PSEL

Program controller
For RCP3/RCP2 Series

List of models

Program controller for operating RCP3 ／ RCP2 Series actuators. Various control functions are combined into a single unit.

Type	C	
Name	Program mode	Positioner Mode
External View		
Description	Both the actuator operation and communication with external equipment can be handled by a single controller. When two axes are connected, arc interpolation, path operations, and synchronization can be performed.	Up to 1500 positioning points are supported. Push-motion operation and teaching operation are also possible.
Position points	1500 points	
Maximum number of control axes	2	

Model

* 2nd axis specs not applicable to the single-axis model.

PSEL – C – [ ] – [ ] I [ ] – [ ] I [ ] – [ ] – [ ] – 0 – [ ] – [ ]

Series | Type | Number of Axes | (Specs for 1st axis): Motor, Encoder, Option | (Specs for 2nd axis): Motor, Encoder, Option | I/O Type | I/O Cable Length | Power Voltage | Simple absolute unit | High acceleration type model

Type
- C: Standard Type

Number of Axes
- 1: Single-axis model
- 2: 2-axis model

Motor
- 20P: 20 □ pulse motor-compatible
- 28P: 28 □ pulse motor-compatible
- 28SP: 28 □ pulse motor (RCP2-RA3C only)
- 35P: 35 □ pulse motor-compatible
- 42P: 42 □ pulse motor-compatible
- 56P: 56 □ pulse motor-compatible

* If connecting to RCP2-RA3C/ RGD3C, the motor type is 28SP.

Encoder
- I: Incremental

Option
- B: Brake

(Specs for 2nd axis) Motor, Encoder, Option — same options as (Specs for 1st axis).

* If connecting to RCP2-RA3C/ RGD3C, the motor type is 28SP.

I/O Type
- NP: PIO NPN (standard)
- PN: PIO PNP
- DV: DeviceNet
- CC: CC-Link
- PR: ProfiBus

I/O Cable Length
- 0: No cable
- 2: 2m (standard)
- 3: 3m
- 5: 5m

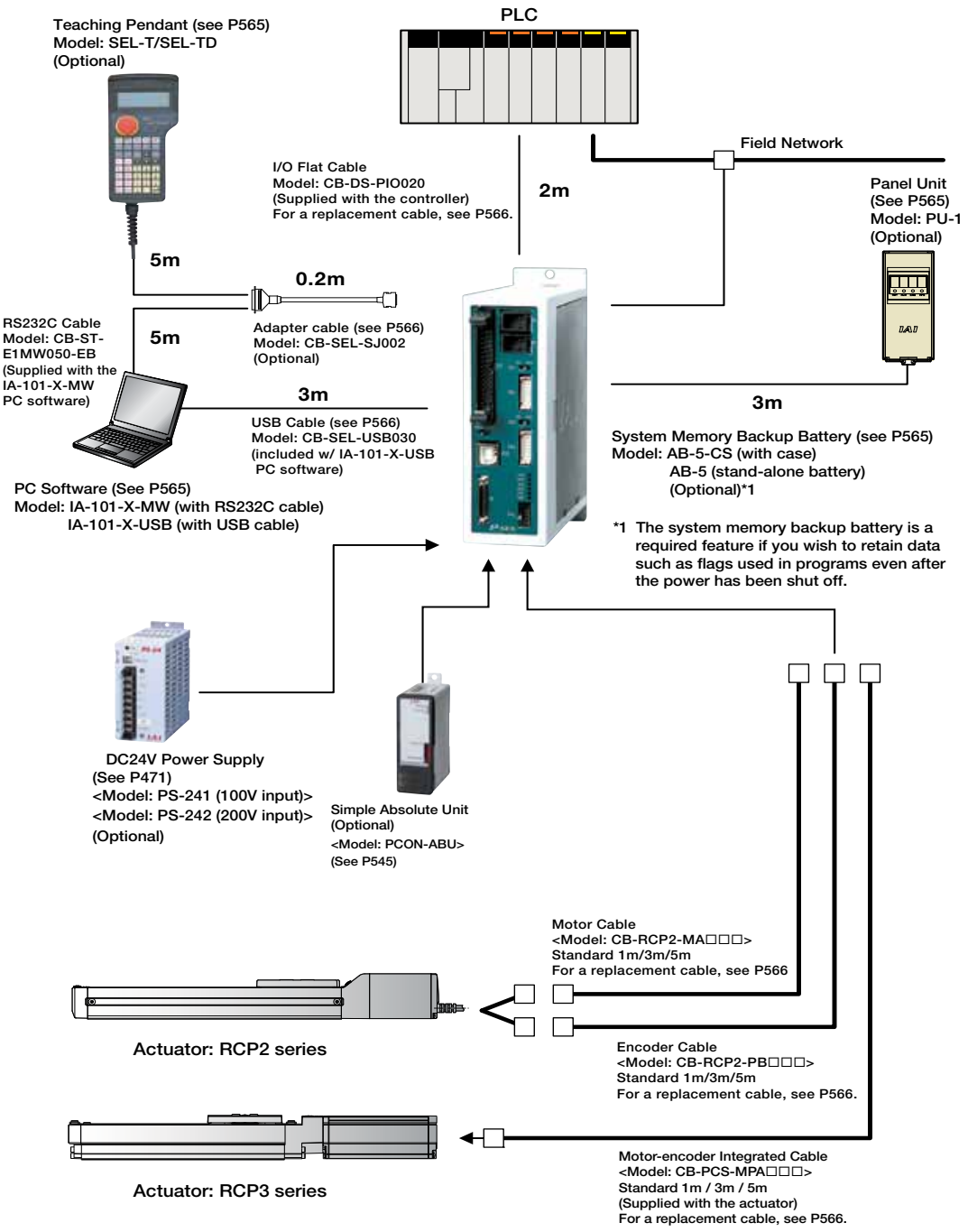
Power Voltage
- 0: DC24V

Simple absolute unit
- Blank: Not used
- ABU: Used

High acceleration type model
- Blank: Standard
- H: High acceleration type model

* If connecting to RCP3-SA4/ SA5/SA6 or RCP2-SA5/SA6, specify "H", for high-acceleration type model.

System configuration



I/O Specifications

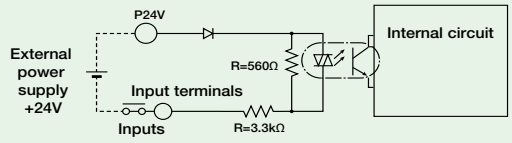
Input section External input specifications

Item	Specifications	
Input voltage	DC24V ±10%	
Input current	7mA / circuit	
ON/OFF voltage	ON voltage (min.)	NPN : DC16V / PNP : DC8V
	OFF voltage (max.)	NPN : DC5V / PNP : DC19V
Isolation method	Photocoupler	

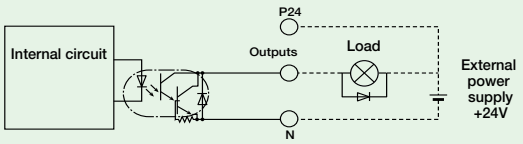
Output section External output specifications

Item	Specifications
Load Voltage	DC24V
Max. load current	100mA / 1 point 400mA / 8 points in total
Residual voltage (Max.)	Max 0.1mA / 1 point
Isolation method	Photocoupler

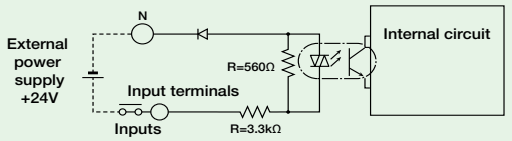
NPN Specifications



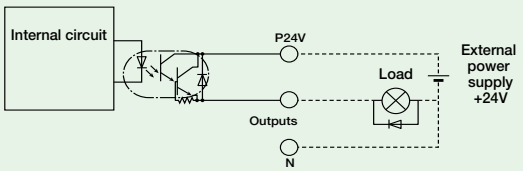
NPN Specifications



PNP Specifications



PNP Specifications



Explanation of I/O Signal Functions

Two modes can be selected for the SSEL controller: “Program Mode,” in which the actuator is operated by entering a program, and “Positioner Mode,” in which PLC signals are received and the actuator is moved to designated positions.
The Positioner Mode has the five input patterns listed below to enable various applications.

Control Function by Type

Operation mode		Features
Program mode		Various operations including linear/arc interpolation operation, path operation ideal for coating processes, etc., arch-motion operation and palletizing operation can be performed using the Super SEL language that lets you program complex control actions using simple commands.
Positioner mode	Standard mode	This is the basic mode from which operations can be conducted by designating position numbers and inputting the start signal. Push-motion operation and teaching operation are also possible.
	Product Change mode	Multiple work parts of the same shape with slightly different hole positions can be handled using movement commands to the same position numbers by simply changing the product type number.
	2-axis independent mode	With a 2-axis controller, each axis can be commanded and operated separately.
	Teaching mode	In this mode, the slider (rod) moves based on an external signal, when the actuator is stopped, the current location can be registered as position data.
	DS-S-C1 Compatible mode	If you were using a DS-S-C1 controller, you can replace it with a PSEL controller without having to change the host programs. *This mode does not ensure actuator compatibility.

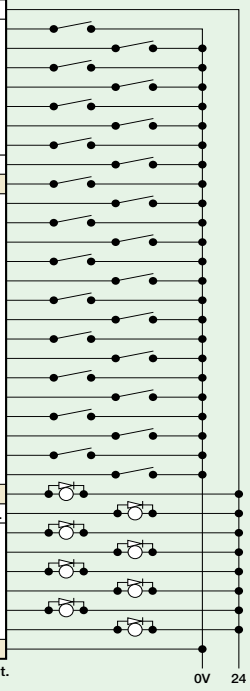
Explanation of I/O Signal Functions

Program mode

Pin Number	Classification	Port No.	Program Mode	Functions
1A	P24		24V input	Connect 24V.
1B	Input	016	Select Program No. 1	Selects the program number to start. (Input as BCD values to ports 016 to 022)
2A		017	Select Program No. 2	
2B		018	Select Program No. 4	
3A		019	Select Program No. 8	
3B		020	Select Program No. 10	
4A		021	Select Program No. 20	
4B		022	Select Program No. 40	
5A		023	CPU reset	Resets the system to the same state as when the power is turned on.
5B		000	Start	Starts the program selected by ports 016 to 022.
6A		001	General-purpose input	Waits for external input via program instructions.
6B		002	General-purpose input	
7A		003	General-purpose input	
7B		004	General-purpose input	
8A		005	General-purpose input	
8B		006	General-purpose input	
9A		007	General-purpose input	
9B		008	General-purpose input	
10A		009	General-purpose input	
10B		010	General-purpose input	
11A		011	General-purpose input	
11B		012	General-purpose input	
12A		013	General-purpose input	
12B		014	General-purpose input	
13A		015	General-purpose input	
13B	Output	300	Alarm	Turns off when an alarm occurs. (Contact B)
14A		301	Ready	Turns on when the controller starts up normally and is in an operable state.
14B		302	General-purpose output	These outputs can be turned ON/OFF as desired via program instructions.
15A		303	General-purpose output	
15B		304	General-purpose output	
16A		305	General-purpose output	
16B		306	General-purpose output	
17A		307	General-purpose output	
17B	N		0V input	Connect 0V.

Note: This is for NPN. PNP will be different.

Wiring Diagram

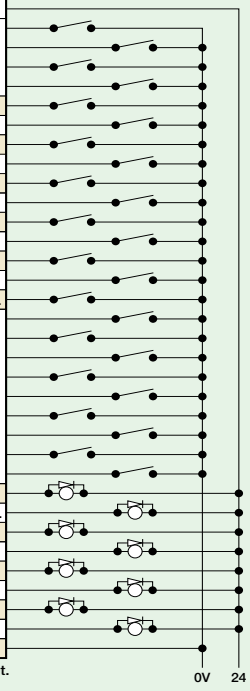


Positioner mode

Pin Number	Classification	Port No.	Positioner Standard Mode	Functions
1A	P24		24V input	Connect 24V.
1B	Input	016	Position input 10	Specifies the position numbers to move to, using port number 007 to 019. The number can be specified either as BCD or binary.
2A		017	Position input 11	
2B		018	Position input 12	
3A		019	Position input 13	
3B		020	–	–
4A		021	–	–
4B		022	–	–
5A		023	Error reset	Resets minor errors. (Severe errors require a restart.)
5B		000	Start	Starts moving to selected position.
6A		001	Home return	Performs home return.
6B		002	Servo ON	Switches between Servo ON and OFF.
7A		003	Push	Performs a push motion.
7B		004	Pause	Pauses the motion when turned OFF, and resumes when turned ON.
8A		005	Cancel	Stops the motion when turned OFF. The remaining motion is canceled.
8B		006	Interpolation settings	When this signal is turned ON for a 2-axis model, the actuator moves by linear interpolation.
9A		007	Position input 1	Specifies the position numbers to move to, using ports 007 to 019. The number can be specified either as BCD or binary.
9B		008	Position input 2	
10A		009	Position input 3	
10B		010	Position input 4	
11A		011	Position input 5	
11B		012	Position input 6	
12A		013	Position input 7	
12B		014	Position input 8	
13A		015	Position input 9	
13B	Output	300	Alarm	Turns off when an alarm occurs. (Contact B)
14A		301	Ready	Turns on when the controller starts up normally and is in an operable state.
14B		302	Positioning complete	Turns on when the movement to the destination is complete.
15A		303	Home return complete	Turns on when the home return operation is complete.
15B		304	Servo ON output	Turns on when servo is ON.
16A		305	Pushing complete	Turns on when a push motion is complete.
16B		306	System battery error	Turns on when the system battery runs low (warning level).
17A		307	–	–
17B	N		0V input	Connect 0V.

Note: This is for NPN. PNP will be different.

Wiring Diagram

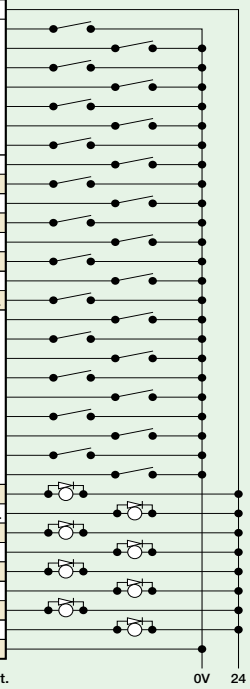


Explanation of I/O Signal Functions

Positioner, Product-Type Change Mode

Pin Number	Classification	Port No.	Positioner Product Type Change Mode	Functions
1A	P24		24V input	Connect 24V.
1B	Input	016	Position/Product Type Input 10	Specifies the position numbers to move to, and the product type numbers, using ports 007 to 022. The position and product type numbers are assigned by parameter settings. The number can be specified either as BCD or binary.
2A		017	Position/Product Type Input 11	
2B		018	Position/Product Type Input 12	
3A		019	Position/Product Type Input 13	
3B		020	Position/Product Type Input 14	
4A		021	Position/Product Type Input 15	
4B		022	Position/Product Type Input 16	
5A		023	Error reset	Resets minor errors. (Severe errors require a restart.)
5B		000	Start	Starts moving to selected position.
6A		001	Home return	Performs home return.
6B		002	Servo ON	Switches between Servo ON and OFF.
7A		003	Push	Performs a push motion.
7B		004	Pause	Pauses the motion when turned OFF, and resumes when turned ON.
8A		005	Cancel	Stops the motion when turned OFF. The remaining motion is canceled.
8B		006	Interpolation settings	When this signal is turned ON for a 2-axis model, the actuator moves by linear interpolation.
9A		007	Position/Product Type Input 1	Specifies the position numbers to move to, and the product type numbers, using ports 007 to 022. The position and product type numbers are assigned by parameter settings. The number can be specified either as BCD or binary.
9B		008	Position/Product Type Input 2	
10A		009	Position/Product Type Input 3	
10B		010	Position/Product Type Input 4	
11A		011	Position/Product Type Input 5	
11B		012	Position/Product Type Input 6	
12A		013	Position/Product Type Input 7	
12B		014	Position/Product Type Input 8	
13A		015	Position/Product Type Input 9	
13B	Output	300	Alarm	Turns off when an alarm occurs. (Contact B)
14A		301	Ready	Turns on when the controller starts up normally and is in an operable state.
14B		302	Positioning complete	Turns on when the movement to the destination is complete.
15A		303	Home return complete	Turns on when the home return operation is complete.
15B		304	Servo ON output	Turns on when servo is ON.
16A		305	Pushing complete	Turns on when a push motion is complete.
16B		306	System battery error	Turns on when the system battery runs low (warning level).
17A		307	–	–
17B	N		0V input	Connect 0V.

Wiring Diagram



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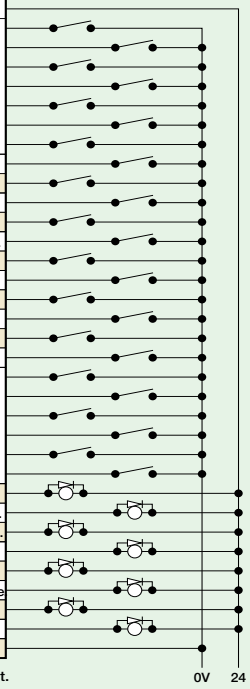
Positioner, 2-axis Independent Mode

Pin Number	Classification	Port No.	Positioner 2-axis Independent Mode	Functions
1A	P24		24V input	Connect 24V.
1B	Input	016	Position input 7	Specifies the position numbers to move to, using ports 010 to 022. The position numbers on the 1st and 2nd axes are assigned by parameter settings. The number can be specified either as BCD or binary.
2A		017	Position input 8	
2B		018	Position input 9	
3A		019	Position input 10	
3B		020	Position input 11	
4A		021	Position input 12	
4B		022	Position input 13	
5A		023	Error reset	Resets minor errors. (Severe errors require a restart.)
5B		000	Start 1	Starts the movement to the selected position number on the 1st axis.
6A		001	Home return 1	Performs home return on the 1st axis.
6B		002	Servo ON 1	Switches between servo ON and OFF for the 1st axis.
7A		003	Pause 1	Pauses the motion on 1st axis when turned OFF, and resumes when turned ON.
7B		004	Cancel 1	Cancels the movement on the 1st axis.
8A		005	Start 2	Starts the movement to the selected position number on the 2nd axis.
8B		006	Home return 2	Performs home return on the 2nd axis.
9A		007	Servo ON 2	Switches between servo ON and OFF for the 2nd axis.
9B		008	Pause 2	Pauses the motion on 2nd axis when turned OFF, and resumes when turned ON.
10A		009	Cancel 2	Cancels the movement on the 2nd axis.
10B		010	Position input 1	Specifies the position numbers to move to, using ports 010 to 022. The position numbers on the 1st and 2nd axes are assigned by parameter settings. The number can be specified either as BCD or binary.
11A		011	Position input 2	
11B		012	Position input 3	
12A		013	Position input 4	
12B		014	Position input 5	
13A		015	Position input 6	
13B	Output	300	Alarm	Turns off when an alarm occurs. (Contact B)
14A		301	Ready	Turns on when the controller starts up normally and is in an operable state.
14B		302	Positioning complete 1	Turns on when the movement to the specified position on the 1st axis is complete.
15A		303	Home return complete 1	Turns on when home return on the 1st axis is complete.
15B		304	Servo ON output 1	Turns on when the 1st axis is in a servo ON state.
16A		305	Positioning complete 2	Turns on when the movement to the specified position on the 2nd axis is complete.
16B		306	Home return complete 2	Turns on when home return on the 2nd axis is complete.
17A		307	Servo ON output 2	Turns on when the 2nd axis is in a servo ON state.
17B	N		0V input	Connect 0V.

Wiring Diagram



Note: This is for NPN. PNP will be different.

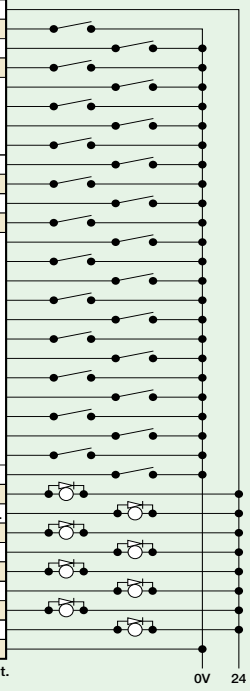
Explanation of I/O Signal Functions

Positioner, Teaching Mode

Pin Number	Classification	Port No.	Positioner Teaching Mode	Functions
1A	P24		24V input	Connect 24V.
1B	Input	016	JOG– on 1st axis	While the signal is on, the 1st axis is moved in the - (negative) direction.
2A		017	JOG+ on 2nd axis	While the signal is on, the 2nd axis is moved in the + (positive) direction.
2B		018	JOG– on 2nd axis	While the signal is on, the 2nd axis is moved in the - (negative) direction.
3A		019	Specify inching (0.01mm)	Specifies how much to move during inching. (Total of the values specified for ports 019 to 022)
3B		020	Specify inching (0.1mm)	
4A		021	Specify inching (0.5mm)	
4B		022	Specify inching (1mm)	
5A		023	Error reset	Resets minor errors. (Severe errors require a restart.)
5B		000	Start	Starts moving to selected position.
6A		001	Servo ON	Switches between Servo ON and OFF.
6B		002	Pause	Pauses the motion when turned OFF, and resumes when turned ON.
7A		003	Position input 1	Ports 003 to 013 are used to specify the position number to move, and the position number for inputting the current position. - When the teaching mode setting on port 014 is in the ON state, the current value is written to the specified position number.
7B		004	Position input 2	
8A		005	Position input 3	
8B		006	Position input 4	
9A		007	Position input 5	
9B		008	Position input 6	
10A		009	Position input 7	
10B		010	Position input 8	
11A		011	Position input 9	
11B		012	Position input 10	
12A		013	Position input 11	
12B		014	Teaching mode setting	
13A		015	JOG+ on 1st axis	While the signal is on, the 1st axis is moved in the + (positive) direction.
13B	Output	300	Alarm	Turns off when an alarm occurs. (Contact B)
14A		301	Ready	Turns on when the controller starts up normally and is in an operable state.
14B		302	Positioning complete	Turns on when the movement to the destination is complete.
15A		303	Home return complete	Turns on when the home return operation is complete.
15B		304	Servo ON output	Turns on when servo is ON.
16A		305	–	–
16B		306	System battery error	Turns on when the system battery runs low (warning level).
17A		307	–	–
17B	N		0V input	Connect 0V.

Note: This is for NPN. PNP will be different.

Wiring Diagram



Positioner, DS-S-C1 Compatible Mode

Pin Number	Classification	Port No.	Positioner DS-S-C1 Compatible Mode	Functions
1A	P24		24V input	Connect 24V.
1B	Input	016	Position No. 1000	(Same as ports 004 through 015)
2A		017	–	–
2B		018	–	–
3A		019	–	–
3B		020	–	–
4A		021	–	–
4B		022	–	–
5A		023	CPU reset	Resets the system to the same state as when the power is turned on.
5B		000	Start	Starts moving to selected position.
6A		001	Hold (Pause)	Pauses the motion when turned ON, and resumes when turned OFF.
6B		002	Cancel	Stops the motion when turned ON. The remaining motion is canceled.
7A		003	Interpolation settings	When this signal is turned ON for a 2-axis model, the actuator moves by linear interpolation.
7B		004	Position No. 1	Ports 004 through 016 are used to specify the position number to move. The numbers are specified as BCD.
8A		005	Position No. 2	
8B		006	Position No. 4	
9A		007	Position No. 8	
9B		008	Position No. 10	
10A		009	Position No. 20	
10B		010	Position No. 40	
11A		011	Position No. 80	
11B		012	Position No. 100	
12A		013	Position No. 200	
12B		014	Position No. 400	
13A		015	Position No. 800	
13B	Output	300	Alarm	Turns off when an alarm occurs. (Contact A)
14A		301	Ready	Turns on when the controller starts up normally and is in an operable state.
14B		302	Positioning complete	Turns on when the movement to the destination is complete.
15A		303	–	–
15B		304	–	–
16A		305	–	–
16B		306	System battery error	Turns on when the system battery runs low (warning level).
17A		307	–	–
17B	N		0V input	Connect 0V.

Note: This is for NPN. PNP will be different.

Wiring Diagram

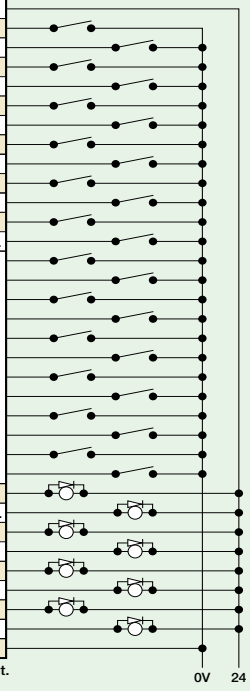


Table of specifications

	Item	Specifications
Basic Specifications	Connected actuator	RCP2 series actuator (Note 1)
	Input voltage	DC24V ±10%
	Power Supply Capacity	Control power (Max. 1.2A) + Motor power (See the table below)
	Dielectric strength voltage	DC500V 10MΩ or higher
	Withstand voltage	AC500V 1 min.
	Rush current	Max. 30A
	Vibration resistance	XYZ directions 10 to 57Hz, One side amplitude: 0.035mm (continuous), 0.075mm (intermittent) 58 to 150 Hz 4.9 m/s² (continuous), 9.8 m/s² (intermittent)
Control specification	Maximum total output of connected axis	–
	Position detection method	Incremental encoder
	Speed setting	From 1mm/s. The maximum limit varies depending on the actuator.
	Acceleration setting	From 0.01G. The maximum limit varies depending on the actuator.
	Operating method	Program operation / Positioner operation (switchable)
Program	Programming language	Super SEL language
	Number of programs	64 programs
	Number of program steps	2000 steps
	Number of multi-tasking programs	8 programs
	Positioning Points	1500 points
	Data memory device	FLASHROM (A system-memory backup battery can be added as an option)
	Data input method	Teaching pendant or PC software
Communication	Number of I/O	24 input points / 8 output points (NPN or PNP selectable)
	I/O power	Externally supplied 24VDC ± 10%
	PIO cable	CB-DS-PIO □□□ (supplied with the controller)
	Serial communications function	RS232C (Half-pitch connector) / USB connector
	Field Network	DeviceNet, CC-Link, ProfiBus
	Motor Cable	CB-RCP2-MA □□□ (Max. 20m)
	Encoder cable	CB-RCP2-PA □□□ (Max. 20m)
General specifications	Protection function	Motor driver temperature check, Encoder open-circuit check Soft limit over, system error, battery error, etc.
	Ambient operating humidity and temperature	0 to 40ºC 10 to 95% (non-condensing)
	Ambient atmosphere	Free from corrosive gases. In particular, there shall be no significant powder dust.
	Protection class	IP20
	Weight	Approx. 450g
	External dimension	43 mm (W) x 159 mm (H) x 110 mm (D)

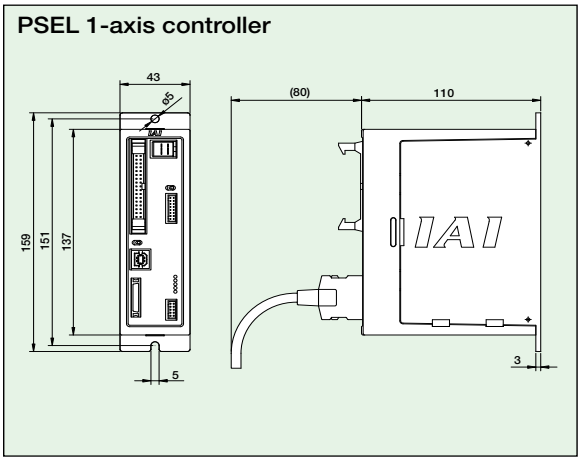
(Note 1) Cannot operate High-Thrust type (RA10C), High-Speed type (HS8C/HS8R), or Waterproof type (RCP2W-SA16).

		1-Axis specifications		2-Axis specifications	
Motorpower supply Capacity (Note2)	Motor type	Rated	Max.(Note 3)	Rated	Max.(Note 3)
	20P, 28P, 28SP motor	0.4A	2.0A	0.8A	4.0A
	35P, 42P, 56SP motor	1.2A		2.4A	

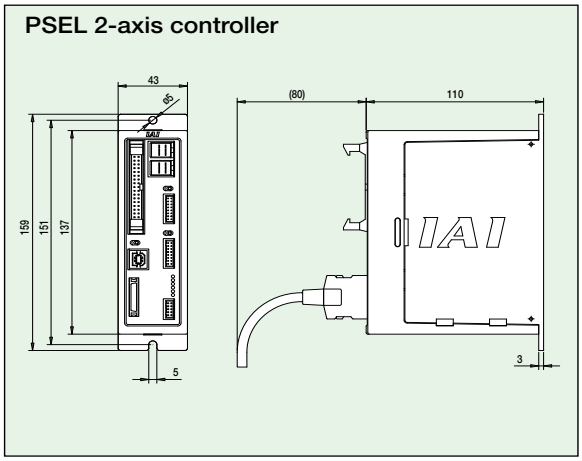
(Note 2) For both 1-axis and 2-axis specifications, approx. 30A inrush current flows for 5 ms when the control power supply is turned on.
(Note 3) After Servo ON, excitation detection is performed. In that case, the current is maximized. (Approx. 100 msec)
However, if motor drive power supply is turned on after a shut-down, approx. 6.0A and approx. 12.0A current flows to axis-1 and axis-2 respectively. (Approx. 1 to 2 msec)

Exterior dimensions

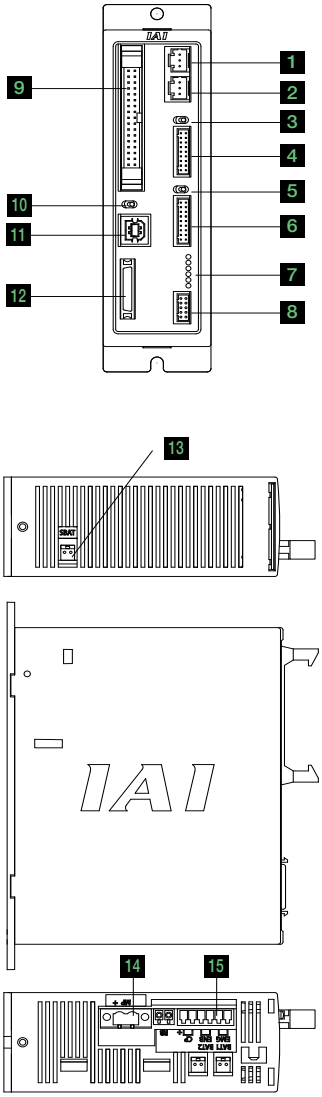
PSEL 1-axis controller



PSEL 2-axis controller



Name of Each Part



1 Motor connector for axis 1
Connects the motor cable of the axis 1 actuator.

2 Motor connector for axis 2
Connects the motor cable of the axis 2 actuator.

3 Brake switch for axis 1
This switch is used to release the axis brake. Setting it to the left position (RLS side) forcibly releases the brake, while setting it to the right position (NOM side) causes the controller to automatically control the brake.

4 Encoder connector for axis 1
Connect the encoder cable of the axis 1 actuator.

5 Brake switch for axis 2
This switch is used to release the axis brake. Setting it to the left position (RLS side) forcibly releases the brake, while setting it to the right position (NOM side) causes the controller to automatically control the brake.

6 Encoder connector for axis 2
Connect the encoder cable of the axis 2 actuator.

7 Status indicator LEDs
These LEDs are used to indicate the operating condition of the controller.

The LED status indicators are as follows:

PWR	:	Power is input to controller.
RDY	:	The controller is ready to perform program operation.
ALM	:	The controller is abnormal.
EMG	:	An emergency stop is actuated and the drive source is cut off.
SV1	:	The axis 1 actuator servo is on.
SV2	:	The axis 2 actuator servo is on.

8 Panel unit connector
A connector for the panel unit (optional) that displays the controller status and error codes.

9 I/O Connector
A connector for interface I/Os.

34-pin flat cable connector for DIO (24IN/8OUT) interface.

I/O power is also supplied to the controller via this connector (Pin No. 1 and No. 34).

10 Mode switch
This switch is used to specify the running mode of the controller. The left position indicates the MANU (manual operation) mode, while the right position indicates the AUTO (automatic operation) mode. Teaching can only be performed in manual operation, and automatic operation using external I/Os is not possible in the MANU mode.

11 USB connector
A connector for PC connection via USB. If the USB connector is connected, the TP connector is disabled and all communication inputs to the TP connector are cut off.

12 Teaching pendant connector
A half-pitch I/O 26-pin connector that connects a teaching pendant when the running mode is MANU. A special conversion cable is needed to connect a conventional D-sub, 25-pin connector.

13 System-memory backup battery connector
If you wish to retain the various data recorded in the SRAM of the controller even after the power is cut off, connect the necessary battery to this connector. This battery is installed externally to the unit. The controller does not come standard with the battery (Option).

14 Motor power input connector
This connector is used to input the motor power. It consists of a 2-pin, 2-piece connector by Phoenix Contact.

15 Control power/System input connector
This connector is used to connect the control power input, emergency stop switch, and enable switch. It consists of a Phoenix Contact 6-pin 2-piece connector.

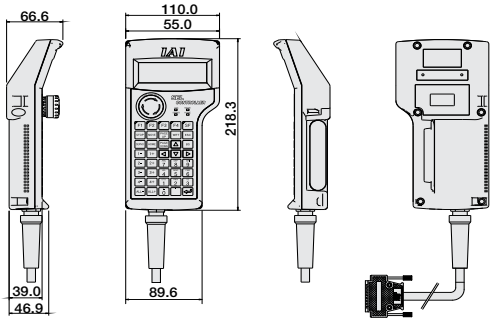
Option

Teaching Pendant

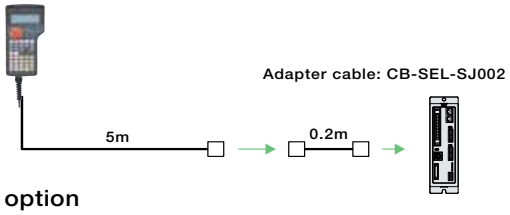
Features This is a teaching device that provides information on functions such as position input, test runs, and monitoring.

Model

Model	Description
SEL-T-J	Standard type with adapter cable
SEL-TD-J	Equipped with a deadman switch and adapter cable



Configuration



SEL-T option

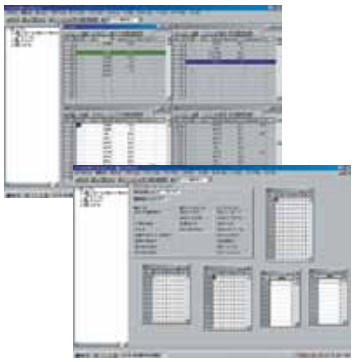
- Wall-mounting hook Model HK-1
- Strap Model STR-1

Specifications

Item	SEL-T-J	SEL-TD-J
3-position Enable Switch	No	Yes
ANSI/UL standards	Non-compliant	Compliant
CE mark	Compliant	
Display	20 char. × 4 lines	
Ambient Operating Temp./Humidity	0~40°C 10~90% RH (non-condensing)	
Protective structure	IP54	
Weight	Approx. 0.4kg (not incl. cable)	

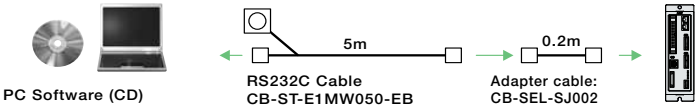
PC Software (Windows Only)

Features A startup support software for inputting programs/positions, performing test runs, and monitoring. More functions have been added for debugging, and improvements have been made to shorten the start-up time.



Model **IA-101-X-MW-J** (with RS232C cable + adapter cable)

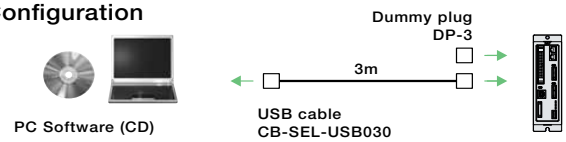
Configuration



Model **IA-101-X-USB** (with USB cable)

Note:
Only versions 7.0.0.0 and later can be used with the PSEL controller.

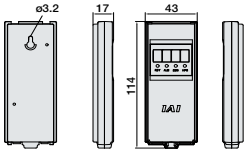
Configuration



Panel Unit

Features Display device that shows the error code from the controller or the currently running program number.

Model **PU-1** (Cable length: 3m)



System Memory Backup Battery

Features This battery is required when you are using global flags in the program and you want to retain your data even after the power has been turned OFF.

Model **AB–5–CS (with case)**
AB–5 (stand-alone battery)

Dummy Plug

Features When connecting the PSEL controller to a computer with a USB cable, this plug is inserted in the teaching port to shut off the enable circuit. (Supplied with the PC software IA-101-X-USB)

Model **DP-3**

Option

USB Cable

Features A cable for connecting the controller to the USB port to a computer. A controller with no USB port (e.g. XSEL) can be connected to the USB port of a computer by connecting an RS232C cable to the USB cable via a USB adapter. (See PC software IA-101-X-USBMW)

Model **CB-SEL-USB030** (Cable length: 3m)

Adapter Cable

Features An adapter cable to connect the D-sub 25-pin connector from the teaching pendant or a PC to the teaching connector (half-pitch) of the PSEL controller.

Model **CB-SEL-SJ002** (Cable length: 0.2m)

Spare Parts

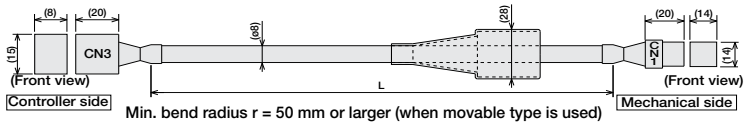
When you need spare parts after purchasing the product, such as when replacing a cable, refer to the list of models below.

Motor cable

Model **CB-RCP2-MA□□□**

** The standard cable for the motor cable is the robot cable.

* Enter the cable length (L) into □□□. Compatible to a maximum of 20 meters. Ex.: 080 = 8 m



Wire	Color	Signal	Pin No.
I-1318119-3 (AMP)	Orange	A	A1
	Gray	VMM	A2
	White	B	A3
	Yellow	A	B1
	Pink	VMM	B2
	Orange (Black 1)	B	B3

Pin No.	Signal	Color	Wire
1	A	Yellow	SLP-06V (JST)
2	VMM	Gray	
3	B	Orange	
4	B	Orange (Black 1)	
5	VMM	Pink	
6	B	White	

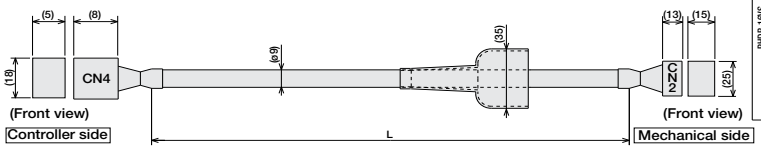
Encoder cable/Encoder robot cable

Model **CB-RCP2-PB□□□/CB-RCP2-PB□□□-RB**

* The standard cable for the encoder cable is a normal cable. A robot cable can be specified as an option.

* Enter the cable length (L) into □□□. Compatible to a maximum of 20 meters. Ex.: 080 = 8 m

Min. bend radius r = 50 mm or larger (when movable type is used)
* Only robot cable is to be used in a cable track.



C N 4	Cable color (Standard Cable)	Cable color (Robot Cable)	Signal	Pin No.
PHDR-16VS (JST)	Blue (Red 1)	Orange (Black 2)	L S +	16
	White	Orange (Red 2)	L S –	15
	Red	Orange (Black 1)	B K +	14
	Gray	Orange (Red 1)	B K –	13
	Brown	Light Gray (Black 1)	E N A	12
	Green	Light Gray (Red 1)	E N A	11
	Purple	White (Black 1)	E N B	10
	Pink	White (Red 1)	E N B	9
	—	—	—	8
	Yellow	Yellow (Black 1)	V P S	7
	Orange	Pink (Red 1)	V B B	6
	Blue	Pink (Black 1)	GND	5
	—	—	(N.C)	4
	—	—	(N.C)	3
	—	—	(N.C)	2
	Ground	Ground	F.G	1

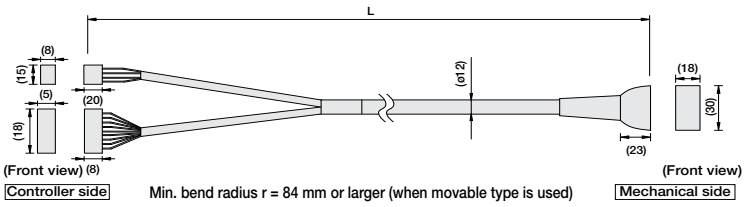
Shield wire
Ground wire

Pin No.	Signal	Cable color (Standard Cable)	Cable color (Robot Cable)	C N 2
XMP-18V (JST)	E N A	Brown	Light Gray (Black 1)	
	E N A	Green	Light Gray (Red 1)	
	E N B	Purple	White (Black 1)	
	E N B	Pink	White (Red 1)	
	—	—	—	
	—	—	—	
	—	—	—	
	GND	Blue	Pink (Black 1)	
	V B B	Orange	Pink (Red 1)	
	V P S	Yellow	Yellow (Black 1)	
	—	—	—	
	LS +	Blue (Red 1)	Orange (Black 2)	
	LS –	White	Orange (Red 2)	
	—	—	—	
	BK +	Red	Orange (Black 1)	
	BK –	Gray	Orange (Red 1)	
	F.G	Ground	Ground	

Motor-Encoder Integrated Cable for RCP3

Model **CB-PCS-MPA□□□**

* Enter the cable length (L) into □□□. Compatible to a maximum of 20 meters. Ex.: 080 = 8 m



Signal	Pin Number
A	B1
VMM	A2
/A	A1
B	B3
VMM	B2
/B	A3
BK+	14
BK–	13
LS+	16
LS–	15
A+	12
A–	11
B+	10
B–	9
NC	8
VPS	7
VCC	6
GND	5
NC	4
FG	1

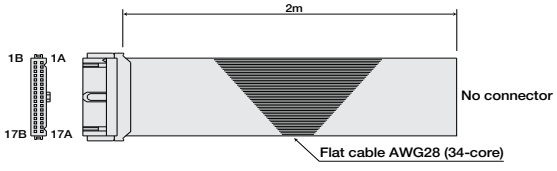
(Wire color)
Black
White
Red
Green
Yellow
Brown
Pink (Red •)
Pink (Blue •)
White (Red •)
White (Blue •)
Orange (Red •)
Orange (Blue •)
Gray (Red •)
Gray (Blue •)
Orange (Blue • Contiguous)
Gray (Red • Contiguous)
Gray (Blue • Contiguous)
Shield

Pin Number	Signal
A1	A
B1	VMM
A2	/A
B2	B
A3	VMM
B3	/B
A4	NC
B4	NC
A5	BK+
B5	BK–
A6	LS+
B6	LS–
A7	A+
B7	A–
A8	B+
B8	B–
A9	NC
B9	VPS
A10	VCC
B10	GND
A11	NC
B11	FG

I/O Flat Cable

Model **CB-DS-PIO□□□**

* Enter the cable length (L) into □□□. Compatible to a maximum of 10 meters. Ex.: 080 = 8 m



Pin No.	Color	Wire	Pin No.	Color	Wire
1A	Brown 1	Flat cable crimped	9B	Gray 2	Flat cable crimped
1B	Red 1		10A	White 2	
2A	Orange 1		10B	Black 2	
2B	Yellow 1		11A	Brown-3	
3A	Green 1		11B	Red 3	
3B	Blue1		12A	Orange 3	
4A	Purple 1		12B	Yellow 3	
4B	Gray 1		13A	Green 3	
5A	White 1		13B	Blue 3	
5B	Black 1		14A	Purple 3	
6A	Brown-2		14B	Gray 3	
6B	Red 2		15A	White 3	
7A	Orange 2		15B	Black 3	
7B	Yellow 2		16A	Brown-4	
8A	Green 2		16B	Red 4	
8B	Blue 2		17A	Orange 4	
9A	Purple 2		17B	Yellow 4	