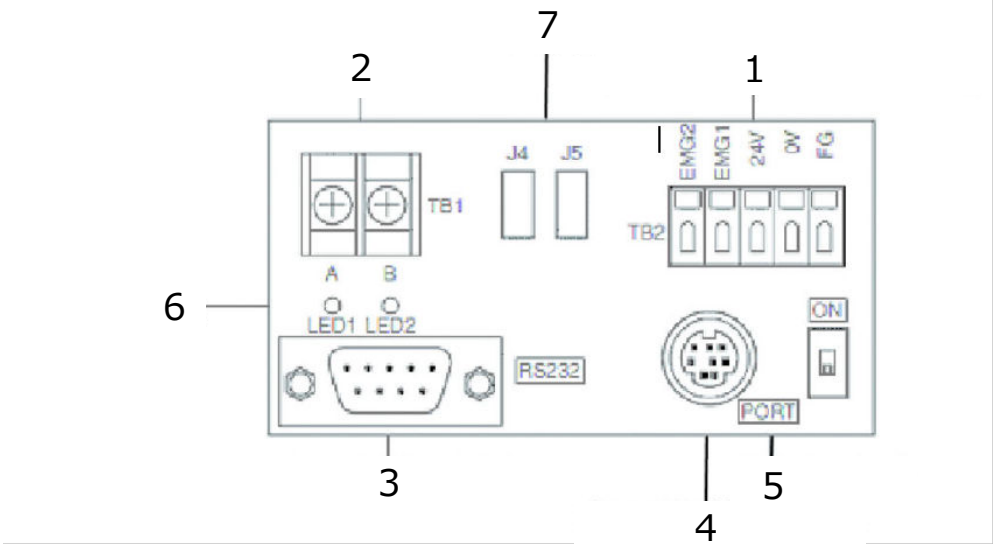
4. After finishing the press-welding, pull the cable lightly to confirm that won't come out.

⚠ Caution

- e-CON connector cannot be reused once the press-welding is failed. Use a new connector to retry the press-welding.
- When connecting to the socket, hold the connector with care not to touch the clamp lever, insert the connector in parallel to the socket until the clamp lever makes a "click" sound.
- After joining to the socket, do not pull the cables or pull the connector without releasing the lock of the clamp lever.

SIO Converter

The SIO converter converts the communication mode from RS-232C to RS-485 or vice versa.



1	Power/Emergency Stop Terminal Board (TB2)
2	Link-connection Terminal Board (TB1)
3	D-sub, 9-pin connector
4	Mini DIN, 8-pin connector
5	PORT Switch
6	LED Indicators for Monitoring
7	e-CON Connector

1. Power/Emergency Stop Terminal Board (TB2)

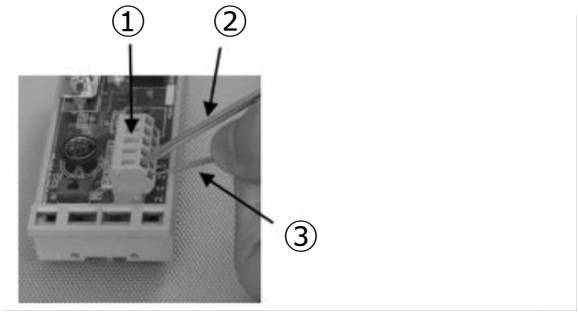
Symbol	Contents
EMG1, EMG2	Turn the PORT switch ON to output the emergency stop switch signal, OFF to short-circuit EMG1 and EMG2. When applying the emergency stop switch of the teaching pendant to the emergency stop of the system, obtain the signal from here.
24V	Positive side of the 24V DC power supply (Power supply for the Ethernet/RS-485 Converter, teaching pendant and conversion circuit, etc.)
0V	Negative side of the 24V DC power supply
FG	Frame ground

Note 0V is connected to the pin No. 7 (GND) on the communication connector for the controller.

- Connection method

  Use a connection cable satisfying the following specifications:

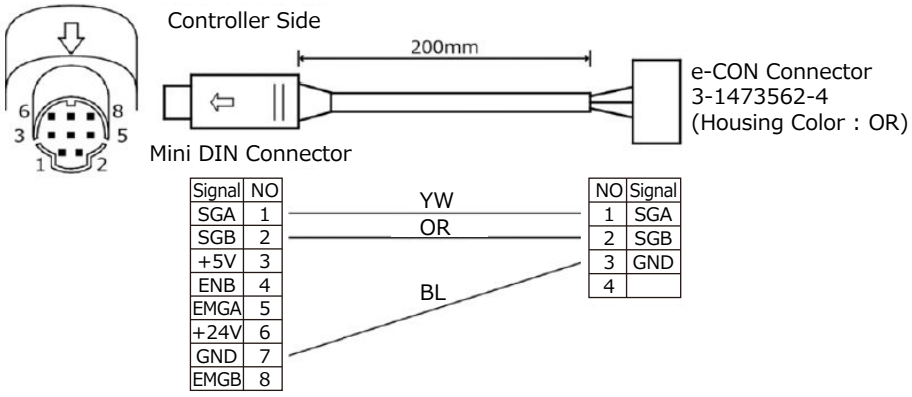
Item	Specifications
Applicable wire	Solid Wire : Φ0.8 to 1.2mm/Stranded : AWG Size 20 to 18 (0.5 to 0.75mm^2)
Stripped wire length	10mm



①	Use for Continuity Check
②	Insert a flathead screwdriver with a bit size of approx. 2.6mm.
③	Connection Cable

2. Link-connection Terminal Board (TB1)
   This is the connection port to obtain communication connection with the controller.
   Connect terminal “A” on the left side to communication line SGA of the controller. (Terminal A is connected to pin 1 of 7 internally. (+))
   Connect terminal “B” on the left side to communication line SGB of the controller. (Terminal B is connected to pin 2 of 7 internally. (-))
   Use a twisted pair shielded cable for the connection of SGA and SGB to TB1.
3. D-sub, 9-pin connector
   A connection port with the PC. (RS-232C)
   It is used when the operation is conducted with using SIO communication.
4. Mini DIN, 8-pin connector
   This connector is connected to Ethernet/RS-485 Converter, PC software, teaching pendant.
5. PORT Switch
   The PORT switch is used to exchange enable/disable of connector 4.
   Set the switch to ON if connector 4. is used or OFF if not used.
   The switchover of valid/invalid on the teaching pendant is held at the same time as the emergency stop button switch signal output (between EMG1 and 2).
6. LED Indicators for Monitoring
   LED1 : Lights/blinks while the controller sends signals.
   LED2 : Lights/blinks while signals are sent from the RS-232C connector.
7. e-CON Connector
   It is used when connecting to the controller with e-CON connector without using 2.

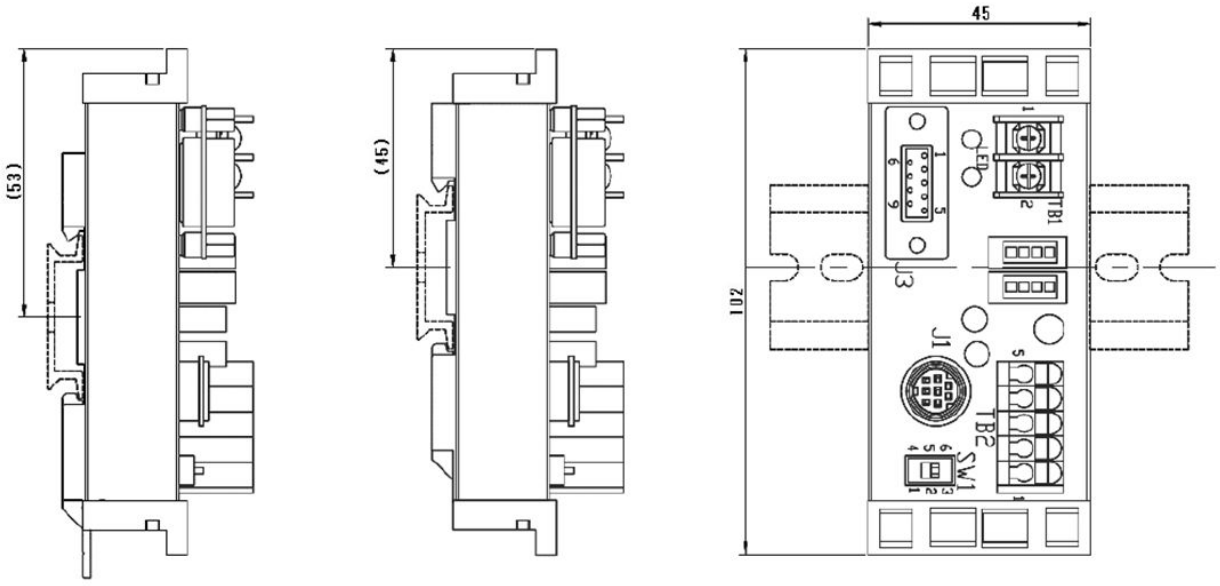
Communications Cable



Signal	NO
SGA	1
SGB	2
+5V	3
ENB	4
EMGA	5
+24V	6
GND	7
EMGB	8

NO	Signal
1	SGA
2	SGB
3	GND
4	

External view



①　　②

①	Leg Element Bottom Side
②	Leg Element Top Side

ICD-CTU/WLBT/ ETSE

5

Parameter

5.1 Smart Web Unit Parameters 5-1
5.1.1 Parameter List (ICD-CTU). 5-1
5.1.2 Parameter Description (ICD-CTU). 5-1
5.1.3 Other Settings (ICD-CTU). 5-2
5.2 WLAN/Bluetooth Converter Parameters 5-4
5.2.1 Parameter List (ICD-WLBT). 5-4
5.2.2 Parameter Description (ICD-WLBT). 5-4
5.2.3 Other Settings (ICD-WLBT). 5-7
5.3 Ethernet/RS-485 Converter Parameters 5-9
5.3.1 Parameter List (ICD-ETSE). 5-9
5.3.2 Parameter Description (ICD-ETSE). 5-9

5.1 Smart Web Unit Parameters

Set the parameters using the wireless device parameter setup tool.

5.1.1 Parameter List (ICD-CTU)

The configurable parameters are as follows.
Parameters marked "×" in the [USB connection] column can only be set when the wireless device parameter setup tool is connected via the Ethernet port.

No.	Name	Initial Value	Settings	When connected via USB	Remarks
1	IP address	192.168.1.254	Octet data	○	
2	Subnet mask	255.255.255.0	Octet data	○	
3	Default gateway	0 (Disabled)	Octet data	○	
4	DNS (Primary)	-	Octet data	○	
5	DNS (Secondary)	-	Octet data	○	
6	HTTPS redirect	0 (Disabled)	0: Disabled 1: Enabled	×	Whether to perform HTTPS redirection
7	mDNS	0 (Disabled)	0: Disabled 1: Enabled	×	Whether to enable the mDNS function

5.1.2 Parameter Description (ICD-CTU)

IP address

Set the IP address assigned to the Smart Web Unit.
To access the web application of the Smart Web Unit, enter http://[configured IP address] (or https://[configured IP address] when using TLS).
e.g.: http://192.168.0.100

Subnet mask

Set the subnet mask of the network to which the Smart Web Unit is to be connected.

Default gateway

When connecting via a router or gateway, set the IP address of the router or gateway in your network environment as the default gateway.
If this unit does not communicate with networks outside the subnet, set it to No Setting (0.0.0.0).

DNS (Primary)

Set the IP address of the primary DNS server.

DNS (Secondary)

Set the IP address of the secondary DNS server.

HTTPS redirect

When set to 0 (disabled), an HTTP protocol request to this unit will be redirected using the HTTP protocol. When set to 1 (enabled), an HTTP protocol request to this unit will be redirected to the HTTPS protocol.

mDNS

Configure whether mDNS (Multicast DNS) is enabled or disabled.
When set to “Enabled", the unit monitors mDNS multicast traffic and, if a query matches the hostname configured on this unit, it responds with its own IP address.

5.1.3 Other Settings (ICD-CTU)

All other setting items are to be configured using the wireless device parameter setup tool.
Parameters marked “×” in the [USB connection] column can only be set when the wireless device parameter setup tool is connected via the Ethernet port.
The configurable items are as follows.

No.	Name	Initial Value	Settings	When connected via USB	Remarks
1	Host Name Settings	“iai-swu”	String	○	
2	Time Setting	-	Time data	○	
3	SSL Certificate Registration	-		×	
4	Web Application Update	-		×	

Host Name Settings

Set the hostname of this unit.
This hostname is used when a PC, smartphone, or other device connects to this unit using a name instead of an IP address.

Time Setting

Set the current time on this unit.

SSL Certificate Registration

Register an SSL certificate on this unit.
An SSL certificate must be registered when accessing the web application via HTTPS.

Web Application Update

Update the built-in web application on this unit.
The web application to be written must be downloaded in advance from IAI website and made selectable in the wireless device parameter setup tool.
The web application update file can be obtained from the URL below.
“[https://www.iai-robot.co.jp/download/pcsoft/smartweb/index.html]”

5.2 WLAN/Bluetooth Converter Parameters

5.2.1 Parameter List (ICD-WLBT)

The configurable parameters are as follows.

No.	Item	Initial Value	Settable range	Remarks
1	IP address	192.168.0.1	-	*
2	Subnet mask	255.255.255.0	-	*
3	Default gateway	0.0.0.0	-	-
4	Port number for UDP search frame	49,152	49,152 to 65,535	*
5	Search port number	49,152	49,152 to 65,535	*
6	WLAN function setting	0	0 to 1	0: WLAN disable (Ethernet only) 1: WLAN enable (WLAN only)
7	WLAN country code	"JP"	-	-
8	WLAN scan RSSI threshold	-95	-	-
9	WLAN transmit power	4	0 to 15	-

* An error will occur if an invalid value is set or saved.

For details, please refer to the [7.2.1WLAN/Bluetooth Converter Troubleshooting] section.

5.2.2 Parameter Description (ICD-WLBT)

IP address

Set the IP address assigned to the WLAN/Bluetooth converter.

Subnet mask

Set the subnet mask of the network to which the WLAN/Bluetooth converter is connected.

Default gateway

When connecting via a router or gateway, set the IP address of the router or gateway in your network environment as the default gateway.

If this unit does not communicate with networks outside the subnet, set it to No Setting (0.0.0.0).

Port number for UDP search frame

Set the port number used by the Smart Web Unit or IA-OS to detect WLAN/Bluetooth converters on the network.

Search port number

Set the port number used by the WLAN/Bluetooth converter to search for controllers or Ethernet/RS-485 converters on the network.

WLAN function setting

Set the communication system used for network connection. Specify enable/disable as 1/0.
0 WLAN disabled (operates in Ethernet only)
1 WLAN enabled (operates in WLAN only)

WLAN country code

Set the country code for the country (region) where this unit is used.
Refer to the table below for country codes.
Contact us if the country (region) you intend to use is not listed in the country code table.
Setting Example: “JP” (0x4A50)

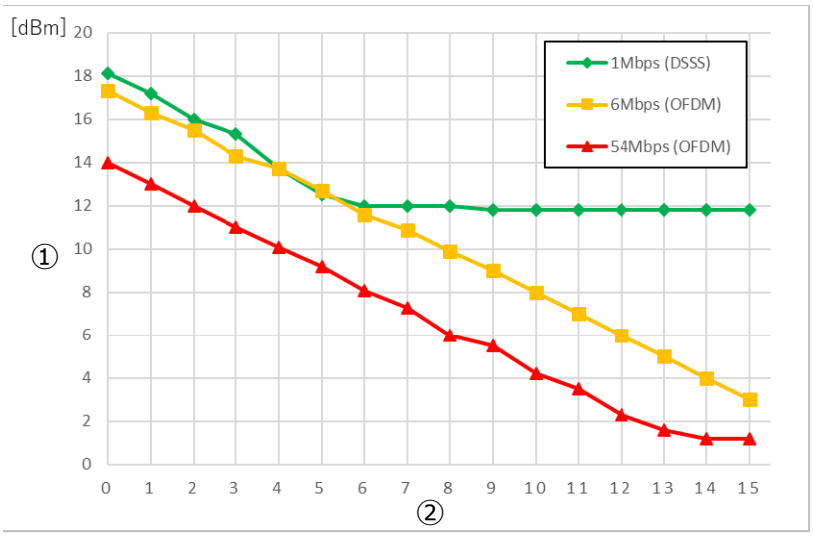
Country Name		Country Code		Country Name		Country Code	
		Ascii	Hex			Ascii	Hex
日本	Japan	JP	4A 50	デンマーク	Denmark	DK	44 4B
アメリカ	America	US	55 53	ドイツ	Germany	DE	44 4D
カナダ	Canada	CA	43 41	ハンガリー	Hungary	HU	48 55
アイルランド	Ireland	IE	49 45	フィンランド	Finland	FI	46 49
イタリア	Italy	IT	49 54	フランス	France	FR	46 52
エストニア	Estonia	EE	45 45	イギリス	United Kingdom	GB	47 42
オーストリア	Austria	AT	41 54	ブルガリア	Bulgaria	BG	42 47
オランダ	Netherlands	NL	4E 4C	ベルギー	Belgium	BE	42 45
キプロス	Cyprus	CY	43 59	ポーランド	Poland	PL	50 4C
ギリシャ	Greece	GR	47 52	ポルトガル	Portugal	PT	50 54
クロアチア	Croatia	HR	48 52	マルタ	Malta	MT	4D 54
スウェーデン	Sweden	SE	53 45	ラトビア	Latvia	LV	4C 56
スペイン	Spain	ES	45 53	リトアニア	Lithuania	LT	4C 54
スロバキア	Slovakia	SK	53 4B	ルーマニア	Romania	RO	52 4F
スロベニア	Slovenia	SI	53 49	ルクセンブルク	Luxembourg	LU	4C 55
チェコ	Czech Republic	CZ	43 5A				

WLAN scan RSSI threshold

Set the reception level threshold for the WLAN access point. If the received signal level of the WLAN access point falls below the configured threshold, the connection will be restricted.
Setting Example: -60 [dBm]
(WLAN access points with a reception level of -60 dBm or higher can be connected.)

WLAN transmit power

Set the WLAN transmission power.
The transmission power setting applies to 2.4 GHz band communication.
Transmission power for 5 GHz band communication cannot be changed.
Refer to the graph below for the transmission power corresponding to each setting value.



①	Transmit power
②	WLAN transmit power setting

5.2.3 Other Settings (ICD-WLBT)

All other setting items are to be configured using the wireless device parameter setting tool.
The configurable items are as follows.

No.	Item	Initial Value	Settable range	Remarks
1	WLAN SSID	Disabled	-	Maximum 32 characters
2	WLAN security	0	-	0: Security disabled 2: WPA/WPA2 12: WPA3
3	WLAN password	Disabled	-	Maximum 63 characters

WLAN SSID

Set the SSID of the WLAN access point to be connected. The maximum number of characters is 32.

WLAN security

Set the security settings required to connect when security is enabled on the WLAN access point.
Set value: 0 Security disabled
2 WPA/WPA2
12 WPA3

WLAN password

Set the password settings required to connect when security is enabled on the WLAN access point. The number of characters is in a range from 8 to 63.

5.3 Ethernet/RS-485 Converter Parameters

5.3.1 Parameter List (ICD-ETSE)

The configurable parameters are as follows.

No.	Item	Initial Value	Settable range	Remarks
1	IP address	192.168.0.1	-	*
2	Subnet mask	255.255.255.0	-	*
3	Default gateway	0.0.0.0	-	-
4	Port number for UDP search frame	49152	49152 to 65535	*
5	Inactive time	100[ms]	100 to 10000[ms]	Modbus RTU Timeout judgment time
6	SIO communication speed selection code	230400[bps]	9600[bps] 14400[bps] 19200[bps] 28800[bps] 38400[bps] 57600[bps] 76800[bps] 115200[bps] 230400[bps]	SIO baud rate setting between controllers. This parameter is used for adjustment when communication becomes unstable due to noise or other environmental factors, as reducing the baud rate may improve stability.

* An error will occur if an invalid value is set or saved. For details, please refer to the [7.3.1Ethernet/RS-485 Converter Troubleshooting] section.

5.3.2 Parameter Description (ICD-ETSE)

IP address

Set the IP address assigned to the Ethernet/RS-485 Converter.

Subnet mask

Set the subnet mask of the network to which the Ethernet/RS-485 Converter is connected.

Default gateway

When connecting via a router or gateway, set the IP address of the router or gateway in your network environment as the default gateway.
If this unit does not communicate with networks outside the subnet, set it to No Setting (0.0.0.0).

Port number for UDP search frame

Set the port number used by the Smart Web Unit or IA-OS to detect Ethernet/RS-485 Converters on the network.

Inactive time

This is a response monitoring timer for controllers connected to the WLAN/Bluetooth converter.
In general, there is no need to change the default value, but if communication with the controller is not stable, increase the value for adjustment.

SIO communication speed selection code

Set the communication speed with the controller.
In general, there is no need to change the default value, but if communication with the controller is unstable due to noise or other factors, reduce the communication speed for adjustment.

ICD-CTU/WLBT/ETSE

6

Maintenance and Inspection

6.1 Maintenance and Inspection of Smart Web Unit 6-1
6.1.1 Consumable Parts (ICD-CTU). 6-1
6.1.2 Maintenance Parts (ICD-CTU). 6-1
6.1.3 Precautions for Inspection (ICD-CTU). 6-2
6.2 Maintenance and Inspection of WLAN/Bluetooth Converter 6-3
6.2.1 Consumable Parts (ICD-WLBT). 6-3
6.2.2 Maintenance Parts (ICD-WLBT). 6-3
6.2.3 Precautions for Inspection (ICD-WLBT). 6-3
6.3 Maintenance and Inspection of Ethernet/RS-485 Converter 6-4
6.3.1 Consumable Parts (ICD-ETSE). 6-4
6.3.2 Maintenance Parts (ICD-ETSE). 6-4
6.3.3 Precautions for Inspection (ICD-ETSE). 6-4

6.1 Maintenance and Inspection of Smart Web Unit

6.1.1 Consumable Parts (ICD-CTU)

Parts	Estimated lifespan	Remarks
Electrolytic capacitor	5 years	Ambient temperature 40℃
Battery (CR2032)	5 years	Ambient temperature 40℃, if the unit is left unpowered

6.1.2 Maintenance Parts (ICD-CTU)

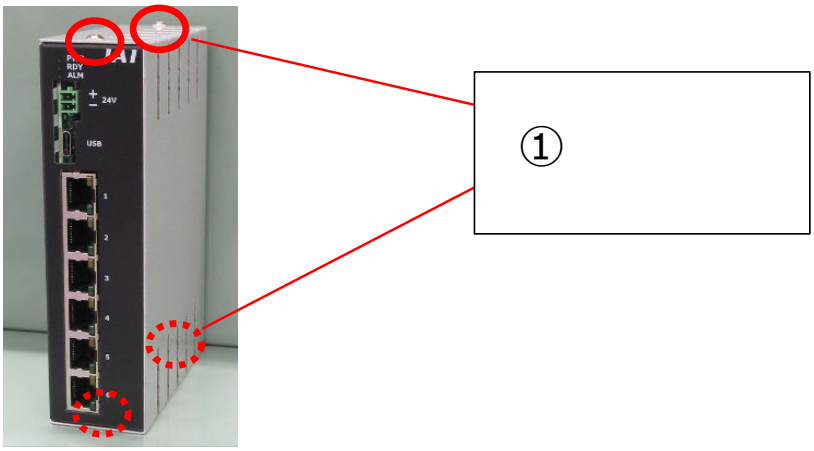
Battery (CR2032)

Battery (CR2032) Replacement Procedure

Follow the steps below to replace the battery.

1 **Remove the upper cover**

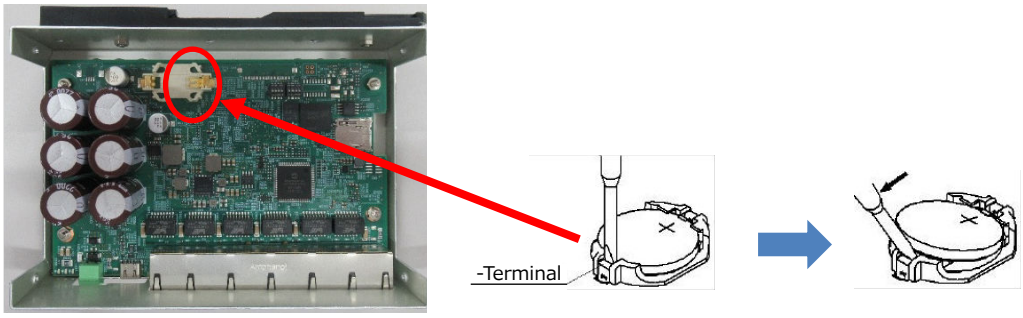
Remove the four screws on the top and bottom, and then remove the upper cover.



①: Four screws on the top and bottom M3×5 Truss head screws

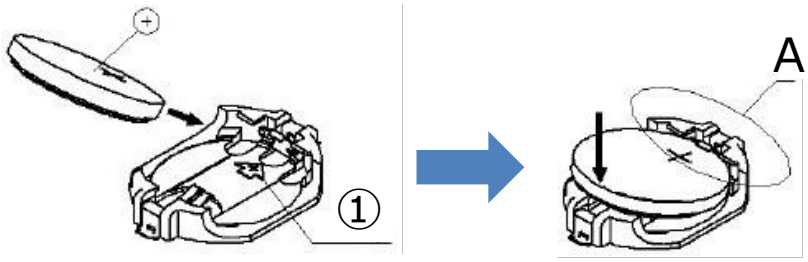
2 **Remove the old battery**

Insert a slotted screwdriver or tweezers into the (–) terminal of the battery connector BAT301 and remove it using leverage. Be careful to prevent the battery from springing out.



3 **Install the new battery**

Carefully check the polarity of +/– of the battery. Place the (+) side of the button battery against the (+) terminal of the battery connector BAT301, then press the (–) side into place. At this time, do not press straight down, but sliding the battery toward the (+) terminal makes insertion easier. Also, be careful not to apply excessive force to the board when installing.



①: ⇒Mark

4 **Attach the upper cover**

Using the screws removed in Step 1, attach the upper cover.

5 **Set the time**

Set the time using the wireless device parameter setup tool.

* Note: When replacing the button battery, turn off the power and disconnect all cables before performing the work. Also, after replacement, be sure to set the time.

6.1.3 Precautions for Inspection (ICD-CTU)

When an inspection detects a unit abnormality and the unit is replaced, observe the following precautions:

- Perform unit replacement with the power turned off.
- After replacement, confirm that the new unit operates normally.
- When returning a faulty unit for repair, describe the abnormal symptoms in as much detail as possible and attach the description to the unit.
- Back up parameters in advance in case of emergency.

6.2 Maintenance and Inspection of WLAN/Bluetooth Converter

6.2.1 Consumable Parts (ICD-WLBT)

There are no consumable parts.

6.2.2 Maintenance Parts (ICD-WLBT)

There are no replacement maintenance parts.

6.2.3 Precautions for Inspection (ICD-WLBT)

When an inspection detects a unit abnormality and the unit is replaced, observe the following precautions:

- Perform unit replacement with the power turned off.
- After replacement, confirm that the new unit operates normally.
- When returning a faulty unit for repair, describe the abnormal symptoms in as much detail as possible and attach the description to the unit.
- Back up position data, parameters and PLC etc. in advance in case of emergency.

6.3 Maintenance and Inspection of Ethernet/RS-485 Converter

6.3.1 Consumable Parts (ICD-ETSE)

There are no consumable parts.

6.3.2 Maintenance Parts (ICD-ETSE)

There are no replacement maintenance parts.

6.3.3 Precautions for Inspection (ICD-ETSE)

When an inspection detects a unit abnormality and the unit is replaced, observe the following precautions:

- Perform unit replacement with the power turned off.
- After replacement, confirm that the new unit operates normally.
- When returning a faulty unit for repair, describe the abnormal symptoms in as much detail as possible and attach the description to the unit.
- Back up position data, parameters and PLC etc. in advance in case of emergency.

ICD-CTU/WLBT/ ETSE

7

Troubleshooting

7.1 Smart Web Unit Troubleshooting 7-1
7.1.1 Action to Be Taken upon Occurrence of Problem (ICD-CTU). 7-1
7.1.2 Fault Diagnosis (ICD-CTU). 7-1
7.2 WLAN/Bluetooth Converter Troubleshooting 7-3
7.2.1 Action to Be Taken upon Occurrence of Problem (ICD-WLBT). 7-3
7.2.2 Fault Diagnosis (ICD-WLBT). 7-4
7.3 Ethernet/RS-485 Converter Troubleshooting 7-8
7.3.1 Action to Be Taken upon Occurrence of Problem (ICD-ETSE). 7-8
7.3.2 Fault Diagnosis (ICD-ETSE). 7-9

7.1 Smart Web Unit Troubleshooting

7.1.1 Action to Be Taken upon Occurrence of Problem (ICD-CTU)

When a problem occurs, check the following points first.

1. Check the LED lamps
   Check the status of the system status LED and the LED lamps on the Ethernet connector.
2. Check the connectors for disconnection or connection error
3. Check the cables for connection error, disconnection or snagging
   Cut off the main power supply of the equipment (to avoid electric shock) and remove the cables around the measurement point (to avoid conductivity through the surrounding circuit) before checking the conductivity.
4. Check the noise elimination measures
5. Check the events leading to the occurrence of the problem, as well as the operating conditions at the time of occurrence

Notice

- When proceeding with troubleshooting, exclude normally functioning parts from the targets to narrow down the causes.
- First, check 1. to 5. so that countermeasures can be taken swiftly.

7.1.2 Fault Diagnosis (ICD-CTU)

This section describes faults largely divided into two types as follows:

- Operation does not perform normally.
- Impossible Communication

Operation does not perform normally.

Situation	Possible cause	Check/Treatment
After power is turned on, RDY LED in the system status LED remains off even after some time (approximately 1 minute).	The built-in web application is not starting.	(1) Reboot the power to this unit. (2) If the RDY LED does not start blinking after Step (1) above, update the web application.
After power is turned on, ALM LED in the system status LED lights up after some time (approximately 1 minute).	The built-in web application has terminated abnormally.	(1) Reboot the power to this unit. (2) If the RDY LED does not start blinking after Step (1) above, update the web application.

Impossible Communication

Situation	Possible cause	Check/Treatment
Communicate via Ethernet cannot be established. (RDY LED in system status LED remains blinking)	The built-in web application is not connected to the connected IAI product.	(1) Access the web application from a PC, smartphone, etc., and establish the connection from the web application. (2) Check the network settings of this unit and the connected device. (3) Check the wiring between this unit and the connected device, then reboot the power to this unit.
Communicate via Ethernet cannot be established. (Wireless device parameter setup tool cannot be connected.)	(1) Poor wiring or breakage of the communication cable. (2) Incorrect network parameter settings	(1) Check the wiring between this unit and the connected device. (2) Check the network settings of this unit and the connected device.
Connection of the wireless device parameter setup tool is not established via USB.	Poor wiring or breakage of the communication cable.	Review the wiring. Replace the cable if necessary.

7.2 WLAN/Bluetooth Converter Troubleshooting

7.2.1 Action to Be Taken upon Occurrence of Problem (ICD-WLBT)

When a problem occurs, check the following points first.

1. Check the LED lamps
   Check the status of the status LED indicators below.

- System Status LED Display
- Bluetooth 0 Status LED Display
- Bluetooth 1 Status LED Display
- WLAN Status LED Display
- Ethernet Connector Status LED Display

2. Check the control power supply voltage
   Confirm that no Instantaneous power failure, voltage drop, or power supply error has occurred.
3. Check the alarm that has occurred
   Connect a USB Type-C cable and use the wireless device parameter setup tool to check the alarm information.

Alarm Code	Alarm Name	Measures
0001	Code Flash Checksum Error	There may be a concern of a failure of internal components. Contact IAI.
0002	Parameter Checksum Error	There may be a concern of a failure of internal components. Contact IAI.
0003	Parameter Error	Check the parameters and set them to the correct values.
0004	Initialization Error	There may be a concern of a failure of internal components. Contact IAI.
0005	System Error	There may be a concern of a failure of internal components. Contact IAI.
0006	Control Power Supply Voltage Error	Check the 24V input voltage of the control power supply. A voltage of 16.8V or lower, or 33.6V or higher has been detected.
0007	Communication Error	There may be a concern of a failure of internal components. Contact IAI.

For details on corrective actions, refer to the [7.2.2Fault Diagnosis (ICD-WLBT)] .

4. Check the connectors for disconnection or connection error

5. Check the cables for connection error, disconnection or snagging
   Cut off the main power supply of the equipment (to avoid electric shock) and remove the cables around the measurement point (to avoid conductivity through the surrounding circuit) before checking the conductivity.
6. Check the noise elimination measures
7. Check the events leading to the occurrence of the problem, as well as the operating conditions at the time of occurrence

Notice

- When proceeding with troubleshooting, exclude normally functioning parts from the targets to narrow down the causes.
- First, check 1. to 7. so that countermeasures can be taken swiftly.

7.2.2 Fault Diagnosis (ICD-WLBT)

This section describes faults largely divided into two types as follows:

- Operation does not perform normally.
- Impossible Communication

Operation does not perform normally.

Situation	Possible cause	Check/Treatment
When the system status LED (SYS LED) flashes red at power-on:	(1) With the USB Type-C cable connected, invalid parameter values may be set. (2) Abnormal control voltage input, 16.8V or lower, or 33.6V or higher, may be detected.	(1) Start the wireless device parameter setup tool, correct the parameter values, and write the settings again. (2) Confirm that the normal 24V power supply is being input.
When the system status LED (SYS LED) lights on red at power-on:	(1) With the USB Type-C cable not connected, invalid parameter values may be set. (2) There may be a concern of a failure of internal components.	(1) After connecting the USB Type-C cable, start the wireless device parameter setup tool, set the parameters to the correct values, and write the settings. (2) After connecting the USB Type-C cable, start the wireless device parameter setup tool and, if alarm information can be read, check the details. Contact IAI.
The Bluetooth 0 LED lights up red at power-on.	(1) There is a possibility that a component of Bluetooth 0 inside the product has failed.	(1) After connecting the USB Type-C cable, start the wireless device parameter setup tool and, if alarm information can be read, check the details. Contact IAI.
The Bluetooth 1 LED lights up red at power-on.	(1) There is a possibility that a component of Bluetooth 1 inside the product has failed.	(1) After connecting the USB Type-C cable, start the wireless device parameter setup tool and, if alarm information can be read, check the details. Contact IAI.
The WLAN LED lights up red at power-on.	(1) There is a possibility that a component of WLAN inside the product has failed.	(1) After connecting the USB Type-C cable, start the wireless device parameter setup tool and, if alarm information can be read, check the details. Contact IAI.

Impossible Communication

Situation	Possible cause	Check/Treatment
Communicate via Ethernet cannot be established.	(1) WLAN function is set enabled. (2) The unit is connected to a PC via a USB Type-C cable. (3) No Modbus TCP client/ server exists on the same subnet. (4) No device is connected to the address set in the default gateway. (5) Wiring failure of the communication cable, or the communication cable is disconnected.	(1) Check the parameter settings. When the WLAN function is enabled, Ethernet communication gets disabled and the system operates will be dedicated for WLAN communication only. (2) When connected to a PC via a USB Type-C cable, Ethernet communication gets disabled and USB communication takes priority. Disconnect the USB Type-C cable before use. (3) Check the IP addresses of the controller, Smart Web Unit, and PC software (PC), as well as the IP addresses set in the WLAN/Bluetooth converter. When connecting without a router or gateway, all devices must be placed on the same subnet. (4) Check whether the address set as the default gateway in the WLAN/Bluetooth converter matches the IP address of the connected router or gateway. (5) Review the wiring. Replace the cable if necessary.
Communicate via USB cannot be established.	(1) Unable to recover from suspend mode. (2) Wiring malfunction of the communication cable, or the communication cable is disconnected.	(1) Reconnect the USB Type-C cable. Turn on the 24V power supply and check whether the system status LED blinks in green. (2) Review the wiring. Replace the cable if necessary.

Communicate via Bluetooth cannot be established.	(1) The wireless-spec ELECYLINDER is not powered on. (2) The wireless-spec ELECYLINDER is installed outside the wireless communication range or in a location where radio waves are weak. (3) The system is affected by wireless communication interference. (4) A Bluetooth component may have failed.	(1) Turn on the wireless-spec ELECYLINDER. (2) Check the distance between the wireless-spec ELECYLINDER and the WLAN/Bluetooth converter, and ensure there are no obstacles blocking radio waves. (3) Bluetooth uses the 2.4GHz band. If there is a device nearby using the same 2.4 GHz band, increase the distance from it. (4) Check the LED indicators for Bluetooth 0 and Bluetooth 1. Also, after connecting a USB Type-C cable, start the parameter setup tool, and if alarm information can be read, check the details. Contact IAI.
Communicate via WLAN cannot be established.	(1) WLAN function is set disabled. (2) The WLAN access point is not powered on. (3) The WLAN access point is installed outside the wireless communication range or in a location where radio waves are difficult to reach. (4) The WLAN access point settings are incorrect. (5) The MAC address filtering function on the WLAN access point is enabled. (6) The system is affected by wireless communication interference. (7) A WLAN component may have failed.	(1) Check the parameter settings. If the WLAN function is set to disabled, the system will operate dedicated for Ethernet only. (2) Turn on the WLAN access point to be connected. (3) Check the distance between the WLAN access point and the WLAN/Bluetooth converter, and ensure there are no obstacles blocking radio waves. (4) Check WLAN settings such as SSID, security, and password. (5) Register the MAC address of the WLAN/ Bluetooth converter in the MAC address filtering settings of the WLAN access point. (6) Change the operating channel (frequency) of the WLAN access point. (7) Check the WLAN LED indicator. Also, after connecting a USB Type-C cable, start the parameter setup tool, and if alarm information can be read, check the details. Contact IAI.

7.3 Ethernet/RS-485 Converter Troubleshooting

7.3.1 Action to Be Taken upon Occurrence of Problem (ICD-ETSE)

When a problem occurs, check the following points first.

1. Check the LED lamps
   Check the status of the system status LED and the LED lamps on the Ethernet connector.
2. Check the control power supply voltage
   Confirm that no Instantaneous power failure, voltage drop, or power supply error has occurred.
3. Check the alarm that has occurred
   Connect a USB Type-C cable and use the wireless device parameter setup tool to check the alarm information.

Alarm Code	Alarm Name	Measures
0001	Code Flash Checksum Error	There may be a concern of a failure of internal components. Contact IAI.
0002	Parameter Checksum Error	There may be a concern of a failure of internal components. Contact IAI.
0003	Parameter Error	Check the parameters and set them to the correct values.
0004	Initialization Error	There may be a concern of a failure of internal components. Contact IAI.
0005	System Error	There may be a concern of a failure of internal components. Contact IAI.

For details on corrective actions, refer to the [7.3.2Fault Diagnosis (ICD-ETSE)] .

4. Check the connectors for disconnection or connection error
5. Check the cables for connection error, disconnection or snagging
   Cut off the main power supply of the equipment (to avoid electric shock) and remove the cables around the measurement point (to avoid conductivity through the surrounding circuit) before checking the conductivity.
6. Check the noise elimination measures
7. Check the events leading to the occurrence of the problem, as well as the operating conditions at the time of occurrence

Notice

- When proceeding with troubleshooting, exclude normally functioning parts from the targets to narrow down the causes.
- First, check 1. to 7. so that countermeasures can be taken swiftly.

7.3.2 Fault Diagnosis (ICD-ETSE)

This section describes faults largely divided into two types as follows:

- Operation does not perform normally.
- Impossible Communication

Operation does not perform normally.

Situation	Possible cause	Check/Treatment
When the system status LED (SYS LED) flashes red at power-on:	(1) With the USB Type-C cable connected, invalid parameter values may be set. (2) Communication with the controller connected via RS-485 has not been established correctly.	(1) Start the wireless device parameter setup tool, correct the parameter values, and write the settings again. (2) Check the axis numbers set on the connected controller. Also, confirm that only the gateway unit is not connected.
When the system status LED (SYS LED) lights on red at power-on:	(1) With the USB Type-C cable not connected, invalid parameter values may be set. (2) There may be a concern of a failure of internal components.	(1) After connecting the USB Type-C cable, start the wireless device parameter setup tool, set the parameters to the correct values, and write the settings. (2) After connecting the USB Type-C cable, start the wireless device parameter setup tool and, if alarm information can be read, check the details. Contact IAI.

Impossible Communication

Situation	Possible cause	Check/Treatment
Communicate via Ethernet cannot be established.	(1) The unit is connected to a PC via a USB Type-C cable. (2) No Modbus TCP client exists on the same subnet. (3) No device is connected to the address set in the default gateway. (4) Poor wiring or breakage of the communication cable.	(1) Even when connected via RS-485, if the unit is connected to a PC via a USB Type-C cable, USB communication takes priority. Disconnect the USB Type-C cable before use. (2) Check the IP address of the Modbus TCP client and the IP address set in the Ethernet/RS-485 converter. When connecting without a router or gateway, all devices must be placed on the same subnet. (3) Check whether the address set as the default gateway in the Ethernet/RS-485 converter matches the IP address of the connected router or gateway. (4) Review the wiring. Replace the cable if necessary.
Communicate via USB cannot be established.	(1) Unable to recover from suspend mode. (2) Poor wiring or breakage of the communication cable.	(1) Reconnect the USB Type-C cable. With the RS-485 cable connected, turn on the controller power and check whether the system status LED blinks in green. (2) Review the wiring. Replace the cable if necessary.

ICD-CTU/WLBT/
ETSE

8

Wireless Device Parameter Setup Tool

8.1 Overview (Wireless Device Parameter Setup Tool) 8-1
8.1.1 Introduction (Wireless Device Parameter Setup Tool). 8-1
8.1.2 Supported Languages of the Wireless Device Parameter Setup Tool. 8-1
8.1.3 How to Install Wireless Device Parameter Setup Tool. 8-1
8.2 Specifications and Preparation for the Wireless Device Parameter Setup Tool 8-2
8.2.1 Operating Environment for Wireless Device Parameter Setup Tool. 8-2
8.2.2 Communication Interfaces of Wireless Device Parameter Setup Tool. 8-2
8.2.3 Function List of the Wireless Device Parameter Setup Tool. 8-2
8.2.4 Screen Configuration of Wireless Device Parameter Setup Tool. 8-3
8.2.5 Application Settings of Wireless Device Parameter Setup Tool. 8-11

8.1 Overview (Wireless Device Parameter Setup Tool)

8.1.1 Introduction (Wireless Device Parameter Setup Tool)

This section explains the operation methods of the wireless device parameter setup tool (hereinafter referred to as “this tool”).
This tool is used to configure parameters for the Smart Web Unit, WLAN/Bluetooth converter, and Ethernet/RS-485 converter.

⚠ Caution

- This software is required to configure the Smart Web Unit, WLAN/Bluetooth converter, and Ethernet/RS-485 converter. Parameter settings for the Smart Web Unit, WLAN/Bluetooth converter, and Ethernet/RS-485 converter cannot be configured using other teaching tools.

8.1.2 Supported Languages of the Wireless Device Parameter Setup Tool

- Japanese
- English

8.1.3 How to Install Wireless Device Parameter Setup Tool

Install it from the DVD included with IA-OS-* or IA-101-* at the time of purchase, or download the software from IAI website and install it on your PC.

8.2 Specifications and Preparation for the Wireless Device Parameter Setup Tool

8.2.1 Operating Environment for Wireless Device Parameter Setup Tool

To use this tool, prepare a PC that meets the following requirements.

Item	Contents
Supported OS	Windows11
Computer Body	A personal computer capable of running a supported OS (Windows)
Memory	As required to run the supported OS (Windows)
Display	Full HD
.NET Framework	Version 4.8 or more

8.2.2 Communication Interfaces of Wireless Device Parameter Setup Tool

The communication interfaces with each device are shown in the table below.

	Model		
Interface	Smart Web Unit	Ethernet/RS-485 Converter	WLAN/Bluetooth Converter
USB	○	○	○
Ethernet	○	○	○ (When WLAN is disabled)
WLAN	×	×	◯ (When WLAN is enabled)

8.2.3 Function List of the Wireless Device Parameter Setup Tool

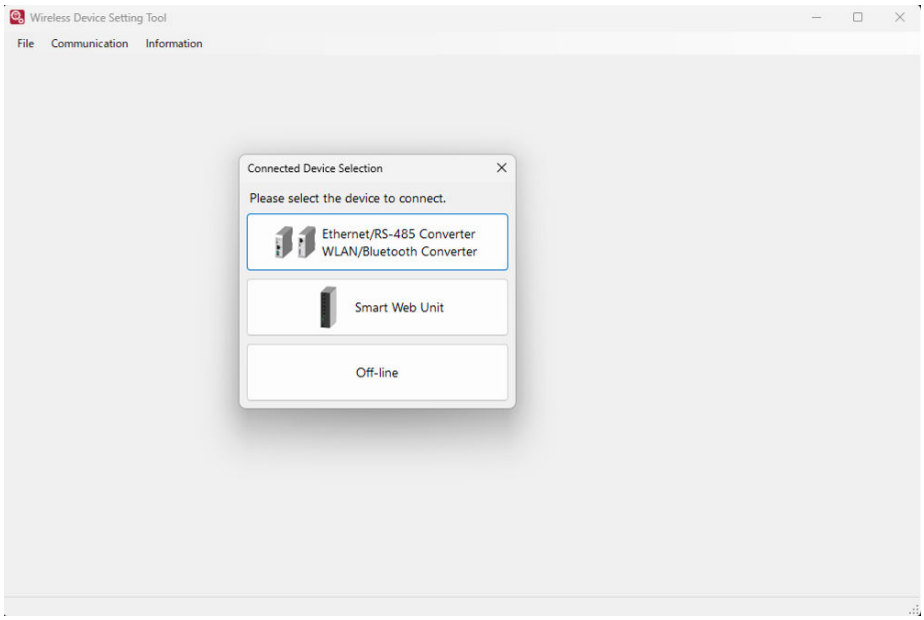
The list of functions and the supported devices are shown in the table below.

Function	Model		
	Smart Web Unit	Ethernet/RS-485 Converter	WLAN/Bluetooth Converter
Reading User Parameters	○	○	○
Parameter Transfer	○	○	○
Edit Parameters	○	○	○
Save Parameters	○	○	○
Alarm Display	○	○	○
Software Reset	○	○	○
User-Defined Name Settings	×	○	○
WLAN Access Point Settings	×	×	○
Host Name Settings	○	×	×
Modbus TCP Sequence ID Settings	×	○	○
Implementation of SSL Certificates	○	×	×
Web Application Update	○	×	×
Display Version Information	○	○	○

8.2.4 Screen Configuration of Wireless Device Parameter Setup Tool

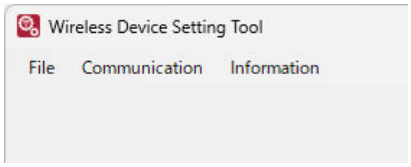
Startup Screen

When this tool is started, the main screen is displayed and a connected device selection window appears. Select the device and establish communication with the device for which you want to configure parameters.



Main Screen Function Overview

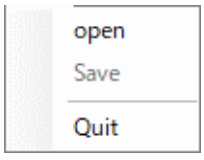
Each menu can be selected from the toolbar on the main screen.



Menu Name	Overview
File	Execute operations related to parameter files
Communication	Execute operations related to communication with devices
Information	Execute operations related to application and connected device information

■ File menu

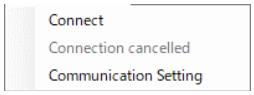
In addition to opening and saving parameter files, this tool can also exit.



Options	Overview
Open	Open a parameter file
Save	Save a parameter file
Exit	Exit the application

■ Communication menu

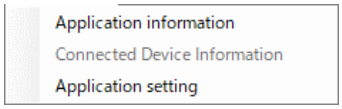
Connecting to / disconnecting from the target device and configuration of communication settings can be performed.



Options	Overview
Connection	Establish communication with the target device
Disconnect	Disconnect communication with the connected device
Communication Settings	Configure communication settings

■ Information menu

Display of application information of this tool and information of the connected device, as well as configuration of application settings can be performed.



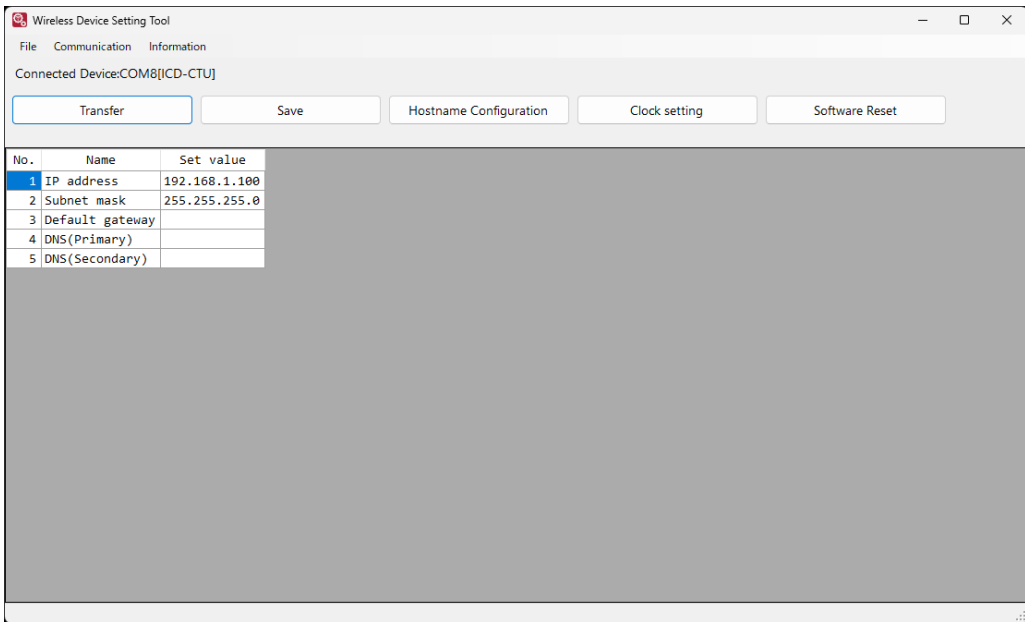
Options	Overview
Application Information	Display application information
Device Information	Display information of the connected device
Application Settings	Configure application settings

Smart Web Unit Connection

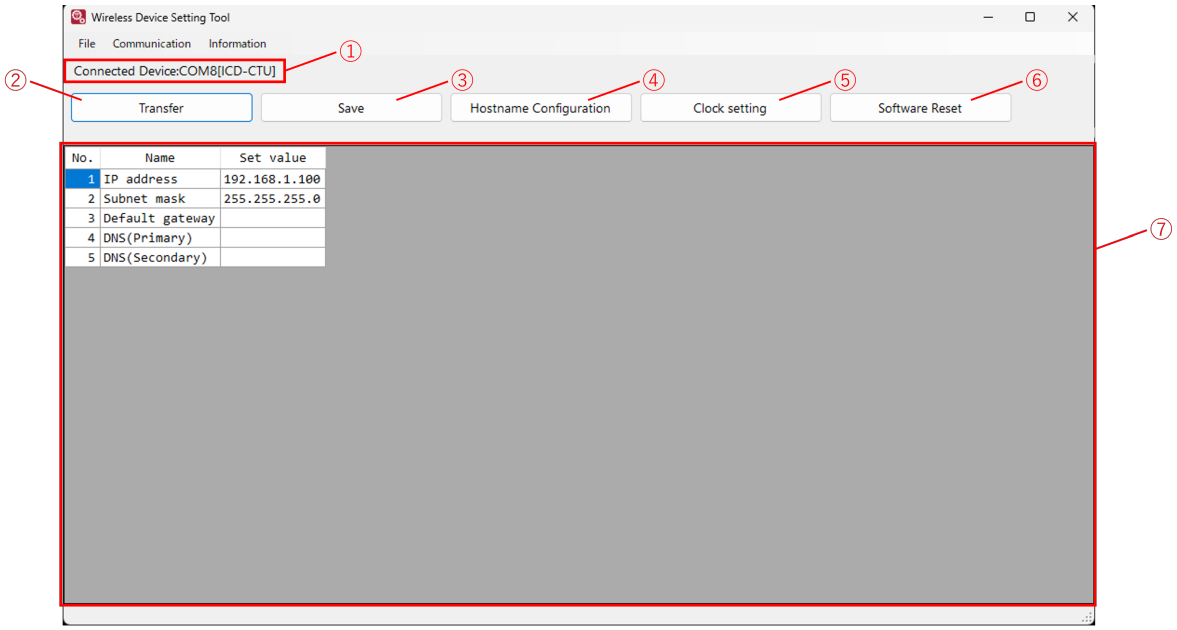
In the connected device selection window, after selecting the Smart Web Unit and establishing communication with it, the main screen will be displayed.

■ USB Connection

When communication is established via USB, the following main screen is displayed.



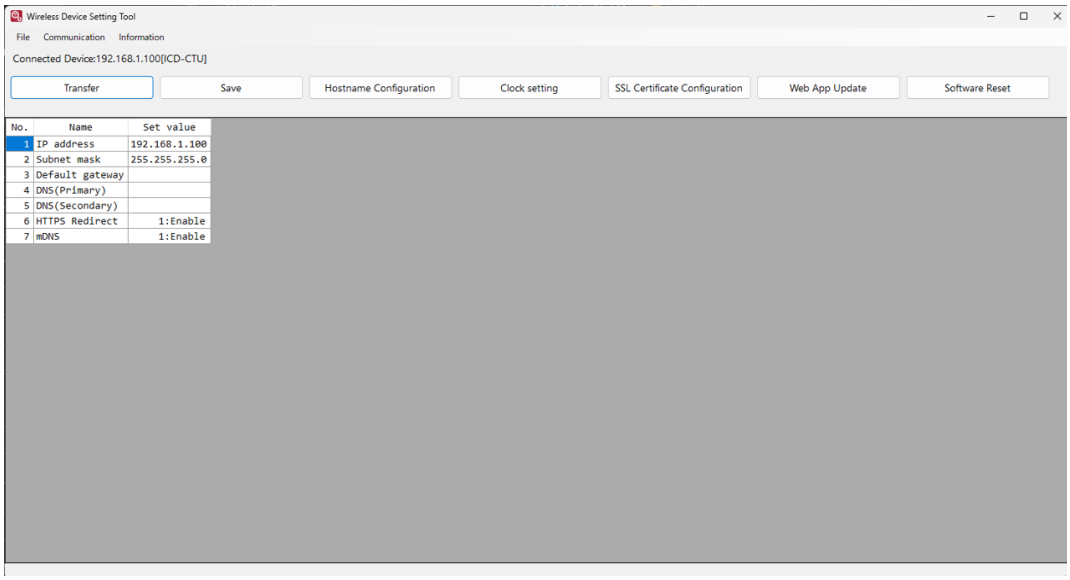
This section shows the names and overview of each part when the Smart Web Unit is connected (via USB).



No.	Name	Overview
①	Connected Device Information	Displays the following information. • Connection port name • Model
②	Transfer button	Transfer parameters
③	Save button	Save parameters
④	Host Name Settings	Set the hostname of the Smart Web Unit.
⑤	Time Setting	Set the time of the Smart Web Unit.
⑥	Software Reset	Perform a software reset of the Smart Web Unit.
⑦	Parameter Display Area	Display the parameter list.

■ Ethernet Connection

When communication is established via Ethernet, the following main screen is displayed.



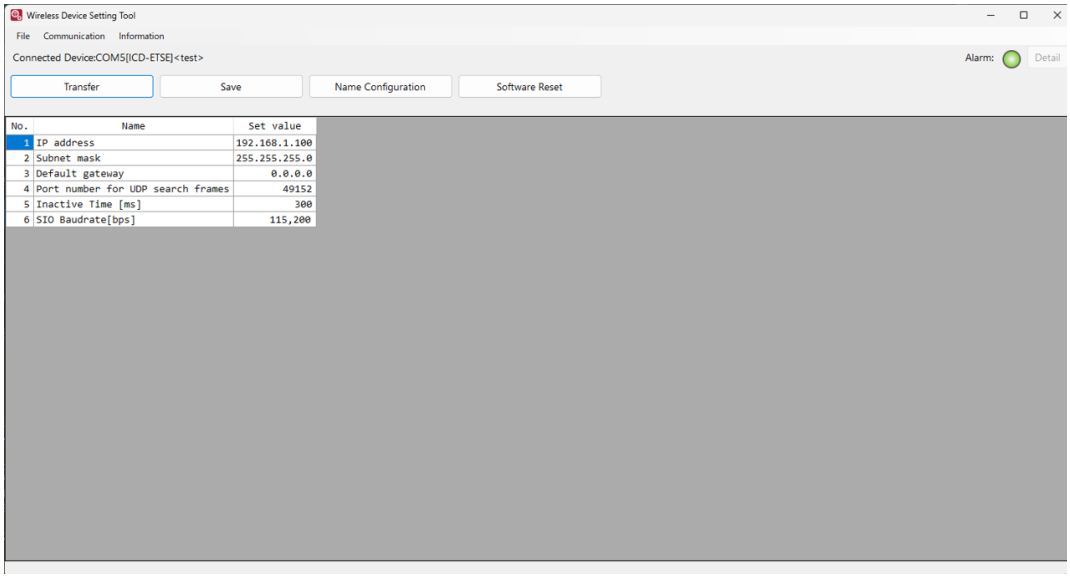
This section shows the names and overview of each part when the Smart Web Unit is connected (via Ethernet).



No.	Name	Overview
①	Connected Device Information	Displays the following information. • Connection port name • Model
②	Transfer button	Transfer parameters
③	Save button	Save parameters
④	Host Name Settings	Set the hostname of the Smart Web Unit.
⑤	Time Setting	Set the time of the Smart Web Unit.
⑥	SSL Certificate Settings Button	Register an SSL certificate on the Smart Web Unit. You can either issue a self-signed certificate or register a prepared certificate.
⑦	Web App Update Button	Web App Update Button
⑧	Software Reset	Perform a software reset of the Smart Web Unit.
⑨	Parameter Display Area	Display the parameter list.

Ethernet/RS-485 Converter

In the connected device selection window, after selecting the Ethernet/RS-485 Converter and establishing communication with it, the main screen will be displayed.



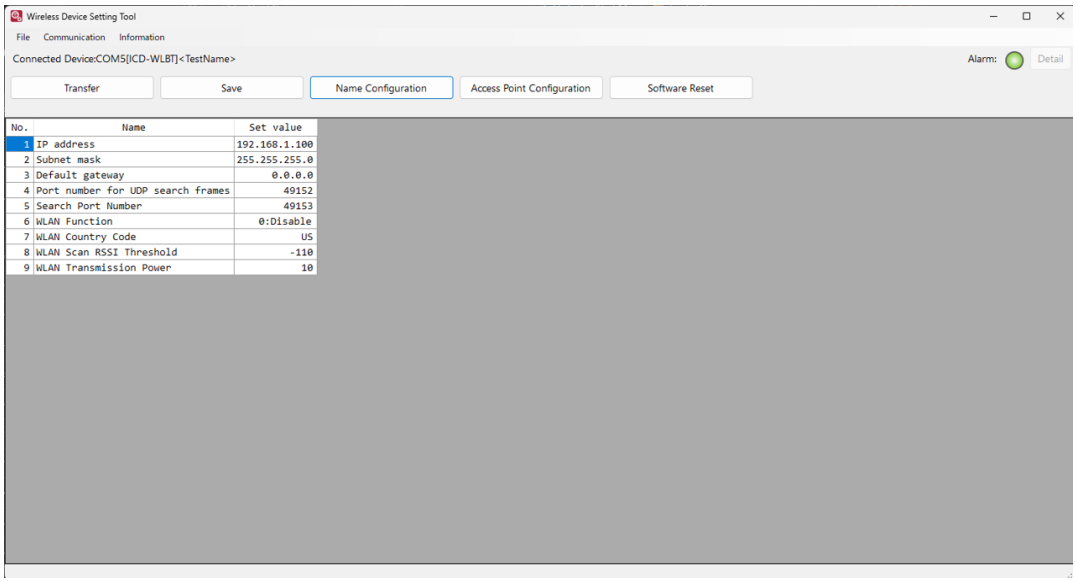
This section shows the names and overview of each part of the main screen when the Ethernet/RS-485 converter is connected.



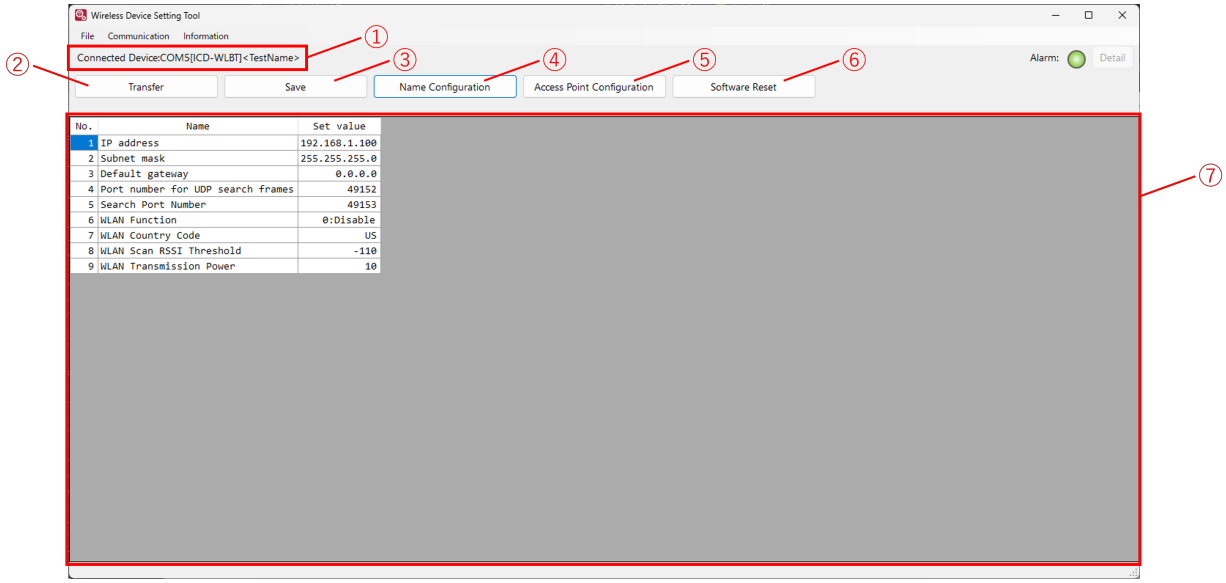
No.	Name	Overview
①	Connected Device Information	Displays the following information about the connected device. • USB connection: Communication port, model • Ethernet connection: Communication port name, model, User-defined name
②	Transfer button	Transfer parameters
③	Save button	Save parameters
④	Name Settings	Set a user-defined name.
⑤	Software Reset	Perform a software reset
⑥	Parameter Display Area	Display the parameter list.

WLAN/Bluetooth Converter

In the connected device selection window, after selecting the WLAN/Bluetooth Converter and establishing communication with it, the main screen will be displayed.



This section shows the names and overview of each part of the main screen when the WLAN/Bluetooth converter is connected.

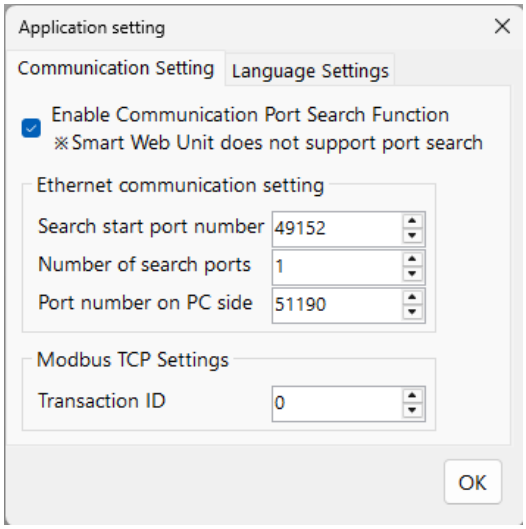


No.	Name	Overview
①	Connected Device Information	Displays the following information about the connected device. • USB connection: Communication port, model • Ethernet connection: Communication port name, model, User-defined name
②	Transfer button	Transfer parameters
③	Save button	Save parameters
④	Name Setting button	Set a user-defined name.
⑤	Access Point Setting button	Register WLAN access point information.
⑥	Software Reset button	Perform a software reset
⑦	Parameter Display Area	Display the parameter list.

8.2.5 Application Settings of Wireless Device Parameter Setup Tool

Communication Settings

The Communication Settings tab of the Application Settings screen is shown below.



Setting Items		Remarks
Enable/Disable Communication Port Search		Set whether to perform port search when selecting a communication port If disabled, specify the port manually to establish communication
Ethernet Communication Settings	Start search port number	The starting port number for searching connection targets
	Number of search ports	The number of ports to search when detecting connection targets
	PC side port number	The port number on the PC used during connection target search
Modbus TCP Settings	Transaction ID	The transaction ID used during Modbus TCP communication

ICD-CTU/WLBT/
ETSE

9

Web Application for Smart Web Unit

9.1 Overview (Web Application for Smart Web Unit) 9-1
9.1.1 Introduction (Web Application for Smart Web Unit). 9-1
9.1.2 Supported Languages of the Web Application. 9-1
9.1.3 How to Open a Web Application. 9-1
9.2 Web application execution environment and specifications, etc. 9-2
9.2.1 Execution Environment of Web Application. 9-2
9.2.2 Maximum Number of Connected Axes for Web Application. 9-2
9.2.3 Web App Precautions. 9-2
9.2.4 Supported Models for Web Applications. 9-2
9.2.5 Web Application Support Functions. 9-4
9.3 Web Application Screen Transitions 9-5
9.3.1 Transitions from Menu. 9-5
9.3.2 Transitions from [Communication]. 9-5
9.3.3 Transitions from [Position data]. 9-5

9.3.4 Transitions from [Monitor]. 9-6
9.3.5 Transitions from [Backup]. 9-7
9.3.6 Transitions from [Maintenance]. 9-8
9.3.7 Transitions from [Information]. 9-8
9.3.8 Transitions from [Other]. 9-8
9.4 User Authentication (Web Application for Smart Web Unit) 9-10
9.4.1 Initial Setup (Web Application for Smart Web Unit). 9-10
9.5 Function Description (Web Application for Smart Web Unit) 9-12
9.5.1 Menu. 9-12
9.5.2 Communication. 9-14
9.5.3 Position data. 9-16
9.5.4 Monitor. 9-21
9.5.5 Backup. 9-35
9.5.6 Maintenance. 9-41
9.5.7 Information. 9-43
9.5.8 Other. 9-46

9.1 Overview (Web Application for Smart Web Unit)

9.1.1 Introduction (Web Application for Smart Web Unit)

This section explains the operation methods of the Smart Web Unit web application (hereinafter referred to as this tool).
This tool enables teaching using a general-purpose web browser installed on a smartphone, tablet, or PC.

⚠ Caution

- For operation settings of this product (Smart Web Unit, WLAN/Bluetooth converter, Ethernet/RS-485 converter), refer to the [8.1.1Wireless Device Parameter Setup Tool] .

9.1.2 Supported Languages of the Web Application

- Japanese

9.1.3 How to Open a Web Application

As this tool is built into the Smart Web Unit, installation is not required.

1. Use the wireless device parameter setup tool to complete the network settings of the Smart Web Unit.
2. URL: Access the following URL in your browser:
   http://[IP address set in step 1]

9.2 Web application execution environment and specifications, etc.

9.2.1 Execution Environment of Web Application

When using this tool on a PC, use a Full HD display.

For mobile devices, operation has been verified with the following combinations using the latest versions at the time of release:

- Windows + Edge
- iOS + Safari
- Android + Chrome

Note that Android 15 is not recommended.

9.2.2 Maximum Number of Connected Axes for Web Application

There is no strict upper limit defined by the application, however, considering the specifications of the Smart Web Unit, the recommended maximum number of connected axes is 16.

9.2.3 Web App Precautions

• About Browser Settings

The following browser settings must be changed in order to use the Web application.

- Allow pop-ups
  Add the Web application URL to the list of sites allowed to display pop-ups, or disable the browser's pop-up blocker.
- Enable JavaScript
  Allow the use of JavaScript in the browser, or add the Web application URL to the list of sites permitted to run JavaScript.

• About the Mobile Screen

Except for certain screens, the mobile interface is designed to be used in portrait orientation.
Therefore, if the device is used in landscape orientation, the display layout may become distorted or screen elements may overlap.

9.2.4 Supported Models for Web Applications

Actuator

Model	Edit Position*5	Monitor
Servo Press*6	○*1 *2	○*4
Pulse Press		
CCM		
ROBO PUMP		
EC	○*2 *3	●
Orthogonal 6 axes		●
SCARA		●
Actuator other than the above	●	●

●: Support / ○: Supported with conditions / Blank: Not supported

*1 The pressing force can only be input in %.

*2 Display of the pressing force converted to [N] is not supported.

*3 Editing of already configured position points is possible, but changing the number of position points is not allowed.

*4 The same display items as a linear axis are shown, and only the items that can be acquired are displayed.

*5 Position editing is supported only for CON series. EC connection for SEL series controllers is not supported.

*6 Press programs are not supported.

Controller

Model	Edit Position	Monitor
RCON	●	●
A/D/PCON-CB	●	●
SCON-CB	●	●
SCON2	○*1	●
EC	○*2	●
RSEL		●
XSEL2		●

●: Support / ○: Supported with conditions / Blank: Not supported

*1 For load cell specifications, the pressing force can only be input in %.

*2 EC connection units of XSEL2 and connections via RCON-EC of RSEL are not supported.

9.2.5 Web Application Support Functions

Among the functions available in existing teaching software, the functions supported by the web application are as follows.

機能		CON	EC	SEL	CCM	ROBOPUMP
Position data	Edit	●	●			
	JOG / inching	●	●			
	Move to specified position	●	●			
Parameter	Edit					
	Axis number setting					
	Time setting					
	Controller name setting					
Alarm	Alarm list	●	●			
	Alarm information	●	●			
	Troubleshooting	●	●			
	List of registration alarms	●	●			
	Alarm reset	●	●	●		
Maintenance information	Maintenance information display	●	●	●		
	Warning value setting					
	Operation noise setting					
	Maintenance information setting / clear					
Monitor	I/O data monitor	●	●			
	Network data monitor	●	●			
	Status monitor	●	●			
	Servo monitor	●				
	Input port monitor			●		
	Output port monitor			●		
	Axis status monitor			●		
	System status monitor			●		
	Task status monitor			●		
	Servo addition data monitor			●		
	All-axis monitor (Simultaneous monitoring during full contact)	●	●	●		
Other	Automatic backup (Equivalent to teaching software)	●	○*1	●		
	Automatic backup (Monitor data)	●	○*1	●		

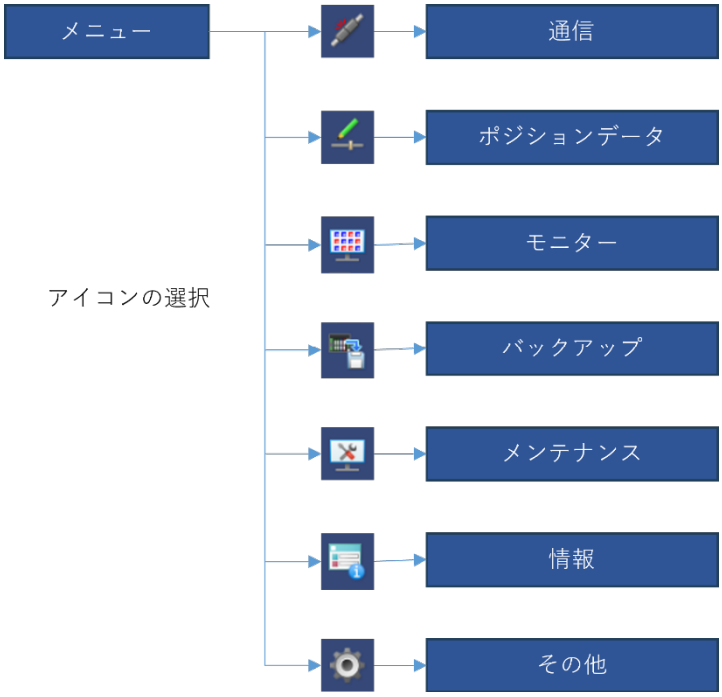
●: Saport / ○: Conditional support / Blank: Not supported
*1 This feature is not available when using a WLAN/BLE converter.

9.3 Web Application Screen Transitions

The screen transitions of the web application are shown below. Both the PC and mobile versions have the same functions.
The transition diagrams below show the flow from the menu to each function, as well as the breakdown by function.

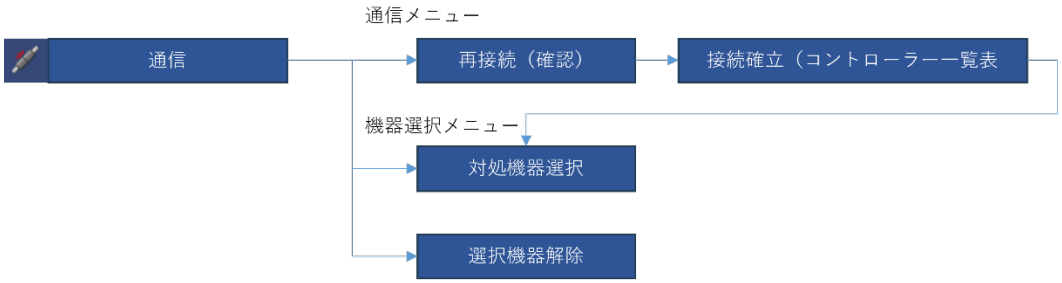
9.3.1 Transitions from Menu

Select an icon in the menu window to navigate to each function.



9.3.2 Transitions from [Communication]

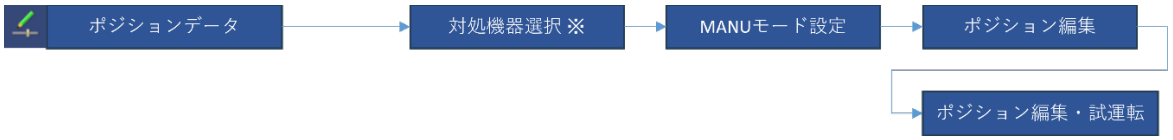
You can connect to controllers on the network, and select or deselect the controller to operate.



9.3.3 Transitions from [Position data]

You can edit the position data of the selected controller and perform test operation.

* If a device has already been selected, the target model selection will not be displayed.



9.3.4 Transitions from [Monitor]

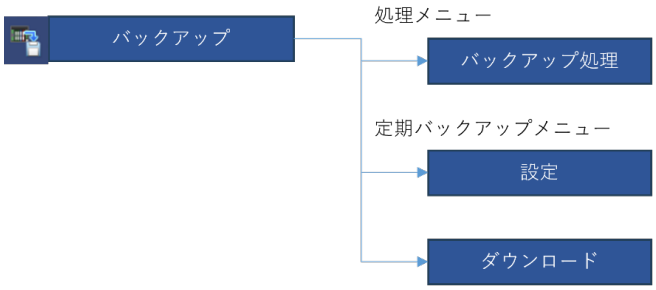
You can check various monitors of the selected controller, and configure and download periodic monitoring settings.

* If a device has already been selected, the target model selection will not be displayed.



9.3.5 Transitions from [Backup]

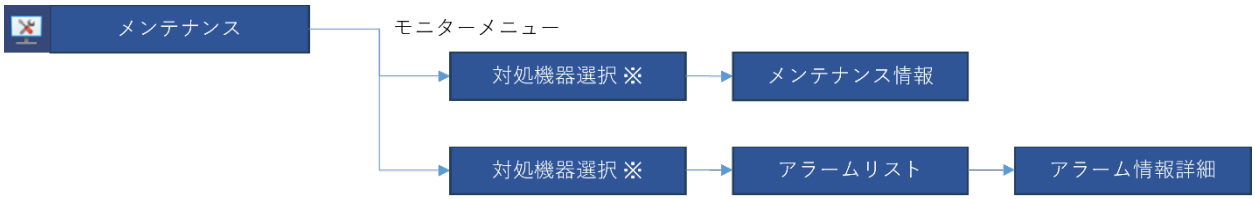
You can perform backup operations, and configure and download periodic backup settings.



9.3.6 Transitions from [Maintenance]

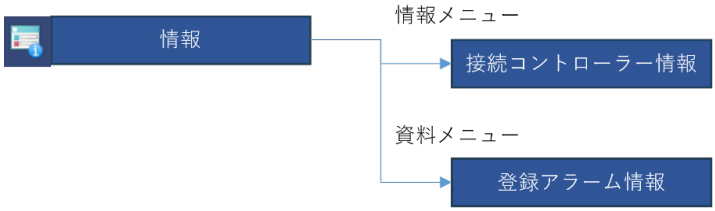
You can check maintenance information and view alarms for the selected controller.

* If a device has already been selected, the target model selection will not be displayed.



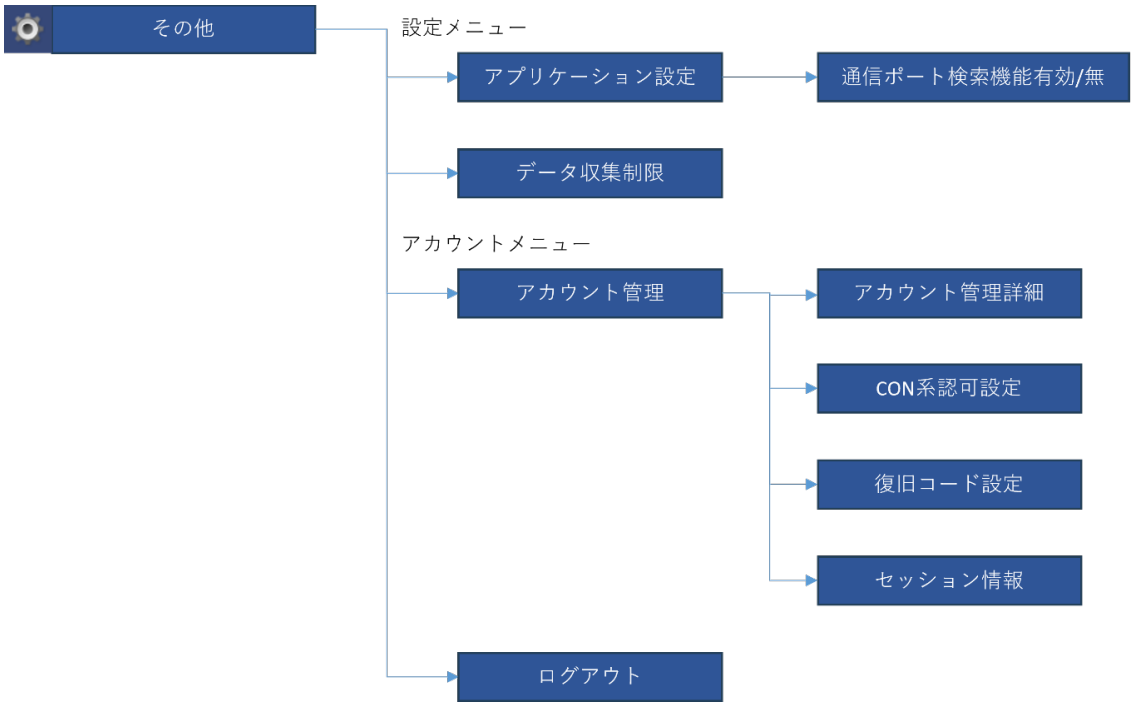
9.3.7 Transitions from [Information]

You can check the information of the selected controller and the registered alarms.



9.3.8 Transitions from [Other]

You can configure application settings, data collection limits, and account management.


その他
設定メニュー
アプリケーション設定
通信ポート検索機能有効/無
データ収集制限
アカウントメニュー
アカウント管理
アカウント管理詳細
CON系認可設定
復旧コード設定
セッション情報
ログアウト

9.4 User Authentication (Web Application for Smart Web Unit)

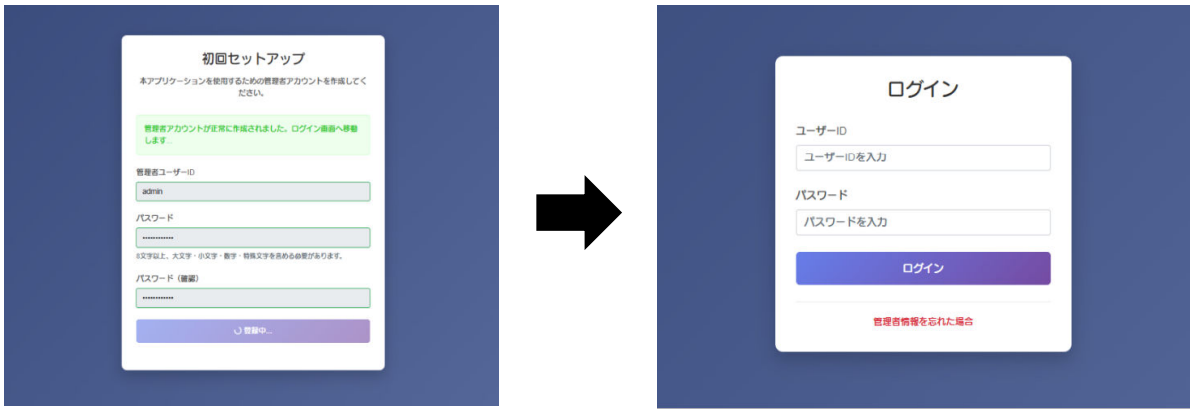
9.4.1 Initial Setup (Web Application for Smart Web Unit)

This web application is equipped with a user authentication function. User authentication is required to use the functions of the web application.

When connecting for the first time (when no account has been created), the initial setup screen shown below will be displayed. Register an administrator user.



After account registration is completed, the login screen will be displayed as shown below.



Enter your user information on the login screen and log in to display the home screen.

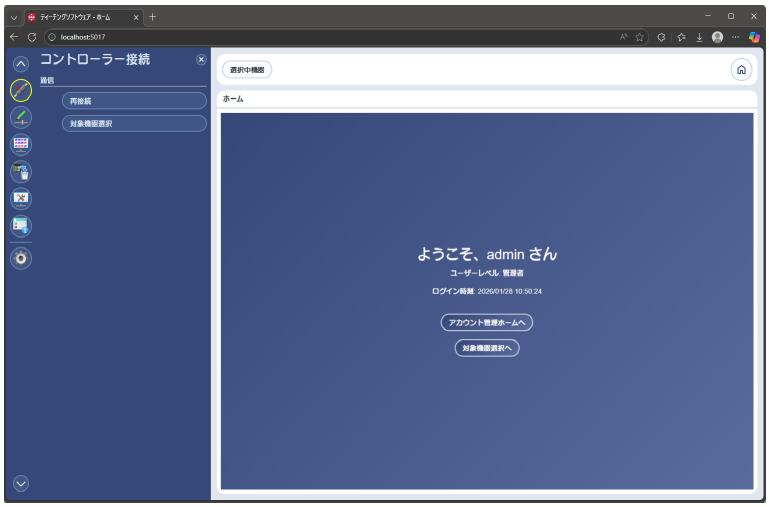


Figure 8.1 Home screen (PC)



Figure 8.2 Home screen (Mobile device)

9.5 Function Description (Web Application for Smart Web Unit)

9.5.1 Menu

On a PC browser, the menu for selecting each function is displayed in the left pane, while on mobile devices such as smartphones, it is displayed in full screen.



Figure 8.3 Menu (PC)



Figure 8.4 Menu (Mobile device)

To display the menu on a mobile device, tap the button located at the top left of the screen.



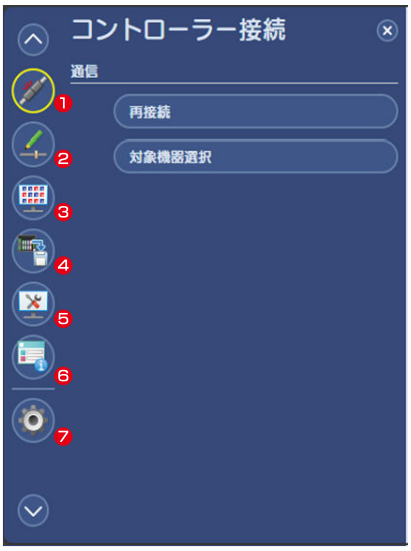


Figure 8.5 Menu (PC)



Figure 8.6 Menu (Mobile device)

1. Communication

   Used it to open communication-related functions. Refer to the [9.5.2Communication] .
2. Position Data

   Used it to open position data-related functions. Refer to the [9.5.3Position data] .
3. Monitor

   Used it to open monitor-related functions. Refer to the [9.5.4Monitor] .
4. Backup

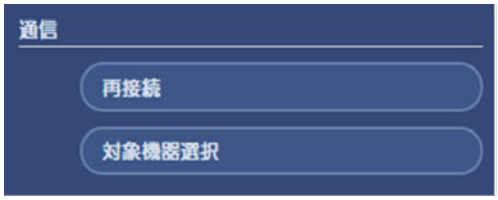
   Used it to open Backup-related functions. Refer to the [9.5.5Backup] .
5. Maintenance

   Used it to open maintenance-related functions. Refer to the [9.5.6Maintenance] .
6. Information

   Used it to open information-related functions. Refer to the [9.5.7Information] .
7. Other

   Used it to open others-related functions. Refer to the [9.5.8Other] .

9.5.2 Communication



Reconnect

Communication with connectable controllers on the same network is to be established.
Depending on the application settings, the behavior will change between searching for connectable devices using UDP packets or establishing communication only with pre-registered IP addresses.
When the screen is opened, a confirmation message as shown in Figure 8.7 will be displayed. Selecting [OK] starts checking connections with controllers on the same network.
The target controllers for connection checking vary depending on whether the “communication port search function” is enabled. For details, refer to [Other > Application Settings] section.

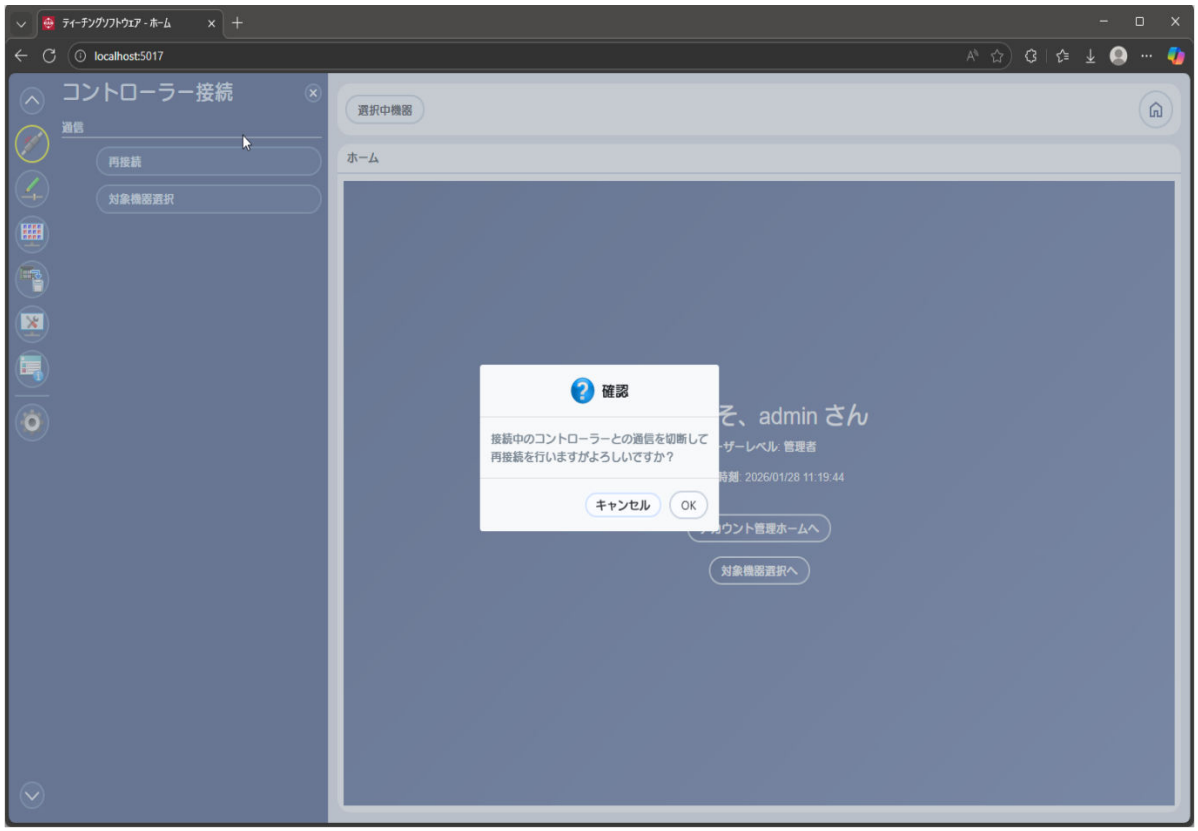


Figure 8.7 Reconnect Confirm

While establishing a connection with the controller, the screen switches to a display as shown in Figure 8.8.
Connection is established for each axis No. shown in the list, and the result and message columns are updated according to the execution results.
Refer to Table 8.1 for the legend of execution results.

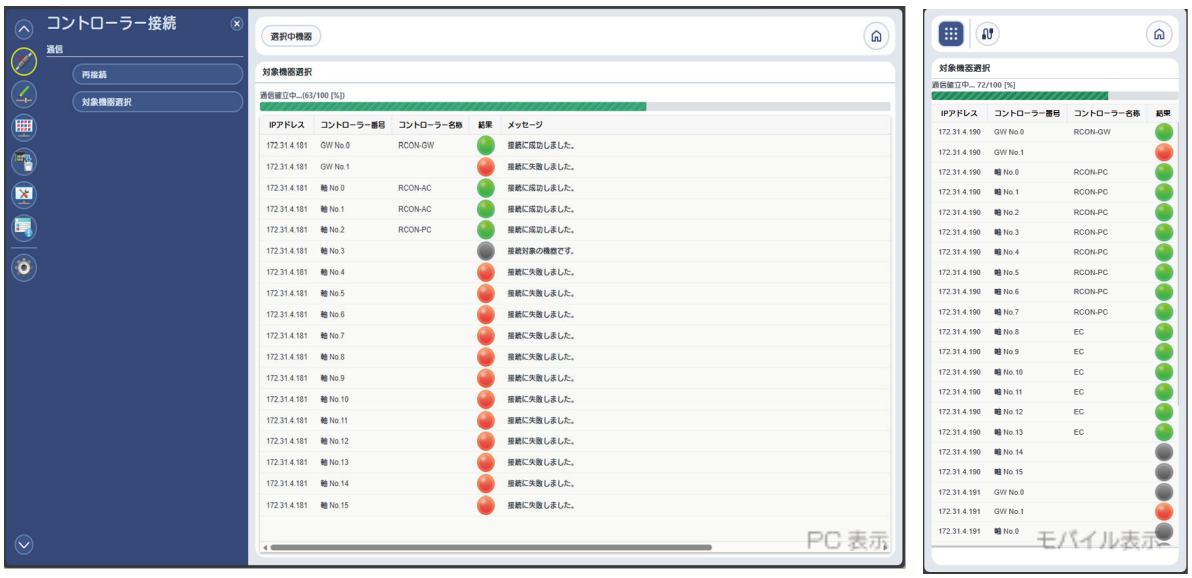


Figure 8.8 Reconnect Confirm Reconnecting

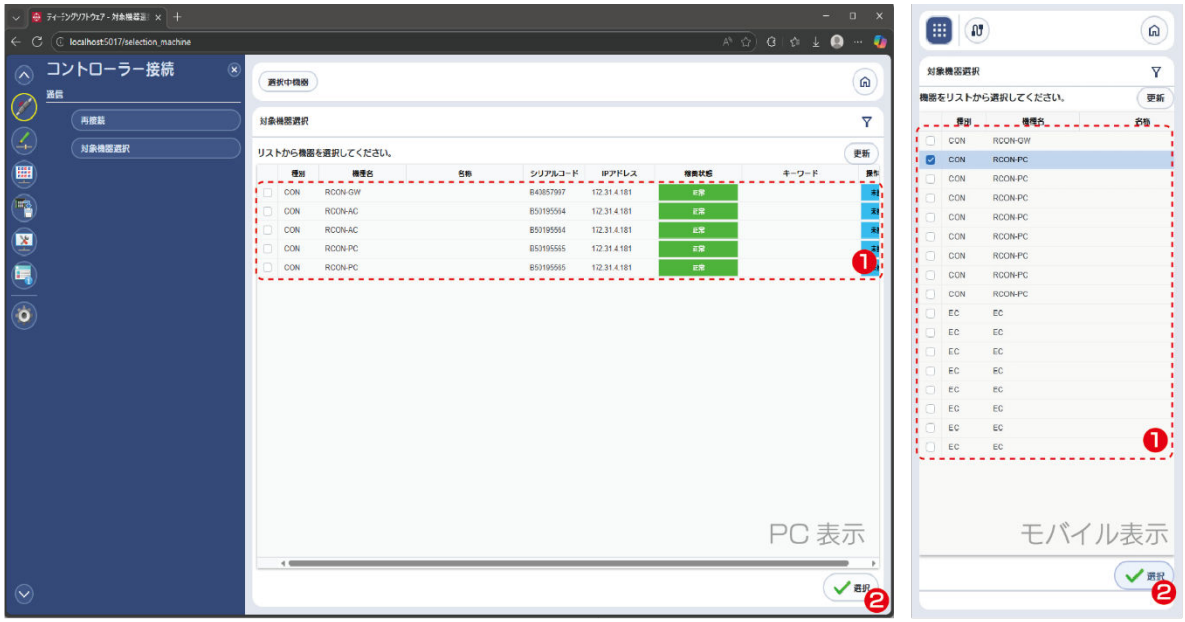
Table 8.1 Result Legend

	Connection successful
	Connection failed
	Connection Not established

Target Device Selection

For functions such as position data editing and monitoring, it is necessary to specify one target axis before proceeding. This screen is used to select that target axis.

Even if a target device has not been selected in advance, this screen will be displayed automatically before opening a screen that requires device selection.

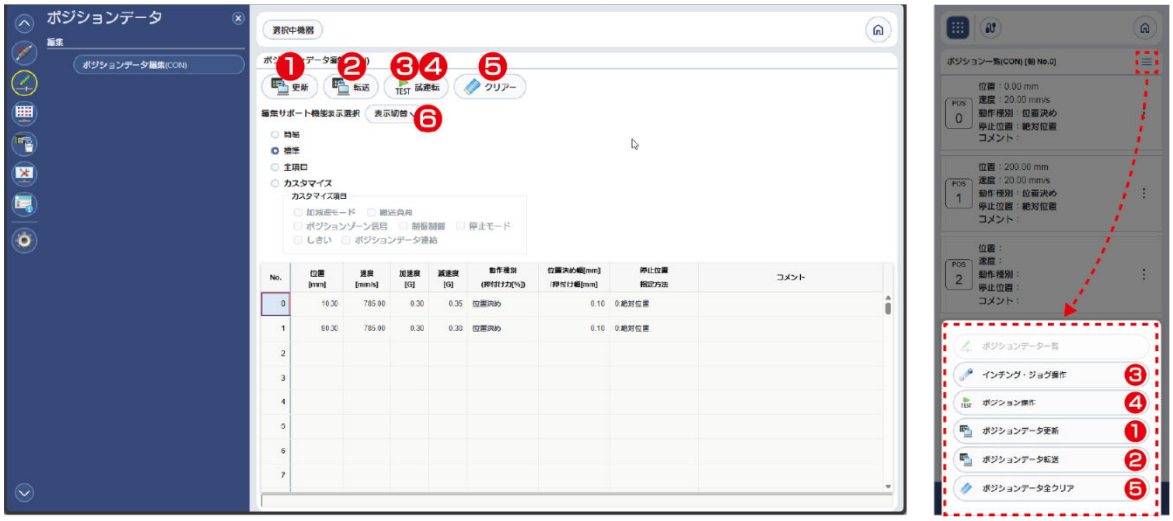


1. Target Device Selection Part
   Select the device you want to operate on from this table (e.g., to open position data).
2. [Select] Button
   After selecting the target device, press this button. Pressing the button confirms the selected device.

9.5.3 Position data

View/Edit Position Data (CON series)

This section describes the functions and screens related to position data for the CON series.



1. Update
   Press it, and then the currently set position data in the controller is retrieved and reflected in the list.
2. Transfer
   Transfers the position data set in the web application to the controller.
3. Test Run (Jog/Inching Operation)
   Switches to the test operation screen where jog and inching operations can be performed.
   * For PC, items 3 and 4 are displayed on the same screen.
4. Test Run (Position Operation)
   Switches to the test operation screen where position movement can be performed.
   * For PC, items 3 and 4 are displayed on the same screen.
5. Clear
   Deletes (clears) all position data.
6. Display Switch
   Switches the display. The available options are as follows.



Display switch

Switches the display below the corresponding combo box as follows.



Test run

Switches the display below the corresponding combo box as follows.



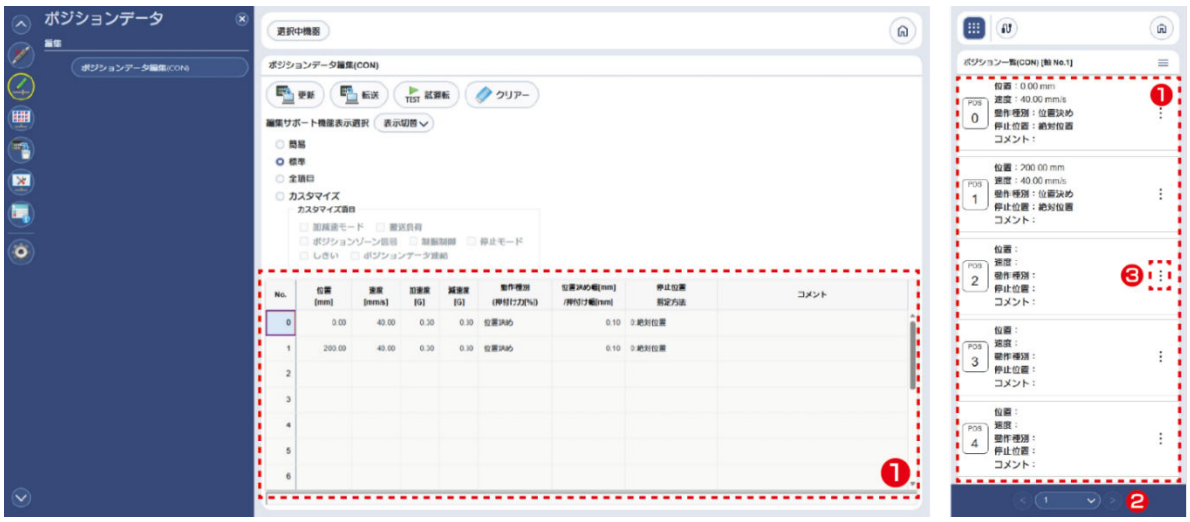
Not displayed

Switches the display below the corresponding combo box as follows.



Position List

This is the screen for displaying the list of position data.

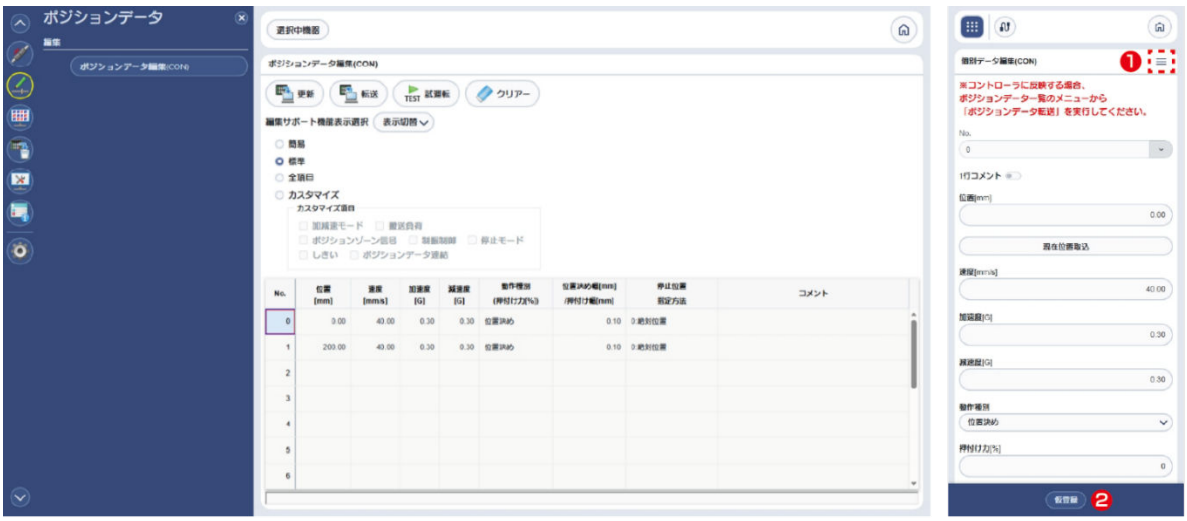


1. Position Data Display Part
   Displays the position data stored in the controller. On a PC, the position data can be edited directly from this grid.
2. Pager (Mobile devices only)
   If the number of position data items is large, use this control to switch pages.
3. Edit Menu (Mobile devices only)
   This is a button for opening a menu dedicated to mobile devices.
   As shown in the figure below, functions related to editing—such as a button to navigate to the position data editing screen—are displayed.



Edit Position

This is the screen for displaying the list of position data.



* On a PC, this is the same screen as the list. (editing can be performed directly from the list screen)

1. Position Menu (Mobile devices only)

   When pressed, operation buttons such as the position data list are displayed as shown in the figure below.



2. Temporary Registration Button

   Press it, and the edited content is temporarily registered.

   Pressing this button alone does not transfer the data to the controller. To apply the changes to the controller, execute “Transfer Position Data” from the menu in the position data list.

Position Operation

This is the screen for operating axes, such as jog, inching, and position movement.

Switching between the jog/inching screen and the position movement screen can be done as follows:

- For mobile devices: from the position menu
- For PC: from the tabs near the center of the screen

• Jog-inching screen



Figure 8.9 Jog-inching screen

1. Stop Signal

   Displays the status of the stop signal.

2. Alarm

   Displays the currently active alarm.

   Press the [Reset] button if on a PC, tap this area if on a mobile device, to reset the alarm.

3. Servo-on Status

   Displays the ON/OFF status of the servo.

   Press the [Switch] button if on a PC, tap this area if on a mobile device, to switch the servo on/off.

4. Homing

   Displays the home return status.

   Press the [Execute] button if on a PC, tap this area if on a mobile device, to perform home return.

5. Current Position

   Displays the current position.

6. Stop Button

   Stops the operation of the actuator.

7. Inching Area

   Allows inching operation based on the set inching distance.

   On mobile devices, the forward and backward buttons are displayed at the bottom of the screen.

   * On mobile devices, items 7 and 8 are displayed in a common area depending on the settings in item 9.

8. Jog Area

   Allows jog operation based on the set jog operation.

   On mobile devices, the forward and backward buttons are displayed at the bottom of the screen.

   * On mobile devices, items 7 and 8 are displayed in a common area depending on the settings in item 9.

9. Operation Details (Mobile devices only)

   Used to switch between inching operation and jog operation.

10. Advanced settings (Mobile devices only)

    For inching operation, the inching distance can be set. For jog operation, the jog speed can be set.

• Position movement screen



Figure 8.10 Position movement screen

11. Speed Limit Ratio

    Sets the speed limit ratio for position movement.

12. Stop Button

    Press it to stop position movement.

13. Step Button

    Press if to perform step movement for one position only.

    The destination position is selected as follows:

- On a PC: select from the grid
- On a mobile device: select using the destination position number in item 15

14. Continuous Button

    Press it to perform continuous position movement.

15. Destination Position No. (Mobile devices only)

    Use it to specify the destination position No.

9.5.4 Monitor

All Axes Monitor

This is the screen for monitoring all connected axes simultaneously.

On a PC, information for all monitored axes is displayed on a single screen, while on mobile devices, one axis is displayed per screen.

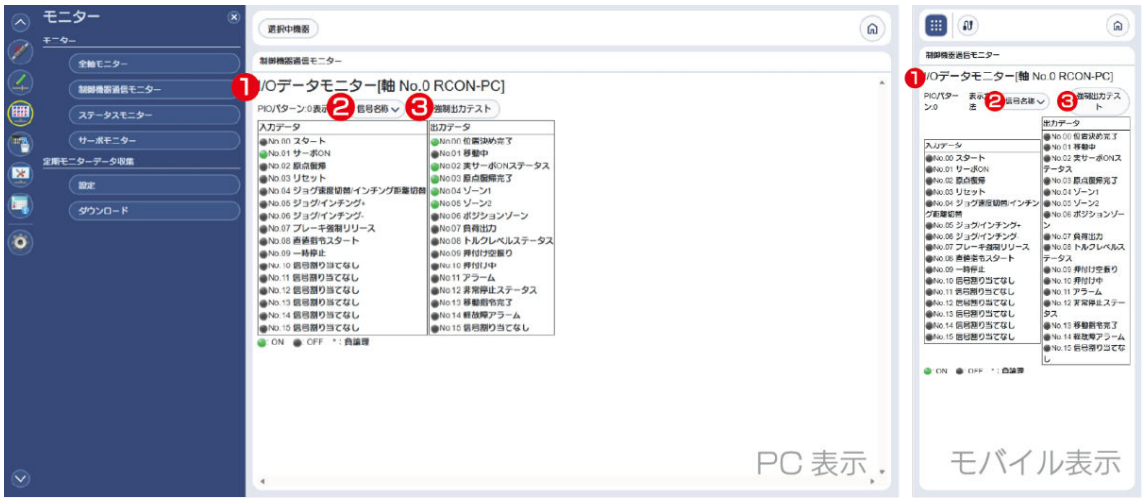


1. Monitor Display Part
   Displays information for each monitored axis.
2. Axis Switch Button (Previous Axis) (Mobile devices only)
   Use it to switch the displayed monitoring information to the previous axis.
   You can also switch by flicking the screen to the left.
3. Axis Switch Button (Next Axis) (Mobile devices only)
   Use it to switch the displayed monitoring information to the next axis.
   You can also switch by flicking the screen to the right.

Control Device Communication Monitor

This is the monitoring screen for communication-related information.

I/O Data Monitor



1. Monitor Data Display Part
   It is an area where monitor data is displayed.

2. Display Method Selection

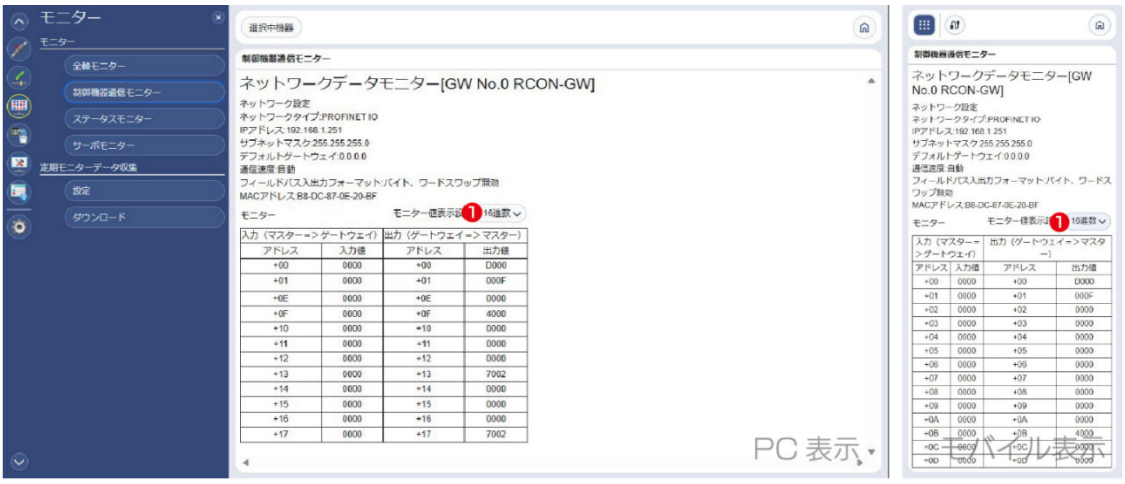
   It is used to switch how signal names are displayed.

   Options are “Signal Name” and “Signal Abbreviation”.

3. Forced Output Test Button

   Press it to perform a forced I/O output test.

Network Data Monitor



1. Monitor Value Display Setting

   Allows switching the display format of monitor data output and input values between decimal and hexadecimal.

Status Monitor

This is the screen for displaying axis status.



Servo Monitor

Display Data Selection

This is the screen for selecting the data to be displayed on the servo monitor screen.

You can choose whether to acquire monitor data from the controller or display a previously saved servo monitor file.



1. Select Button

   Press it to select the controller from which monitor data will be acquired.

2. Display from Controller Button

   Press it to acquire monitor data from the controller.

3. Display from File Button

   Press it to open and display a previously saved servo monitor file.

Execute Servo Monitor

This is the screen for executing the servo monitor.



1. Start Button

   Press it to start the servo monitor.

2. Trigger Start Button

   Press it to start waiting for the servo monitor trigger.

3. Stop Button

   Press it to stop the servo monitor.

4. Save Button

   Press it to save the acquired servo monitor data to a file.

5. Graph Display Part

   Displays the results of the servo monitor in graph form.

6. Horizontal Scroll Bar

   It is used to scroll the graph horizontally and to zoom in/out of the horizontal axis display range.

   Move the bars on both sides of the dark blue area to adjust the display range.

   Drag the dark blue area to scroll.

7. Vertical Scroll Bar

   It is used to scroll the graph vertically and to zoom in/out of the vertical axis display range.

   Move the bars above and below the dark blue area to adjust the display range.

   Drag the dark blue area to scroll.

8. Channel Settings (Data Type Selection)

   It is used to assign a data type to each channel.

   After editing, press the confirm button in item 9 to apply the changes.

9. Confirmed Button

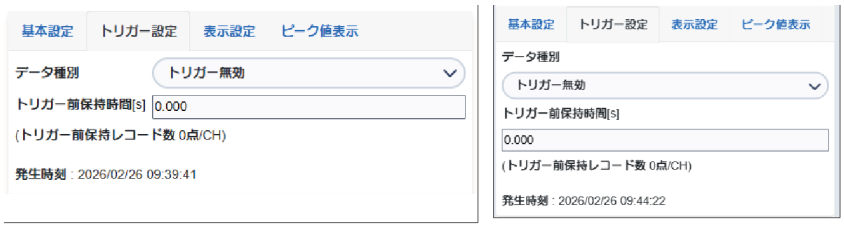
   Press it to confirm the channel settings.

10. Settings Switching Tab

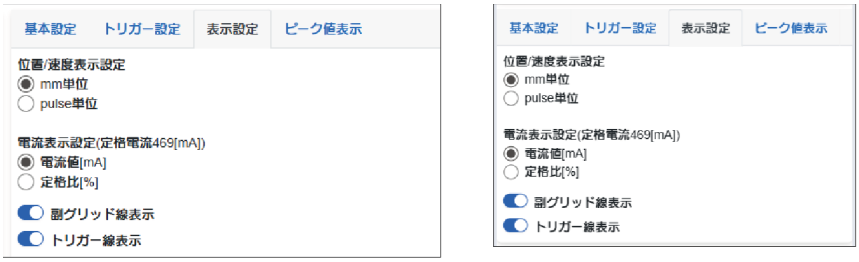
    It is used to switch between Basic Settings, Trigger Settings, Display Settings, and Peak Value Display.

    Details for tabs other than the Basic Settings tab are as follows.

Trigger Settings



Display Settings



Peak Value Display



Periodic Monitor Data Collection Settings

This is the screen for configuring settings such as the storage location and collection interval for the periodic monitor data collection function.



Figure 8.11 Periodic Monitor Data Collection Settings, Saved in Smart Web Unit

1. Enable/Disable Periodic Monitor Data Collection
   Switches periodic monitor data collection enable/disable.
2. Switch Save Destination
   Switches whether the collected data is stored in the Smart Web Unit or in external storage.
3. Monitor Data Acquisition Interval [h]
   Sets the interval (cycle) for data collection. The unit is “hours”.
   It can be set within the range of 1 to 65,535.
4. Number of Monitor Data History Entries
   Sets the number of collected data generations to be stored.
   Up to 1,000 files can be saved.
5. Save Settings Button
   Press it to save the settings.
   Note that changes to items 1 to 4 will not be applied unless the [Save Settings] button is pressed.



Figure 8.12 Periodic Monitor Data Collection Settings, Saved to External Storage

6. Monitor Data Storage Location

   It is an item displayed only when the checkbox in item 2 is off.

   Sets the path of the external storage where monitor data will be saved.

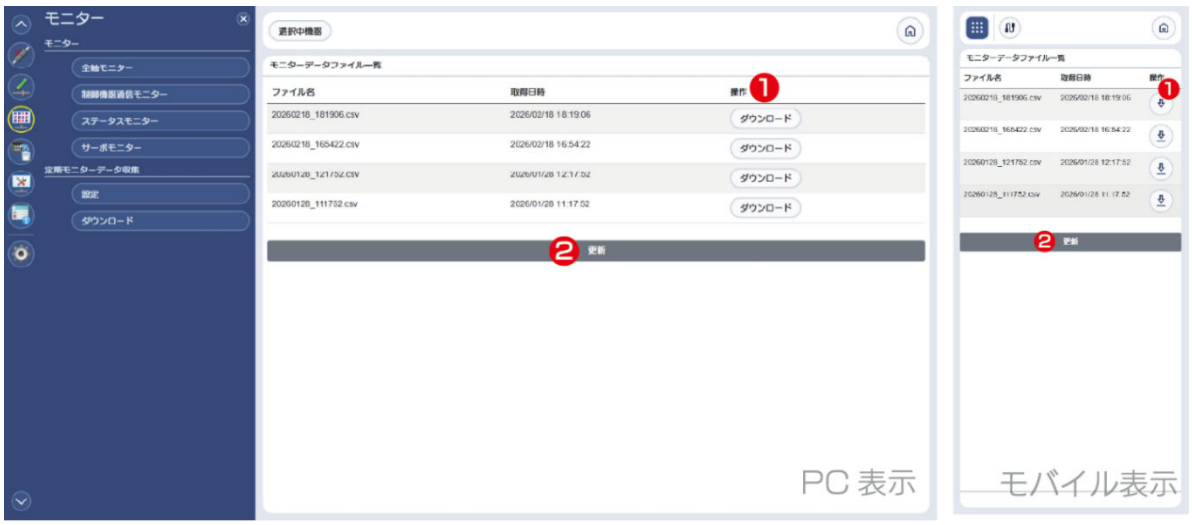
7. Credentials Button

   It is an item displayed only when the checkbox in item 2 is off.

   Displays the screen for registering credentials (user account information) required to connect to the external storage where monitor data will be saved.



Download Regular Monitoring Data

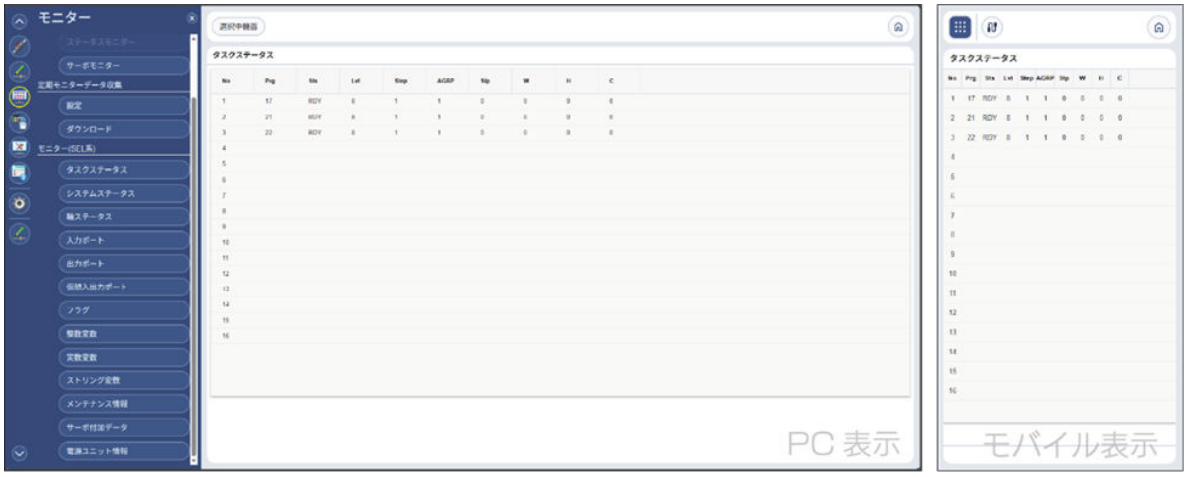


1. Operation Column (Download button)
   By pressing the [Download] button, you can download the periodic monitor data displayed in the same row.
2. Update Button
   Press it to refresh the list of monitor data files.

Task Status Monitor (SEL)

This is a screen for monitoring the task status of SEL series controllers.

* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



System Status Monitor (SEL)

This is a screen for monitoring the system status of SEL series controllers.

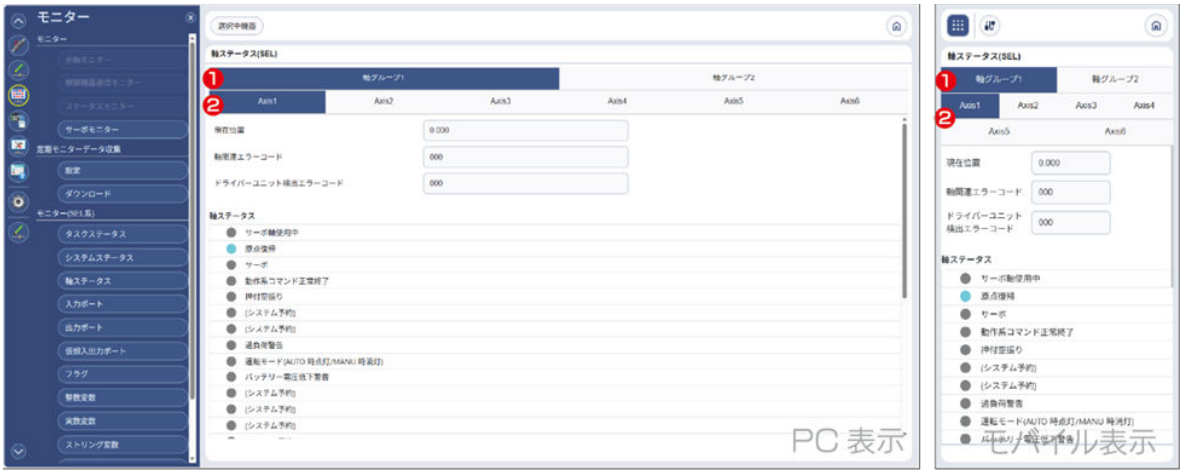
* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



Axis Status Monitor

This is a screen for monitoring the axis status of SEL series controllers.

* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.

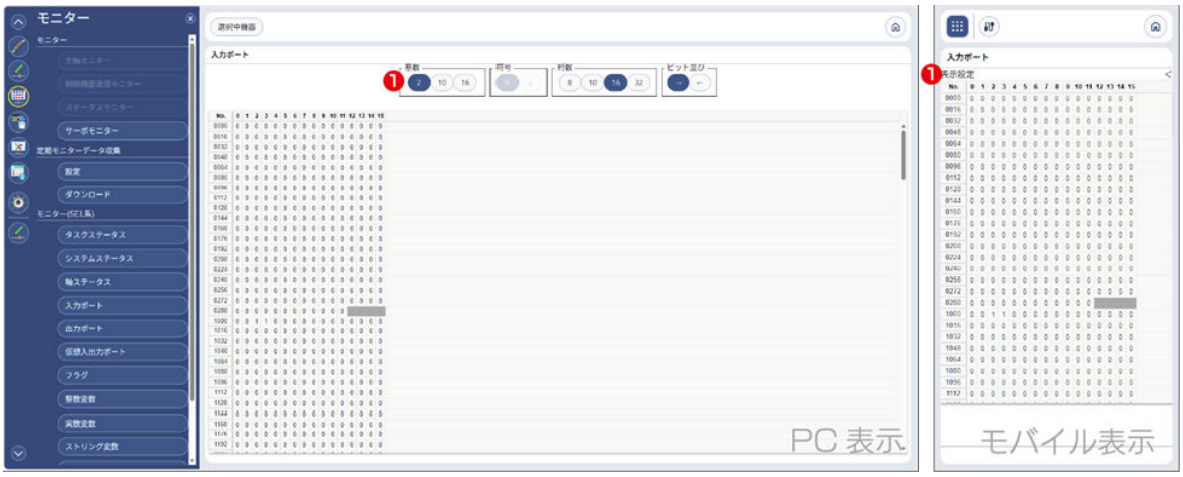


1. Axis Group Tab
   Allows switching between displayed axis groups.
2. Axis Number Tab
   Allows switching between displayed axis number.

Input Port Monitor (SEL)

This is a screen for monitoring the input port of SEL series controllers.

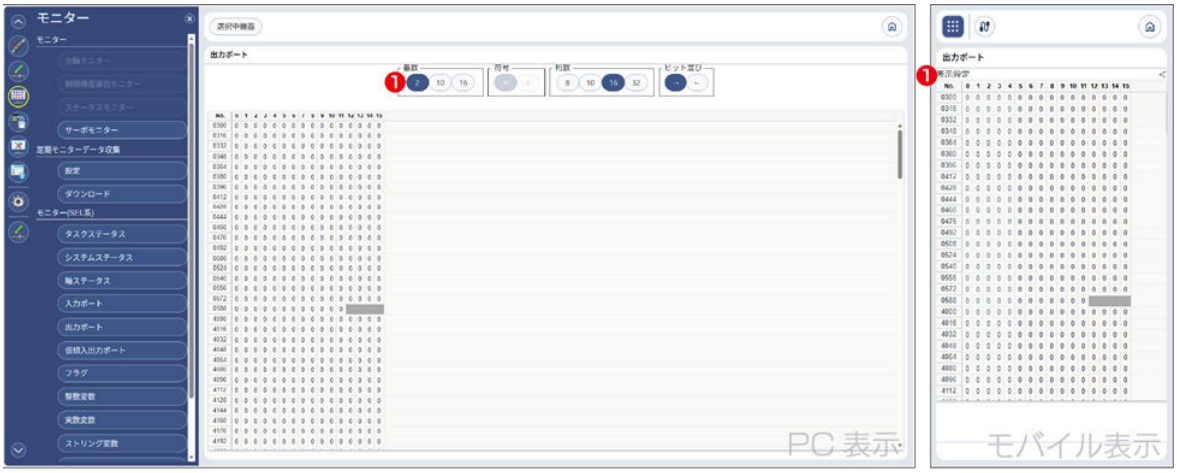
* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



1. Display Settings
   Changes display settings such as number base and bit order.

Output Port Monitor (SEL)

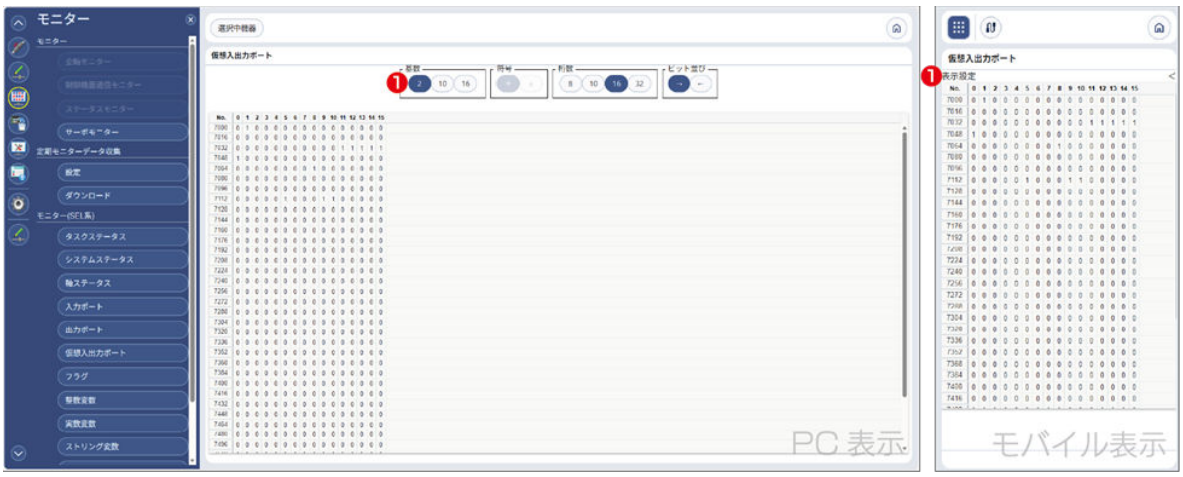
This is a screen for monitoring the output port of SEL series controllers.
* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



1. Display Settings
   Changes display settings such as number base and bit order.

Virtual I/O Port Monitor (SEL)

This is a screen for monitoring the virtual I/O port of SEL series controllers.
* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



1. Display Settings
   Changes display settings such as number base and bit order.

Flag Monitor (SEL)

This is a screen for monitoring the flag of SEL series controllers.

* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



1. Display Settings
   Changes display settings such as number base and bit order.

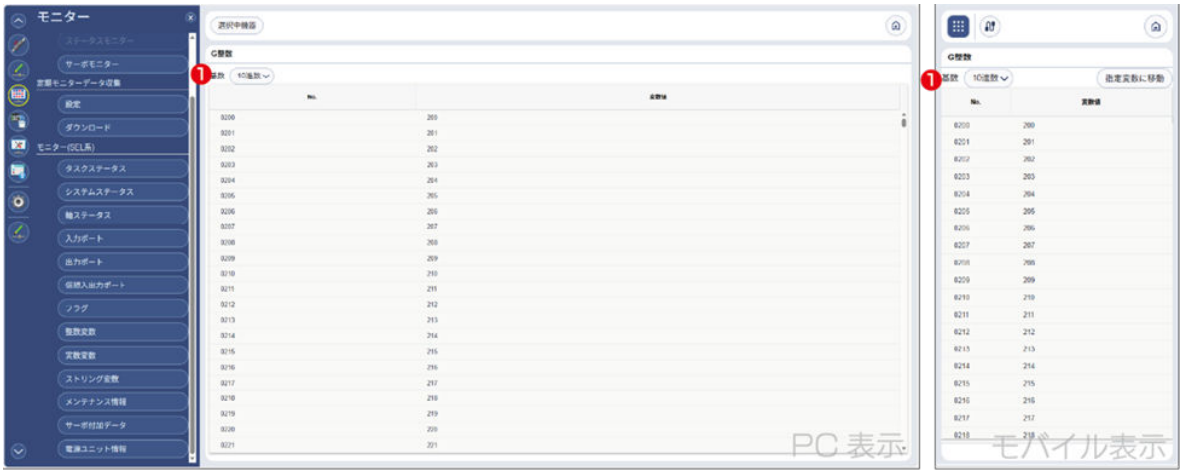
Before opening the screen, the monitor area selection screen shown below will be displayed. Select the area you want to display and press the [OK] button.



Integer Variable Monitor (SEL)

This is a screen for monitoring the integer variable of SEL series controllers.

* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



1. Base Number Settings
   The number base can be changed.

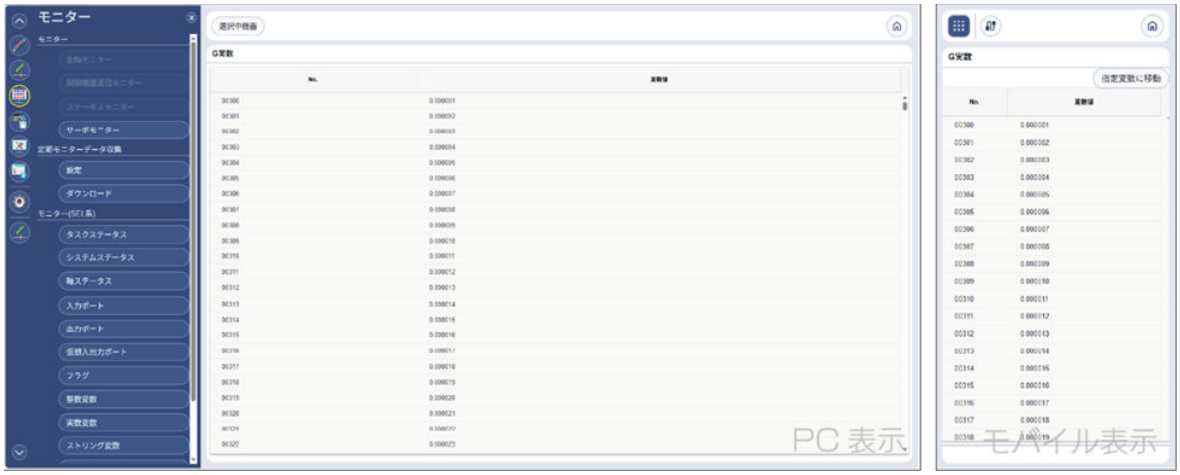
Before opening the screen, the monitor area selection screen shown below will be displayed. Select the area you want to display and press the [OK] button.



Real Number Variable Monitor (SEL)

This is a screen for monitoring the real number variable of SEL series controllers.

* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



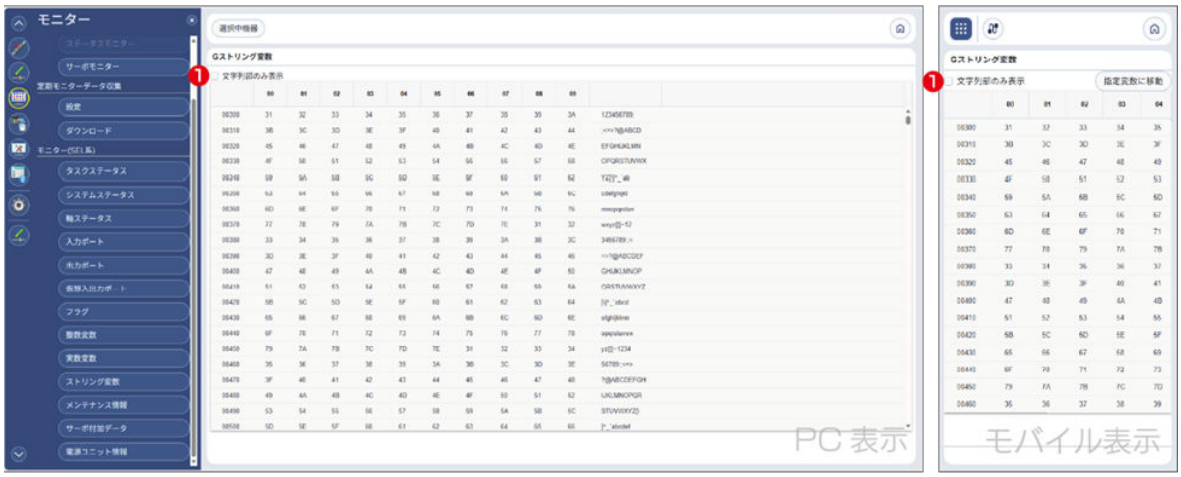
Before opening the screen, the monitor area selection screen shown below will be displayed. Select the area you want to display and press the [OK] button.



String Variable Monitor (SEL)

This is a screen for monitoring the string variable of SEL series controllers.

* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



1. Show Text Only

   Put a checkmark here, and only the text portion is displayed.

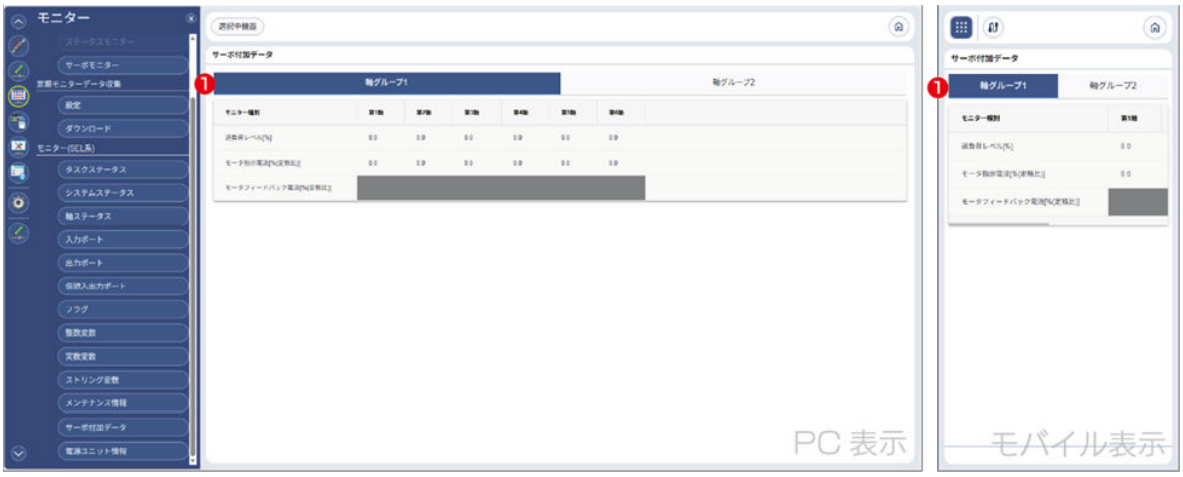
Before opening the screen, the monitor area selection screen shown below will be displayed. Select the area you want to display and press the [OK] button.



Servo Additional Data Monitor (SEL)

This is a screen for monitoring the servo additional data of SEL series controllers.

* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



1. Axis Group Tab
   Allows switching between displayed axis groups.

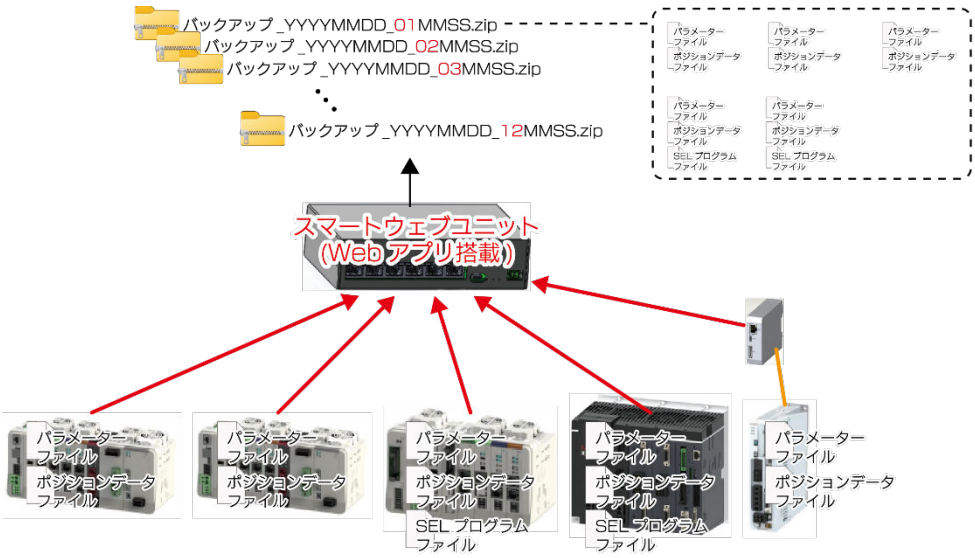
Power Supply Unit Information (SEL)

This is a screen for monitoring the power supply unit information of SEL series controllers.
* The button to open this screen in the menu is enabled only after selecting the target controller in [Communication > Target Device Selection] beforehand.



9.5.5 Backup

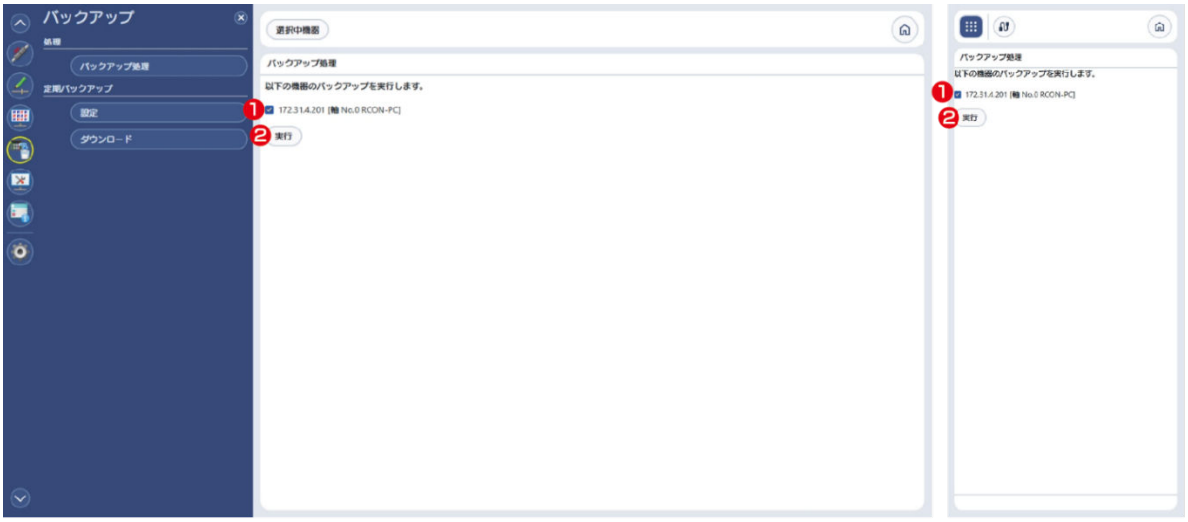
This function performs backups of parameters and position data of controllers communicating with the Smart Web Unit based on a preconfigured schedule.
Up to 10 file generations can be managed.



Backup Processing

Users can execute a backup at any desired timing.

Unlike periodic backup, this function performs a backup for the currently selected axis only.



1. Select Target Axis

   Turn the checkbox on to perform a backup.

2. Execute button

   Press it to execute the backup.

Periodic Backup Settings



Figure 8.13 Periodic Backup Settings, Saved in Smart Web Unit

1. Enable/Disable Backup Function

   Switches the backup function abled/disabled.

   The backup targets are as follows:

CON series	Parameter, Position
SEL series	Parameter, Position, SEL program Symbols, Coordinate system definition data, Global data

2. Save to Smart Web Unit

   Whether to save backup files to the storage inside the Smart Web Unit or to an external network storage can be selected.

3. Backup Acquisition Cycle [h]

   Sets the cycle for executing backups. The unit is “hours”.

   It can be set within the range of 1 to 65,535.

4. Number of Backup History

   Sets the number of backup file generations to be stored.

   Up to 10 files can be saved.

5. Save Settings Button

   Press it to save the settings.

   Note that changes to items 1 to 4 will not be applied unless the [Save Settings] button is pressed.



Figure 8.14 Periodic Backup Settings, Saved to External Storage

6. Backup Storage Location

   It is an item displayed only when the checkbox in item 2 is off.

   Sets the path of the external storage where backup files will be saved.

7. Credentials button

   It is an item displayed only when the checkbox in item 2 is off.

   Displays the screen for registering credentials (user account information) required to connect to the external storage where backup will be saved.

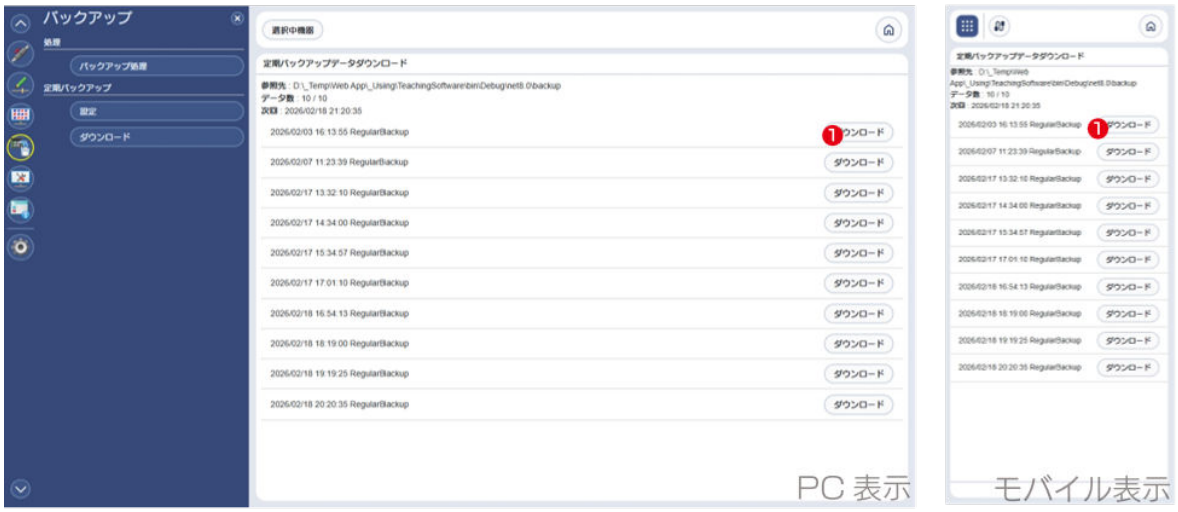


Point

Depending on network conditions, the connection status between the controllers and other tools, or the load on the Smart Web Unit, backups may not be successfully obtained from all backup targets.

If a backup cannot be obtained from a controller during a scheduled backup operation, the system will attempt to reconnect to the scheduled backup target during the next backup cycle. Therefore, a controller for which the previous backup could not be completed will not remain excluded from the scheduled backup targets.

Periodic Backup Data Download



1. Operation column (Download button)
   By pressing the [Download] button, you can download the periodic backup displayed in the same row.

Backup Data Items and Descriptions

ID	Items	Descriptions
Machine_1	Controller Number	CON: GW No., Axis No. SEL: Physical Axis No.
Machine_2	Controller Name (System)	Controller System Definition Name RCON-GW, SCON2-CG etc.
Machine_3	Controller Name (User)	Controller User Definition Name SEL: None
Machine_4	IP Address	Controller IP Address
Machine_5	Serial Code (Controller)	Controller Serial Number
Actuator_1	Serial Code (Actuator)	Actuator Serial Number
Actuator_2	Model (Actuator)	Actuator Model
Status_1	MANU Status	Controller MANU/AUTO Status
Status_2	Servo ON Status	Controller Servo ON Status
Status_3	DRV STOP/STO/SS1-t/SS2-t	Controller DRV STOP/STO/SS1-t/SS2-t Status
Status_4	Enable Switch	Controller Enable Switch Status
Status_5	Program Running	Controller Program Execution Status
Status_6	Drive Source Cut Off	Controller Power Source Cutoff
Status_7	Stopped state	Controller Stopped
Status_8	ROBO PUMP Operating Status	Convert each ROBO PUMP internal status code into a character string 0= Initialization 2= Inspection Mode 4= Setting Mode 5= Stand-by 6= Adsorption 7= Withdrawal 9= Drive Not Ready 10= Drive Preparation Incomplete Others = (Empty String)
Status_9	Current Position	Current Position of the Controller

ID	Items	Descriptions
Status_10	Current Pressure	Current Pressure of the Controller (ROBO PUMP)
Status_11	Current Speed	Current Speed of the Controller
Status_12	Overload Level	Overload Level of the Controller
Status_13	Total Number of Moves	Total Number of Controller Movements
Status_14	Total Mileage	Total Mileage of the Controller
Status_15	Current Value (Feedback)	Controller Feedback Current Value
Status_16	Current Value (Command)	Controller Command Current Value
Status_17	Current Value (Without Ripple Compensation)	Controller Current Value Without Ripple Compensation
Status_18	Rated Current Value	Motor Rated Current
Status_19	Current Load of Loadcell	Current load [N] detected by loadcell Value displayed in Axis Status and Press Program Monitor
Alarm_1	Alarm Occurrence Time/Duration	Alarm Occurrence Time or Duration
Alarm_2	Alarm Code	Current Alarm Code (4-digit hexadecimal number) 0000h if no alarm occurred
Alarm_3	Alarm Detail Code	Detail code of alarm being occurred (4-digit hexadecimal number)
Alarm_4	User Error No.	SEL only User Error No.
Alarm_5	System Error No.	SEL only System Error No.
Alarm_6	Date the System Error Occurred	SEL only Date the System Error Occurred
Alarm_7	System Error Info	SEL only System Error Info Since this is a string array, the values are obtained as space-delimited strings

9.5.6 Maintenance

Maintenance Information

This is the screen for displaying maintenance information.

CON series



1. Category Selection

   Switches the displayed maintenance information by changing tabs.

2. Display Part

   Maintenance information is shown in this area.

3. Distance Unit Switch

   Switches the unit used for displaying distance-based values.

4. Options are [km] and [m].

SEL series



1. Axis Group Tab

   The axis group to be displayed can be switched.

2. Axis Selection

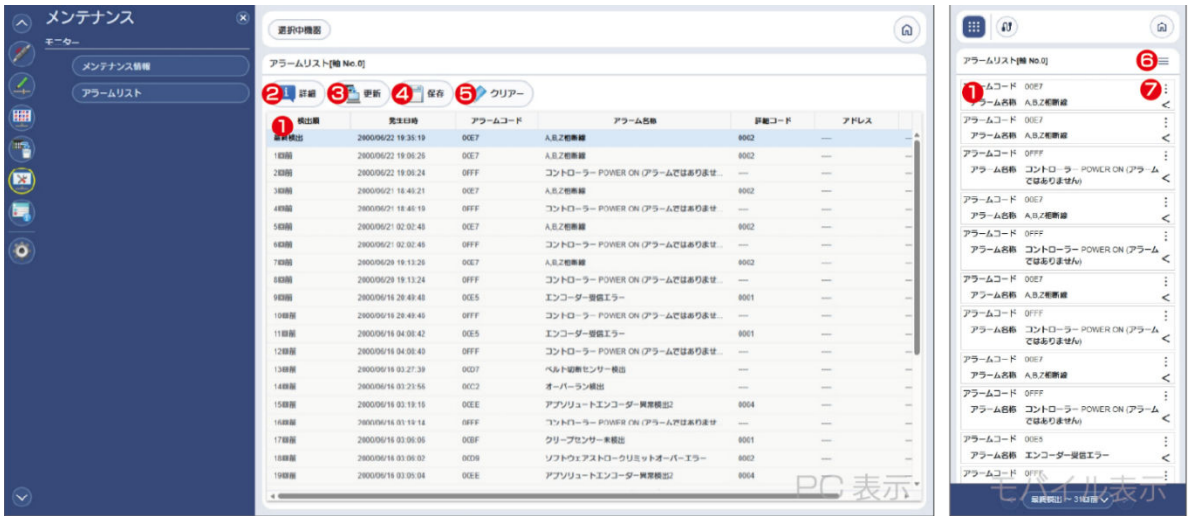
   Which axis number maintenance information is displayed for can be switched.

3. Distance Unit Switch

   Switches the unit used for displaying distance-based values.

   Options are [km] and [m].

Alarm List



1. List Display Part

   Displays the list of alarm history.

2. Details Button

   Press it to open detailed information for the selected alarm.

   You can also open the details by double-clicking an alarm history entry.

   On mobile devices, open the details from 7. Per-History Menu.

3. Update Button

   Press it to update the alarm list to the latest status.

   On mobile devices, use 6. Operation Menu to refresh.

4. Save Button

   Press it to save the alarm list to a file.

   On mobile devices, use 6. Operation Menu to save.

5. Clear Button

   Press it to clear the alarm list.

   On mobile devices, use 6. Operation Menu to execute this action.

6. Operation Menu (Mobile devices only)

   Use this menu to perform refresh, save, and clear operations.

7. Per-History Menu (Mobile devices only)

   Use this menu to open detailed information for the corresponding alarm history entry.

9.5.7 Information

Connected Controller Information (CON Series)

This is the screen that displays information about the connected controller.

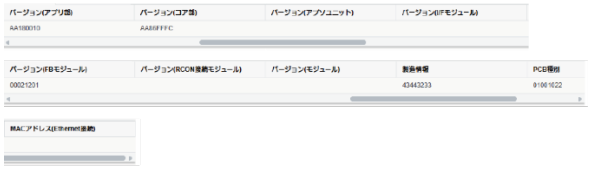


Figure 8.15 Connected Controller Information

1. Display Data Switching Tab

   Use it to switch whether the information display target is the driver or the actuator.

   When set to Driver, in addition to the items shown in Figure 6.15, the following items are also displayed.



From left to right:

- Communication Port Name
- Controller Number
- Controller Name (System Definition)
- Controller Name (User Definition)
- Serial Code
- Version (Application Part)
- Version (Core Part)
- Version (Absolute Unit)
- Version (I/F Module)
- Version (FB Module)
- Version (RCON Connection Module)
- Version (Module)
- Manufacturing Information
- PCB Type
- MAC Address (Ethernet Connection)

The display contents when switching the display data to Actuator are as follows.



From left to right:

- Communication Port Name
- Controller Number
- Serial Code
- Version (Function)
- Inspection Date
- Slider No.
- Model
- User Memo

Registered Alarm Information (CON Series)

This function allows you to search and view detailed information of CON-series alarm data registered in the web application.



1. Details Button
   Press it to display the detailed screen for the alarm code or group code selected in the list in item 5.

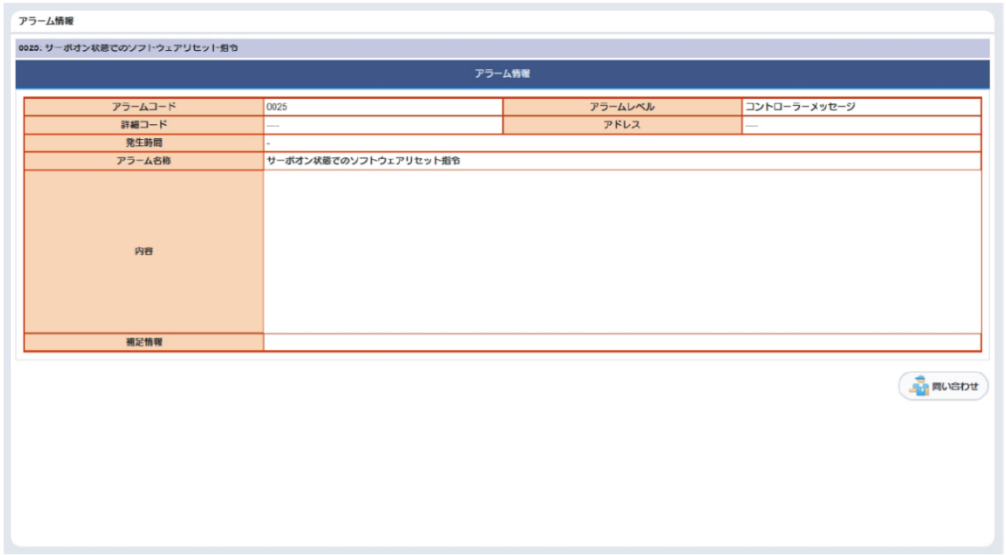


Figure 8.16 Details Display

2. Save Button

   Press it to save the list of alarm codes and group codes in CSV file format.

3. Group Code/Alarm Code Switching

   Switching tabs allows you to change whether the list displays group codes or alarm codes.

4. Filter

   The list can be narrowed down by entering an alarm code or alarm name.

   Matching is based on partial match.

   On mobile devices, press the < button on the right to display the input fields for filtering conditions.

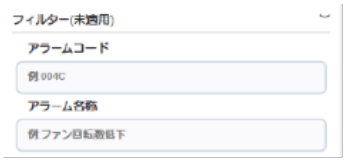


Figure 8.17 Condition Input Field (Mobile)

5. Display Part

   This is the area that displays the list of group codes and alarm codes.

9.5.8 Other

Application Settings

This is the screen for configuring web application settings.

Only communication-related settings with the controller can be configured.

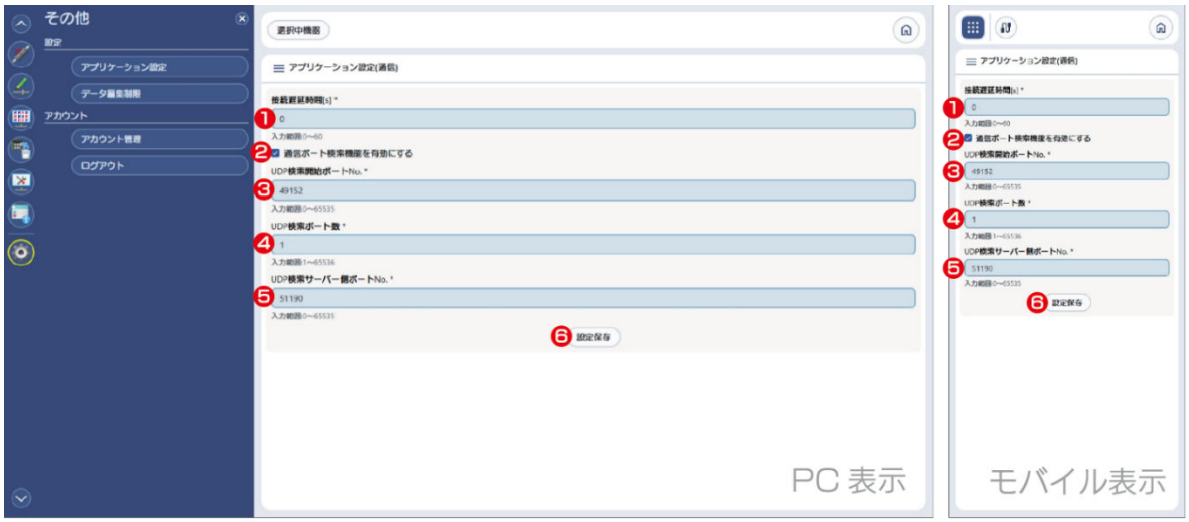


Figure 8.18 Application Settings, Communication Port Search Function Enabled

1. Connection Delay Time [s]

   Sets the delay time from when the Smart Web Unit is started and the Web application begins running until communication with the controller starts. The unit is “seconds”.

2. Communication Port Search Function Enable/Disable Switch

   Switches the communication port search function enable/disable.

- If enabled

  IAI controllers connected to the same network are automatically detected and displayed as selectable target devices.

- If disabled

  Only controllers with specified IP addresses are displayed as selectable target devices.

3. Number of UDP Search Ports

   The number of ports used for UDP search can be specified.

   The setting range is 1 to 65,535.

4. UDP Search Server-side Port No.

   The server-side port number for UDP search can be specified.

   The setting range is 0 to 65,535.

5. Save Settings Button

   Press it to save the application settings.

   After changing the application settings, the changes will not be saved unless this button is pressed.



Figure 8.19 Application Settings, Communication Port Search Function Disabled

6. Specified IP Address Display Area

   This is the area that displays the IP addresses configured as connection targets.

7. Add Connection Destination IP Address Button

   Press it to display the IP address settings screen shown in Figure 8.19, where you can add a destination IP address.



Figure 8.20 IP Address Settings

8. Delete Button

   Press it to delete the registered destination IP address shown in the corresponding row.

9. IP Address

   Enter the IP address of the connection destination.

10. Connection Target

    Select the type of connection target.

    The item highlighted in dark blue indicates the currently selected type.

11. Poart No.

    If the connection target is SEL, set the port number according to the controller configuration.

12. OK/Cancel Button

    To register the entered information as a connection destination, press the [OK] button. To cancel registration, press the [Cancel] button.

Data Editing Restrictions (Authorization Settings)

This is the screen for configuring data editing restrictions (authorization settings) for each user.



1. Display Part

   This is the area that displays the editing restriction (authorization settings) for each user.

   It shows whether each user is allowed to edit each data type (in the initial version, only position

data).

The legend is as follows.

	Editing Restrictions (Non-editable)
	Editable

2. Edit Button

   Press it to switch the authorization settings for the corresponding row to the edit mode.



3. Authorization Settings Edit Field

   Click or tap here to modify the authorization settings.

4. Save/Cancel Button

   Press the [Save] button to save the changes, or press the [Cancel] button to discard them.

Account Management

These are functions such as account management.

Each function can be used by pressing the corresponding button on the Account Management Home screen.



Figure 8.21 Account Management Home

1. Account Management

   For details, refer to [Other > Account Management > Account Management] .

2. CON Series Authorization Settings

   For details, refer to [Other > Data Editing Restrictions (Authorization Settings)] .

3. Recovery Code Settings

   For details, refer to [Other > Account Management > Recovery Code Settings] .

4. Session Information

   For details, refer to [Other > Account Management > Session Information] .

5. Log Out

   For details, refer to [Other > Log Out] .

Account Management

This is the screen for managing accounts.

You can add users, change passwords, and enable/disable or delete accounts.



1. New User Registration Section

   This section is used to add new users.

   After entering all required information, press the [Register User] button to complete registration.

2. Registered User List

   Displays a list of registered users.

   From here, you can change passwords, enable/disable accounts, or delete users.

3. Change Password Button

   Use it when changing a user's password.

   Pressing this button opens a screen to enter a new password for the user in the corresponding row.

   The display of this button changes depending on whether the user is enabled or disabled.

When the user is **enabled**	
When the user is **disabled**	

4. Enable/Disable Switch

   Switches the user between enabled and disabled states.

   Disabled users cannot log in to the web application.

   The display of this button changes depending on whether the user is enabled or disabled.

When the user is **enabled**	
When the user is **disabled**	

5. Delete

   It is used to delete a user.

   Pressing this button deletes the user in the corresponding row.

   Be aware that deleted users cannot be restored.

   The display of this button changes depending on whether the user is enabled or disabled.

When the user is **enabled**	
When the user is **disabled**	

Recovery Code Settings

This is the screen for setting a special code used to create a new administrator account when the administrator account information is unknown.

Within the policy, the user can set an arbitrary code.



1. Recovery Code Update Section

   It is used to update the recovery code.

   Enter the desired code in both the “Recovery Code” field and the “Recovery Code (Confirmation)” field, then press the [Update Recovery Code] button to apply the changes.



Session Information

This is the screen that displays connection information for clients currently connected to the web application.



Log Out

This function logs out from the web application by clearing user authentication.



1. Log Out Button

   Press it to log out from the web application.

ICD-CTU/WLBT/ETSE

10

Warranty

10.1 Warranty Period. 10-1
10.2 Scope of the Warranty. 10-2
10.3 Honoring the Warranty. 10-3
10.4 Limited Liability. 10-4
10.5 Conformance with Applicable Standards/Regulations, etc., and Application Conditions. 10-5
10.6 Other Items Excluded from Warranty. 10-6

10.1 Warranty Period

Whichever of the following periods is shorter:

- 18 months after shipment from IAI
- 12 months after delivery to a specified location
- 2,500 operational hours

10.2 Scope of the Warranty

Our products are covered by warranty when all of the following conditions are met. Faulty products covered by warranty will be replaced or repaired free of charge:

1. The breakdown or malfunction in question pertains to our product as delivered by IAI or our authorized dealer.
2. The breakdown or malfunction in question occurred during the warranty period.
3. The breakdown or malfunction in question occurred while the product was in use for an appropriate purpose under the operating conditions and operating environment specified in the instruction manual and catalog.
4. The breakdown or malfunction in question was caused by a specification defect, malfunction, or poor product quality.

Note that breakdowns due to any of the following reasons are excluded from the scope of warranty:

- Anything other than our product
- Modification or repair performed by a party other than IAI (unless approved by IAI)
- Anything that could not be easily predicted with the level of science and technology available at the time of shipment from IAI
- Natural disaster, unnatural disaster, incident or accident for which we are not liable
- Natural fading of paint or other symptoms of aging
- Wear, depletion or other expected results of use
- Operation noise, vibration or other subjective sensations not affecting function or maintenance

Note that the warranty only covers our product as delivered and that any secondary loss arising from a breakdown of our product is excluded from the scope of warranty.

10.3 Honoring the Warranty

As a rule, the product must be consigned to IAI for repair under warranty.

10.4 Limited Liability

1. We assume no liability for any special damage, consequential loss or passive loss such as a loss of expected profit arising from or in connection with our product.
2. We assume no liability for any program or control method created by the customer to operate our product or for the results of any such program or control method.

10.5 Conformance with Applicable Standards/Regulations, etc., and Application Conditions

1. If our product is combined with another product or any system, equipment, etc., used by the customer, the customer must first check the applicable standards, regulations and/or rules.
   The customer is also responsible for confirming that such combination with our product conforms to the applicable standards, etc.
   In such a case we assume no liability for the conformance of our product with the applicable standards, etc.
2. Our product is for general industrial use. It is not intended or designed for the applications specified below, which require a high level of safety. Accordingly, as a rule our product cannot be used in these applications.
   Contact IAI if you must use our product for any of these applications:

- Medical equipment used to maintain, control or otherwise affect human life or physical health
- Mechanisms and machinery designed for the purpose of moving or transporting people (vehicles, railway facilities, aviation facilities etc.)
- Machinery components essential for safety (safety devices etc.)
- Equipment used to handle cultural assets, art or other irreplaceable items

3. Contact IAI in advance if our product is to be used in any condition or environment that differs from that specified in the catalog or instruction manual.

10.6 Other Items Excluded from Warranty

The price of the product delivered to you does not include expenses associated with programming, the dispatch of engineers, etc.

Accordingly, a separate fee will be charged in the following cases even during the warranty period:

- Guidance for mounting/adjustment and witnessing of test operation
- Maintenance and inspection
- Technical guidance and education on operating/wiring methods, etc.
- Technical guidance and education on programming and other items related to programs

ICD-CTU/WLBT/ETSE

11

Revision History

11.1 Revision History. 11-1

11.1 Revision History

Revision date	Revised content
2026.05	First Edition
2026.06	1B Edition ■ 1.8, 3.3.2 Correction made ■ 3.4.1 *2 Added cautionary statement ■ 9.2.3 Changed to Web App Precautions ■ 9.2.4 Support removed ■ 9.5.5 Added Precautions and Backup Data Items and Descriptions

Manual No.: ME0495-1B (June 2026)

IAI
Quality and Innovation

IAI Corporation

Head Office: 1210 Ihara Shimizu-KU Shizuoka City Shizuoka 424-0114, Japan
TEL +81-54-364-5105 FAX +81-54-364-2589
website: www.iai-robot.co.jp/

IAI America, Inc.

Head Office: 2690 W. 237th Street, Torrance, CA 90505
TEL +1-310-891-6015 FAX +1-310-891-0815
Chicago Office: 110 East State Parkway, Schaumburg, IL 60173
TEL +1-847-908-1400 FAX +1-847-908-1399
Atlanta Office: 1220 Kennestone Circle, Suite 108, Marietta, GA 30066
TEL +1-678-354-9470 FAX +1-678-354-9471
website: www.intelligentactuator.com

Technical Support available in Europe

IAI Industrieroboter GmbH

Ober der Röth 4, D-65824 Schwalbach am Taunus, Germany
TEL +49(0)6196-88950 FAX +49(0)6196-889524
website:www.iai-automation.com

Technical Support available in Great Britain

LC Automation
control & safety

Duttons Way, Shadsworth Business Park, Blackburn, Lancashire, BB1 2QR, United Kingdom
TEL +44(0)1254-685900
website: www.lcautomation.com

IAI (Shanghai) Co., Ltd.

SHANGHAI JIAHUA BUSINESS CENTER A8-303, 808, Hongqiao Rd. Shanghai 200030, China
TEL+86-21-6448-4753 FAX +86-21-6448-3992
website: www.iai-robot.com

IAI Robot (Thailand) Co., Ltd.

825 PhairojKijja Tower 7th Floor, Debaratana RD., Bangna-Nuea, Bangna, Bangkok 10260, Thailand
TEL +66-2-361-4458 FAX +66-2-361-4456
website:www.iai-robot.co.th

The information contained in this document is subject to change without notice for purposes of product improvement.
Copyright © 2026. Jun. IAI Corporation. All rights reserved.

26.06.000