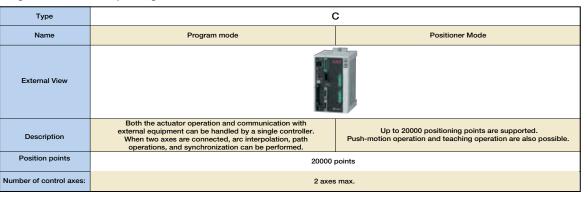


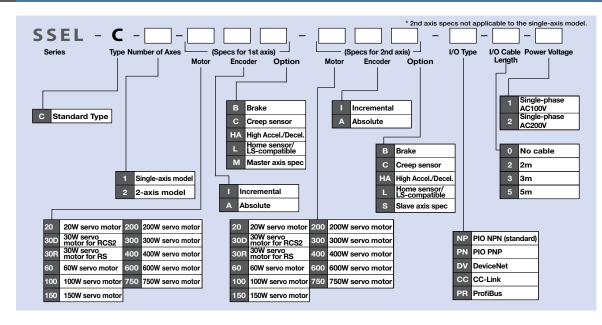


# List of models

Program controller for operating RCS2 Series actuators. One unit can handle various controls.



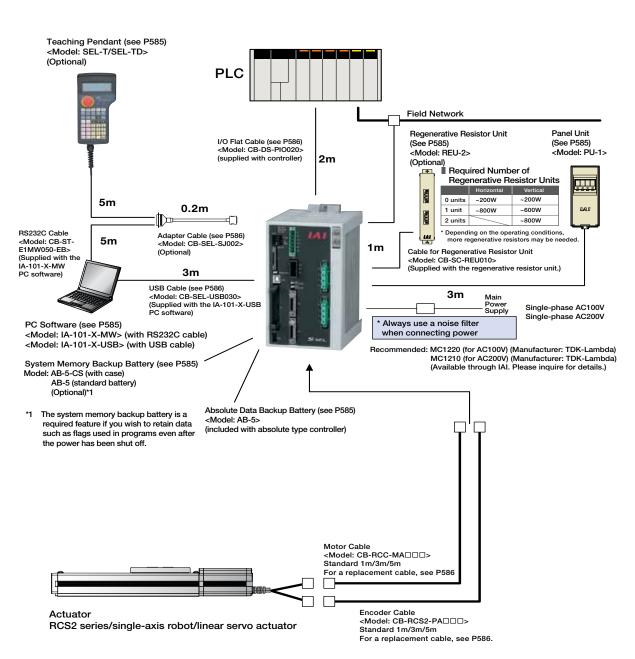
#### Model



577 ssel



ervo Motol (200V)









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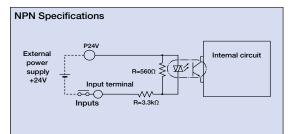
# I/O Specifications

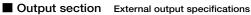
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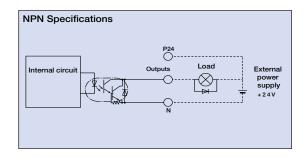
# Mini Standard Controllers Integrated Mini Standard Table/Arm /Flat Type Mini Standard Grippe otary Tyj Controllers PMEC /AMEC PSEP ROBO NET ERC2 PCON ACON SCON PSEL ASEL SSEL XSEL

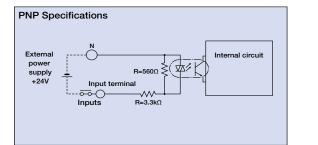
Input section	External input	specifications
Item	Specifications	
Input voltage	DC24V ±10%	
Input current	7mA / circuit	
ON/OFF voltage	ON voltage (min.)	NPN : DC16V / PNP : DC8V
	OFF voltage (max.)	NPN : DC5V / PNP : DC19V
Isolation method	Photocoupler	

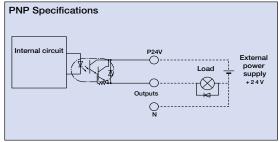




Item	Specifications
Load Voltage	DC24V
Max. load current	100m A / 1point 400mA / 8 points in total
Residual voltage (Max.)	Max 0.1mA / 1 point
Isolation method	Photocoupler







# **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

Operatio	on 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.
	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 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.
Positioner mode	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 position 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 SSEL controller without having to change the host programs. *This mode does not ensure actuator compatibility.

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rvo Moto (200V)

# Explanation of I/O Signal Functions

# Program mode

in Number	Category	Port No.	Program Mode	Functions	Wiring Diagram
1A	P24		24V input	Connect 24V.	
1B		016	Select Program No. 1		<b>•</b>
2A		017	Select Program No. 2		
2B		018	Select Program No. 4		
ЗA		019	Select Program No. 8	Selects the program number to start. (Input as BCD values to ports 016 to 022)	
3B	[	020	Select Program No. 10	(input as BCD values to ports 016 to 022)	•••
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 programs selected by ports 016 to 022.	
6A	[	001	General-purpose input		
6B		002	General-purpose input		<b>•</b>
7A		003	General-purpose input		
7B	Input	004	General-purpose input		
8A	[	005	General-purpose input	Waits for external input via program instructions.	
8B	[	006	General-purpose input		
9A	[	007	General-purpose input		
9B		008	General-purpose input		<b>•</b>
10A	[	009	General-purpose input		
10B		010	General-purpose input		<b>•</b>
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		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		
15A	Output	303	General-purpose output		
15B	Juiput	304	General-purpose output	These outputs can be turned ON/OFF as desired via program instructions.	
16A	[	305	General-purpose output	mese outputs can be turned ON/OFF as desired via program instructions.	
16B	[	306	General-purpose output		
17A		307	General-purpose output		
17B	N		0V input	Connect 0V.	

# Positioner mode

in Number	Category	Port No.	Positioner Standard Mode	Functions	Wiring Diagram
1A	P24		24V input	Connect 24V.	
1B		016	Position input 10		
2A		017	Position input 11	Specifies the position numbers to move to, using port number 007 to 019	
2B		018	Position input 12	The number can be specified either as BCD or binary.	
3A		019	Position input 13		
3B		020	Position input 14	_	
4A		021	Position input 15	_	
4B		022	Position 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	Input	004	Pause	Pauses the motion when turned OFF, and resumes motion when turned ON.	
8A		005	Cancel	Stops the motion when turned OFF. The remaining motion is canceled.	•••
8B		006	Interpolation setting	When this signal is turned ON for a 2-axis model, the actuator moves by linear interpolation.	
9A		007	Position input 1		
9B		008	Position input 2		
10A		009	Position input 3		
10B		010	Position input 4	Specifies the position numbers to move to, using ports 007 to 019.	
11A		011	Position input 5	The number can be specified either as BCD or binary.	•••
11B		012	Position input 6	-	
12A		013	Position input 7		
12B		014	Position input 8	-	
13A			015	Position input 9	-
13B		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	0tnt	303	Home Return complete	Turns on when the home return operation is complete.	
15B	Output	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	Absolute encoder battery error	Turns on when the battery for the absolute encoder runs low (warning level).	<b>•</b> ð•
17B	N		0V input	Connect 0V.	



SSEL 580



# Explanation of I/O Signal Functions

# Positioner, Product-Type Change Mode

Pin Number	Category	Port No.	Positioner Product Type Change Mode	Functions	Wiring Diagram	
1A	P24		24V input	Connect 24V.		
1B		016	Position/Product Type Input 10		••	
2A	] [	017	Position/Product Type Input 11			
2B	1	018	Position/Product Type Input 12	Specifies the position numbers to move to, and the product type		
ЗA	1	019	Position/Product Type Input 13	numbers, using ports 007 to 022. The position and product type numbers are assigned by parameter	•	
3B	] [	020 021	Position/Product Type Input 14			
4A	] [		Position/Product Type Input 15	settings. The number can be specified either as BCD or binary.	•	
4B	1	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	Input	004	Pause	Pauses the motion when turned OFF, and resumes motion when turned ON.		
8A	] [	005	Cancel	Stops the motion when turned OFF. The remaining motion is canceled.	•	
8B	] [		Interpolation setting	When this signal is turned ON for a 2-axis model, the actuator moves by linear interpolation.		
9A	] [	007	Position/Product Type Input 1		•	
9B	] [	008	Position/Product Type Input 2	Specifies the position numbers to move to, and the product type numbers, using ports 007 to 022.		
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	1		013	Position/Product Type Input 7	The number can be specified either as BCD or binary.	• • •
12B		014	Position/Product Type Input 8			
13A		015	Position/Product Type Input 9			
13B		300	Alarm	Turns off when an alarm occurs. (Contact B)	6 <sup>7</sup> 6	
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	Output	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	Absolute encoder battery error	Turns on when the battery for the absolute encoder runs low (warning level).		
17B	N		0V input	Connect 0V.		

# Positioner, 2-axis Independent Mode

in Number	Category	Port No.	Positioner Independent Mode	Functions	Wiring Diagram	
1A	P24		24V input	Connect 24V.		
1B		016	Position input 7		••	
2A		017	Position input 8	Specifies the position numbers to move to, using ports 010 to 022.		
2B		018	Position input 9	The position numbers on the 1st and 2nd axes are assigned by	•••	
3A		019	Position input 10	parameter settings.		
3B		020	Position input 11	The number can be specified either as BCD or binary.	••	
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	Input	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	Creatifies the restition numbers to many to uning rests 010 to 000	•••	
11A		011	Position input 2	Specifies the position numbers to move to, using ports 010 to 022.		
11B		012	Position input 3	The position numbers on the 1st and 2nd axes are assigned by		
12A		013	Position input 4	parameter settings. The number can be specified either as BCD or binary.		
12B			014	Position input 5	The number can be specified either as BCD or binary.	
13A		015	Position input 6		••	
13B		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	Output	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.		





Servo Motor (200V)

# Positioner, Teaching Mode

Pin Number	Category	Port No.	Positioner Teaching Mode	Functions	Wiring Diagram
1A	P24		24V input	Connect 24V.	
1B		016	JOG- on 1st axis	While the signal is input, the 1st axis is moved in the - (negative) direction.	•••
2A		017	JOG+ on 2nd axis	While the signal is input, the 2nd axis is moved in the + (positive) direction.	
2B		018	JOG- on 2nd axis	While the signal is input, the 2nd axis is moved in the - (negative) direction.	
ЗA		019	Specify inching (0.01mm)		
3B		020	Specify inching (0.1mm)	Specifies how much to move during inching.	
4A		021	Specify inching (0.5mm)	(Total of the values specified for ports 019 to 022)	
4B		022	Specify inching (1mm)		<b>—</b> • • — —
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 motion when turned ON.	
7A	Input	003	Position input 1		
7B	mput	004	Position input 2	Ports 003 to 013 are used to specify the position number to move, and	
8A	[	005	Position input 3		
8B		006	Position input 4		
9A		007	Position input 5		
9B		008	Position input 6	the position number for inputting the current position.	
10A		009	Position input 7	When the teaching mode setting on port 014 is in the ON state, the	
10B		010	Position input 8	current value is written to the specified position number.	
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 input, the 1st axis is moved in the plus direction.	•
13B		300	Alarm	Turns off when an alarm occurs. (Contact B)	6°6
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	Output	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).	•°ð•
17A		307	Absolute encoder battery error	Turns on when the battery for the absolute encoder runs low (warning level).	
17B	N		0V input	Connect 0V.	

# Positioner, DS-S-C1 Compatible Mode

Pin Number	Category	Port No.	Positioner DS-S-C1 Compatible Mode	Functions	Wiring Diagram	
1A	P24		24V input	Connect 24V.		
1B		016	Position No. 1000	(Same as ports 004 through 015)		
2A	[	017	Position No. 2000			
2B		018	Position No. 4000	-		
ЗA		019	Position No. 8000			
3B		020	Position No. 10000		•••	
4A		021	Position No. 20000	-		
4B		022	NC (*1)	_		
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 motion when turned OFF.		
6B		002	Cancel	Stops the motion when turned ON. The remaining motion is canceled.		
7A		003	Interpolation setting	When this signal is turned ON for a 2-axis model, the actuator moves by linear interpolation.		
7B	Input	004	Position No. 1			
8A		005	Position No. 2	Ports 004 through 016 are used to specify the position number to move. The numbers are specified as BCD.		
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		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	0tm.r.t	303	_			
15B	Output	304	-	-		
16A	[	305	-			
16B		306	System battery error	Turns on when the system battery runs low (warning level).		
17A		307	Absolute encoder battery error	Turns on when the battery for the absolute encoder runs low (warning level).		
17B	N		0V input	Connect 0V.		



Servo Mo 200V)



Controllers Integrated Rod Type Mini Standard Controllers Integrated

Table/Arm /Flat Type Mini Standard

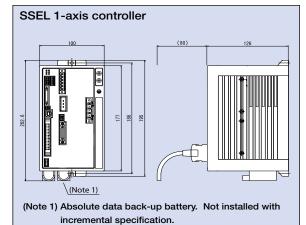
Gripper, Rotary Type

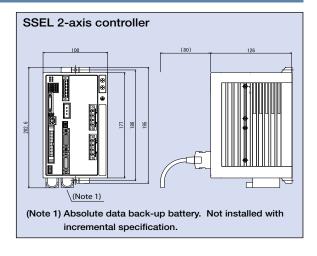
Controllers PMEC /AMEC PSEP /ASEP ROBO NET ERC2 PCON ACON SCON PSEL

# Table of specifications

	Item	Specifi	cations		
<i>(</i> 0	Connected actuator	RCS2 series actuator / single a	xis robot / linear servo actuator		
ů	Input Voltage	Single-phase AC90V to AC126.5V	Single-phase AC180V to AC253V		
cati	Power Supply Capacity	Max. 1660VA (for 400	OW, 2-axis operation)		
Щ.	Dielectric strength voltage	DC500V 10	MΩ or higher		
be	Withstand voltage	AC500V	1 min.		
s S	Rush current	Control Power 15A / Motor Power 37.5A	Control Power 30A / Motor Power 75A		
Basic Specifications	Vibration resistance	XYZ directions 10 to 57Hz, One side amplitude 58 to 150 Hz 4.9 m/s <sup>2</sup> (continuo			
	Number of control axes	1 axis /	/ 2 axis		
on	Maximum total output of connected axis	400W	800W		
cati	Position detection method	Incremental encode	r / Absolute encoder		
specification	Speed setting	1mm/sec and up, the maximum de	epends on actuator specifications		
, jé	Acceleration setting	0.01G and up, the maximu	m depends on the actuator		
0)	Operating method	Program operation / Position	oner operation (switchable)		
	Programming language	Super SEL	language		
	Number of programs	128 programs			
E	Number of program steps	9999 steps			
Program	Number of multi-tasking programs	8 programs			
2	Positioning Points	20000	2000 points		
-	Data memory device	FLASHROM (A system-memory backup battery can be added as an option)			
	Data input method	Teaching pendar	nt or PC software		
	Number of I/O	24 input points / 8 output po	ints (NPN or PNP selectable)		
u	I/O power	Externally supplie	ed 24VDC ± 10%		
cati	PIO cable	CB-DS-PIO	plied with the controller)		
ni	Serial communications function	RS232C (D-Sub Half-pitch of	connector) / USB connector		
Ē	Field Network	DeviceNet, CC	-Link, ProfiBus		
Communication	Motor Cable	CB-ACS-MA	(Max. 20m)		
0	Encoder cable	CB-RCP2-PA 🗌	🗌 (Max. 20m)		
รเ	Protection function	Motor overcurrent, Motor driver temperature che Soft limit over, system			
tior	Ambient operating humidity and temperature	0 to 40°C 10 to 95	% (non-condensing)		
specifications	Ambient atmosphere	Free from corrosive gases. In particu	lar, there shall be no significant dust.		
šči 6	Protection class	IP	20		
spc	Weight	1.4	kg		
	External dimensions	100mm (W) x 202.6r	nm (H) x 126mm (D)		

# **External Dimensions**



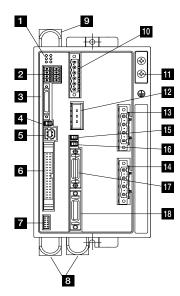


ASEL SSEL XSEL

# **583** SSEL



# Name of Each Part



#### 1 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. The controller is ready to perform program RDY
- 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.

#### 2 System I/O connector

Connector for emergency stop / enable input / brake power input, etc.

#### 3 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 Dsub. 25-pin connector.

#### 4 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 as manual operation, and automatic operation using external I/Os is not possible in the MANU mode.

#### 5 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.

#### 6 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).

#### 7 Panel unit connector A connector for the panel unit (optional) that displays the

controller status and error numbers.

#### 8 Absolute data backup battery

When an absolute-type axis is operated, this battery retains position data even after the power is cut off.

# 9 System memory backup battery (Option)

This battery is needed if you wish to retain various data recorded in the SRAM of the controller even after the power is cut off. This battery is optional. Specify it if necessary.

#### 10 Power supply connector

AC power connector. Divided into the control power input and motor power input.

#### 11 Grounding screw

Protective grounding screw. Always ground this screw.

# 12 External regenerative resistor connector A connector for the regenerative resistor that must be connected when the built-in regenerative resistor alone

does not offer sufficient capacity in high-acceleration/ high-load operation, etc. Whether or not an external regenerative resistor is

necessary depends on the conditions of your specific application such as the axis configuration.

# 13 Motor connector for axis 1

Connects the motor cable of the axis 1 actuator.

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

#### 15 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.

#### 16 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.

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

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

19 Absolute-data backup battery connector for axis 1 A connector for the battery that backs up absolute data for axis 1 when the actuator uses an absolute encoder.

20 Absolute-data backup battery connector for axis 2 A connector for the battery that backs up absolute data for axis 2 when the actuator uses an absolute encoder.

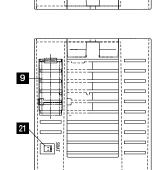
21 System-memory backup battery connector A connector for the system-memory backup battery.

Mimi Standard Controllers Integrated Rod Type Mini Standard Controllers Integrated Table/Arm (Flat Type Mini Controllers PMEC (AMEC PSEP /ASEP ROBO NET ERC2 PCON ACON SCON PSEL ASEL SSEL XSEL







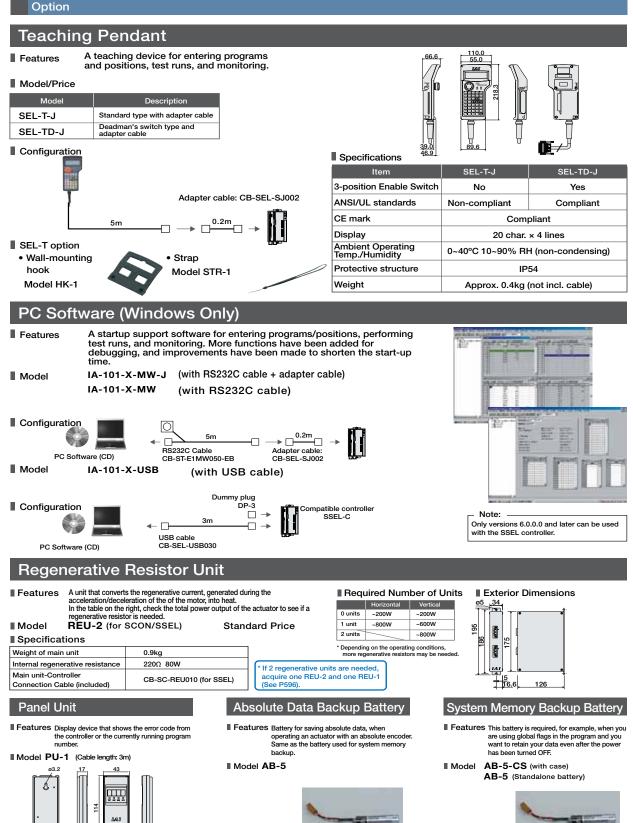


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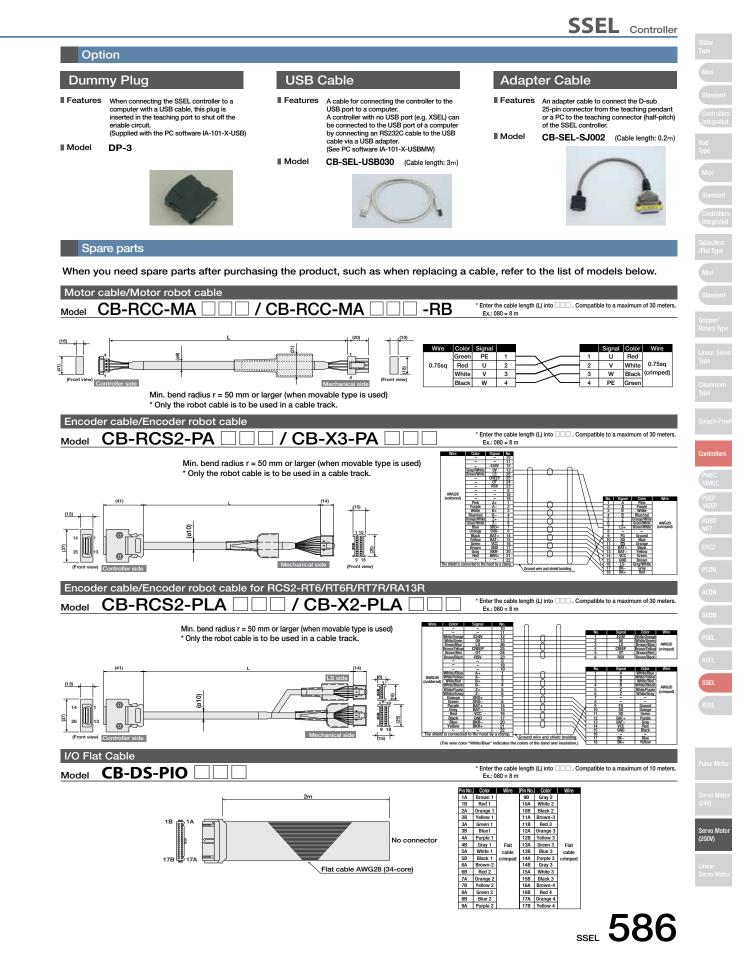
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