IAI
Quality and Innovation

RCON-PC/PCF/AC/DC, RCON-FU
RCON-ABU-A/P, RCON-EXT

24V Driver Unit, Fan Unit,
Simple Absolute Unit, SCON Extension Unit

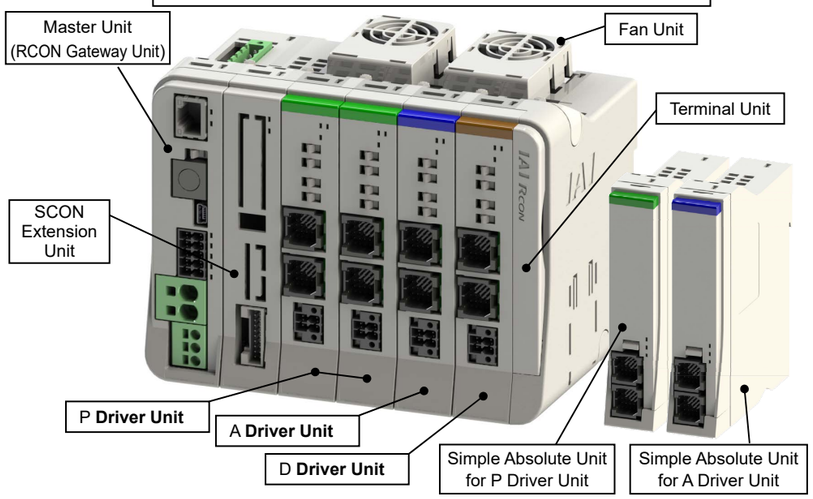
First Step Guide Third Edition

Thank you for purchasing our product.
Make sure to read the Safety Guide and detailed Instruction Manual as well as this First Step Guide to ensure correct use.
This Instruction Manual is original.

> ⚠ *Warning: Read the instruction manual carefully and follow instruction manual when handling this product.*
> *Please downloaded instruction 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/*
> *Keep a printout of the introduction manual near the equipment in which this product is installed so that it can be checked at all times, or display it on your computer, tablet terminal, etc. so that you can check it immediately.*
> *If you need a bound copy of the introduction manual, order it from the nearest sales office listed in the First Step Guide or at the end of the instruction manual. It will be provided for a fee.*

R-unit is constructed with Master Unit (RCON-GW/GWG, RSEL-G), Terminal Unit (RCON-GW-TR), 24V Driver Unit (RCON- PC/PCF/AC/DC), Simple Absolute Unit (RCON-ABU), 200V Power Supply Unit (RCON-PS2-3), 200V Driver Unit (RCON-SC), Fan Unit (RCON-FU/FUH), EC Connection Unit (RCON-EC-4), PIO Unit (RCON-NP/PN), PIO/SIO/SCON Extension Unit (RCON-EXT-NP/PN), SCON Extension Unit (RCON-EXT) and SCON Controller (SCON-CB-*-RC) to connect to the SCON Extension Unit.
In this guide, describes about the 24V Driver Unit, Simple Absolute Unit, Fan Unit and SCON Extension Unit.
For instruction of other units, refer to the first step guide and instruction manual of each unit.

Color Label	P Driver Green	P Driver (high thrust) Green (Light)	A Driver Blue	D Driver Brown



Product Check

This product is comprised of the following parts if it is of standard configuration.
If you find any fault in the contained model or any missing parts, contact us or our distributor.
1. Parts
(1) 24V Driver Unit (RCON-PC/PCF/AC/DC)

No.	Part Name	Model	Number	Remarks
1	RCON P Driver Unit	Refer to “How to read the model plate”, “How to read the model code”	-	Two-Axis Type/One-Axis Type /High-Thrust Type
2	RCON A Driver Unit	Refer to “How to read the model plate”, “How to read the model code”	-	Two-Axis Type / One-Axis
3	RCON D Driver Unit	Refer to “How to read the model plate”, “How to read the model code”	-	Two-Axis Type / One-Axis
Accessories				
4	Drive Source Cutoff Connector	DFMC1.5/2-STF-3.5 (Manufactured by PHOENIX CONTACT)	1	Recommended Cable Size 0.5 to 1.25mm² (AWG20 to 16)
5	First Step Guide	ME0383	1	This Manual
6	Safety Guide	M0194	1	

(2) Fan Unit (RCON-FU)

No.	Part Name	Model	Number	Remarks
1	Fan Unit	RCON-FU	-	When ordered individually

(3) Simple Absolute Unit (RCON-ABU-P/A)

No.	Part Name	Model	Number	Remarks
1	Simple Absolute Unit	Refer to “How to read the model plate”, “How to read the model code”	-	P Driver Type/A Driver Type
Accessories				
2	Simple Absolute Battery	AB-7	1	
3	Motor/encoder Cable	CB-ADPC-MPA005	1	
4	First Step Guide	ME0383	1	This Manual
5	Safety Guide	M0194	1	

(4) SCON Extension Unit (RCON-EXT)

No.	Part Name	Model	Number	Remarks
1	SCON Extension Unit	Refer to “How to read the model plate”, “How to read the model code”	-	
Accessories				
2	Terminal Connector	RCON-EXT-TR	1	Terminal Resistance
3	First Step Guide	ME0383	1	This Manual
4	Safety Guide	M0194	1	

2. Teaching Tool (Please purchase separately)
A teaching tool such as PC software is necessary when performing the setup for position setting, parameter setting, etc. that can only be done on the teaching tool. Please prepare either of the following teaching tools.

No.	Part Name	Model
1	PC Software (Includes USB Exchange Adapter + USB Cable + Peripheral Communication Cable)	RCM-101-USB
2	Touch Panel Teaching Pendant TB-02 (Standard / Dead Man’s Switch Mounted)	TB-02/TB-02D
3	Touch Panel Teaching Pendant TB-03	TB-03

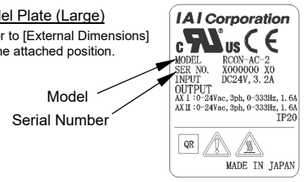
3. Instruction manuals related to this product

No.	Name	Manual No.
1	RCON System Instruction Manual	ME0384
2	SCON-CB/CGB/LC/LCG Controller Instruction Manual	ME0340
3	PC Software RCM-101-MW/RCM-101-USB Instruction Manual	ME0155
4	Touch Panel Teaching Pendant TB-02 Applicable for Position Controller Instruction Manual	ME0355
5	Touch Panel Teaching Pendant TB-03 Wired Link Applicable for Position Controller Instruction Manual	ME0376

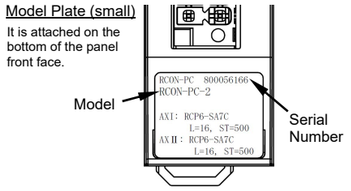
4. How to read the model plate

(1) 24V Driver Unit

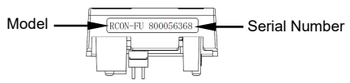
Model Plate (Large)
Refer to [External Dimensions] for the attached position.



Model Plate (small)
It is attached on the bottom of the panel front face.

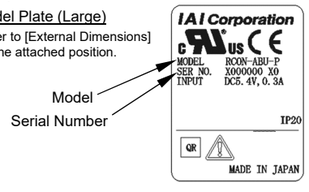


(2) Fan Unit

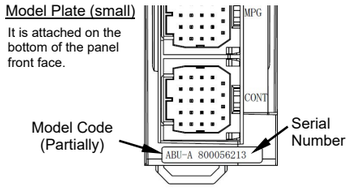


(3) Simple Absolute Unit

Model Plate (Large)
Refer to [External Dimensions] for the attached position.

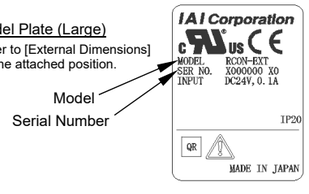


Model Plate (small)
It is attached on the bottom of the panel front face.

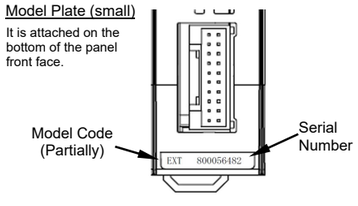


(4) SCON Extension Unit

Model Plate (Large)
Refer to [External Dimensions] for the attached position.



Model Plate (small)
It is attached on the bottom of the panel front face.



Mark	Explanation of Mark
⚠	Use IAI specified cables only.
♨	Do not touch product when power is ON. Risk of burn.

5. How to read the model code

(1) 24V Driver Unit

RCON - PCF - 1
<Series>
<Type>
AC : A Driver Unit
DC : D Driver Unit
PC : P Driver Unit
PCF : P Driver Unit (High-Thrust Type)
< Number of Axes >
1: One-Axis Type
2: Two-Axis Type
Note There should be only one-axis type for P Driver Unit (high-thrust type)

(2) Fan Unit (When ordered individually)

RCON - FU
<Series>
<Type>
FU: Fan Unit

Note Fan unit can be ordered with a model code for a gateway unit as an accessory of the gateway unit.

(3) Simple Absolute Unit

RCON - ABU - A
<Series>
<Type>
ABU: Simple Absolute Unit
< Applicable Driver >
A: For A Driver Unit
P: For P Driver Unit

(4) SCON Extension Unit

RCON - EXT
<Series>
<Type>
EXT : SCON Extension Unit

Basic Specifications

1. Specifications of Power Supply

Item	Specification
Power Input Voltage Range	24V DC ±10%
Supply Current	Refer to section in [Current Amperage]
Power Source Frequency Range	-
Current Amperage	Refer to section in [Current Amperage]
In-Rush Current	Refer to section in [Current Amperage]
Instantaneous Power Outage Endurance	By 24V power supply
Protection Function against Electric Shock	Class Ⅲ

2. Specifications of Control Part

Item	Specification
Number of Controlled Axes	RCON System 1 to 16 axes, RSEL System 1 to 8 axes
Data Memory System	Position data and parameters are saved in the nonvolatile memory. (There is no limitation in number of writing)
SIO Interface (T. P. Connector)	Communication System: RS-485, Baud Rate: 9.6/19.2/38.4/57.6/115.2/230.4kbps
SIO Interface (USB Connector)	Communication System: USB, Baud Rate: 12Mbps
PIO Interface	None
Conformed Extension I/O Interface (Field Network Interface)	CC-Link, CC-Link IE Field, DeviceNet, EtherCAT, EtherNet /IP, PROFIBUS-DP and PROFINET IO, MECHATROLINK-Ⅲ, EtherCAT Motion, SSCNETⅢ/H (Driver version applicable for RCON Motion: RCON-PC/PCF_V000A and later, RCON-AC_V000A and later, RCON-DC_V0007 and later)
Pulse Train Type	Unavailable to Control
Brake Output Voltage	24V DC ±10%
Connectable Brake Power Supply	11W Max.
Calendar Feature	Maintained Duration: Approx. 10 days, Charge Time: Approx. 100 hours
Applied Safety Category	B (Safety category applicable type is capable to achieve 4 with external circuit)
Driver Source Cutoff System	Drive source cutoff with semiconductor (Power MOSFET)
Stop Input	Break Contact Input
Stop Action	Turning servo OFF + Drive source cutoff
Enable Input	None
T. P. Enable Input	Available
Enable Action	Turning servo OFF
Protective functions	Overcurrent, temperature error, encoder line breakage and overload
Preventive / Predictive Maintenance Feature	Electrolytic capacitor capacity dropdown and Fan revolution dropdown
LED Display	Refer to section in [Troubleshooting]
Brake Compulsory Release Feature	Brake release switch equipped on driver unit
Jog	Jog switch equipped on driver unit
Oversea Certifications	CE Marking, UL Standard

3. Environmental Specifications

Item		Specification
Environment	Environment of Use	Pollution Degree 2
	Surrounding Air Temperature	With Fan Unit: 0 to 55°C, With No Fan Unit: 0 to 40°C, Simple Absolute Unit: 0 to 40°C
	Surrounding Humidity	5%RH to 85%RH (Should be no-condensing or freezing)
	Peripheral Ambience of Use	Refer to section in [Installation Environment]
	Surrounding Storage Temperature	-20 to 70°C
	Vibration Endurance	Frequency 10 to 57Hz/Swing width: 0.075mm Frequency 57 to 150Hz/Acceleration: 9.8m/s² XYZ Each direction Sweep time: 10min. Number of sweep: 10times
	Protection Class	IP20
	Altitude	1000m
Cooling Method		Natural air-cooling and Forced air cooling with fan unit
Dielectric Withstanding Voltage		Between power supply terminal and FG 500V DC 10MΩ or more

Current Amperage

The current amperage should be divided into the control power capacity and motor power capacity.
Each power supply should be input from the control power supply connector and the motor power supply connector on the master unit. However, it is necessary that the 0V of the control power supply and the motor power supply are in common.
The necessary capacity of the current amperage should be figured out by [Total of control power capacity of used units] + [Total of motor power capacity of used actuators].
It is necessary that the rated current of 24V power supply satisfies the rated current of the motor power capacity and the peak current satisfies the maximum current of the motor power capacity. However, when several axes get connected, unless all the actuators operates at the same time, the rated current and maximum current would not flow at the same time, thus the calculation should not be simply the total of all the axes.
The specifications related to the power capacities should be as shown below.

[Control Power Supply]

Item	Specification		
Power Supply Voltage	24V DC ±10%		
Control Power Capacity (for one unit)	Master unit (terminal unit included)	RCON Gateway Unit	0.8A (Ethernet option: Not equipped) 1.0A (Ethernet option: Equipped)
		SEL Unit	1.2A
	24V Driver unit	Brake: Not equipped	0.2A
		Brake: Equipped (one-axis type)	0.4A
		Brake: Equipped (two-axis type)	0.6A
	200V Driver unit	Brake: Not equipped	0.2A
		Brake: Equipped	0.5A
	Extension unit	SCON Extension Unit	0.1A
		PIO/SIO/SCON Extension Unit	0.1A
		PIO Unit	0.1A
	Simple absolute unit (in common for all types)		0.2A
	EC Connection Unit		0.1A

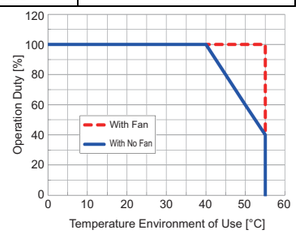
Note As the control supply current consumed in the power supply unit is very little, it is not necessary to consider in the calculation.

[24V Motor Power Supply]

Item	Actuator / Driver unit				Rated Current	Max. current	
		Series	Motor type			When energy-saving is set	
Motor power capacity (1 axis per actuator)	Stepper motor / RCON-PC	RCP2 RCP3	20P/20SP/28P	There is no high-thrust function setting	0.8A	-	-
			28P (Note 1) /35P/42P/56P		1.9A	-	-
		RCP4 RCP5 RCP6	28P/35P/42P /42SP/56P	High-thrust function is disabled	1.9A	-	-
				High-thrust function is enabled	2.3A	-	3.9A
		WU	28P/35P	Only when high-thrust function is enabled	2.3A(Note2)		3.9A(Note2)
	Stepper motor / RCON-PCF	RCP2 RCP4 RCP5 RCP6	56SP/60P/86P	There is no high-thrust function setting	5.7A	-	-
	AC servo motor / RCON-AC	RCA RCA2	5W	Standard / Hi-accel./decel.	1.0A	-	3.3A
			10W	Standard / Hi-accel./decel. / Energy-saving	1.3A	2.5A	4.4A
			20W		1.3A	2.5A	4.4A
			20W (20S)		1.7A	3.4A	5.1A
			30W		1.3A	2.2A	4.0A
		RCL	2W	Standard / Hi-accel./decel.	0.8A	-	4.6A
			5W		1.0A	-	6.4A
			10W		1.3A	-	6.4A
	DC brush-less motor / RCON-DC	RCD	3W	Standard	0.7A	-	1.5A
In-Rush Current (Approx. 5ms)	Pulse motor / RCON-PC				8.3A (with in-rush current limiting circuit)		
	Pulse motor / RCON-PCF				10.0A (with in-rush current limiting circuit)		
	Servo AC motor / RCON-AC				10.0A (with in-rush current limiting circuit)		
	Brushless DC motor / RCON-DC				10.0A (with in-rush current limiting circuit)		
Heat Generation	RCON-PC			PowerCON : Not equipped	5.0W		
				PowerCON : Not equipped	8.0W		
	RCON-PCF			PowerCON : Equipped	19.2W		
	RCON-AC			Standard / High-acceleration /deceleration	4.5W		
	RCON-DC			Standard	3.0W		

Note 1 Applicable Models: RCP2-RA3, RCP2-RGD3
Note 2 Applied for RSEL. One unit of WU is equipped with two axes of motors. The values in the table are those for one axis.

If there is no fan unit equipped, operation can be performed without derating in the temperature range between 0 and 40°C, but it is necessary to reduce the operation duty by 20% in every 5°C in the temperature range between 40 and 55°C.
In case of fan unit equipped, operation can be performed with no derating up to 55°C.



Restrictions in Unit Connection

(1) Number of 24V Driver Units to Connect

The maximum number of control axes to be connected should be 16 axes in the RCON system and 8 axes in the RSEL system.
From the structural perspective of the unit, it can accept connection without any upper limit, but make it accept the number of axes described above of driver units at the maximum.
Have two master units or more in the construction when it is necessary to control number of axes described above or more of actuators.

(2) Current Restrictions

Shown below is the restricting values of current for selecting calculation.

Item	Restricting Value of Current for Selecting Calculation
Control Power Supply (CP)	9.0A or less
Motor Power Supply (MP)	37.5A or less

Check that the calculation result of the control power supply and motor power supply of each unit based on the construction of RCON/RSEL system does not exceed the restricting values of current for selecting calculation.
Also, the master units should not be included for the calculation.

Shown below is some examples for calculation.

[Control Power Supply] * The master units should not be included for the calculation.

Example 1	Actuator × 16 axes, All axes equipped with brake (2 axes/unit) Driver Unit Equipped with Brake (2-axis Type) 0.6A × 8 = 4.8A ⇒ OK
Example 2	Actuator × 16 axes, All axes equipped with brake (1 axis/unit) Driver Unit Equipped with Brake (1-axis Type) 0.4A × 16 = 6.4A ⇒ OK
Example 3	Actuator × 16 axes, All axes equipped with brake (2 axes/unit), All axes simple absolute type Driver Unit Equipped with Brake (2-axis Type) 0.6A × 8 + Simple absolute 0.2A × 16 = 8.0A ⇒ OK
Example 4	Actuator × 16 axes, All axes equipped with brake (1 axis/unit), All axes simple absolute type Driver Unit Equipped with Brake (1-axis Type) 0.4A × 16 + Simple absolute 0.2A × 16 = 9.6A ⇒ NG

[Motor Power Supply]

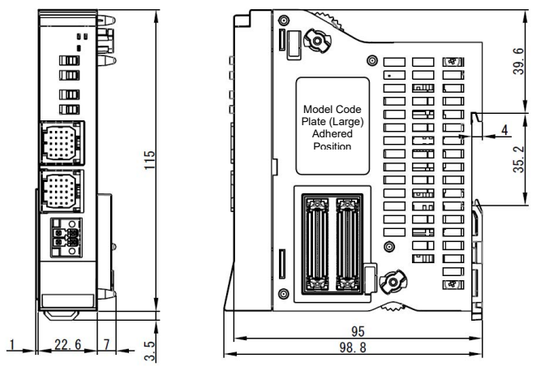
Example 5	RCON-PC (High-thrust function is enabled) × 16 axes RCON-PC (High-thrust function is enabled) rated current 2.3A × 16 axes = 36.8A ⇒ OK
Example 6	When RCON-PCF × 7 axes or 6 axes RCON-PCF rated current 5.7A × 7 axes = 39.9A ⇒ NG RCON-PCF rated current 5.7A × 6 axes = 34.2A ⇒ OK
Example 7	RCON-PC (High-thrust function is enabled), RCON-AC, RCON-DC RCON-PC (High-thrust function is enabled) Rated Current 2.3A, RCON-AC Rated Current 1.7A Max. and RCON-DC rated current is 0.7A, it would not exceed the current limit even with 16-axis type ⇒ OK
Example 8	RCON-PCF × 3 axes, RCON-PC (High-thrust function is enabled) × 7 axes, RCON-AC (30W) × 3 axes RCON-PCF Rated Current 5.7A × 3 axes + RCON-PC (High-thrust function is enabled) Rated Current 2.3A × 7 axes = 33.2A RCON-AC (30W) 1.3A x 3 axes = 3.9A Total 37.1A ⇒ OK

Note When the operation pattern is to have all the axes operate acceleration and deceleration only and the operation duty is 100%, it is necessary that the calculation is done with the maximum current for the motor power supply.

External Dimensions

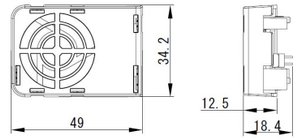
1. 24V Driver Unit (in common for P Driver Unit / A Driver Unit / D Driver Unit)

Item	Specification
External Dimensions	22.6W × 115H × 95D [mm]
Mass	Approx. 180g



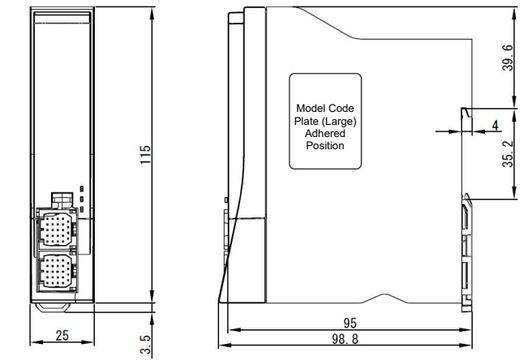
2. Fan Unit

Item	Specification
External Dimensions	34.2W × 49H × 12.5D [mm]
Mass	Approx. 15g



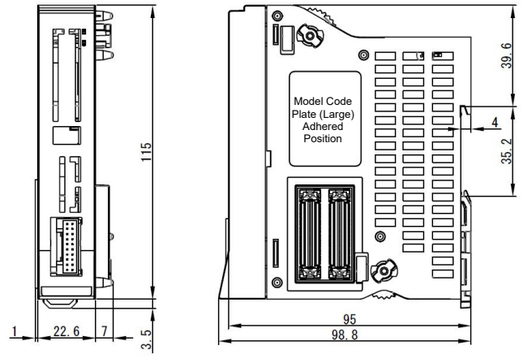
3. Simple Absolute Unit

Item	Specification
External Dimensions	22.6W × 115H × 95D [mm]
Mass	Approx. 270g (included battery weight: 183g)



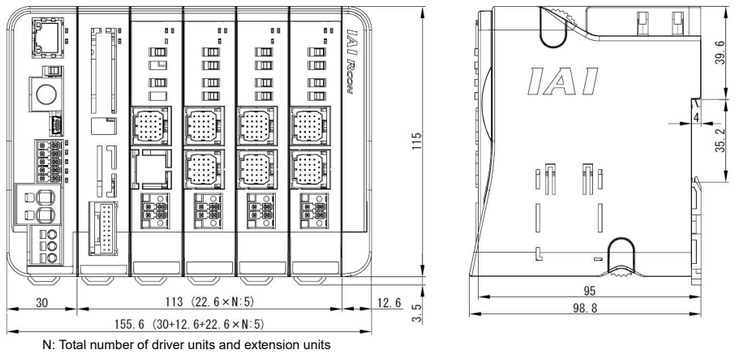
4. SCON Extension Unit

Item	Specification
External Dimensions	22.6W × 115H × 95D [mm]
Mass	Approx. 99g



5. When Units Linked

Item	Specification
External Dimensions	(42.6 + 22.6 × N) W × 115H × 95D [mm] N: Total number of driver units and extension units
Mass	Approx. (206 + 180 × N1 + 99 × N2) g N1: Number of driver units, N2: Number of extensions units

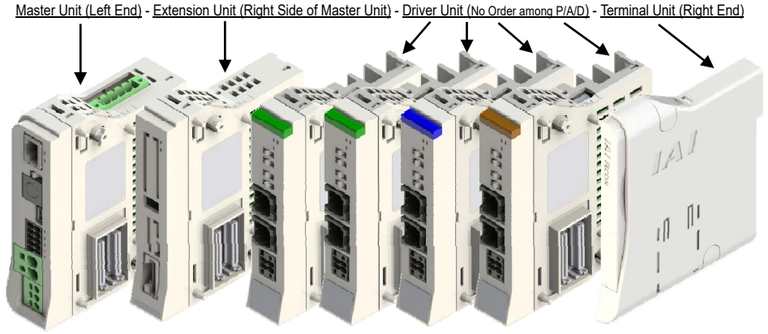


N: Total number of driver units and extension units

Linking Units

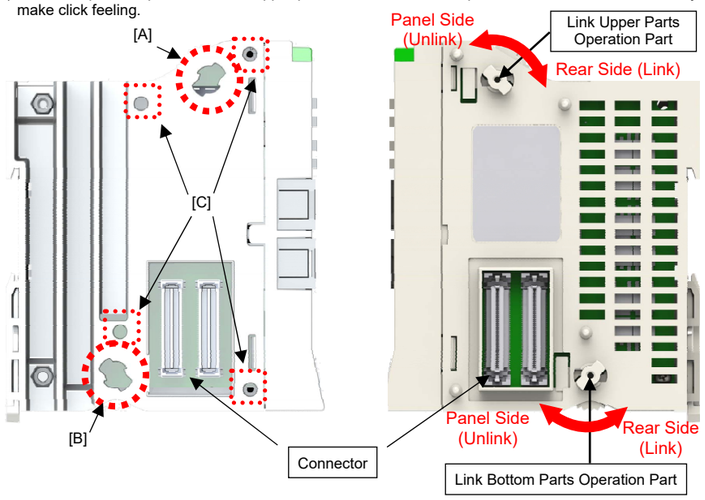
RCON/RSEL Systems are capable to construct a system with the master allocated at the left end as the interface for the field network connection and freely combine multiple driver units and extension units. There is an order of allocation for each unit.

Master Unit (Left End) - Extension Unit (Right Side of Master Unit) - Driver Unit (No Order among P/A/D) - Terminal Unit (Right End)



Unit should be linked in the process shown below. (Make sure it gets linked before connected to the DIN rails.)

1) Twist the operation parts of the link upper parts and the link bottom parts towards the panel side and place them at the panel side end.
2) Adjust the position of two units so the link upper parts come to Point [A], link bottom parts to [B] and the four positioning bosses to [C] and all the six points fit to each other.
3) Once positioning is done, firmly insert the connectors at two points.
4) Twist the operation parts of the link upper parts and the link bottom parts towards the rear side till they make click feeling.



Installation 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)

1. Installation Environment

   Do not use this product in the following environment.
   - Location where the ambient temperature is out of the range between 0 and 55°C (with fan) or 0 and 40°C (with no fan)
   - 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
   - Environment that blocks the air vent [Refer to section in Installation and Noise Elimination]
   - Place with an altitude of 1,000m or more

   When using the product in any of the locations specified below, provide a sufficient shield.
   - Location subject to electrostatic noise
   - Location where high electrical or magnetic field is present
   - Location with the mains or power lines passing nearby

2. Storage and Preservation Environment

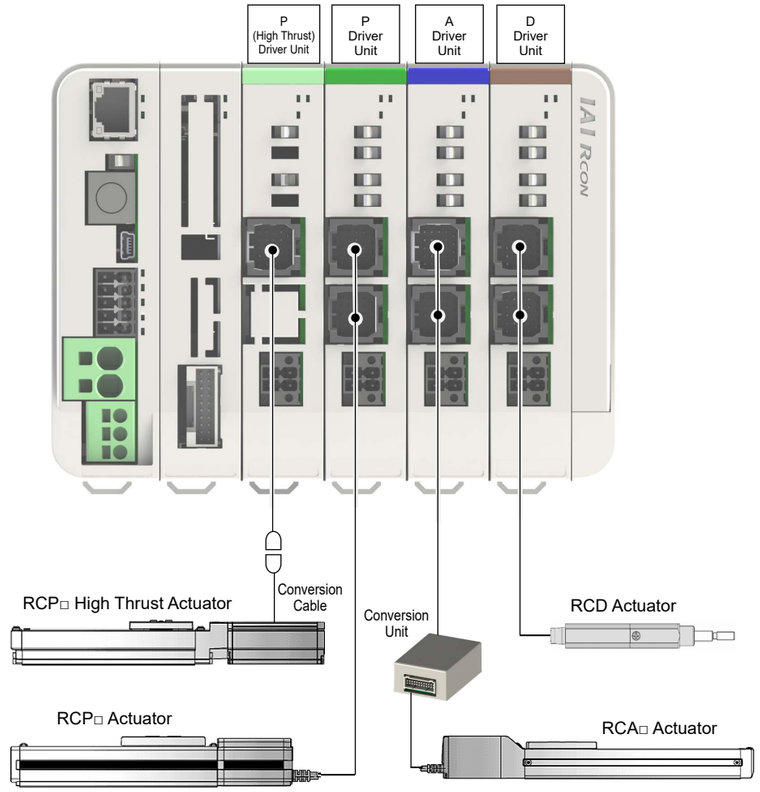
   The storage and preservation environment should comply with the same standards as those for the installation environment.
   In particular, when the machine is to be stored for a long time, pay close attention to environmental conditions so that no condensation forms. Unless specially specified, moisture absorbency protection is not included in the package when the machine is delivered. In the case that the machine is to be stored and preserved in an environment where condensation is anticipated, take the condensation preventive measures from outside of the entire package, or directly after opening the package.

Installation and Noise Elimination

For installation and noise elimination, refer to the first step guide for RCON Gateway Unit or RSEL system SEL Unit.

Item	Document Control
RCON Gateway Unit First Step Guide	ME0382
RSEL SEL Unit First Step Guide	ME0393

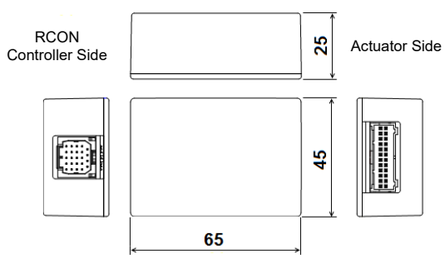
Wiring Layout for Motor/Encoder Cables



Note This wiring diagram shows an example for connection.
Required equipments, such as conversion cable and conversion unit, should differ depending on the type of actuator.
Refer to [24V Driver Unit Connection Cable List] shown in the following page for details.

[Conversion Unit]

For those actuators which cannot be connected using 24V Driver Unit connection cables CB-ADPC-MPA□□□(-RB) and CB-RCAPC-MPA□□□(-RB) or a conversion cable CB-CAN-AJ002, it is necessary to use this conversion unit and connection cable for each actuator in order to establish connection.



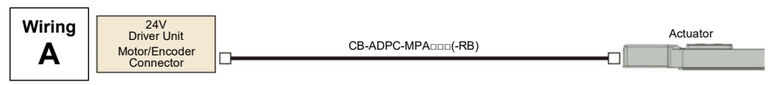
24V Driver Unit Connection Cable List

No.	Actuator Series	Actuator Target type	Connection cable (Note 2) (-RB: Robot cable) [Each actuator connection cable]	Conversion unit	Wiring diagram
(1)	RCP6 RCP6CR RCP6W	Other than high thrust type (Note 1)	CB-ADPC-MPA□□□(-RB)	-	A
(2)	RCP5 RCP5CR RCP5W	High thrust type (Note 1)	CB-ADPC-MPA□□□(-RB) CB-CAN-AJ002 (conversion cable)	-	B
(3)	RCP4 RCP4CR RCP4W	Gripper (GR*), ST4525E, SA3/RA3	CB-ADPC-MPA□□□(-RB)	-	A
(4)		High thrust type (Note 1)	CB-ADPC-MPA□□□(-RB) CB-CAN-AJ002 (conversion cable)	-	B
(5)		Other than (3), (4)	CB-ADPC-MPA□□□(-RB) CB-CAN-AJ002 (conversion cable)	-	B
(6)	RCP3		CB-RCAPC-MPA□□□(-RB)	-	C
(7)	RCP2 RCP2CR RCP2W	RCP2 (standard type) Rotary compact type RCP2-RTBS/RTBSL/RTCS/RTCSL	CB-ADPC-MPA□□□(-RB) [CB-RPSEP-MPA□□□]	Required	D
(8)		RCP2CR (clean room type), RCP2W (dust-proof/splash-proof type) Rotary (RT*) of above types GRS/GRM/GR3SS/GR3SM of above types	CB-ADPC-MPA□□□(-RB)	-	A
(9)		All (standard / clean room / dust-proof/splash-proof) types of GRSS/GRLS/GRST/GRHM/GRHB Short type (RCP2 only) RCP2-SRA4R/SRGS4R/SRGD4R	CB-RCAPC-MPA□□□(-RB)	-	C
(10)		High thrust type (Note 1)	CB-ADPC-MPA□□□(-RB) [CB-CFA-MPA□□□(-RB)]	Required	D
(11)		Other than (7) to (10)	CB-ADPC-MPA□□□(-RB) [CB-PSEP-MPA□□□]	Required	D
(12)	RCA2/RCA2CR/RCA2W, RCL		CB-RCAPC-MPA□□□(-RB)	-	C
(13)	RCA2/RCA2CR/RCA2W (CNS option)		CB-ADPC-MPA□□□(-RB)	-	A
(14)	RCA RCACR RCAW	Short type (RCA only) RCA-SRA4R/SRGS4R/SRGD4R	CB-RCAPC-MPA□□□(-RB)	-	C
(15)		Other than (14)	CB-ADPC-MPA□□□(-RB) [CB-ASEP2-MPA□□□]	Required	D
(16)	RCD	RCD-RA1DA, RCD-GRSNA	CB-ADPC-MPA□□□(-RB)	-	A

Note 1 Actuators using high-thrust pulse motor (56SP, 60P and 86P)

Note 2 Up to 20 m from each driver unit to the actuator, with or without the conversion unit. However, the maximum length from the D driver unit to the RCD actuator will be 10 m.

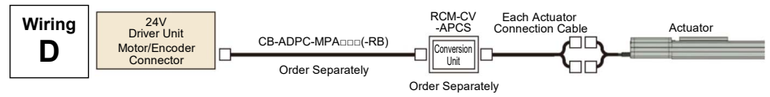
Wiring A



Wiring B

Wiring C

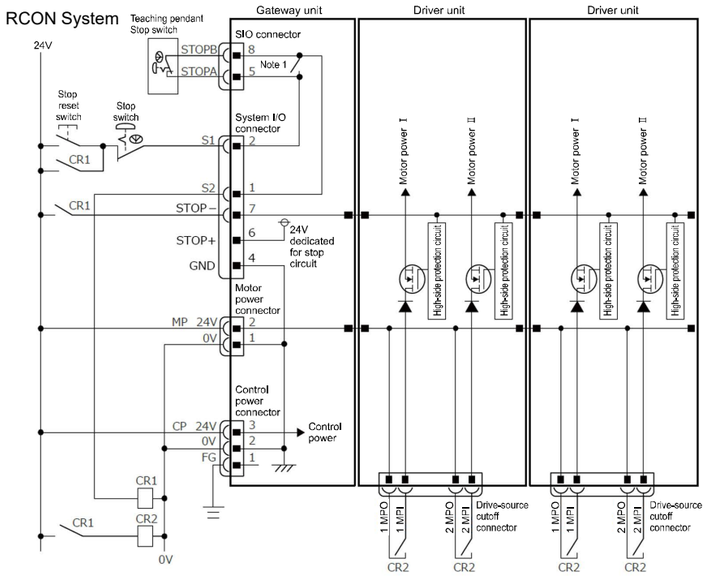
Wiring D



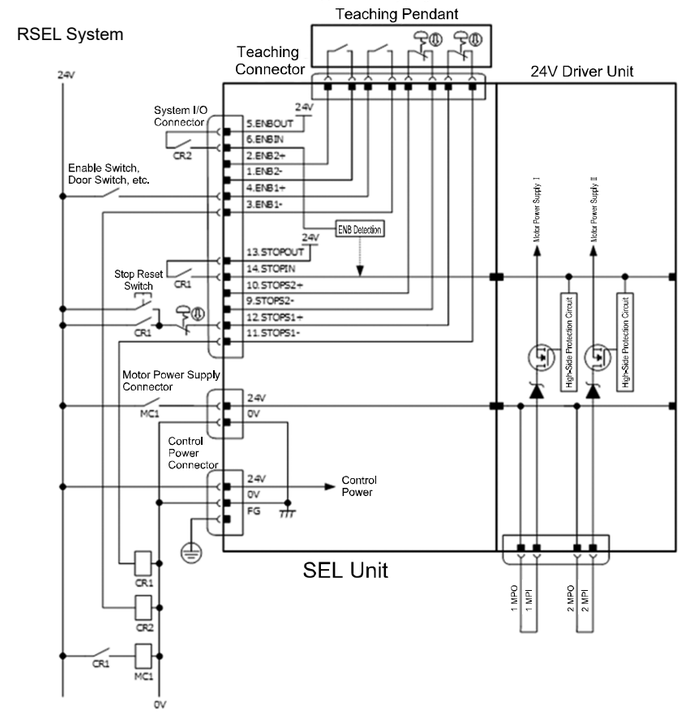
Power Supply and Stop Circuit (Example)

In the diagram below shows a circuit related to a drive source cutoff. For RCON/RSEL System, 24V motor power is supplied from the master unit, but the circuit related to the drive-source cutoff is on the driver unit side.

- Each driver unit possesses a drive source cutoff circuit by semiconductor. The motor power should be cut off by STOP Signal. The drive source cutoff circuit by semiconductor possesses features to detect the overcurrent and to limit the in-rush current.



Note 1 RCON-GW : If nothing is connected to the SIO connector, S1 and S2 will be short-circuited in the controller.
RCON-GWG : If nothing is connected to the SIO connector, S1 and S2 will not be short-circuited in the controller.
To short-circuit, connect the supplied dummy plug DP-5 to the SIO connector.

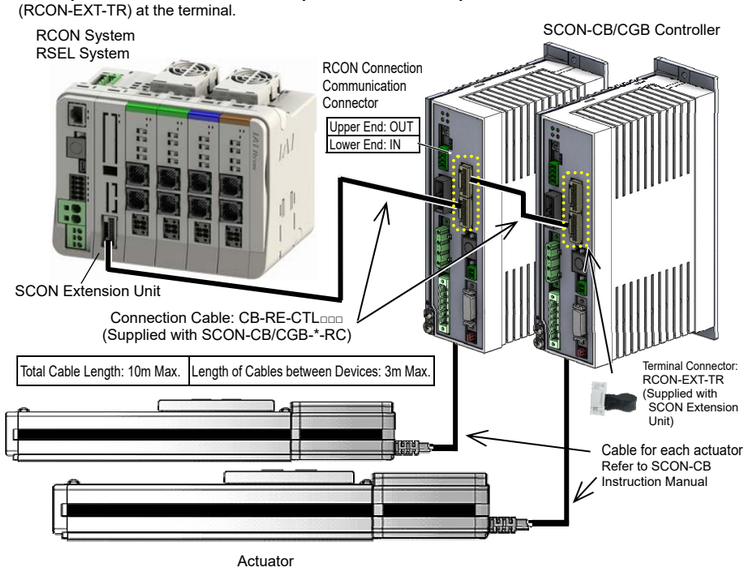


Note ● When externally shutting off the motor drive source to comply with the safety category or the like, connect a contact such as a relay to the wiring between the MPI and MPO* terminals.*
● The rating of the STOP-signal to be turned ON/OFF with the contact CR1 is 24 VDC / 10 mA or less.
● The CR1 coil current must be 0.1 A or less.
● When supplying power by turning ON/OFF 24 VDC, leave 0 V connected and supply/cut off +24 V.

Wiring Layout for SCON Connection Cables

When the SCON-CB/CGB RCON connected type controller is to be connected using an SCON Extension Unit, conduct wiring as shown in the figure below. (SCON Controllers with model code SCON-CB/CGB-*-RC are only those available to connect.)

RCON connection communication connector in SCON Controller has IN on lower end and OUT on upper end. Pay attention not to connect other way around. It is necessary to connect the terminal connector (RCON-EXT-TR) at the terminal.

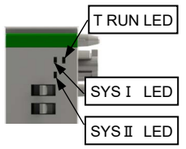


Servo-pressing type (SCON-CB/CGB-F) and
PLC feature equipped type (SCON-LC/LCG) are not available to connect.

Troubleshooting (LED Display)

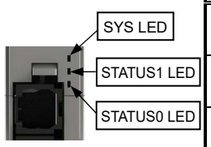
In this section, describes for LED on each unit.
Utilize them to check normal operation status and recovery after error occurrence.

(1) 24V Driver Unit



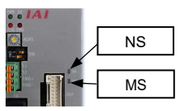
Panel Display	Color	Status	Explanation
T RUN	GN	Illuminating	Inside bus communication in normal conditions
		Flashing	Waiting for initializing communication /Communication error at initialization
	OR	Illuminating	Inside bus communication in error
SYS	GN	Illuminating	Turning servo ON
		OFF	Turning servo OFF
	RD	Illuminating	Alarm being generated, During STOP input

(2) Simple Absolute Unit



Panel Display	Color	Status	Explanation
SYS	GN	Illuminating	Operation in normal conditions
	RD	Illuminating	Alarm being generated
STATUS1	GN	Illuminating	Home-return operation complete
	RD	Illuminating	Home-return operation incomplete
STATUS0	GN	Illuminating	Battery fully charged
	RD	Illuminating	Battery not connected
	OR (GN/RD)	Illuminating	Battery charging

(3) SCON Controller (Field Network LED)
Refer to the [instruction manual for SCON controller (ME0340)] for the status display LED lamps (PWR, SV, ALM and EMG).

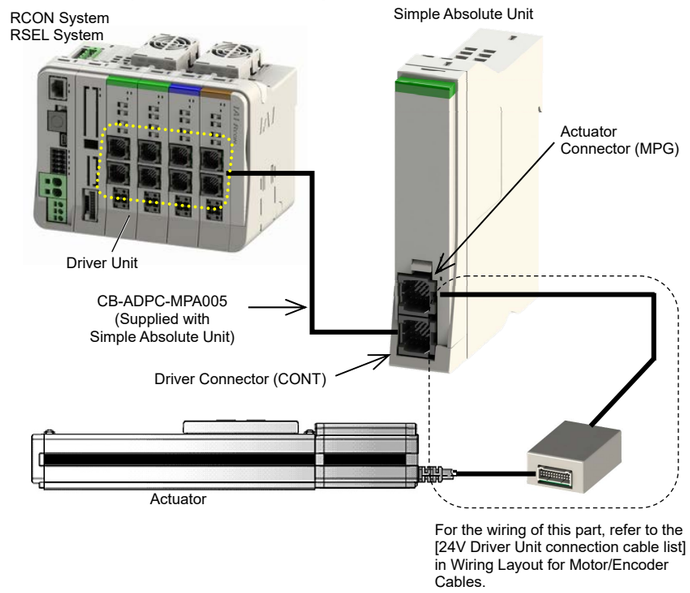


Panel Display	Color	Status	Explanation
NS	GN	Illuminating	Communication in normal conditions
		Flashing	Startup ~ Initialization Communication Completed
	OR	Illuminating	Communication Error Occurred
MS	GN	Illuminating	In Normal Condition
	OR	Illuminating	Error Occurred

Wiring Layout for Simple Absolute Unit

When it is required to use a simple absolute unit (in common for P Driver and A Driver), conduct wiring as shown in the figure below.

One unit of the simple absolute unit is necessary for one unit of an actuator.



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Manual No.: ME0383-3A