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RCP2-C/CG Dedicated RCP2 Controller

Operating method	Positioner operation
Number of positions that can be registered	Standard 16 positions / Maximum 64 positions
Power-supply voltage	24 VDC



1 Features

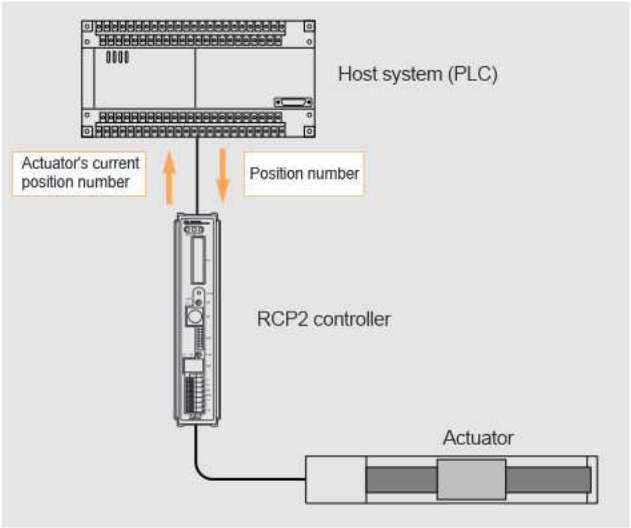
1 Space-saving design with a 51% smaller footprint

The compact, slim body of 35 mm in width x 68.1 mm in depth saves space in the installation of the panel. Of course, the driver, control unit and power stages are all housed within the unit, so no cumbersome wiring or adjustment is needed. Simply connect the actuator, and your equipment is ready to go.



2 Multi-point positioning covering up to 64 points

The increased PIO points and expanded internal memory allow the registration of position data for up to 64 points, so the controller can effortlessly perform complex operations. With this simple, high-function controller you can also perform positioning at an accuracy of ± 0.02 mm, simply by specifying PIO positions from a PLC.



3 Five pin-assignment patterns for PIO signals

You can now choose from a total of five pin-assignment patterns for PIO signals, including the pattern allowing for position specification of up to 64 points, the pattern providing two zone-signal outputs, and the pattern for teaching operation (refer to page 155).
The PIO connector is the same as the one used by the conventional RCP controller (RCP-C), and the factory-set pin assignments are also the same. Therefore, the PIO wiring need not be adjusted after replacing your RCP controller with an RCP2.

(Note) You cannot replace only your RCP controller with an RCP2 and continue using the RCP actuator.

4 Internal or external relay for cutting off the motor's drive power upon emergency stop

The controller, which incorporates its own drive-power cutoff relay, ensures safety by cutting off the motor's drive power when an emergency stop is actuated. To further enhance safety, use the external relay type that cuts off the motor's drive power using a safety relay provided externally to the controller.

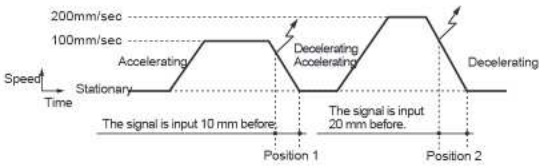
5 Useful software functions

The controller provides a range of useful functions that take advantage of the AC servo features, thus allowing the setting and execution of complex operations.
Convenience is further enhanced with an increase in the number of zone-signal outputs to two.

Useful Software Functions

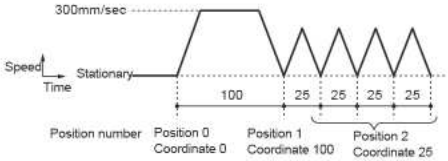
1 Positioning band setting function

Normally a movement completion signal (position complete signal) is output when the target position is reached. With the RCP2 this signal can be output at an arbitrary position before the target position. For example, this function can be used to shorten the tact time.



2 Incremental move function

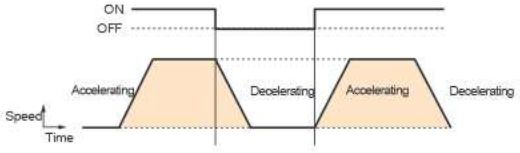
The controller allows for incremental movement, or movement of an arbitrary distance specified from the current position.
You can perform continuous moves at a fixed pitch for as many positioning points as desired, simply by repeating incremental movements with the same distance specification.



3 Pause function

The slider operation can be paused in keeping with the ON/OFF status of an external signal.
Use this function to stop the operation temporarily or provide an interlock with surrounding equipment.

Pause-signal input

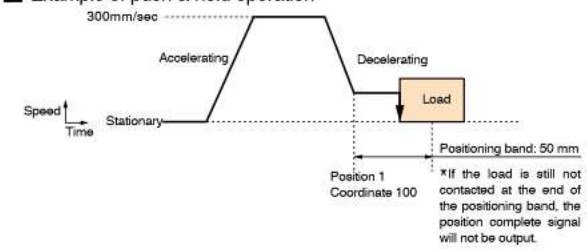


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4 Push & hold operation

The slider can be maintained in a condition where it is continually pressed against the load, just like an air cylinder.
This function is used for clamp fitting or other applications requiring that the load be pressed.

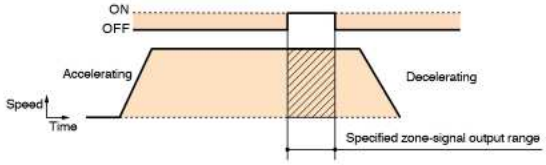
■ Example of push & hold operation



5 Zone output function

This function outputs a signal when the slider enters a specified range during operation.
It can be used to set a danger area or provide a pseudo sensor function.

Zone-signal output



2 Model

RCP2 - C - RXA - I - PM - 0 - P - K
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

① Series

Indicate the name of each series.

② Controller type

Indicate the classification based on controller function.

C : An emergency-stop circuit is provided, and when an external emergency-stop input is received the actuator will be stopped and the motor drive power will be cut off at the relay inside the controller.
(Use this type for general applications.)

GC : There is no emergency-stop circuit in the controller, but a terminal to cut off the motor drive power is provided. Therefore, the safety standard corresponding to Safety Category 2 can be met if the user constructs an emergency-stop circuit externally to the controller using a safety relay, etc.

③ Actuator type

Indicate the type of the actuator to be operated.
(SA5, SA6, SA7, SS, SM, SSR, SMR, RXA, RSA, RMA, GRS, GRM, RTB, RTC)

④ Encoder type

Indicate whether the encoder installed in the actuator should be an "absolute type" or "incremental type.

I: Incremental type
Since the slider position data are cleared each time the power is turned off, home return must be performed every time the actuator is powered up.

A: Absolute type
The current slider position will be retained even after the power is turned off, so home return need not be performed.

⑤ Motor

Indicate the type of motor used by the actuator.
PM: Pulse motor

⑥ Power-supply voltage

Indicate the I/O (I/O signal) type (current direction).
0: 24 VDC

⑦ I/O signal pattern

Indicate the type (current direction) of input/output signals.
* This field can be left blank unless you need to specify the PNP type.

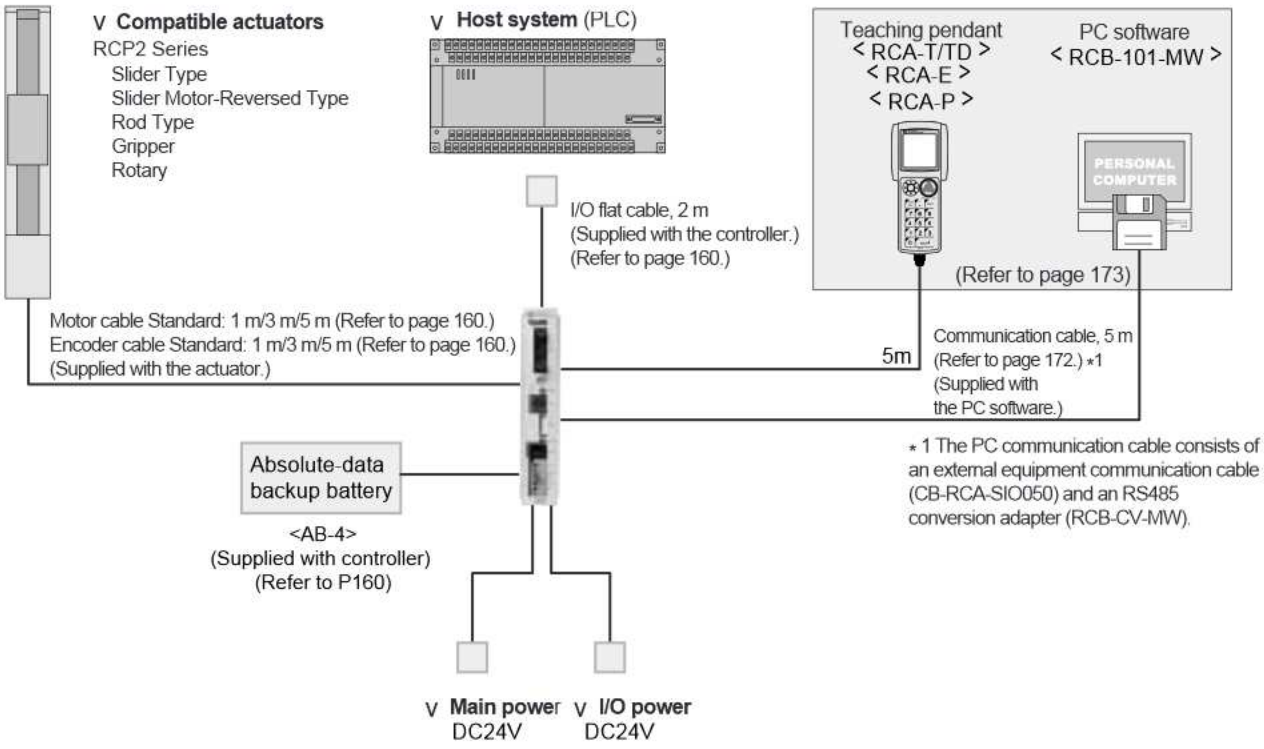
(Blank) : NPN type
P : PNP type

⑧ Absolute battery bracket

(Blank) : No bracket
K : With bracket

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3 System Configuration Diagram



4 I/O Wiring Diagrams

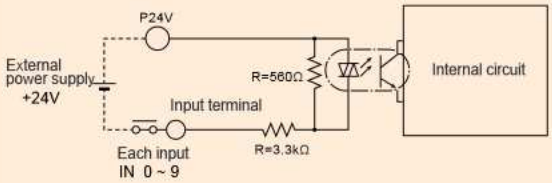
V Input Part External input

Item	Specification
Input voltage	24 VDC ± 10%
Input current	7 mA / circuit
Number of input points	10 points
Leak current	1 mA or less / point
Method	Photocoupler

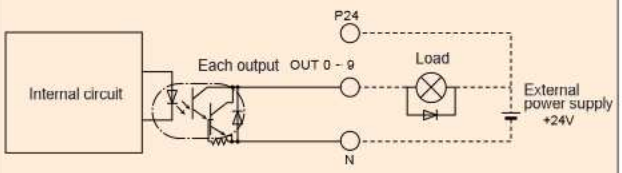
V Output Part External output

Item	Specification
Load voltage	24 VDC
Maximum load current	20 mA / point
Number of output points	10 points
Residual voltage	2 V or less
Method	Photocoupler

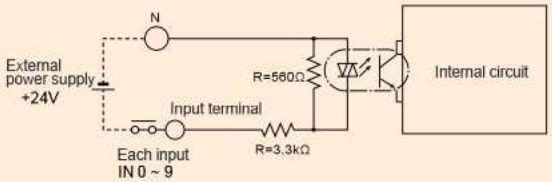
NPN Specification



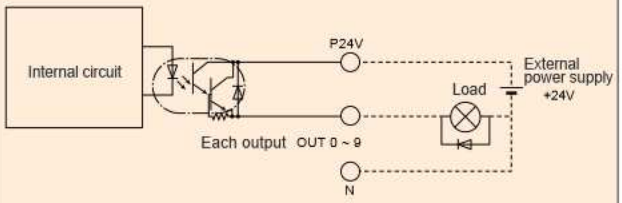
NPN Specification



PNP Specification



PNP Specification

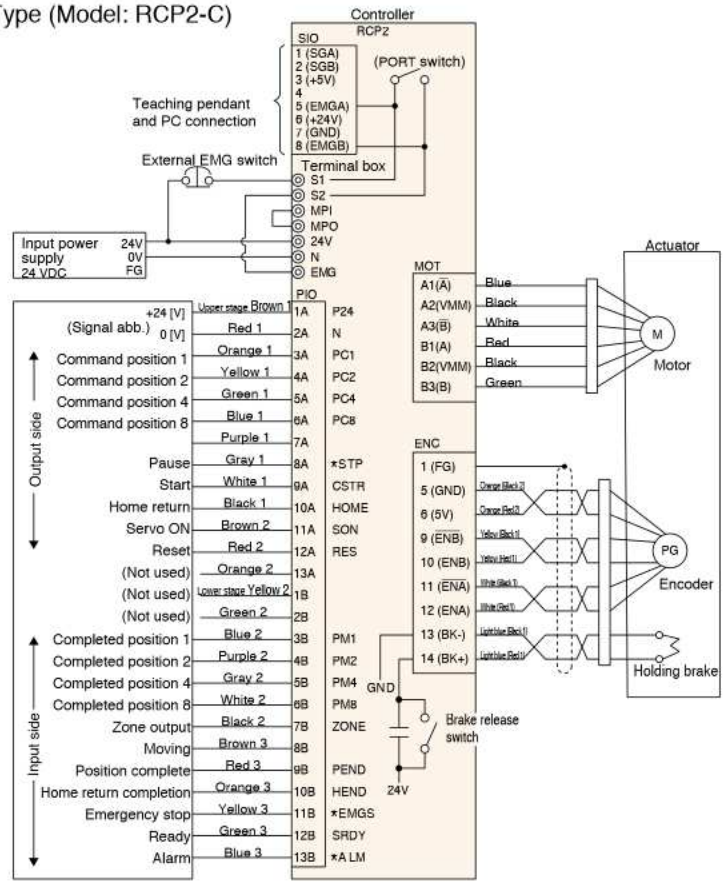


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5 External Connection Diagrams

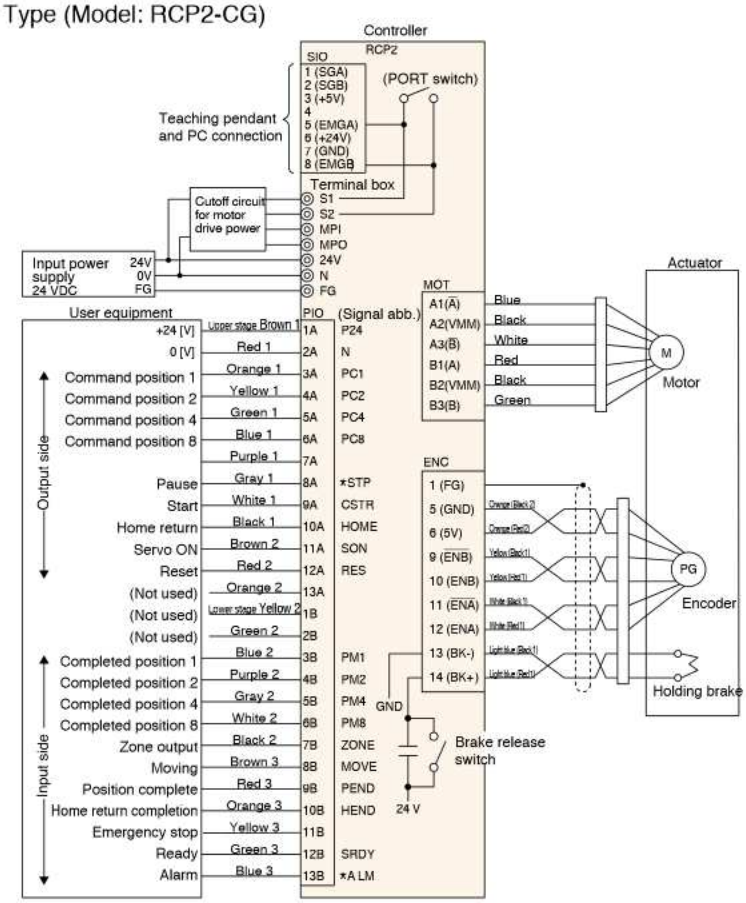
■ Internal Drive-Power Cutoff Relay Type (Model: RCP2-C)

* The wiring diagram shown to the right applies to PIO pattern "1" (standard). Please note that the factory setting is PIO pattern "0" (conventional).



■ External Drive-Power Cutoff Relay Type (Model: RCP2-CG)

* The wiring diagram shown to the right applies to PIO pattern "1" (standard). Please note that the factory setting is PIO pattern "0" (conventional).



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6 I/O Signal Table

This controller provides five PIO patterns to meet the needs of various applications. Simply change the parameter setting (0 to 4), and you can use any one of the five patterns specified below.

Note: Two or more of the following patterns cannot be used in combination, so exercise caution.
(For example, 64-point positioning cannot be implemented while two zone signals are used.)

Parameter (PIO pattern selection)	PIO pattern	Features
0	Conventional	This pattern is compatible with the pin assignments of the RCP-C controller. (Factory setting)
1	Standard	All functions of the conventional pattern, plus home-return command input, servo ON input, reset input, moving output and ready output.
2	64-point positioning	The input ports for positioning command positions are extended to allow for specification of up to 64 points.(The servo ON signal and ready output have been removed.)
3	zone output signals	Two zone output signals are set. (The moving output has been removed.)
4	Teaching	This pattern allows for jogging and teaching (writing of current position coordinates) using I/Os.The mode can be switched between "Normal" and "Teaching". In the Normal mode, the same operations available with the standard pattern can be performed.

Pin No.	Category	Wire color	Parameter (PIO pattern) selection					
			0	1	2	3	4	
			Conventional	Standard	64-point positioning	2 zone output signals	Teaching	
							Normal mode	Teaching mode
1A	P24	Upper stage Brown 1	P24					
2A	N	Red 1	N					
3A	Input	Orange 1	CSTR	PC1	PC1	PC1	PC1	
4A		Yellow 1	PC1	PC2	PC2	PC2	PC2	
5A		Green 1	PC2	PC4	PC4	PC4	PC4	
6A		Blue 1	PC4	PC8	PC8	PC8	PC8	
7A		Purple 1	PC8	–	PC16	–	MODE	
8A		Gray 1	–	*STP	PC32	*STP	*STP	JOG+
9A		White 1	–	CSTR	CSTR	CSTR	CSTR	PWRT
10A		Black 1	*STP	HOME	HOME	HOME	HOME	
11A		Brown 2	–	SON	*STP	SON	SON	
12A		Red 2	–	RES	RES	RES	RES	JOG –
13A		Orange 2	(Not used)					
1B		Lower stage Yellow 2	(Not used)					
2B		Green 2	(Not used)					
3B	Output	Blue 2	PM1	PM1	PM1	PM1	PM1	
4B		Purple 2	PM2	PM2	PM2	PM2	PM2	
5B		Gray 2	PM4	PM4	PM4	PM4	PM4	
6B		White 2	PM8	PM8	PM8	PM8	PM8	
7B		Black 2	PEND	ZONE	PM16	ZONE1	MODES	
8B		Brown 3	HEND	MOVE	PM32	ZONE2	MOVE	
9B		Red 3	ZONE	PEND	PEND	PEND	PEND	WEND
10B		Orange 3	*ALM	HEND	HEND	HEND	HEND	
11B		Yellow 3	Internal cutoff relay type: *EMGS / External cutoff relay type: (Not used)					
12B		Green 3	–	SRDY	MOVE	SRDY	SRDY	
13B		Blue 3	–	*ALM	*ALM	*ALM	*ALM	

Note: (1) The signals indicated by * (ALM, STP, EMGS) use the negative logic, so they remain ON in normal conditions of use.
(2) Pin Nos. 13A, 1B and 2B cannot be connected.
(3) The NPN specification and PNP specification use the same pin assignments for connection of the power circuit, so there is no need to reverse the power-circuit pins for the PNP specification.
(4) Pin No. 11B is valid only on the internal cutoff relay type. (It is not connected in the external cutoff relay type.)

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7 Overview of I/O Signal Functions

PIO Pattern Function Table

* Indicates that the setting is available, while – indicates that the setting is not available. The figures indicate the numbers of points.

Parameter (PIO pattern selection)	PIO pattern	Input signals							Output signals		
		Number of positioning points	Servo ON	Home return command	Pause	Jog	Current position write	Reset	Ready	Zone	Moving
0	Conventional	16	–	–	○	–	–	–	–	1	–
1	Standard	16	○	○	○	–	–	○	○	1	○
2	64-point positioning	64	–	○	○	–	–	○	–	–	○
3	zone output signals	16	○	○	○	–	–	○	○	2	–
4	Teaching	16	○	○	○	○	○	○	○	–	○

Explanation of Signal Names

Category	Signal name	Signal abbreviation	Function overview
Input	Start	CSTR	A starting trigger that starts movement at the rise edge
	Servo ON	SON	The servo remains ON while this signal is ON. The servo remains OFF while this signal is OFF.
	Alarm reset	RES	The remaining travel amount is reset at the rise edge when an alarm is present or operation is paused.
	Home return	HOME	Home return operation starts at the rise edge.
	Operation mode	MODE	ON: Teaching mode, OFF: Normal mode
	Current position write	PWRT	When this signal has been ON for 20msec, the current position will be written to the position number selected by PC1 through PC8.
	+ Jog	JOG +	The slider moves in the positive direction while this signal is ON.
	– Jog	JOG –	The slider moves in the negative direction while this signal is ON.
	*Pause	*STP	The motor decelerates to a stop at the ON□OFF fall edge.
	Command position number	PC1 PC2 PC4 PC8 PC16 PC32	The target position number is input (binary input).
Output	Ready	SRDY	This signal is always output once the servo is turned ON and the system is ready to operate. The signal is synchronized with the ON/OFF status of the "RUN" LED on the front panel of the enclosure.It is used by the PLC to determine when it can start operation.
	Moving	MOVE	This signal turns ON while the slider is moving, and turns OFF while it is stopped. It is used during push & hold operation to determine whether the load is contacted.
	Position complete	PEND	This signal turns ON when positioning is completed with the target position reached and the slider enters the specified in-position range.It is used to determine whether positioning has been completed.
	Home return completion	HEND	This signal turns ON when home return has been completed.
	Zone	ZONE1 ZONE2	This signal is output when the current actuator position is inside the range set by the applicable parameter.It can be used as a limit switch at an intermediate point or as a simple ruler.
	*Alarm	*ALM	This signal remains ON in normal condition and turns OFF when an alarm generates. It is synchronized with the OFF/ON status of the corresponding LED on the front panel of the enclosure.
	Completed position number	PM1 PM2 PM4 PM8 PM16 PM32	The relevant position number is output once positioning is complete. The signal will turn OFF once the next movement starts. It is used by the PLC to check if the commanded position has definitively been reached.
	Current operation mode	MODES	ON: Teaching mode, OFF: Normal mode
	* Emergency stop	* EMGS	This signal is enabled on a controller equipped with a simple emergency-stop relay. OFF: Emergency stop is actuated
	Write completion	WEND	This signal is output upon the completion of writing to the nonvolatile memory in response to a position-information write command.

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8 Specification Table

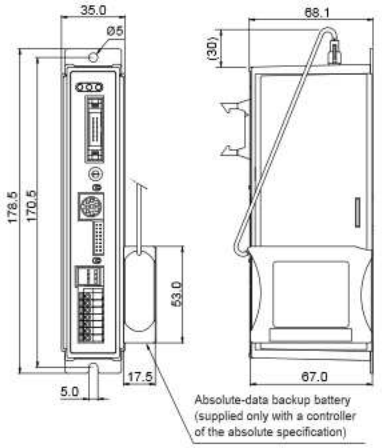
Item	Description
Controller series / type	RPC2-C / CG
Compatible actuators	RPC2-SA5 / SA6 / SA7 / SS / SM / SSR / SMR RXA / RSA / RMA / GRS / GRM / RTB / RTC
Input power	DC24V ±10%
Power capacity	2 A max.
Number of controlled axes	1 axis
Control method	Weak field-magnet vector control (patent pending)
Positioning command	Position number specification
Position number	Standard 16 points, maximum 64 points
Backup memory	Position number data and parameters are saved in the nonvolatile memory. The serial E2PROM can be rewritten 100,000 times.
PIO	PIO RCP2-C (CG) : 10 dedicated inputs (10 points) / 10 dedicated outputs (11 points), selectable from five patterns
LED indicators	RDY (green), RUN (green), ALM (red)
I/F power	External power supply: 24 V ± 10%, 0.3 A, insulated
Communication	RS485 1 channel (terminated externally)
Encoder interface	Incremental specification conforming to EIA RS-422A/423A
Absolute battery backup time	Approx. 250 hours
Forced release of electr omagnetic brake	Toggle switch on front panel of enclosure
Cable length	Motor/encoder cables: 20 m or less
	PIO cable: 5 m or less
Insulation strength	DC500V 10MΩ
Vibration resistance	10 ~ 57 Hz in XYZ directions / Pulsating amplitude: 0.035 mm (continuous), 0.075 mm (intermittent)
Operating temperature	0 ~ 40 deg
Operating humidity	85%RH or less (non-condensing)
Operating environment	Not subject to corrosive gases.
Protection class	IP20
Weight	300g
Accessory	PIO flat cable (2 m)

9 External Dimensions

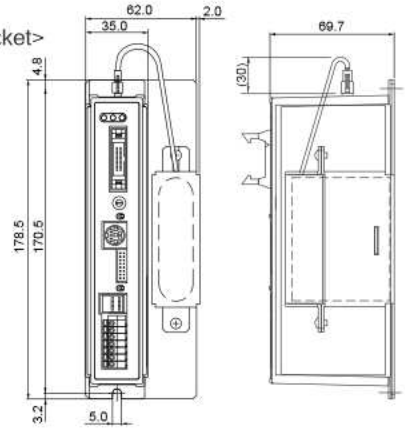
Unit: mm

Controller
<No battery bracket>

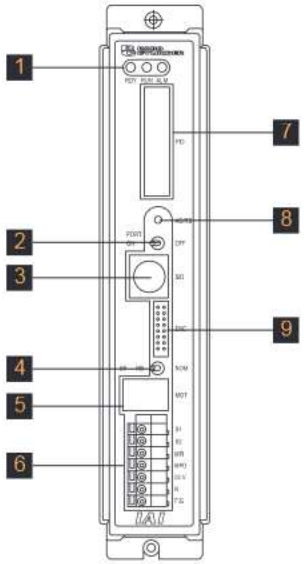
*The battery is not affixed to the controller, but supplied separately in the same package as the controller.



Controller
<With battery bracket>



10 Names and Functions of Parts



1 LED indicators

RDY	Indicates that the CPU is operating normally
RUN	Indicates a normal operating condition (the motor and encoder wiring has been checked and the servo is ON
ALM	Indicates that an alarm is present or an emergency stop has been actuated

2 Port switch (PORT)

A signal-output selector switch for the SIO connector 3

ON	Power for the teaching pendant and IAI RS485 conversion adapter is output from the SIO connector 3. This switch is connected to the EMG line (S1, S2) of 6 of the teaching pendant.
OFF	Communication with the teaching pendant or PC is disabled. However, since the SIO signal line is active, the controllers can still communicate with each other.

Note: Be sure to turn this switch OFF each time the SIO connector has been plugged in or unplugged.

3 Teaching pendant/PC connector (SIO)

A connector for the teaching pendant or dedicated communication cable

4 Brake release switch (BK)

This switch is enabled only when the actuator is used with a brake option.

RLS	Brake is forcibly released
NOM	Brake is in use (normal setting)

5 Motor cable connector (MOT)

A motor cable connector for the actuator

6 Terminal block

S1 • S2	An emergency-stop switch contact. When the PORT switch 2 is turned ON, the emergency-stop switch on the teaching pendant will be connected. When the PORT switch is turned OFF, S1 and S2 will be shorted.
MPI MPO	These terminals are used to cut off the motor's drive power directly and externally using a safety relay, etc. (Refer to page 22.)
24V	Positive side of the 24-VDC power supply
N	Negative side of the 24-VDC power supply
EMG	Emergency-stop input (RCP2-C)
F.G	Ground terminal (RCP2-CG)

7 PIO connector (PIO)

A PIO connector.

8 Address switch (ADRS)

This switch is used to set the address for the controller axis. If two or more controllers are connected via communication cables, prevent duplicate controller addresses.

Setting range 0 ~ F

9 Encoder/brake connector (ENC)

This connector is used to connect the actuator's encoder/brake cables.

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Emergency-Stop Circuit

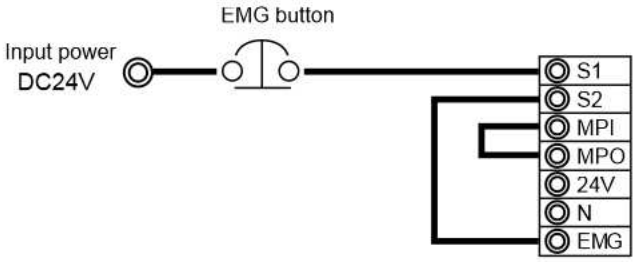
g Internal Drive-Power Cutoff Relay Type (Model: RCP2-C)

The internal drive-power cutoff relay type will stop the actuator operation and cut off the motor's drive power of the actuator using the internal relay when the EMG (emergency stop) input signal is turned OFF at the controller's terminal block. Representative connection examples are given below.

* The emergency stop will not be cancelled without the following wiring, so exercise caution. **Refer to the operating manual for details.**

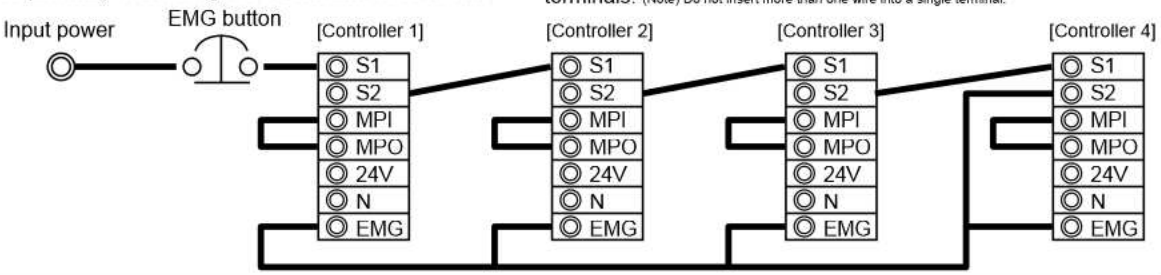
(1) When only one controller is used

- Connect the MPI and MPO terminals using a jumper cable (factory setting).
- Connect one end of the EMG button to the 24-V input power, and connect the other end to the S1 terminal. Also connect the S2 and EMG terminals using a jumper cable.



(2) When two to eight controllers are used with a single power supply

- Connect the MPI and MPO terminals using a jumper cable (factory setting).
- Connect one end of the EMG button to the 24-v input power, and connect the other end to the S1 terminal. Then, provide crossover connections by sequentially connecting the S2 terminal of controller 1 to the S1 terminal of controller 2, the S2 terminal of controller 2 to the S1 terminal of controller 3, the S2 terminal of controller 3 to the S1 terminal of controller 4, and so on, and connect the S2 terminal of the last controller to the EMG terminals of all controllers. Use a relay terminal block for connection to the EMG terminals. (Note) Do not insert more than one wire into a single terminal.

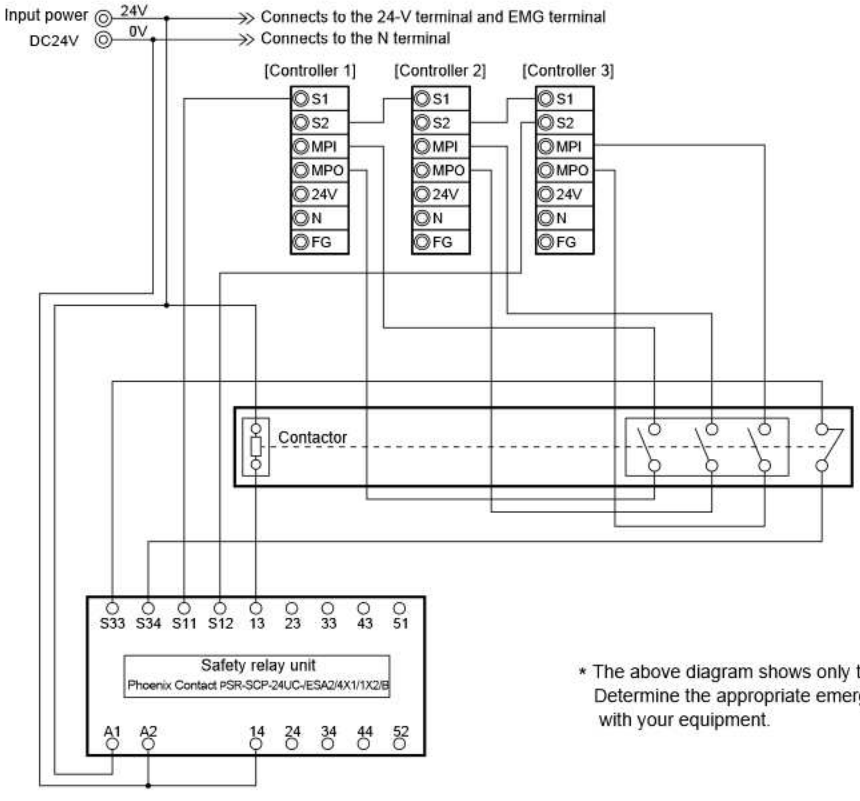


(3) When nine or more controllers are used

Please contact IAI.

g External Drive-Power Cutoff Relay Type (Model: RCP2-CG)

The external drive-power cutoff relay type is designed to cut off the motor's drive power using an external safety relay, etc., and therefore no internal emergency-stop circuit is provided. Accordingly, the user must design a circuit such as the one shown below, using a safety relay unit, a contactor, etc.



* The above diagram shows only the safety-relay output circuit. Determine the appropriate emergency-stop input circuit in accordance with your equipment.

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12 Connection of Multiple Controllers via Serial Communication

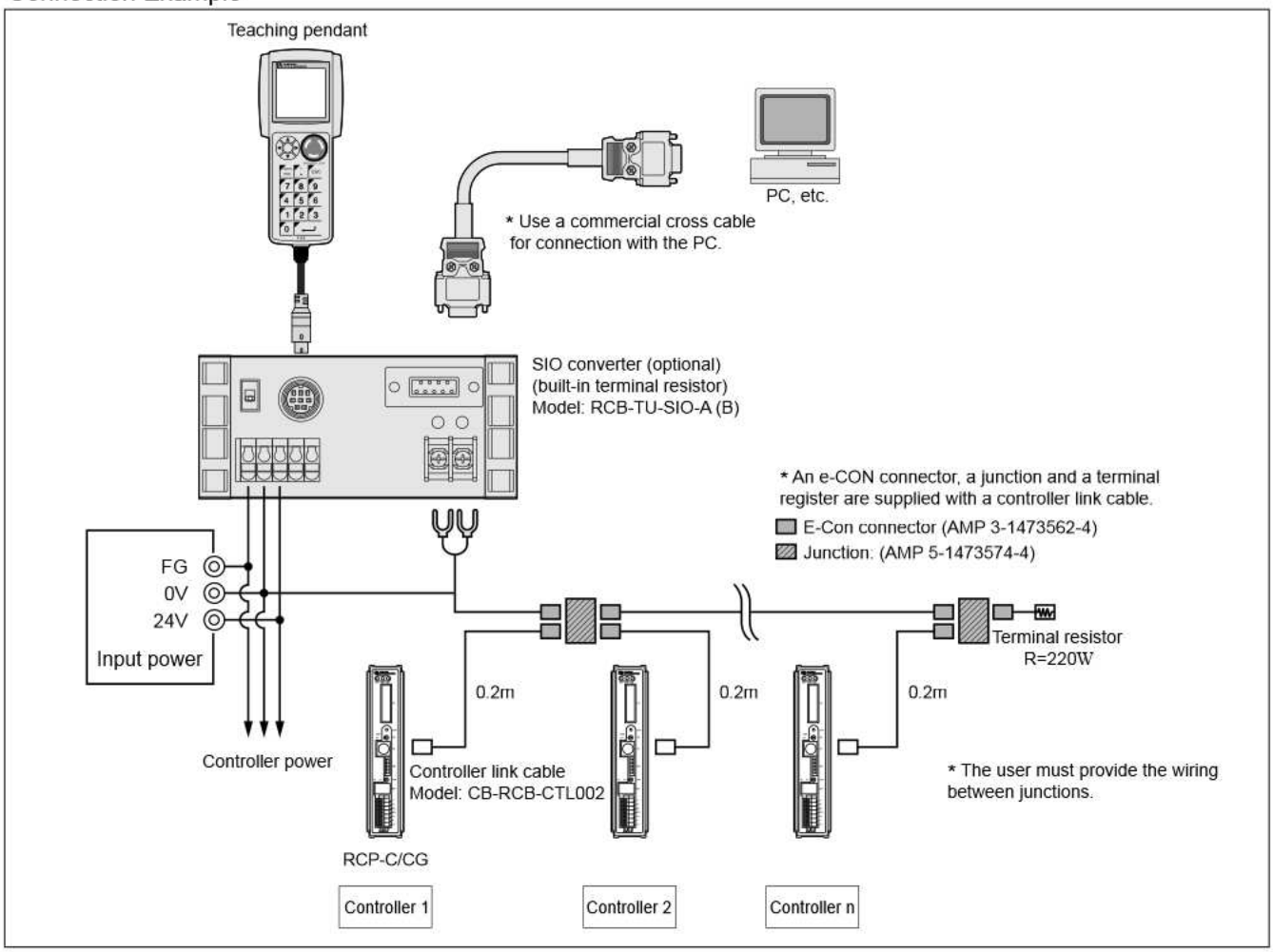
The following explains how to connect multiple controllers using a PC or PLC communication module as the host:

Basic Specifications

Item	Specification
Maximum number of units that can be connected	16 units
Maximum cable length	100 m or less
Terminal resistor	220W

* Provide a communication path via bus connection and be sure to provide a terminal resistor at the end.

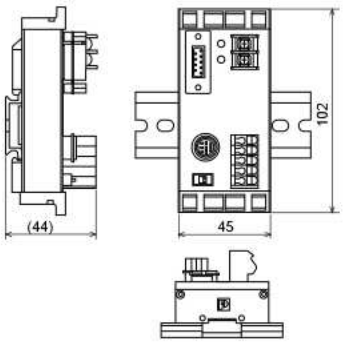
Connection Example



■ External Dimensions of SIO Converter

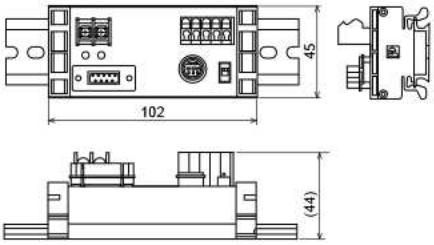
Vertical mounting specification using DIN rail

Model: RCB-TU-SIO-A



Horizontal mounting specification using DIN rail

Model: RCB-TU-SIO-B

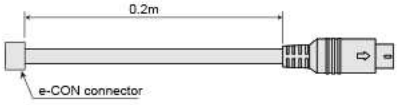


* DIN rails are not supplied.

■ Controller Link Cable

(an e-CON connector, junction and terminal register are supplied)

Model: CB-RCB-CTL002



Color	Signal	No.
Yellow	SGA	1
Orange	SGB	2
Blue	GND	3
		4

No.	Signal	Color
1	SGA	Yellow
2	SGB	Orange
3	+5V	
4		
5	EMGA	
6	+24V	
7	GND	Blue
8	EMGB	

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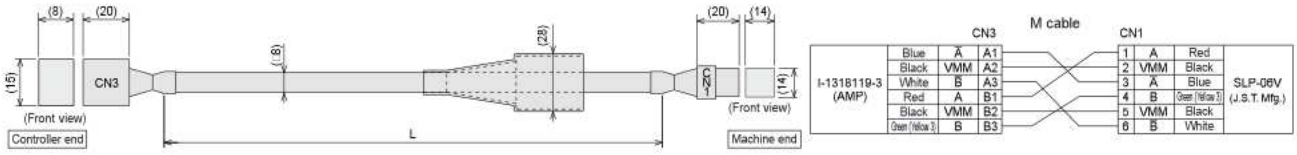
13 Spare Parts

The following cables are supplied with the actuator and controller.
When ordering new cables for replacement, etc., please specify the required types by referring to the information below:

Motor Cable (For RCP2-C)

Model **CB-RCP2-MA□□□**

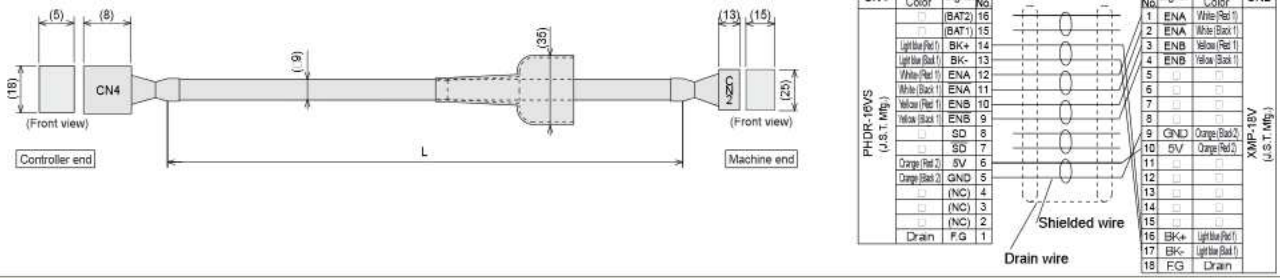
* Enter the cable length (L) in □□□. The maximum cable length is 20m. Example) 080 = 8m



Encoder Cable (RCP2-C)

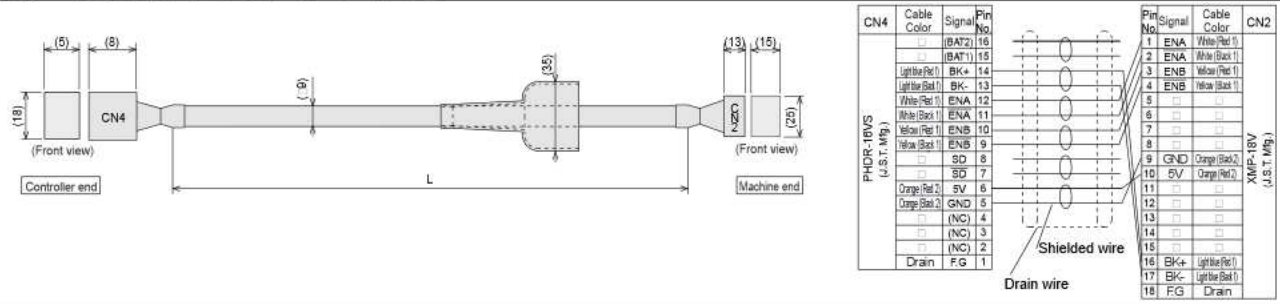
Model **CB-RCP2-PA□□□**

* Enter the cable length (L) in □□□. The maximum cable length is 20m. Example) 080 = 8m



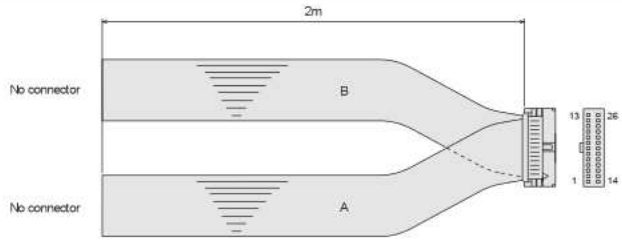
Encoder Robot Cable (RCP2-C)

Model **CB-RCP2-PA□□□-RB**



I/O Flat Cable (Common to RCP / RCP2-C / RCP2-CG)

Model **CB-RCA-PIO020**



No.	Signal name	Color	Wiring	No.	Signal name	Color	Wiring
1	+24V	Brown-1	Flat cable A	14	NC	Yellow-2	Flat cable B
2	N(24G)	Red-1		15	NC	Green-2	
3	Start	Orange-1		16	Completed position 1	Blue-2	
4	Command position 1	Yellow-1		17	Completed position 2	Purple-2	
5	Command position 2	Green-1		18	Completed position 4	Gray-2	
6	Command position 4	Blue-1		19	Completed position 8	White-2	
7	Command position 8	Purple-1		20	Positioning completion	Black-2	
8	NC	Gray-1		21	Origin return completion	Brown-3	
9	NC	White-1		22	Zone	Red-3	
10	* Pause	Black-1		23	* Alarm	Orange-3	
11	NC	Brown-2		24	* Emergency stop	Yellow-3	
12	NC	Red-2		25	NC	Green-3	
13	NC	Orange-2		26	NC	Blue-3	

Absolute-Data Backup Battery

Model **AB-4**



Applicable controller RCP2-C/CG

■ Specifications

Item	Description
Battery type	Nickel hydrogen battery
Charge time	Approx. 48 hours (at ambient temperature of 20℃)
Battery time	Approx. 250 hours (at ambient temperature of 20℃, when the battery is fully charged)
Nominal voltage	4.8V
Average life	Approx. 4 years

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Differences between RCP-C and RCP2-C/CG

1 Changes to General Specifications

Item		RCP-C	RCP2-C/CG
Power-supply voltage		DC24V±10%	DC24V+10% / -15%
Current		2.5A or less	2A or less
Environment	Operating temperature	0~40ºC	0~40ºC
	Operating humidity	85%RH or below	85%RH or below (non-condensing)
	Operating environment	Free from corrosive gases	Free from corrosive gases.
	Storage environment	–	-10~65%
	Storage humidity	–	90%RH or below (non-condensing)
	Vibration resistance	–	10~57Hz in XYZ directions Single amplitude 0.035mm (continuous) 0.075mm (intermittent)
Protection class		(IP20 or equivalent)	IP 20
Weight		360g	300g or less
Number of positions		16	Up to 64
Storage device		EEPROM	EEPROM

2 Changes to Power Terminal Assignments and Emergency-Stop Input Specification

RCP-C

Symbol	Explanation
FG	A ground connection terminal
N	The ground side of the 24V power supply
24V	A 24VDC power supply
EMG	Both terminals are used to connect an emergency-stop switch.
EMG	(The controller is shipped with the EMG terminals shorted.)

RCP2-C

Symbol	Explanation
S1	Emergency-stop switch contacts: The emergency-stop switch on the teaching pendant is connected when the port switch is set to the ON side. S1 and S2 are shorted when the port switch is set the OFF side.
S2	
MPI	A motor drive-power cutoff terminal
MPO	
24V	The positive side of the 24V power supply
N	The negative side of the 24V power supply
FG	Ground connection

* RCP2-C
This controller has a built-in relay to cut off the motor drive power.
Do not open the MPI and MPO terminals that are shorted.
The emergency-stop signal is input to the EMG terminal.
* RCP2-CG
The MPI/MIO terminals are provided to allow ON/OFF of the motor drive power externally when a safety circuit is constructed by the user.
* S1, S2
S1 and S2 are contact outputs for the emergency-stop pushbutton switch provided on the teaching pendant.
(Incorporate S1 and S2 in your safety circuit.)
* If the controller has a built-in relay, FG becomes EMG, meaning that it serves as an emergency-stop signal input terminal.

3 Changes to PIO Interface

RCP-C

Pin No.	Category	Signal		Color
1	P24	+24V	Connect this signal to the 24V power supply.	Brown-1
2	N	0V	Connect this signal to the 0V power supply.	Red-1
3	Input	Start	This signal is used to input a movement start command.	Orange-1
4		Command position 1	These signals are used input the position number to be selected.	Yellow-1
5		Command position 2		Green-1
6		Command position 4		Blue-1
7		Command position 8		Purple-1
8		Not used	Do not connect this signal.	Gray-1
9				White-1
10		*Pause	This signal is used to temporarily stop the moving actuator.	Black-1
11				Brown-2
12		Not used	Do not connect this signal.	Red-2
13				Orange-2
14				Yellow-2
15				Green-2
16	Output	Completed position 1	These signals are used to output the position number upon completion of positioning. When an alarm occurs, these signals output the corresponding alarm number.	Blue-2
17		Completed position 2		Purple-2
18		Completed position 4		Gray-2
19		Completed position 8		White-2
20		Positioning completion	This signal is output when positioning is completed.	Black-2
21		Home return completion	This signal is output when home return is completed.	Brown-3
22		Zone	This signal is output when the actuator enters the range set by the parameter.	Red-3
23		*Alarm	This signal is output when the controller is abnormal.	Orange-3
24		*Emergency stop	This signal is output when an emergency stop is actuated	Yellow-3
25	Not used		Do not connect this signal.	Green-3
26				Blue-3

RCP2-C

Same setting as the conventional RCP (Factory setting)

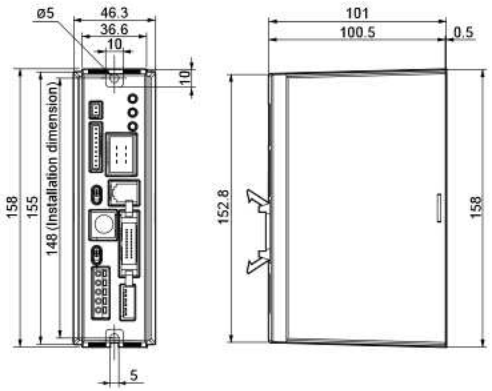
Pin No.			Parameter (The function varies depending on the IOPN)					
Pin No.	Category	Signal	0	1	2	3	4	5
1A	P24	24V						
2A	N	0V						
3A	Input	IN00	CSTR	PC1	PC1	PC1	PC1	ST0
4A		IN01	PC1	PC2	PC2	PC2	PC2	ST1
5A		IN02	PC2	PC4	PC4	PC4	PC4	ST2
6A		IN03	PC4	PC8	PC8	PC8	PC8	ST3
7A		IN04	PC8	–	PC16	–	MODE	–
8A		IN05	–	*STP	PC32	*STP	*STP/JOG	*STP
9A		IN06	–	CSTR	CSTR	CSTR	CSTR/PWRT	–
10A		IN07	*STP	HOME	HOME	HOME	HOME	–
11A		IN08	–	SON	*STP	SON	SON	–
12A		IN09	–	RES	RES	RES	RES/JOG-	RES
13A			(Reserved)					
1B			(Reserved)					
2B			(Reserved)					
3B	Output	OUT00	PM1	PM1	PM1	PM1	PM1	PE0
4B		OUT01	PM2	PM2	PM2	PM2	PM2	PE1
5B		OUT02	PM4	PM4	PM4	PM4	PM4	PE2
6B		OUT03	PM8	PM8	PM8	PM8	PM8	PE3
7B		OUT04	PEND	ZONE	PM16	ZONE1	MODES	ZONE1
8B		OUT05	HEND	MOVE	PM32	ZONE2	MOVE	–
9B		OUT06	ZONE	PEND	PEND	PEND	PEND/WEND	PEND
10B		OUT07	*ALM	HEND	HEND	HEND	HEND	HEND
11B		*EMGS	(Reserved: Emergency-stop status)					
12B	Output	OUT08	–	SRDY	RUN	SRDY	SRDY	–
13B		OUT09	–	*ALM	*ALM	*ALM	*ALM	*ALM

* The RCP2 controller can be used with one of five PIO interface patterns selected by setting the applicable parameter accordingly.
The PIO interface corresponding to the parameter setting "0" is exactly the same as the PIO interface of the RCP controller. Since the connector shape is also the same, you can swap your current RCP controller with a RCP2 controller without changing any settings, if PIO pattern "0" will be selected for the RCP2 controller. (There is no need to reassign PIOs.)

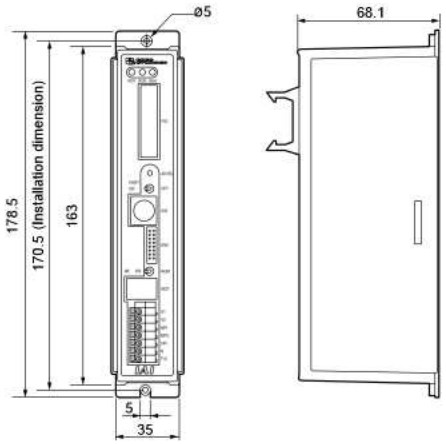
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4 Changes to Controller Dimensions/Installation Dimensions

RCP-C



RCP2-C



5 Other Changes

1. Emergency-stop specification
   - All RCP controllers are equipped with a built-in emergency stop relay.
   - The RCP2 series includes controllers equipped with a built-in emergency-stop relay, just like the conventional RCP series, and those not equipped with a built-in emergency-stop relay (global specification). RCP2 controllers without a built-in relay are designed to operate with a safety circuit (safety category 2) provided externally to the controller. The user must provide this safety circuit to cut off the motor drive power.

2. CE mark
   - The RCP series includes CE-certified controllers for use in EU countries.
   - Among the RCP2 series, the global specification type (RCP2-CG) is scheduled to receive a CE certification.

3. Controller link specification
   - The method to link controllers is different between the RCP and RCP2 series. Refer to the operating manual for details.

4. Compatibility of PC software and teaching pendants
   - With the necessary version upgrade, the PC software for RCP can be used with RCP2 controllers.
   - The teaching pendants for RCP are also compatible with the RCP2 series after the necessary upgrade.

5. User parameters
   - The user parameters have been changed for the RCP2 series. Refer to the operating manual for details.

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