IAI
Quality and Innovation

RCON-SC, RCON-PS2

200V Power Supply Unit, 200V Driver Unit, Fan Unit, Terminal Unit for 200V

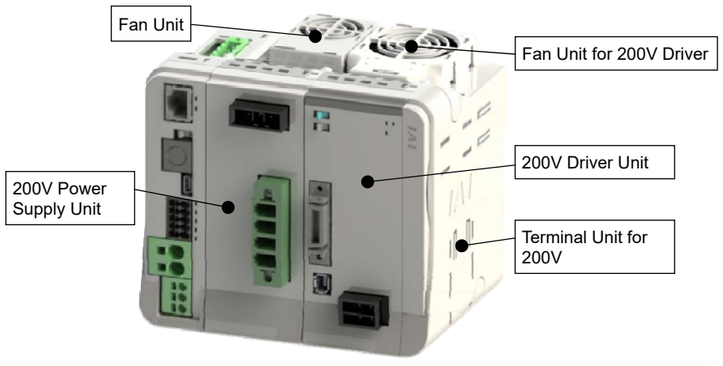
First Step Guide Third Edition

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 instruction 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 constructs a systemwide combining the Master Unit (RCON/RSEL), 24V and 200V Driver Units, Extension Unit, Simple Absolute Unit, Fan Unit and Terminal Unit.

In this guide, describes about the 200V Power Supply Unit, 200V Driver Unit, Fan Unit and Terminal Unit for 200V. For instruction of other units, refer to the first step guide and instruction manual of each unit.



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) 200V Power Supply Unit

No.	Part Name	Model	Number	Remarks
1	200V Power Supply Unit	Refer to “How to read the model plate”, “How to read the model code”	1	
Accessories				
2	Terminal Unit for 200V	RCON-GW-TRS	1	Not enclosed in TRN Type
3	Fan Unit	RCON-FU	1	
4	Power Connector	SPC5/4-STF-7.62 (Manufactured by PHOENIX CONTACT)	1	
5	First Step Guide	ME0397	1	This Manual
6	Safety Guide	M0194	1	

(2) 200V Driver Unit

No.	Part Name	Model	Number	Remarks
1	200V Driver Unit	Refer to “How to read the model plate”, “How to read the model code”	1	
Accessories				
2	Fan Unit for 200V Driver	RCON-FUH	1	
3	Dummy Plug	DP-6	1	
4	First Step Guide	ME0397	1	This Manual
5	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	SEL Controller: IA-101X/N Position Controller: IA-OS RCM-101-MW/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

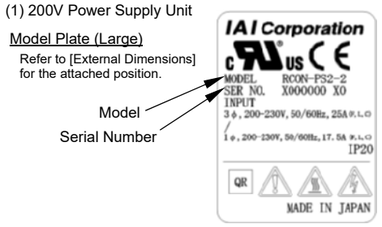
No.	Name	Manual No.
1	RCON System Instruction Manual	ME0384
2	RSEL System Instruction Manual	ME0392
3	PC Software RCM-101-MW/RCM-101-USB Instruction Manual	ME0155
4	PC Software IA-101-MW/USB Instruction Manual	ME0154
5	Touch Panel Teaching Pendant TB-02 Applicable for Position Controller Instruction Manual	ME0355
6	Touch Panel Teaching Pendant TB-02 Applicable for Program Controller Instruction Manual	ME0356
7	Touch Panel Teaching Pendant TB-03 Wired Link Applicable for Position Controller Instruction Manual	ME0376
8	Touch Panel Teaching Pendant TB-03 Wired Link Applicable for Program Controller Instruction Manual	ME0377

4. How to read the model plate (This design is what is after UL/CE acquired.)

(1) 200V Power Supply Unit

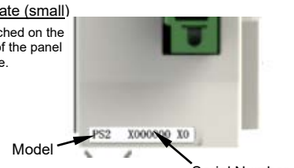
Model Plate (Large)

Refer to [External Dimensions] for the attached position.



Model Plate (small)

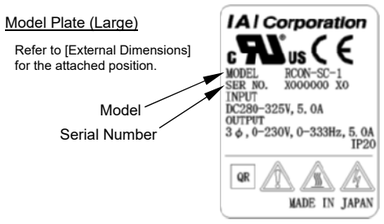
It is attached on the bottom of the panel front face.



(2) 200V Driver Unit

Model Plate (Large)

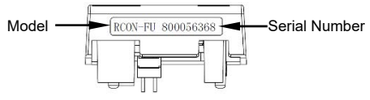
Refer to [External Dimensions] for the attached position.



Model Plate (small)

It is attached on the bottom of the panel front face.

(3) Fan Unit



Mark	Explanation of Mark
⚠	**Use IAI specified cables only. Where residual-current-operated protective device (RCD) is used for protection in case of direct or indirect contact, only RCD of Type B is allowed on the supply side of this Electrotonic Equipment (EE).**
⚠	**Do not touch terminals within 10 minutes after disconnect the power. Risk of electric shock.**
⚠	**Do not touch product when power is ON. Risk of burn.**

5. How to read the model code

(1) 200V Power Supply Unit

RCON - PS2 - 3 -TRN

- RCON: < Series >
- PS2: <Type> PS2 : 200V Power Supply Unit
- 3: <Power-supply Voltage > 3 : Single-phase/Three-phase 200V
- TRN: <Option> TRN : With No Terminal Unit

(2) 200V Driver Unit

RCON - SC - 1

- RCON: < Series >
- SC: <Type> SC : 200V AC Servo-motor
- 1: <Number of Axes> 1 : 1 axis

Type : SC 60-700W Motor 1 axis	60	60W Servo-motor
	100	100W Servo-motor
	100	100W Servo-motor (for LSA)
	150	150W Servo-motor
	200	200W Servo-motor
	200	200W Servo-motor (for LSA, DD)
	300	300W Servo-motor (for LSA)
	400	400W Servo-motor
	600	600W Servo-motor
	750	750W Servo-motor

(3) Fan Unit

RCON - FUH

- RCON: < Series >
- FUH: <Type> FU : Fan Unit; FUH : Fan Unit for 200V

Basic Specifications

1. Specifications of Power Supply

Item	Specification
Power Input Voltage Range	200 to 230V AC ±10%
Power Supply Frequency Range	50/60Hz
Current Amperage	Refer to section in [Current Amperage]
In-Rush Current	25A/axis (with in-rush current limit circuit)
Instantaneous Power Outage Endurance	20ms (with power supply frequency at 50Hz) 16.3ms (with power supply frequency at 60Hz)
Protection Function against Electric Shock	Class Ⅰ
Leak Current	3.0mA or less

2. Specifications of Control Part

Item	Specification
Number of Controlled Axes	RCON System 1 to 16 axes, RSEL System 1 to 8 axes
Corresponding Motor Capacity	60W to 750W
Corresponding Encoder	Incremental Serial, Battery-less Absolute, ABZ (UVW) Parallel, Spurious Absolute and Index Absolute
Field Network Interface	CC-Link, CC-Link IE Field, DeviceNet, EtherCAT, EtherNet/IP, PROFIBUS-DP, PROFINET IO, MECHATROLINK-Ⅲ, EtherCAT Motion, SSCNETⅢ/H (Applicability to the motion network is at the driver version V0005 and later)
Pulse Train Type	Unavailable to Control
Brake Output Voltage	45V DC ±10% (Overexcitation 90V)
Connectable Brake Power	Max 7W
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
Driver Unit LED Display	Refer to section in [Troubleshooting (LED Display)]
Brake Compulsory Release Feature	Brake release switch equipped on 200V Driver Unit
Jog	Jog switch equipped on 200V Driver Unit
Cable Length	Motor Cable: 20m or less, Encoder Cable: 20m or less
Oversea Certifications	CE and UL

3. Environmental Specifications

Item		Specification
Environment	Environment of Use	Pollution Degree 2
	Surrounding Air Temperature	0 to 55°C
	Surrounding Humidity	85% RH or less (non-condensing)
	Peripheral Ambience of Use	Refer to section in [Installation Environment]
	Surrounding Storage Temperature	-20 to 70°C
	Vibration Durability	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		Forced air cooling with fan unit
Dielectric Withstanding Voltage		1500V for 1 min between power supply terminal and PE
Overvoltage category		Ⅰ

Current Amperage

The current amperage should be divided into the control power capacity and motor power capacity.
In this guide, describes about the current amperage of the control power supply and 200V motor power supply. For the current amperage of the 24V motor power supply, refer to the first step guide (ME0383) and instruction manual (DVD) of RCON 24V Driver Unit.
The control power supply should be input from the control power supply connector on the master unit. The motor power supply should be input from the 200V input connector on the 200V power supply unit.
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 (200V power supply unit included)	Brake: Not equipped	0.2A
		Brake: Equipped	0.5A
	Option 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

[200V Motor Power Supply]

Actuator Motor Wattage	Motor Power Capacity	Peek Max. Motor Power Capacity
30R (RS-30)	138	414
60	138	414
60 (RCS3-CTZ5)	197	591
100	234	702
100S (LSA)	283	851
150	328	984
200	421	1263
200S (DD(A))	503	1509
200S (Excluding LSA (S)-N15H)	486	1458
200S (LSA (S)-N15H)	773	2319
300S (LSA)	662	1986
400	920	2760
400 (RCS3-CT8)	1230	3690
600	1164	2328
600 (DD(A))	1462	4386
750	1521	3042
750S	1521	4563

Restrictions in Unit Connection

(1) 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

The capacity necessary in the control power supply should be figured out by “Total of control power capacity of used units”.
In the table of the capacity [Control Power Supply] shown above, add the power capacity of all the units constructing the system and check that it does not exceed the restricting values of current for selecting calculation described in Restrictions in Unit Connection.
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	200V Actuator × 8 axes, All axes equipped with brake 200V Driver unit (with brake) 0.5A × 8 = 4.0A ⇒ OK
Example 2	200V Actuator × 16 axes, All axes equipped with brake 200V Driver unit (with brake) 0.5A × 16 = 8.0A ⇒ OK
Example 3	24V Actuator × 8 axes, All axes equipped with brake (2 axes/unit), All axes simple absolute type 200V Actuator × 8 axes, All axes equipped with brake 24V Driver unit (with brake) 0.6A × 4 + Simple absolute 0.2A × 8 +200V Driver unit (with brake) 0.5A × 8 = 8.0A ⇒ OK
Example 4	200V Actuator × 16 axes, All axes equipped with brake + PIO/SIO/SCON Extension Unit one unit, PIO Unit 7 units 200V Driver unit (with brake) 0.5A × 16 + PIO/SIO/SCON Extension Unit 0.1A × 1 + PIO Unit 0.1A × 7 = 8.0A ⇒ OK

(2) 200V Motor Power Supply Current Restrictions

Shown below is the restricting values for selecting calculation.

Item	Restricting Value for Selecting Calculation
200V Motor Power Supply (Single-phase)	1600W
200V Motor Power Supply (Three-phase)	2400W

The capacity necessary in the motor power supply should be figured out by “Total of control power capacity of used units”.
In the table of the capacity [Motor Power Supply] shown above, add the power capacity of all the actuator motor wattages constructing the system and check that it does not exceed the restricting values of current for selecting calculation described in Restrictions in Unit Connection.

However, apply the motor wattage for calculation for the actuators listed below.

Actuator Model Code	Motor Wattage for Calculation		Remarks
	Three-Phase Power Supply	Single-Phase Power Supply	
LSA-S6S□/S8S□/S8H□/ LSA(S)-N10S□	100	300	For 1 slider
LSA-S10S□/H8S□/H8H□/L15S□/N19SS LSA(S)-N15S□/N15H□/	200	600	For 1 slider
LSA-W21S□	400	- (Note1)	For 1 slider
DD(A)-LT18(C) / T18(C)	200	- (Note1)	
DD(A)-LH18(C) / H18(C)	600	- (Note1)	
RCS3-CTZ5C	200	- (Note1)	
RCS3-CT8C	800	- (Note1)	

Note1 It should not be available for use when the power supply to RCON-PS2-3 is the single-phase 200V.

Limitation to Number of Axes due to Input Power Source to 200V Power Supply Unit
For the actuators described below, there are some limitation to the number of connectable axes due to the power source supplied to the 200V power supply unit when they are connected to RCON-SC-1.

Item	200V Motor Power Supply	
	Three-phase	Single-phase
DD(A)-LT18(C) / T18(C)	8 axes max.	Connection not available
DD(A)-LH18(C) / H18(C)	2 axes max.	Connection not available
RCS3-CTZ5C	8 axes max.	Connection not available
RCS3-CT8C	3 axes max.	Connection not available

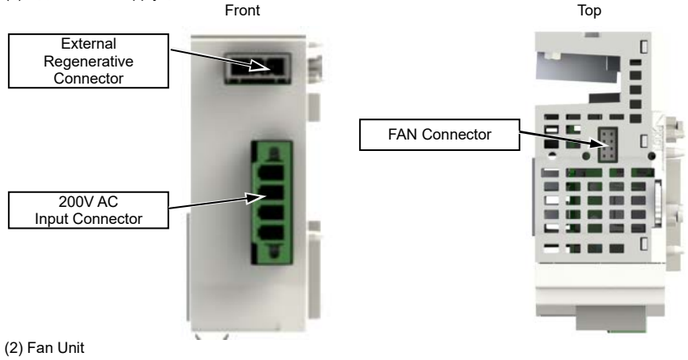
Shown below is some examples for calculation.

[200V Motor Power Supply]

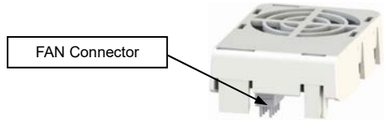
Example 5	One axis for each of actuator of 200W motor, actuator of 300W motor and actuator of 600W motor 200W × 1 axis + 300W ×1 axis + 600W × 1 axis = 1100W ⇒ Single-phase OK, Three-phase OK
Example 6	RCS3-CTZ5C × 1 axis, actuator of 200W motor × 7 axes 120W + 200W × 7 axes = 1520W ⇒ Single-phase NG (single-phase power supply is not applicable for RCS3-CTZ5C), Three-phase OK
Example 7	actuator of 200W motor × 6 axes, LSA-S10SM (Multiple Slider) × 1 axis 200W × 6 axes + 400W × 2 = 2000W ⇒ Single-phase NG, Three-phase OK
Example 8	actuator of 200W motor × 16 axes 200W × 16 axes = 3200W ⇒ Single-phase NG, Three-phase NG

Names for Each Part

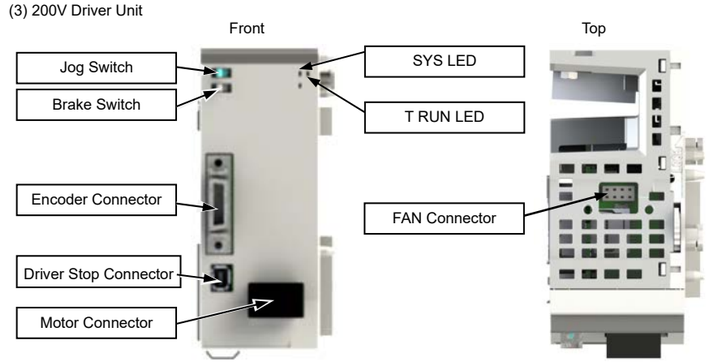
(1) 200V Power Supply Unit



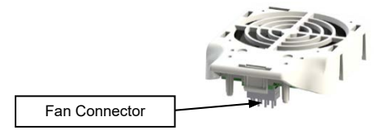
(2) Fan Unit



(3) 200V Driver Unit



(4) Fan Unit for 200V Driver

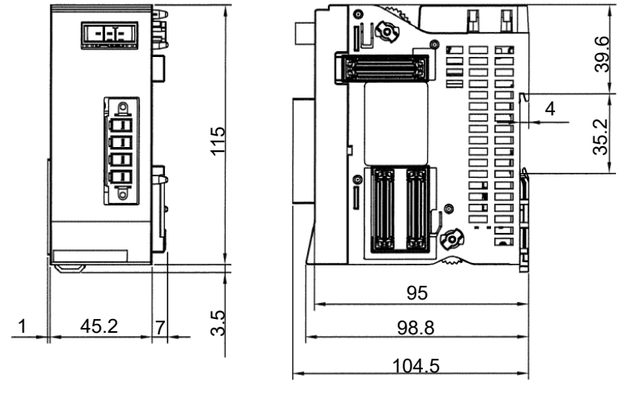


(5) Terminal Unit for 200V

External Dimensions

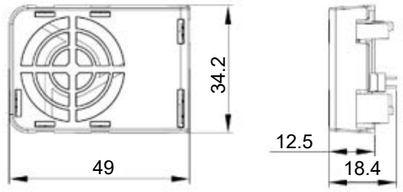
1. 200V Power Supply Unit

Item	Specification
External Dimensions	45.2W × 115H × 95D [mm]
Mass	Approx. 393g (fan unit weight excluded)



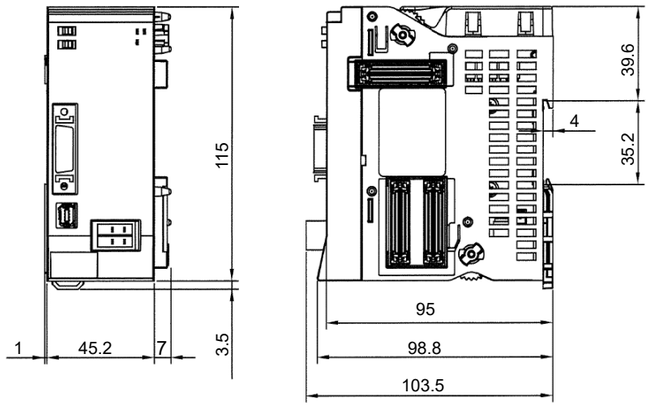
2. Fan Unit

Item	Specification
External Dimensions	34.2W × 49H × 12.5D [mm]
Mass	Approx. 16g



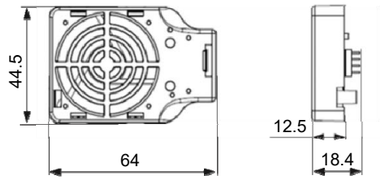
3. 200V Driver Unit

Item	Specification
External Dimensions	45.2W × 115H × 95D [mm]
Mass	Approx. 438g (fan unit weight excluded)



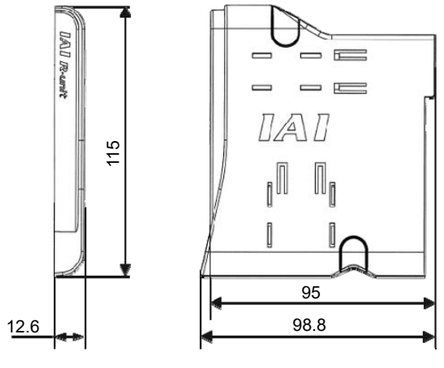
4. Fan Unit for 200V Driver Unit

Item	Specification
External Dimensions	44.5W × 64H × 12.5D [mm]
Mass	Approx. 20g



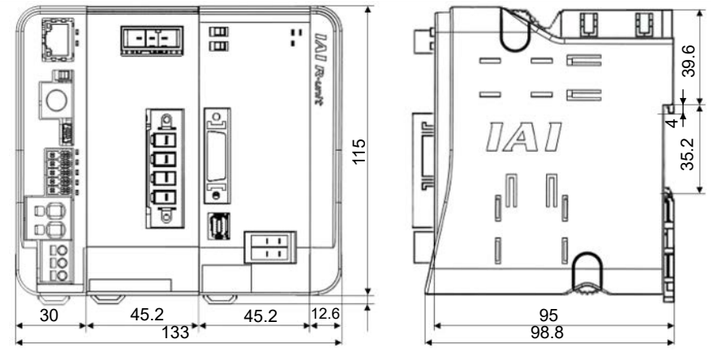
5. Terminal Unit for 200V

Item	Specification
External Dimensions	12.6W × 115H × 95D [mm]
Mass	Approx. 40g



6. Linking Units

Item	Specification
External Dimensions	(30 + 45.2 + 45.2 + 12.6) W × 115H × 95D [mm]
Mass	Approx. 1.077g



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)

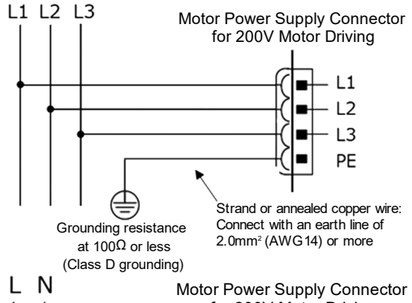
1. Installation Environment
   Do not use this product in the following environment.
   - Location where the ambient temperature is out of the range between 0 and 55°C
   - Location where condensation occurs due to abrupt temperature changes
   - Location where relative humidity exceeds 85%RH
   - Location 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 [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. However, the ambient temperature should be from -20 to 70°C and relative humidity at 85%RH or below. 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.

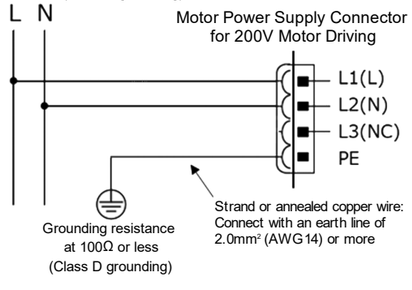
Installation and Noise Elimination

1. Protective Ground
   For the grounding, the grounding resistance should be set to 100Ω or less (Class D grounding).
   The wiring should apply a twist line or an annealed copper wire of 2.0mm² (AWG14) or more with an isolation sheath with its rated temperature at 60°C or higher.

[200V Three-phase Type]



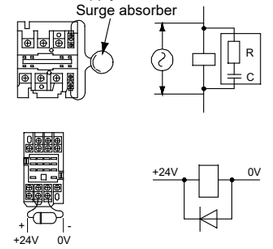
[200V Single-phase Type]



2. Noise Elimination Grounding (Frame Ground)
   Noise elimination grounding (frame ground) is conducted on the master unit side.

3. Precautions regarding wiring method
   Separate I/O lines, communication lines and encoders, power source and supply lines from each other to reduce the influence to each other.

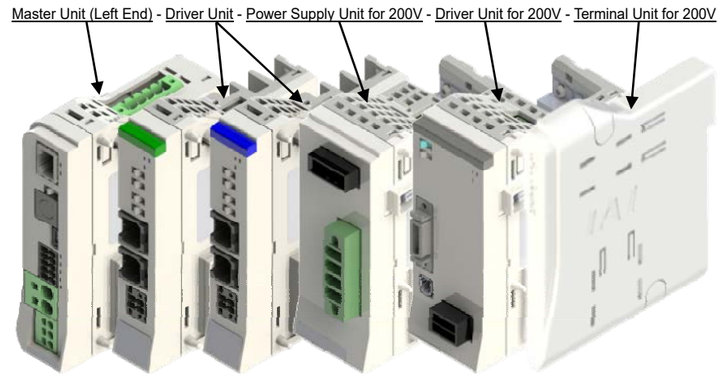
4. Noise Sources and Elimination
   Carry out noise elimination measures for electrical devices on the same power path and in the same equipment.
   The following are examples of measures to eliminate noise sources.
   1) AC solenoid valves, magnet switches and relays
      [Measure] Install a Surge absorber parallel with the coil.
   2) DC solenoid valves, magnet switches and relays
      [Measure] Consider whether to attach a diode in parallel to the coil or to use a diode built-in type.



Linking Units

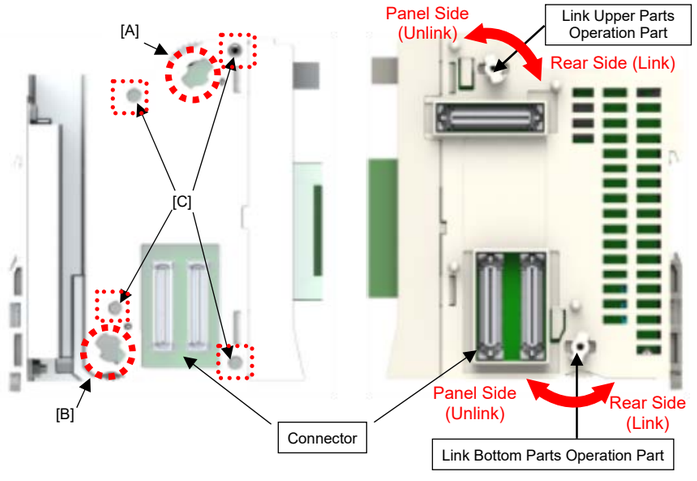
RCON/RSEL Systems possesses a locking structure with unit linking system. The 200V Power Supply Unit is to be linked on the right of the 24V Driver Unit in the front view. The 200V Driver Units are to be linked on the right of them for the necessary number of units, and the Terminal Unit for 200V come on the further right.

For the terminal unit, make sure to use the Terminal Unit for 200V enclosed to the 200V Power Supply Unit.



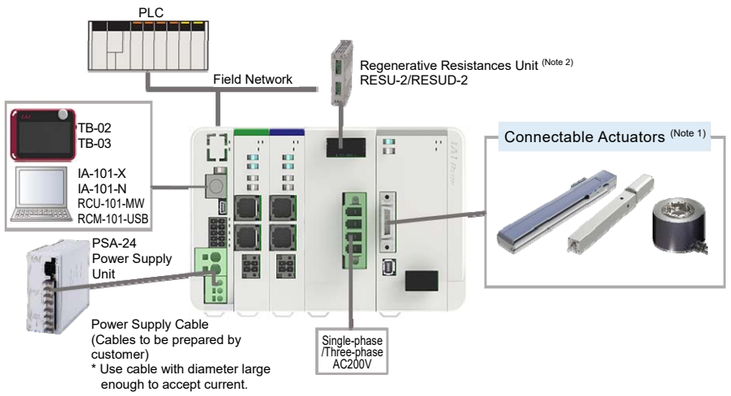
Unit should be linked in the process shown below. (Make sure it gets linked before connected to the DIN rails.)

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.



⚠ Danger: When there is a unit of 200V, make sure that the terminal unit on the right is the Terminal Unit for 200V (RCON-GW-TRS) enclosed to the 200V Power Supply Unit. The Terminal Unit for 24V has a structure that does not allow itself connected to the 200V units, however, it could be forcefully inserted, which could cause fire on the connector as well as damage on it.

Wiring Layout for Motor/Encoder Cables



Note 1 The 200V Servo Motor Actuators below are not capable to be connected to the 200V Driver Units.
(1) Motor types other than those from 60W to 750W (except for RS-30W type)
(2) Encoder types other than Battery-less Absolute, Incremental, Spurious Absolute and Index Absolute
(3) For Three-phase 200V, combination that exceeds 2400W in total of Actuator Wattages connected to 200V Driver Units
(4) For Single-phase 200V, combination that exceeds 1600W in total of Actuator Wattages connected to 200V Driver Units
(5) Servo Pressing Type
(6) SCARA Robot
(7) CT4 Series
(8) ZR Series

When it is necessary to connect actuators from (1) to (4) above, use the SCON Extension Unit and SCON-CB.
Also, DD/DDA, LSA-W21S and RCS3-CT8C/CTZ5C are not conformed with Single-phase 200V

Note 2 There is a built-in regenerative resistor of 60W equipped in 200V Driver Unit and 200V Power Supply Unit.
The regenerative resistor is basically not necessary, but use this External Regenerative Resistor Unit in case of shortage in regenerative resistance.

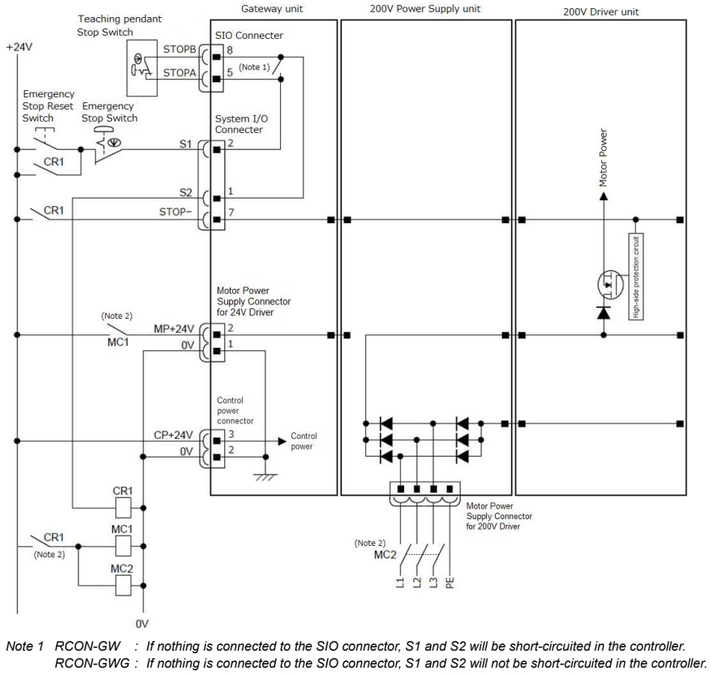
200V Driver Unit Connection Cable List

No.	Actuator		Motor cable	Motor robot cable	Encoder cable	Encoder robot cable
	Series	Target type				
(1)	RCS4 RCS4CR		CB-RCC1-MA□□□	CB-X2-MA□□□	—	CB-X1-PA□□□
(2)	RCS3(P) RCS3(P)CR	CTZ5C CT8C	CB-RCC1-MA□□□	CB-X2-MA□□□	—	CB-X1-PA□□□
		Those other than above			CB-RCS2-PA□□□	CB-X3-PA□□□
(3)	RCS2 RCS2CR RCS2W	RTC□L RT6	CB-RCC1-MA□□□	CB-X2-MA□□□	CB-RCS2-PLA□□□	CB-X2-PA□□□
		Those other than above			CB-RCS2-PA□□□	CB-X3-PA□□□
(4)	RCS2 with no loadcell equipped	RA13R	CB-RCC1-MA□□□	CB-X2-MA□□□	CB-X2-PLA□□□	CB-X2-PLA□□□
		RA13R with brake (with brake box)			[Between Actuator and Brake Box] CB-RCS2-PLA□□□ [Brake Box and controller] CB-RCS2-PLA□□□	[Between Actuator and Brake Box] CB-X2-PLA□□□ [Brake Box and controller] CB-X2-PLA□□□
		RA13R with brake (with no brake box)			[Between Actuator and Brake Box] CB-RCS2-PLA□□□	[Between Actuator and Brake Box] CB-X2-PLA□□□
(5)	IS(P)B IS(P)DB IS(P)DBCR		—	CB-X2-MA□□□	—	CB-X1-PA□□□ * For cable length 21m or more and 30m or less in battery-less absolute type; CB-X1-PA□□□-AWG24
		Option: with limit switch type				CB-X1-PLA□□□ * For cable length 21m or more and 30m or less in battery-less absolute type; CB-X1-PLA□□□-AWG24
(6)	IS(P)A IS(P)DA IS(P)DACR SSPA SSPDACR IF FS RS		—	CB-X2-MA□□□	—	CB-X1-PA□□□
		Option: with limit switch type				CB-X1-PLA□□□
(7)	NSA		—	CB-X2-MA□□□	—	CB-X1-PA□□□
(8)	NS		—	CB-X2-MA□□□	—	CB-X3-PA□□□
		Option: with limit switch type				CB-X2-PLA□□□
(9)	DD(A) DD(A)CR DDW	T18□ LT18□	—	CB-X2-MA□□□	—	CB-X3-PA□□□
		H18□ LH18□		CB-XMC1-MA□□□		
(10)	LSA	W□□□	—	CB-XMC1-MA□□□	—	CB-X2-PLA□□□
		Those other than above		CB-X2-MA□□□		CB-X3-PA□□□
(11)	LSAS		—	CB-X2-MA□□□	—	CB-X1-PA□□□
(12)	IS(P)WA		—	CB-XEU1-MA□□□	—	CB-X1-PA□□□-WC

Power Supply and Stop Circuit (Example)

In the diagram below shows a circuit related to RCON drive source cutoff. The 200V Motor Power Supply is a supply to the 200V Power Supply Unit. 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.

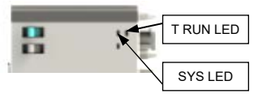


Note 1 RCON-GW : If nothing is connected to the SIO connector, S1 and S2 will be short-circuited in the controller.
RCON-GWG : If nothing is connected to the SIO connector, S1 and S2 will not be short-circuited in the controller.
To short-circuit, connect the supplied dummy plug DP-5 to the SIO connector.
Note 2 Construct the circuit to turn STOP Signal off at the same time as turning off the drive power supply provided to the drive cutoff connector or the drive power supply connector.
Note
- *Consider the cable diameter and length that would not drop the voltage for the drive-source cutoff connector wiring.*
- *There could be a case that the voltage drops on the controller power supply and generate an alarm due to the cable diameter and length. In such a case, adjust the output voltage on the power supply so the voltage supplied to the controller is kept at 24V.*

Troubleshooting (LED Display)

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

(1) 200V Driver Unit



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

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