4 Axis Step Motor Controller $C \in$
(Parallel I/O/EtherNet/IP™ Type)

RoHS

- **EtherNet/IP™ type added**
- **Linear/circular interpolation**

Linear interpolation

Circular interpolation

Pick and place

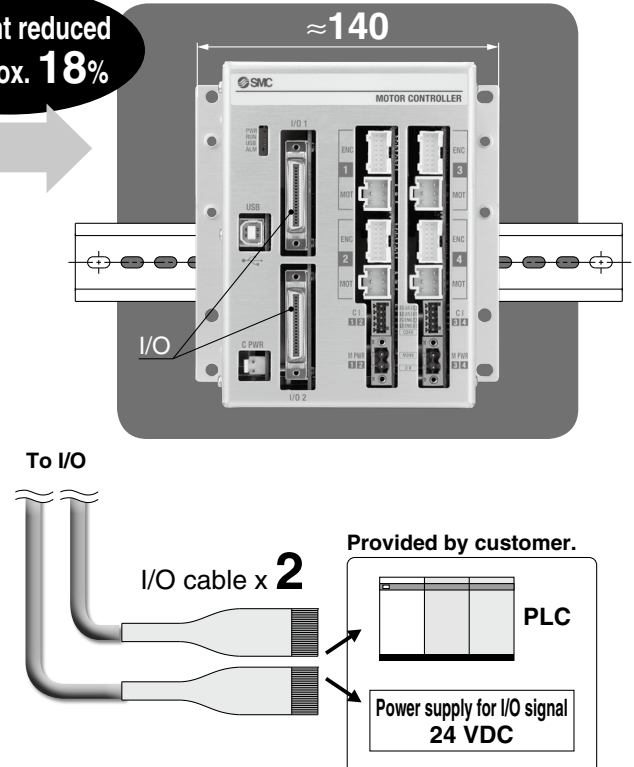

New

EtherNet/IP™ Type

Parallel I/O
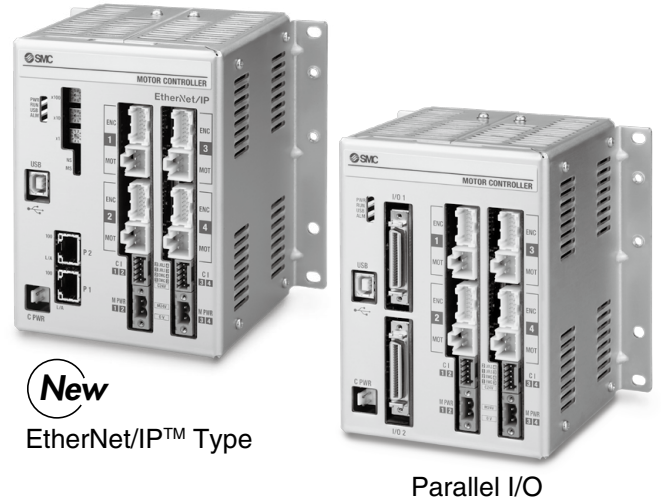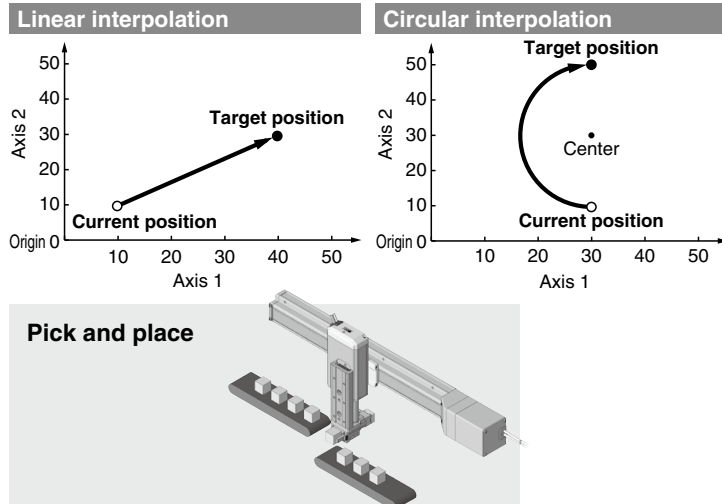
- **Positioning/pushing operation**
- **Step data input (Max. 2048 points)**
- **Space saving, reduced wiring**
- **4 axis synchronous control**

- **Absolute/relative position coordinates instructions**

LECP6 x 4 stations

170

CN5

Footprint reduced by approx. 18%

JXC73/83

≈140

I/O

To CN5

I/O cable x **4**

∗: For LE□, size 25 or larger

Provided by customer.

PLC

Power supply for I/O signal
24 VDC

To I/O

I/O cable x **2**

Provided by customer.

PLC

Power supply for I/O signal
24 VDC

JXC73/83/93 Series

SMC
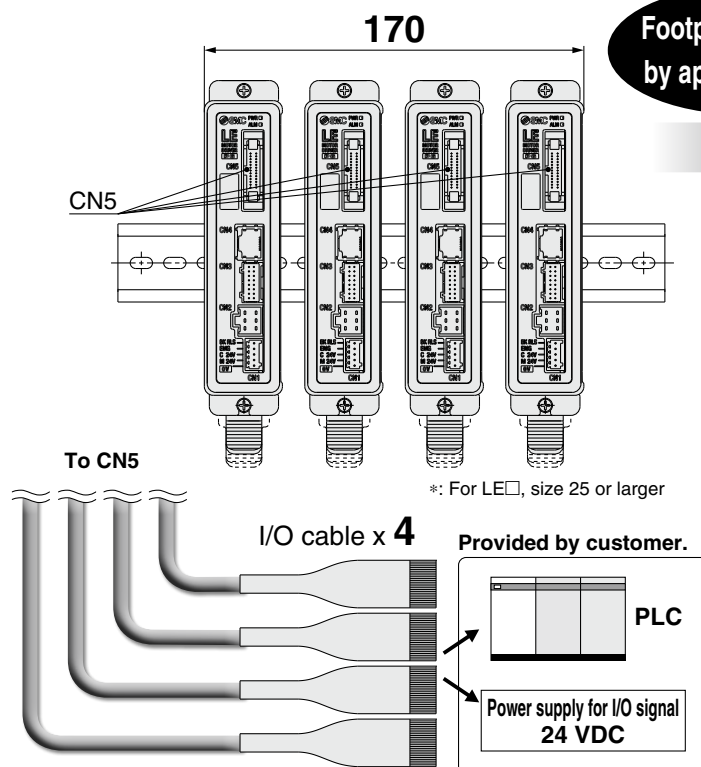
Step Data Input: Max. 2048 points

4 axis operation can be set collectively in one step.

Step	Axis	Movement mode	Speed mm/s	Position mm	Acceleration mm/s²	Deceleration mm/s²	Positioning/ Pushing	Area 1 mm	Area 2 mm	In position mm	Comments
0	Axis 1	ABS	100	200.00	1000	1000	0	6.0	12.0	0.5	
	Axis 2	ABS	50	100.00	1000	1000	0	6.0	12.0	0.5	
	Axis 3	ABS	50	100.00	1000	1000	0	6.0	12.0	0.5	
	Axis 4	ABS	50	100.00	1000	1000	0	6.0	12.0	0.5	
1	Axis 1	INC	500	250.00	1000	1000	1	0	0	20.0	
	Axis 2	INC	500	250.00	1000	1000	1	0	0	20.0	
	Axis 3	INC	500	250.00	1000	1000	1	0	0	20.0	
	Axis 4	INC	500	250.00	1000	1000	1	0	0	20.0	
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	
2046	Axis 4	ABS	200	700	500	500	0	0	0	0.5	
2047	Axis 1	ABS	500	0.00	3000	3000	0	0	0	0.5	
	Axis 2	ABS	500	0.00	3000	3000	0	0	0	0.5	
	Axis 3	ABS	500	0.00	3000	3000	0	0	0	0.5	
	Axis 4	ABS	500	0.00	3000	3000	0	0	0	0.5	

Movement mode	Pushing operation	Details
Blank	×	Invalid data (Invalid process)
ABS	○	Moves to the absolute coordinate position based on the origin of the actuator.
INC	○	Moves to the relative coordinate position based on the current position.
LIN-A	×	Moves to the absolute coordinate position based on the origin of the actuator by linear interpolation.
LIN-I	×	Moves to the relative coordinate position based on the current position by linear interpolation.
CIR-R [*1]	×	Axis 1 is assigned to the X-axis and Axis 2 to the Y-axis, and moves in the clockwise direction by circular interpolation. Specifies the target coordinates and center coordinates by the relative coordinates from the current position. The position data is assigned as follows. Axis 1: Target position X / Axis 2: Target position Y / Axis 3: Center point X / Axis 4: Center point Y
CIR-L [*1]	×	Axis 1 is assigned to the X-axis and Axis 2 to the Y-axis, and moves in the counter-clockwise direction by circular interpolation. Specifies the target coordinates and center coordinates by the relative coordinates from the current position. The position data is assigned as follows. Axis 1: Target position X / Axis 2: Target position Y / Axis 3: Center point X / Axis 4: Center point Y
SYN-I	×	Moves to the relative coordinate position based on the current position by synchronous control.

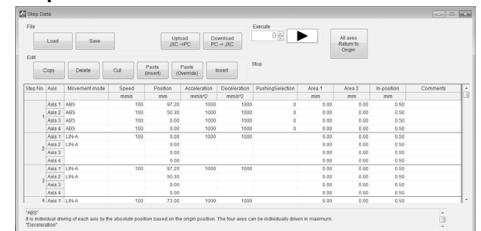[*1]: Performs a circular operation on a plane using Axis 1 and Axis 2.

Controller Setting Software (Connection with a PC)

Easy file management

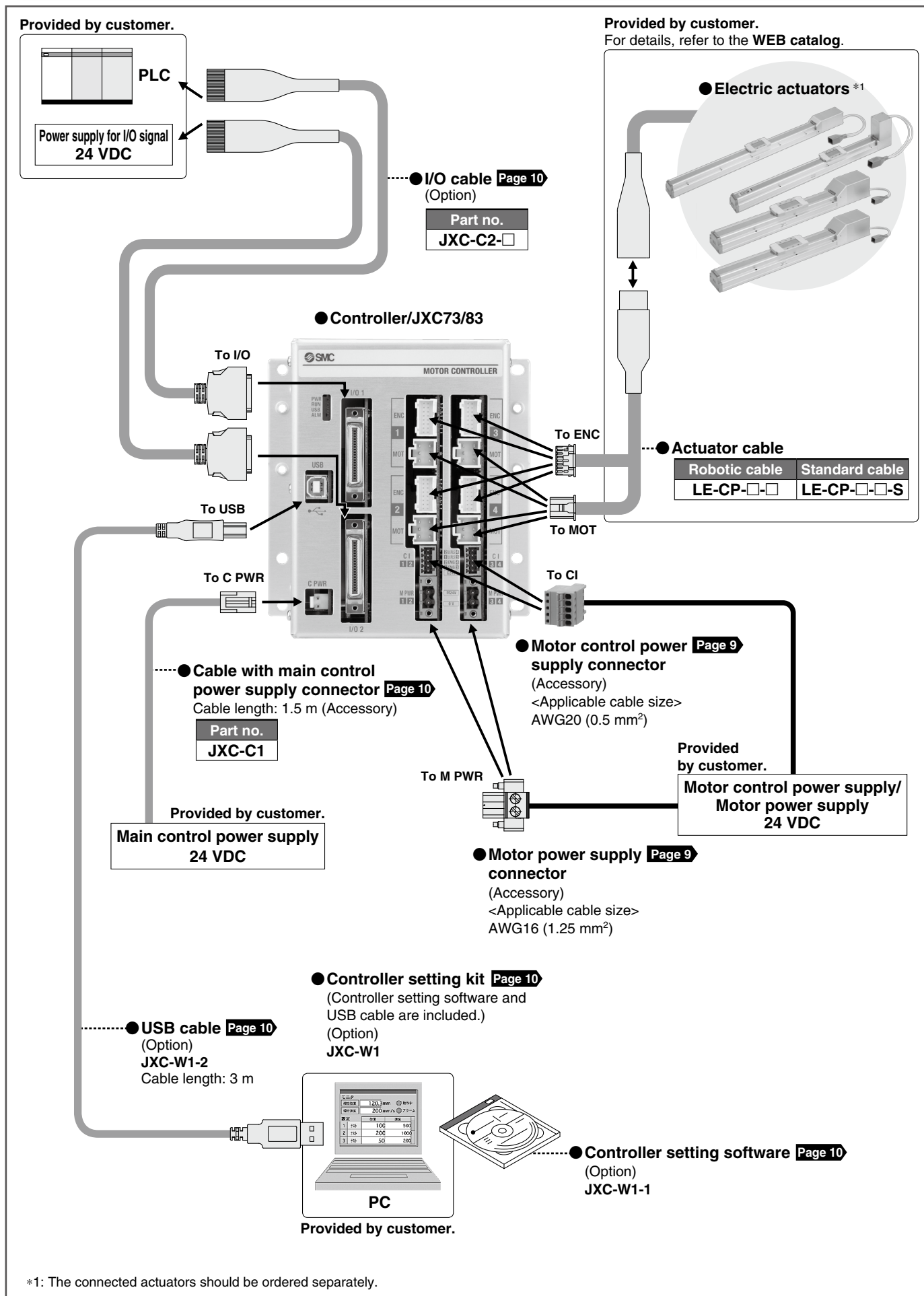|	
Load	The step data is loaded from the file.
Save	The step data is saved in a file.
Upload	The step data is loaded from the controller.
Download	The step data is written in the controller.

Step data window

Abundant edit functions

Copy	The selected step data is copied to the clipboard.
Delete	The selected step data is deleted.
Cut	The selected step data is cut.
Paste (Insert)	The step data copied to the clipboard is inserted into the cursor's position.
Paste (Overwrite)	The step data copied to the clipboard overwrites the data at the cursor position.
Insert	A blank line is inserted in the selected step data line.

Operation confirmation of entered step data
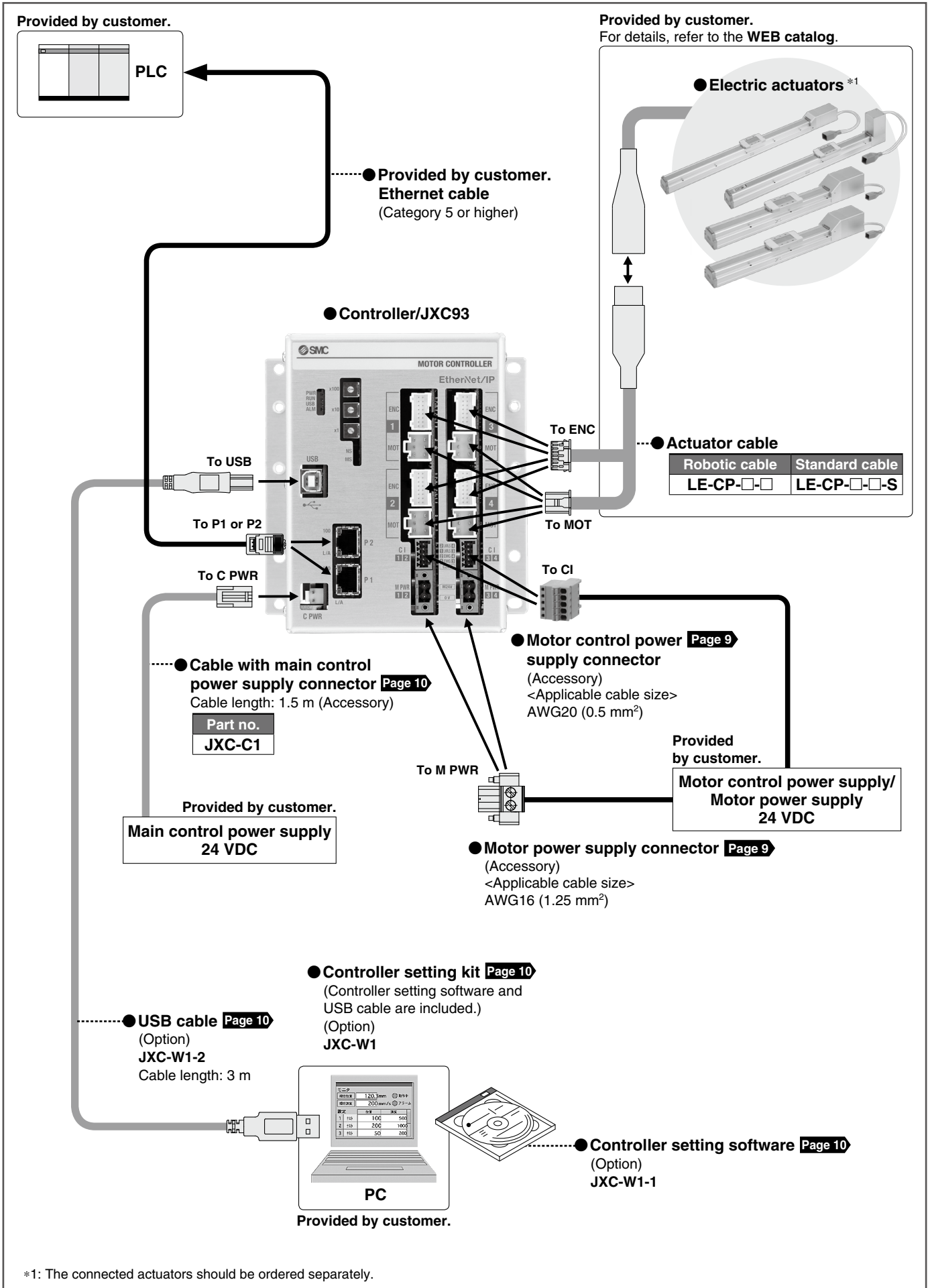
0	Enter the step number to be executed.
▶	Executes the specified step number.
Stop	Displays whether the step number is being executed or stopped.
All axes return to origin	Performs a return to origin of all the valid axes.

SMC

System Construction/Parallel I/O (JXC73/83)

Provided by customer.

PLC

Power supply for I/O signal 24 VDC

● **I/O cable** Page 10
(Option)

Part no.
JXC-C2-□

Provided by customer.
For details, refer to the **WEB catalog**.

● **Electric actuators** *1

● **Controller/JXC73/83**

To I/O

To USB

To ENC

● **Actuator cable**

Robotic cable	Standard cable
LE-CP-□-□	LE-CP-□-□-S

To MOT

To C PWR

To CI

● **Cable with main control power supply connector** Page 10
Cable length: 1.5 m (Accessory)

Part no.
JXC-C1

● **Motor control power supply connector** Page 9
(Accessory)
<Applicable cable size>
AWG20 (0.5 mm²)

Provided by customer.

To M PWR

Provided by customer.

Main control power supply 24 VDC

Provided by customer.

Motor control power supply/ Motor power supply 24 VDC

● **Motor power supply** Page 9
connector
(Accessory)
<Applicable cable size>
AWG16 (1.25 mm²)

● **Controller setting kit** Page 10
(Controller setting software and
USB cable are included.)
(Option)
JXC-W1

● **USB cable** Page 10
(Option)
JXC-W1-2
Cable length: 3 m

● **Controller setting software** Page 10
(Option)
JXC-W1-1

PC

Provided by customer.

∗1: The connected actuators should be ordered separately.

JXC73/83/93 *Series*

Provided by customer.

PLC

● **Provided by customer.**
Ethernet cable
(Category 5 or higher)

Provided by customer.
For details, refer to the **WEB catalog**.

● **Electric actuators** *1

● **Controller/JXC93**

SMC

MOTOR CONTROLLER

EtherNet/IP

PWR
RUN
USB
ALM

x100
x10
x1

NS
MS

To ENC

To USB

USB

ENC
1
MOT

ENC
3
MOT

ENC
2
MOT

ENC
4
MOT

To MOT

● **Actuator cable**

Robotic cable	Standard cable
LE-CP-□-□	**LE-CP-□-□-S**

To P1 or P2

100
L/A
P 2

P 1
L/A

C I
1 2

C I
3 4

M PWR
1 2

M20V
0 V

M PWR
3 4

To C PWR

C PWR

To CI

● **Motor control power** `Page 9`
supply connector
(Accessory)
<Applicable cable size>
AWG20 (0.5 mm²)

● **Cable with main control**
power supply connector `Page 10`
Cable length: 1.5 m (Accessory)

Part no.
JXC-C1

Provided by customer.

Main control power supply
24 VDC

To M PWR

Provided
by customer.

Motor control power supply/
Motor power supply
24 VDC

● **Motor power supply connector** `Page 9`
(Accessory)
<Applicable cable size>
AWG16 (1.25 mm²)

● **Controller setting kit** `Page 10`
(Controller setting software and
USB cable are included.)
(Option)
JXC-W1

● **USB cable** `Page 10`
(Option)
JXC-W1-2
Cable length: 3 m

モニタ
現在位置 120.3mm セット
現在速度 200mm/s アラーム
設定
1 位置 位置 速度
100 500
2 位置 200 1000
3 位置 50 200

PC

Provided by customer.

● **Controller setting software** `Page 10`
(Option)
JXC-W1-1

*1: The connected actuators should be ordered separately.

3

SMC

4 Axis Step Motor Controller
(Parallel I/O/EtherNet/IP™ Type)
JXC73/83/93 Series

CE RoHS

How to Order

■ Parallel I/O (JXC73/83)

Controller

JXC 7 3 2

I/O type

Symbol	I/O type
7	NPN
8	PNP

4 axis type

I/O cable, mounting

Symbol	I/O cable	Mounting
1	1.5 m	Screw mounting
2	1.5 m	DIN rail
3	3 m	Screw mounting
4	3 m	DIN rail
5	5 m	Screw mounting
6	5 m	DIN rail
7	None	Screw mounting
8	None	DIN rail

∗: Two I/O cables are included.

■ EtherNet/IP™ Type (JXC93)

Controller

JXC 9 3 7

I/O type

Symbol	I/O type
9	EtherNet/IP™

4 axis type

Mounting

Symbol	Mounting
7	Screw mounting
8	DIN rail

Applicable Actuators

Applicable actuators	
Electric Actuator/Rod LEY Series	Refer to the **WEB catalog**.
Electric Actuator/Guide Rod LEYG Series	
Electric Actuator/Slider LEF Series	
Electric Slide Table LES/LESH Series	
Electric Rotary Table LER Series *1	
Electric Actuator/Miniature LEPY/LEPS Series	
Electric Gripper (2-finger Type, 3-finger Type) LEH Series	

∗1: Except the continuous rotation (360°) specification.
∗: Actuators should be ordered separately.
∗: For the "Speed–Work Load" graph of the actuator, refer to the LECPA section in
   the Model Selection page of the **WEB catalog** of electric actuators.

JXC73/83/93 *Series*

Specifications

Parallel I/O (JXC73/83)

Item	Specifications
Number of axes	Max. 4 axes
Compatible motor	Step motor (Servo/24 VDC)
Compatible encoder	Incremental A/B phase (Encoder resolution: 800 pulse/rotation)
Power supply *1	Main control power supply Power voltage: 24 VDC ±10% Max. current consumption: 300 mA Motor power supply, Motor control power supply (Common) Power voltage: 24 VDC ±10% Max. current consumption: Based on the connected actuator. *2
Parallel input	16 inputs (Photo-coupler isolation)
Parallel output	32 outputs (Photo-coupler isolation)
Serial communication	USB2.0 (Full Speed 12 Mbps)
Memory	Flash-ROM/EEPROM
LED indicator	PWR, RUN, USB, ALM
Lock control	Forced-lock release terminal *3
Cable length	I/O cable: 5 m or less, Actuator cable: 20 m or less
Cooling system	Natural air cooling
Operating temperature range	0°C to 40°C (No freezing)
Operating humidity range	90% RH or less (No condensation)
Storage temperature range	−10°C to 60°C (No freezing)
Storage humidity range	90% RH or less (No condensation)
Insulation resistance	Between all external terminals and the case: 50 MΩ (500 VDC)
Weight	1050 g (Screw mounting), 1100 g (DIN rail mounting)

∗1: Do not use a power supply with inrush current protection for the motor drive power and motor control power supply.
∗2: Power consumption depends on the actuator connected. Refer to the actuator specifications for further details.
∗3: Applicable to non-magnetizing lock.

EtherNet/IP™ Type (JXC93)

Item		Specifications
Number of axes		Max. 4 axes
Compatible motor		Step motor (Servo/24 VDC)
Compatible encoder		Incremental A/B phase (Encoder resolution: 800 pulse/rotation)
Power supply *1		Main control power supply Power voltage: 24 VDC ±10% Max. current consumption: 350 mA Motor power supply, Motor control power supply (Common) Power voltage: 24 VDC ±10% Max. current consumption: Based on the connected actuator. *2
Communication	Protocol	EtherNet/IP™ *4
	Communication speed	10 Mbps/100 Mbps (automatic negotiation)
	Communication method	Full duplex/Half duplex (automatic negotiation)
	Configuration file	EDS file
	Occupied area	Input 16 bytes/Output 16 bytes
	IP address setting range	Manual setting by switches: From 192.168.1.1 to 254, Via DHCP server: Arbitrary address
	Vendor ID	7 h (SMC Corporation)
	Product type	2 Bh (Generic Device)
	Product code	DCh
Serial communication		USB2.0 (Full Speed 12 Mbps)
Memory		Flash-ROM/EEPROM
LED indicator		PWR, RUN, USB, ALM, NS, MS, L/A, 100
Lock control		Forced-lock release terminal *3
Cable length		Actuator cable: 20 m or less
Cooling system		Natural air cooling
Operating temperature range		0°C to 40°C (No freezing)
Operating humidity range		90% RH or less (No condensation)
Storage temperature range		−10°C to 60°C (No freezing)
Storage humidity range		90% RH or less (No condensation)
Insulation resistance		Between all external terminals and the case: 50 MΩ (500 VDC)
Weight		1050 g (Screw mounting), 1100 g (DIN rail mounting)

∗1: Do not use a power supply with inrush current protection for the motor drive power and motor control power supply.
∗2: Power consumption depends on the actuator connected. Refer to the actuator specifications for further details.
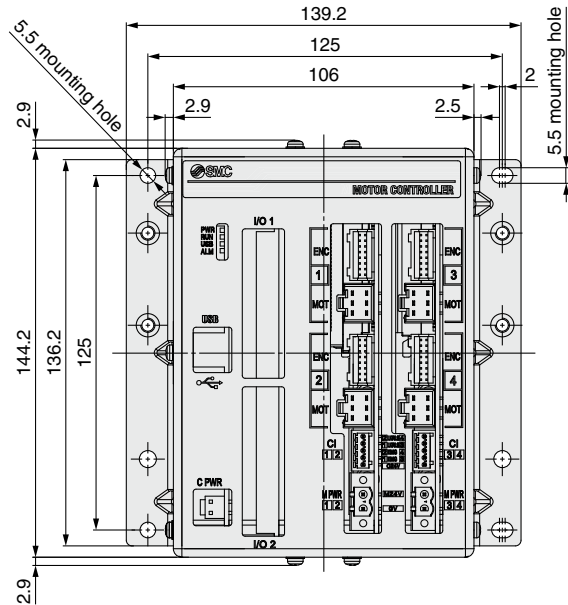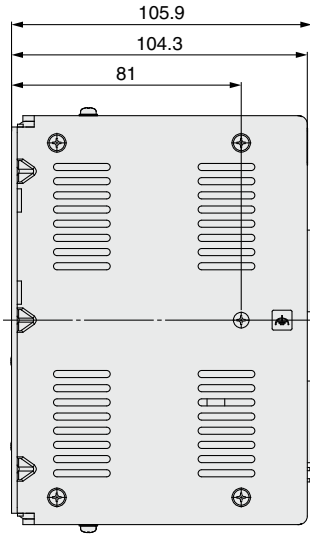∗3: Applicable to non-magnetizing lock.
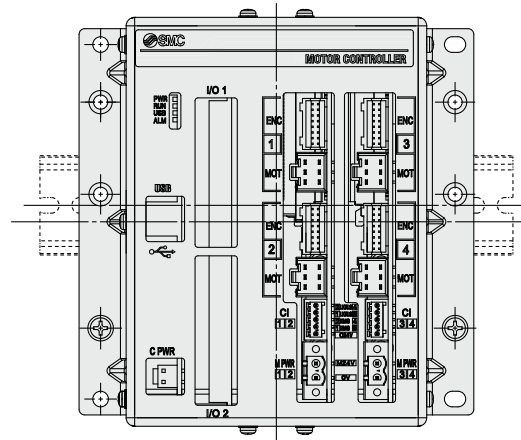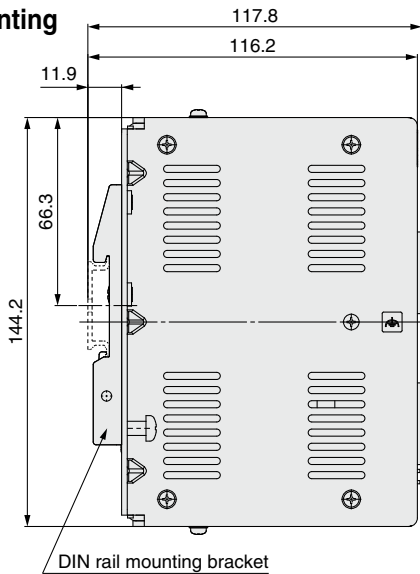∗4: EtherNet/IP™ is a trademark of OVDA.

SMC

Dimensions

Parallel I/O JXC73/83
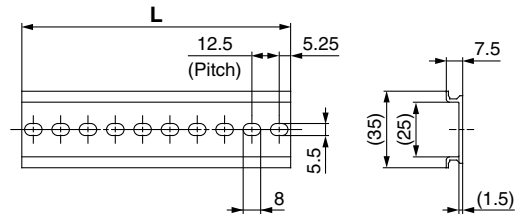### Screw mounting

DIN rail mounting

DIN rail mounting bracket

DIN rail
AXT100-DR-□

∗: For □, enter a number from the No. line in the table below.
 Refer to the dimension drawings above for the mounting dimensions.

L
12.5
(Pitch)
5.25
7.5
(35)
(25)
5.5
8
(1.5)

L Dimension

| No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5
No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
L	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5

DIN rail mounting bracket
JXC-Z1 (with 6 mounting screws)

This should be used when the DIN rail mounting bracket is mounted onto a screw mounting type controller afterwards.

JXC73/83/93 *Series*

Dimensions

EtherNet/IP™ Type JXC93
Screw mounting

DIN rail mounting

DIN rail mounting bracket

DIN rail
AXT100-DR-□

∗: For □, enter a number from the No. line in the table below.
  Refer to the dimension drawings above for the mounting dimensions.

L Dimension

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5
No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
L	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5

DIN rail mounting bracket
JXC-Z1 (with 6 mounting screws)

This should be used when the DIN rail mounting bracket is mounted onto a screw mounting type controller afterwards.
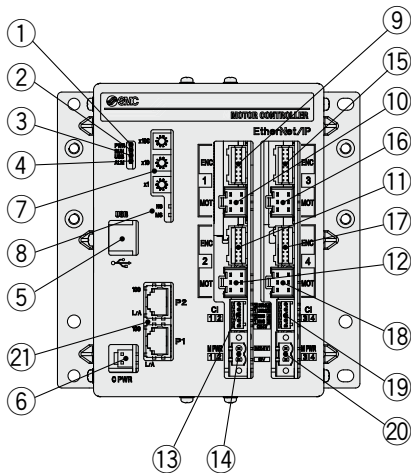
Controller Details

Parallel I/O JXC73/83
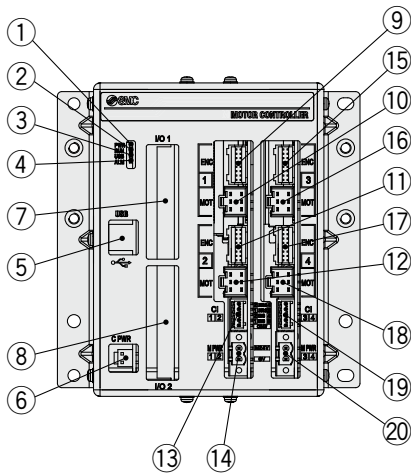
No.	Name	Description	Details
①	PWR	Power supply LED (Green)	Power supply ON: Green turns on. Power supply OFF: Green turns off.
②	RUN	Operation LED (Green)	Running in parallel I/O: Green turns on. Running via USB communication: Green flashes. Stopped: Green turns off.
③	USB	USB connection LED (Green)	USB connected: Green turns on. USB not connected: Green turns off.
④	ALM	Alarm LED (Red)	With alarm: Red turns on. Without alarm: Red turns off.
⑤	USB	Serial communication	Connect to a PC via the USB cable.
⑥	C PWR	Main control power supply connector (2 pins) *1	Main control power supply (+) (−)
⑦	I/O 1	Parallel I/O connector (40 pins)	Connect to a PLC via the I/O cable.
⑧	I/O 2	Parallel I/O connector (40 pins)	Connect to a PLC via the I/O cable.
⑨	ENC 1	Encoder connector (16 pins)	Axis 1: Connect the actuator cable.
⑩	MOT 1	Motor power connector (6 pins)	
⑪	ENC 2	Encoder connector (16 pins)	Axis 2: Connect the actuator cable.
⑫	MOT 2	Motor power connector (6 pins)	
⑬	CI 1 2	Motor control power supply connector *1	Motor control power supply (+), Axis 1 stop (+), Axis 1 lock release (+), Axis 2 stop (+), Axis 2 lock release (+)
⑭	M PWR 1 2	Motor power supply connector *1	For Axis 1, 2. Motor power supply (+), Common (−)
⑮	ENC 3	Encoder connector (16 pins)	Axis 3: Connect the actuator cable.
⑯	MOT 3	Motor power connector (6 pins)	
⑰	ENC 4	Encoder connector (16 pins)	Axis 4: Connect the actuator cable.
⑱	MOT 4	Motor power connector (6 pins)	
⑲	CI 3 4	Motor control power supply connector *1	Motor control power supply (+), Axis 3 stop (+), Axis 3 lock release (+), Axis 4 stop (+), Axis 4 lock release (+)
⑳	M PWR 3 4	Motor power supply connector *1	For Axis 3, 4. Motor power supply (+), Common (−)

∗1: Connectors are included. (Refer to page 9.)

EtherNet/IP™ Type JXC93

No.	Name	Description	Details
①	PWR	Power supply LED (Green)	Power supply ON: Green turns on. Power supply OFF: Green turns off.
②	RUN	Operation LED (Green)	Running in EtherNet/IP™: Green turns on. Running via USB communication: Green flashes. Stopped: Green turns off.
③	USB	USB connection LED (Green)	USB connected: Green turns on. USB not connected: Green turns off.
④	ALM	Alarm LED (Red)	With alarm: Red turns on. Without alarm: Red turns off.
⑤	USB	Serial communication	Connect to a PC via the USB cable.
⑥	C PWR	Main control power supply connector (2 pins) *1	Main control power supply (+) (−)
⑦	x100 x10 x1	IP address setting switches	Switch to set the 4th byte of the IP address by X1, X10 and X100.
⑧	MS, NS	Communication status LED	Display the status of the EtherNet/IP™ communication.
⑨	ENC 1	Encoder connector (16 pins)	Axis 1: Connect the actuator cable.
⑩	MOT 1	Motor power connector (6 pins)	
⑪	ENC 2	Encoder connector (16 pins)	Axis 2: Connect the actuator cable.
⑫	MOT 2	Motor power connector (6 pins)	
⑬	CI 1 2	Motor control power supply connector *1	Motor control power supply (+), Axis 1 stop (+), Axis 1 lock release (+), Axis 2 stop (+), Axis 2 lock release (+)
⑭	M PWR 1 2	Motor power supply connector *1	For Axis 1, 2. Motor power supply (+), Common (−)
⑮	ENC 3	Encoder connector (16 pins)	Axis 3: Connect the actuator cable.
⑯	MOT 3	Motor power connector (6 pins)	
⑰	ENC 4	Encoder connector (16 pins)	Axis 4: Connect the actuator cable.
⑱	MOT 4	Motor power connector (6 pins)	
⑲	CI 3 4	Motor control power supply connector *1	Motor control power supply (+), Axis 3 stop (+), Axis 3 lock release (+), Axis 4 stop (+), Axis 4 lock release (+)
⑳	M PWR 3 4	Motor power supply connector *1	For Axis 3, 4. Motor power supply (+), Common (−)
㉑	P1, P2	EtherNet/IP™ communication connector	Connect Ethernet cable.

∗1: Connectors are included. (Refer to page 9.)

JXC73/83/93 *Series*

Accessories (Connector)

⑥ Cable with Main Control Power Supply Connector: C PWR | 1 pc.

Terminal name	Function	Details
+24V	Main control power supply (+)	Power supply (+) supplied to the main control
24−0V	Main control power supply (−)	Power supply (−) supplied to the main control

∗: Part no.: JXC-C1 (Cable length: 1.5 m)
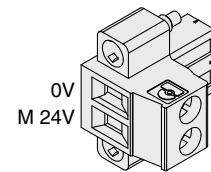
Cable with main control power supply connector

Cable color: Blue (0V)

Cable color: Brown (24V)
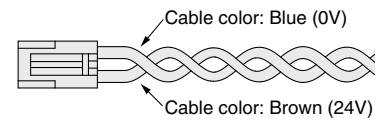
⑭⑳ Motor Power Supply Connector: M PWR | 2 pcs.

Terminal name	Function	Details
0V	Motor power supply (−)	M 24V terminal/C 24V terminal/EMG terminal/LKRLS terminal are common (−).
M 24V	Motor power supply (+)	Power supply (+) supplied to the motor power

∗: Manufactured by PHOENIX CONTACT. (Part no.: MSTB2, 5/2-STF-5, 08)
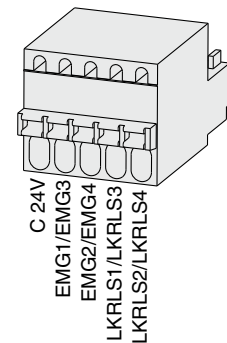
Motor power supply connector

0V
M 24V

⑬⑲ Motor Control Power Supply Connector: CI | 2 pcs.

Terminal name	Function	Details
C 24V	Motor control power supply (+)	Power supply (+) supplied to the motor control
EMG1/EMG3	Stop (+)	Axis 1/Axis 3: Input (+) for releasing the stop
EMG2/EMG4	Stop (+)	Axis 2/Axis 4: Input (+) for releasing the stop
LKRLS1/LKRLS3	Lock release (+)	Axis 1/Axis 3: Input (+) for releasing the lock
LKRLS2/LKRLS4	Lock release (+)	Axis 2/Axis 4: Input (+) for releasing the lock

∗: Manufactured by PHOENIX CONTACT. (Part no.: FK-MC0, 5/5-ST-2, 5)
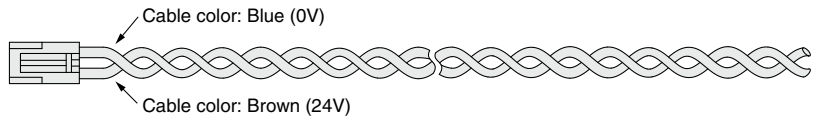
Motor control power supply connector

C 24V
EMG1/EMG3
EMG2/EMG4
LKRLS1/LKRLS3
LKRLS2/LKRLS4

SMC

Options

Cable with main control power supply connector

JXC 73/83 JXC 93

JXC‑C1

Cable length: 1.5 m (Accessory)

Number of cores	2
AWG size	AWG20

Cable color: Blue (0V)

Cable color: Brown (24V)

I/O cable (1 pc.)

JXC 73/83

JXC‑C2‑☐

Cable length (L) [m]

1	1.5
3	3
5	5

Number of cores	40
AWG size	AWG28

Controller side

PLC side

(Terminal no.)

20 … 40

1 … 21

L

(ø7.5) (R1.25-4)

50.8

40
20
39
⋮
2
21
1
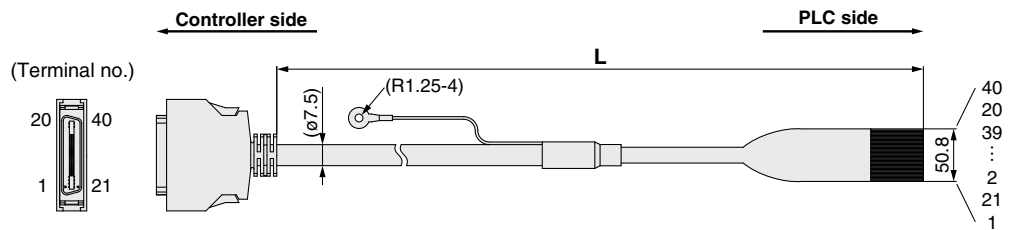
Pin no.	Wire color	Pin no.	Wire color	Pin no.	Wire color	Pin no.	Wire color
1	Orange (Black 1)	6	Orange (Black 2)	11	Orange (Black 3)	16	Orange (Black 4)
21	Orange (Red 1)	26	Orange (Red 2)	31	Orange (Red 3)	36	Orange (Red 4)
2	Gray (Black 1)	7	Gray (Black 2)	12	Gray (Black 3)	17	Gray (Black 4)
22	Gray (Red 1)	27	Gray (Red 2)	32	Gray (Red 3)	37	Gray (Red 4)
3	White (Black 1)	8	White (Black 2)	13	White (Black 3)	18	White (Black 4)
23	White (Red 1)	28	White (Red 2)	33	White (Red 3)	38	White (Red 4)
4	Yellow (Black 1)	9	Yellow (Black 2)	14	Yellow (Black 3)	19	Yellow (Black 4)
24	Yellow (Red 1)	29	Yellow (Red 2)	34	Yellow (Red 3)	39	Yellow (Red 4)
5	Pink (Black 1)	10	Pink (Black 2)	15	Pink (Black 3)	20	Pink (Black 4)
25	Pink (Red 1)	30	Pink (Red 2)	35	Pink (Red 3)	40	Pink (Red 4)

Controller setting kit

JXC 73/83 JXC 93

JXC‑W1

Controller setting kit (Japanese and English are available.)

① Controller setting software

② USB cable (A-B type)

PC
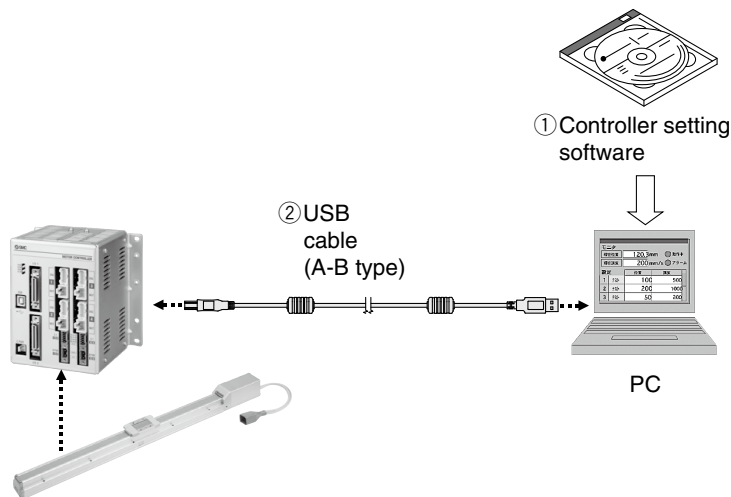
Contents

① **Controller setting software (CD-ROM)**
② **USB cable (Cable length: 3 m)**

	Description	Model
①	Controller setting software	JXC-W1-1
②	USB cable	JXC-W1-2

∗: Can be ordered separately.

Hardware Requirements

PC/AT compatible machine with Windows7 or Windows8.1 and USB1.1 or USB2.0 port

∗: Windows® is a registered trademark of Microsoft Corporation in the United States.
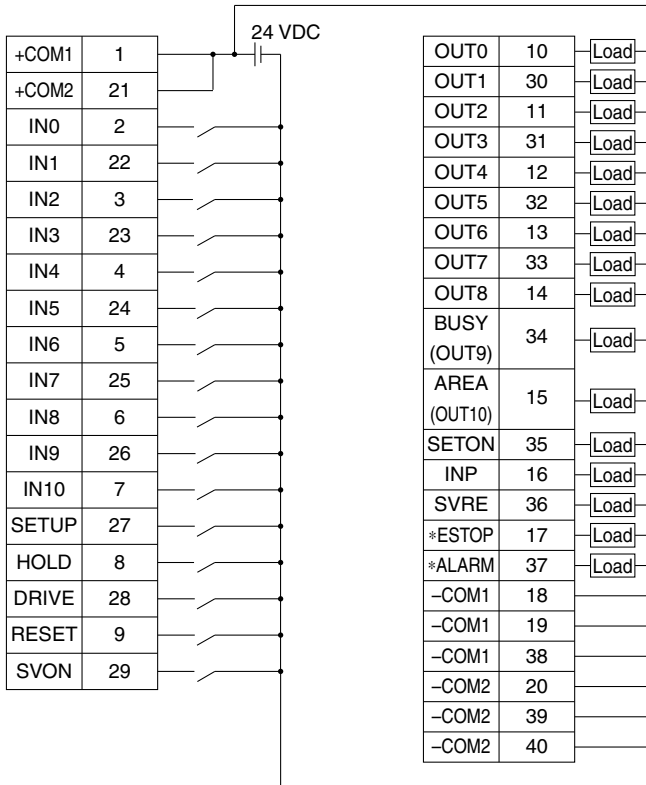
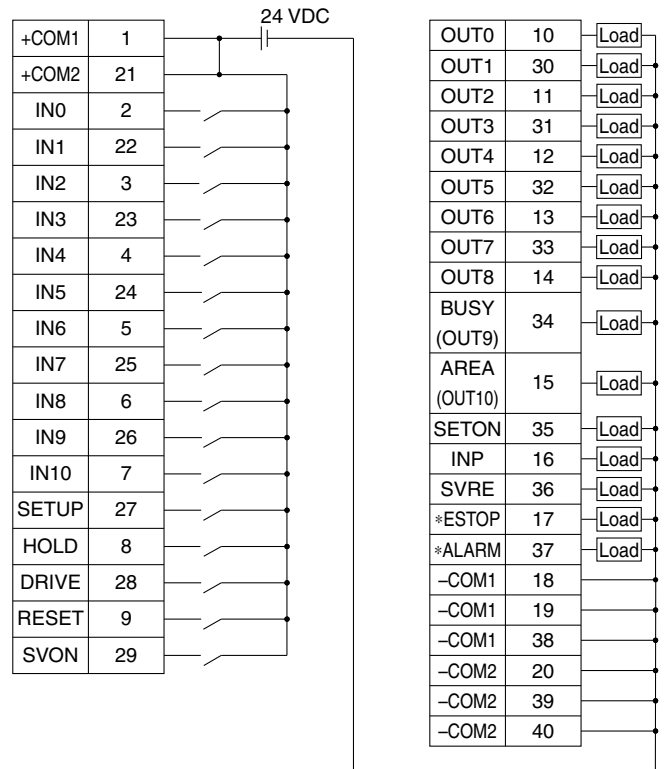# JXC73/83/93 Series

Wiring Example

Parallel I/O Connector	∗: When you connect a PLC to the I/O 1 or I/O 2 parallel I/O connector, use the I/O cable (JXC-C2-□).
	∗: The wiring changes depending on the type of the parallel I/O (NPN or PNP).

Wiring diagram

I/O 1 : NPN JXC73

+COM1	1			24 VDC
+COM2	21			
IN0	2		OUT0	10	Load
IN1	22		OUT1	30	Load
IN2	3		OUT2	11	Load
IN3	23		OUT3	31	Load
IN4	4		OUT4	12	Load
IN5	24		OUT5	32	Load
IN6	5		OUT6	13	Load
IN7	25		OUT7	33	Load
IN8	6		OUT8	14	Load
IN9	26		BUSY (OUT9)	34	Load
IN10	7		AREA (OUT10)	15	Load
SETUP	27		SETON	35	Load
HOLD	8		INP	16	Load
DRIVE	28		SVRE	36	Load
RESET	9		∗ESTOP	17	Load
SVON	29		∗ALARM	37	Load
			−COM1	18	
			−COM1	19	
			−COM1	38	
			−COM2	20	
			−COM2	39	
			−COM2	40	

I/O 1 : PNP JXC83

+COM1	1			24 VDC
+COM2	21			
IN0	2		OUT0	10	Load
IN1	22		OUT1	30	Load
IN2	3		OUT2	11	Load
IN3	23		OUT3	31	Load
IN4	4		OUT4	12	Load
IN5	24		OUT5	32	Load
IN6	5		OUT6	13	Load
IN7	25		OUT7	33	Load
IN8	6		OUT8	14	Load
IN9	26		BUSY (OUT9)	34	Load
IN10	7		AREA (OUT10)	15	Load
SETUP	27		SETON	35	Load
HOLD	8		INP	16	Load
DRIVE	28		SVRE	36	Load
RESET	9		∗ESTOP	17	Load
SVON	29		∗ALARM	37	Load
			−COM1	18	
			−COM1	19	
			−COM1	38	
			−COM2	20	
			−COM2	39	
			−COM2	40	

Input Signal

Name	Details
+COM1 +COM2	Connects the power supply 24 V for input/output signal
IN0 to IN8	Step data specified Bit No. (Standard: When 512 points are used)
IN9 IN10	Step data specified extension Bit No. (Extension: When 2048 points are used)
SETUP	Instruction to return to origin
HOLD	Operation is temporarily stopped
DRIVE	Instruction to drive
RESET	Alarm reset and operation interruption
SVON	Servo ON instruction

Output Signal

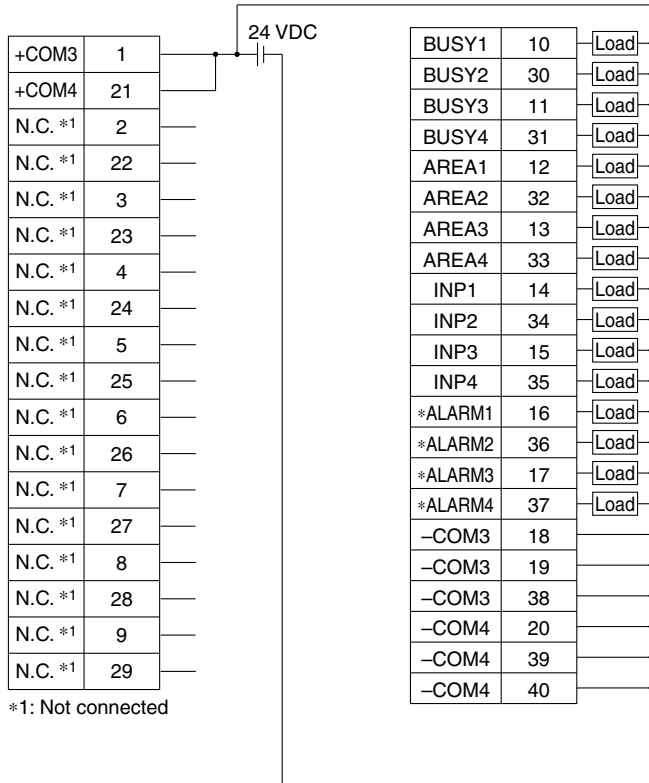| Name	Details
OUT0 to OUT8	Outputs the step data no. during operation
BUSY (OUT9)	Outputs when the operation of the actuator is in progress
AREA (OUT10)	Outputs when all actuators are within the area output range
SETON	Outputs when the return to origin of all actuators is completed
INP	Outputs when the positioning or pushing of all actuators is completed
SVRE	Outputs when servo is ON
∗ESTOP [1]	Not output when EMG stop is instructed
∗ALARM [1]	Not output when alarm is generated
−COM1 −COM2	Connects the power supply 0 V for input/output signal

∗1: Negative-logic circuit signal

SMC

Wiring Example

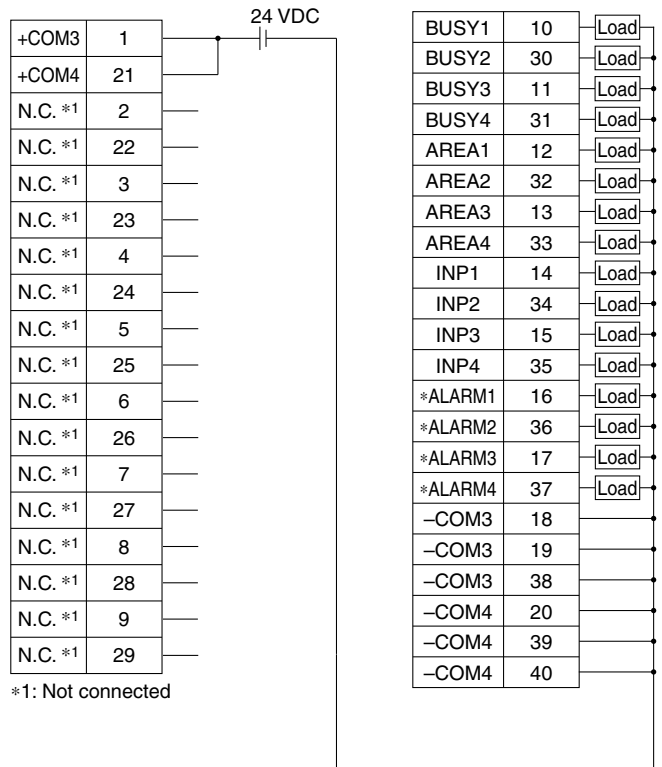| Parallel I/O Connector	∗: When you connect a PLC to the I/O 1 or I/O 2 parallel I/O connector, use the I/O cable (JXC-C2-□).
	∗: The wiring changes depending on the type of the parallel I/O (NPN or PNP).

Wiring diagram

I/O 2 : NPN JXC73

+COM3	1			24 VDC
+COM4	21			
N.C. ∗1	2			
N.C. ∗1	22			
N.C. ∗1	3			
N.C. ∗1	23			
N.C. ∗1	4			
N.C. ∗1	24			
N.C. ∗1	5			
N.C. ∗1	25			
N.C. ∗1	6			
N.C. ∗1	26			
N.C. ∗1	7			
N.C. ∗1	27			
N.C. ∗1	8			
N.C. ∗1	28			
N.C. ∗1	9			
N.C. ∗1	29			

BUSY1	10	Load
BUSY2	30	Load
BUSY3	11	Load
BUSY4	31	Load
AREA1	12	Load
AREA2	32	Load
AREA3	13	Load
AREA4	33	Load
INP1	14	Load
INP2	34	Load
INP3	15	Load
INP4	35	Load
∗ALARM1	16	Load
∗ALARM2	36	Load
∗ALARM3	17	Load
∗ALARM4	37	Load
–COM3	18	
–COM3	19	
–COM3	38	
–COM4	20	
–COM4	39	
–COM4	40	

∗1: Not connected

I/O 2 : PNP JXC83

+COM3	1			24 VDC
+COM4	21			
N.C. ∗1	2			
N.C. ∗1	22			
N.C. ∗1	3			
N.C. ∗1	23			
N.C. ∗1	4			
N.C. ∗1	24			
N.C. ∗1	5			
N.C. ∗1	25			
N.C. ∗1	6			
N.C. ∗1	26			
N.C. ∗1	7			
N.C. ∗1	27			
N.C. ∗1	8			
N.C. ∗1	28			
N.C. ∗1	9			
N.C. ∗1	29			

BUSY1	10	Load
BUSY2	30	Load
BUSY3	11	Load
BUSY4	31	Load
AREA1	12	Load
AREA2	32	Load
AREA3	13	Load
AREA4	33	Load
INP1	14	Load
INP2	34	Load
INP3	15	Load
INP4	35	Load
∗ALARM1	16	Load
∗ALARM2	36	Load
∗ALARM3	17	Load
∗ALARM4	37	Load
–COM3	18	
–COM3	19	
–COM3	38	
–COM4	20	
–COM4	39	
–COM4	40	

∗1: Not connected

Input Signal

Name	Details
+COM3 +COM4	Connects the power supply 24 V for input/output signal
N.C.	Not used

Output Signal

Name	Details
BUSY1	Busy signal for axis 1
BUSY2	Busy signal for axis 2
BUSY3	Busy signal for axis 3
BUSY4	Busy signal for axis 4
AREA1	Area signal for axis 1
AREA2	Area signal for axis 2
AREA3	Area signal for axis 3
AREA4	Area signal for axis 4
INP1	Positioning or pushing completion signal for axis 1
INP2	Positioning or pushing completion signal for axis 2
INP3	Positioning or pushing completion signal for axis 3
INP4	Positioning or pushing completion signal for axis 4
∗ALARM1 ∗2	Alarm signal for axis 1
∗ALARM2 ∗2	Alarm signal for axis 2
∗ALARM3 ∗2	Alarm signal for axis 3
∗ALARM4 ∗2	Alarm signal for axis 4
–COM3 –COM4	Connects the power supply 0 V for input/output signal

∗2: Negative-logic circuit signal

Design/Selection

⚠ Warning

1. Use the specified voltage.

If the applied voltage is higher than the specified voltage, malfunction and damage to the controller may result. If the applied voltage is lower than the specified voltage, there is a possibility that the load cannot be moved due to internal voltage drop. Check the operating voltage prior to start.

2. Do not use the products outside the specifications.

Otherwise, fire, malfunction or damage to the product can result. Check the specifications prior to use.

3. Install an emergency stop circuit.

Install an emergency stop outside the enclosure in easy reach to the operator so that the operator can stop the system operation immediately and intercept the power supply.

4. To prevent danger and damage due to a breakdown or malfunction of these products, which may occur at a certain probability, a backup system should be arranged in advance by using a multiple-layered structure or by making a fail-safe equipment design, etc.

5. If there is a risk of fire or personal injury due to abnormal heat generation, sparking, smoke generated by the product, etc., cut off the power supply from this product and the system immediately.

⚠ Caution

1. When using an actuator not horizontally mounted, an actuator with the lock option is recommended.

Burnout of the internal parts of the controller may occur. If the actuator is not equipped with a lock, it will move and drop the workpiece when the power and servo are turned OFF.

Handling

⚠ Warning

1. Check the voltage using a tester at least 5 minutes after power-off when connecting/disconnecting cables.

Otherwise, electric shock, injury, fire, or serious damage can result.

2. Do not touch the inside of the controller and its connector.

Otherwise, electric shock or failure can result.

3. Do not operate or set up this equipment with wet hands.

Otherwise, electric shock can result.

4. Do not use a product that is damaged or missing any components.

Electric shock, fire or injury can result.

5. Use only the specified combination between the electric actuator and controller.

Not doing so may cause damage to the actuator or to the controller.

Handling

⚠ Warning

6. Be careful not to touch, get caught or hit by the workpiece while the actuator is moving.

An injury can result.

7. Do not connect the power supply or power up the product until it is confirmed that the workpiece can be moved safely within the area that can be reached by the workpiece.

Otherwise, the movement of the workpiece may cause an accident.

8. Do not touch the product when it is energized and for some time after the power has been disconnected, as it is very hot.

Otherwise, it may cause burns due to the high temperature.

9. Check the voltage using a tester at least 5 minutes after power-off when performing installation, wiring and maintenance.

Otherwise, electric shock, fire or injury can result.

10. Do not use the products in an area where they could be exposed to dust, metallic powder, machining chips or splashes of water, oil or chemicals.

Otherwise, a failure or malfunction can result.

11. Do not use the products in a magnetic field.

Otherwise, a malfunction or failure can result.

12. Do not use the products in an environment where flammable, explosive or corrosive gases, liquids or other substances are present.

Otherwise, fire, explosion or corrosion can result.

13. Avoid heat radiation from strong heat sources, such as direct sunlight or a hot furnace.

Otherwise, it will cause a failure to the controller or its peripheral devices.

14. Do not use the products in an environment with cyclic temperature changes.

Otherwise, it will cause a failure to the controller or its peripheral devices.

15. Do not use the products in an environment where surges are generated.

Devices (solenoid type lifters, high frequency induction furnaces, motors, etc.) that generate a large amount of surge around the product may lead to deterioration or damage to the internal circuits of the products. Avoid supplies of surge generation and crossed lines.

16. Do not install the products in a place subject to vibration and impact.

Otherwise, a malfunction or failure can result.

17. If this product is used with a relay or solenoid valve, use the built-in surge absorbing element type.

18. This product cannot be used if multiple axes are fixed to one workpiece.

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