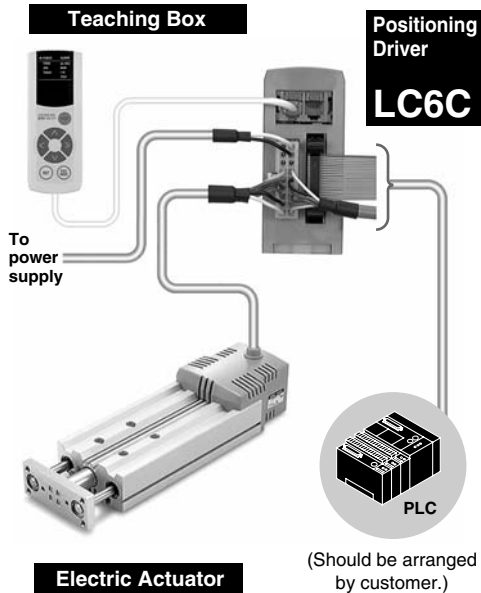


# Series LX Dedicated Positioning driver

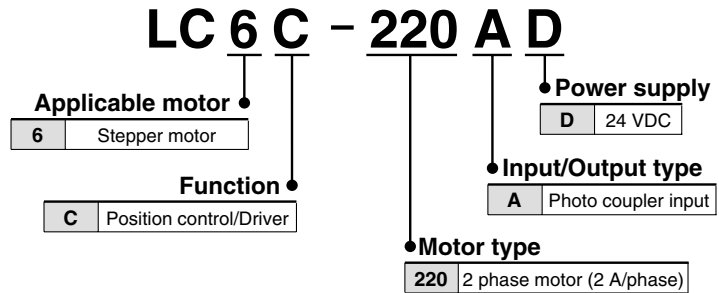
## Series LC6C



- Built-in position control function added to LC6D
- Up to 28 patterns of movement data can be set.
- Point movement can be easily achieved with a PLC, etc.
- Compatible with Series LX two phase stepper motor



### How to Order



### Applicable Actuators

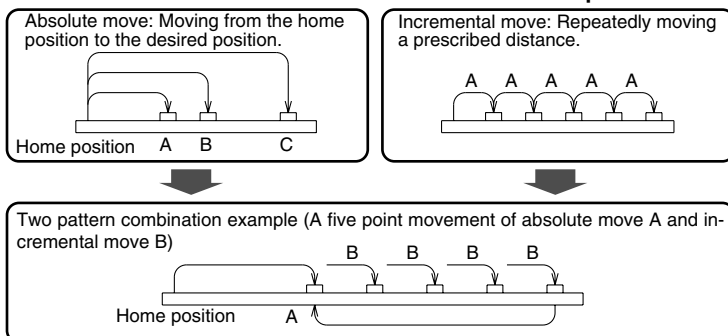
Driver	Applicable actuator		Motor type
LC6C-220AD	Guide rod type	LXPB2	2 phase stepper motor
	High rigidity slide table type	LXSH2	

\* Select a 3 wire NPN type when using an auto switch.

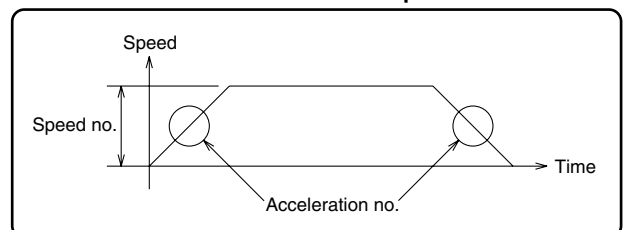
### Specifications

Part no.	LC6C-220AD
Power supply	24 VDC $\pm 10\%$ , Max. 3.0 A
Number of position settings	28 patterns
Position setting method	Setting with dedicated teaching box (LC5-1-T1-02)
Position control method	Absolute and incremental moves Speed: 6 to 200 mm/s (with lead screw lead of 12 mm)
Input signal capacity	Photo coupler input 24 VDC, Max. 6 mA
Output signal capacity	Photo coupler output Max. 30 VDC or less, Max. 20 mA
Parameter setting	Position data setting, Speed/Acceleration setting, etc.
Indication LED	Power supply LED (Green), Alarm LED (Red)
Operating temperature	5° to 40°C
Accessories	Power connector: LC6-1-C2, Interface connector: LC6-1-C3 (Cables should be arranged by customer.)

#### Absolute and incremental moves for each movement pattern.



Eight speed patterns based on the speed number and acceleration number can be set, and a speed pattern can be selected for each movement pattern.

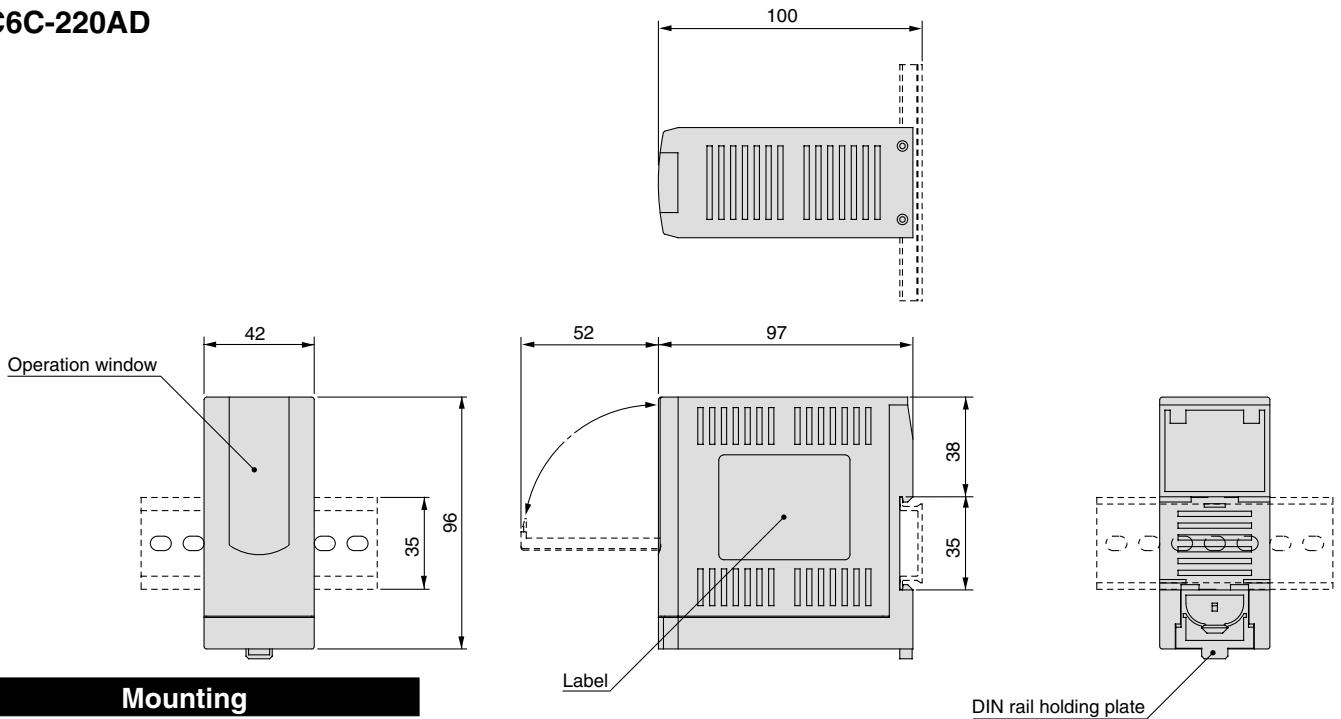


- LJ1
- LG1
- LTF
- LC1
- LC7
- LC8
- LXF
- LXP
- LXS
- LC6
- LZ
- LC3F2
- X
- D
- E-MY

# Series LC6C

## Dimensions

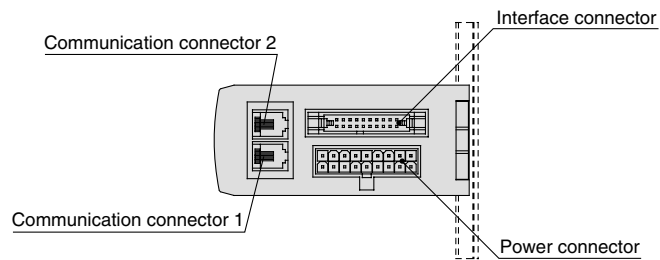
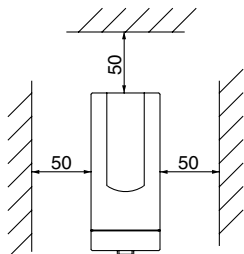
### LC6C-220AD



### Mounting

#### ⚠ Caution

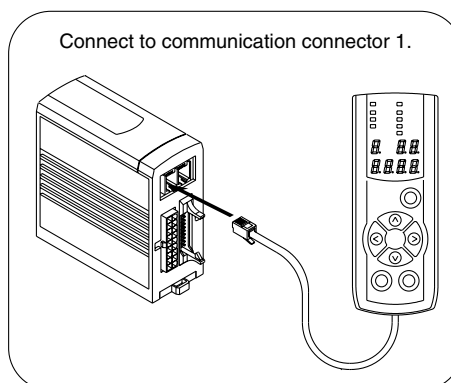
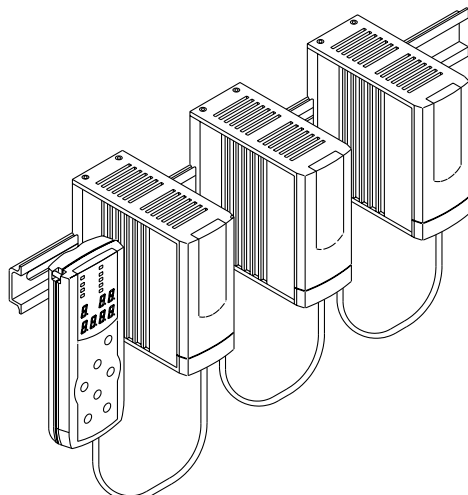
Provide cooling so that the operating temperature of the body will be within the range shown in the specifications. For that reason, each face of the body should be separated by a sufficient amount of distance from other construction or components.



## Connection Example

### Wiring to the teaching box

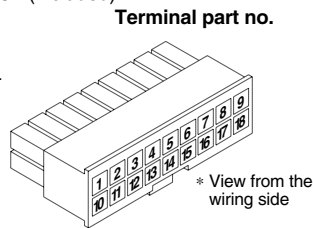
By connecting multiple drivers (maximum of 16), they can be set by one teaching box. (When the teaching box is in use, external input to the drivers becomes invalid.)



## Connection Examples

### Power connector wiring

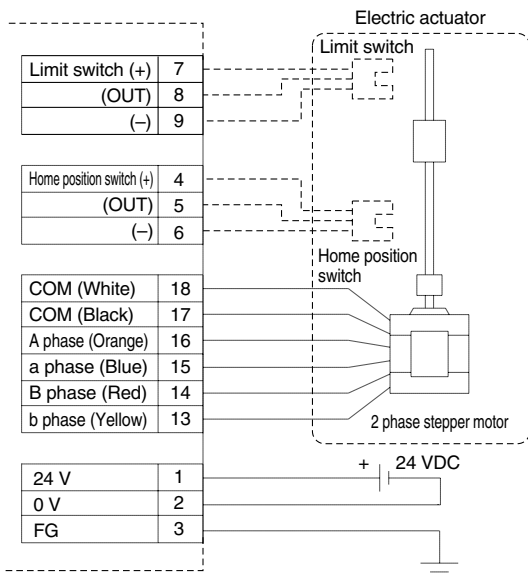
Connector: Power connector: LC6-1-C2 (included)  
 Manufacturer: Molex Japan, Co., Ltd.  
 Part no.: Receptacle 5557-18R  
 Female terminal 5556PBT



### Switches

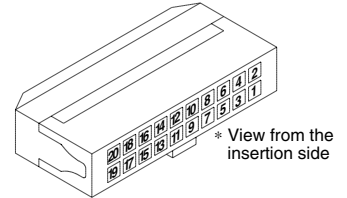
**Home position switch:** This switch indicates the home position. Connect this switch when returning to the origin point. This switch also acts as a sensor that detects overrun in the motor direction.

**Limit switch:** This sensor detects overrun in the end direction. Connect this switch as needed.

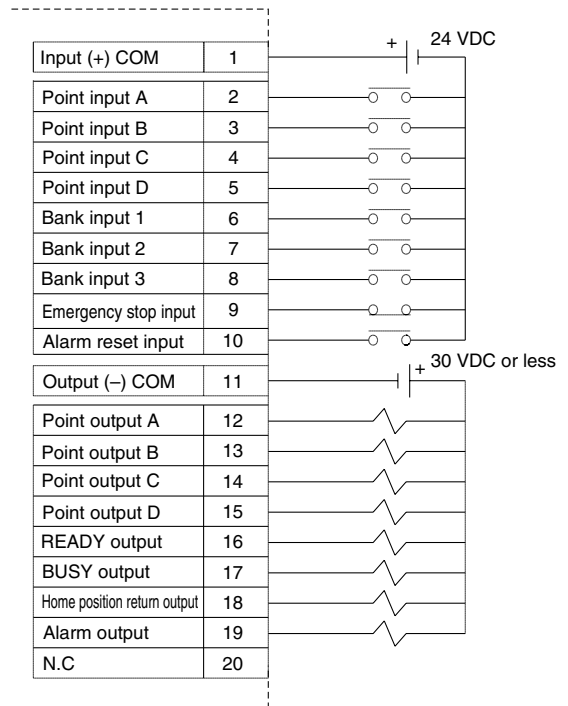


### Interface connector wiring

Connector: Interface connector LC6-1-C3 (included)  
 Manufacturer: OMRON Corporation  
 Part no.: Connector XG4M-2030-T



A ▽ mark is located on the connector number 1 side.



### Power connector input/output signal details

Connector no.	Signal description	Detail
1	24 V	Connect to power supply (24 VDC)
2	0 V	Connect to power supply (0 V)
3	FG	Connect to frame ground
4	Home position switch (+)	Connect to home position switch positive power supply (+) line
5	Home position switch (OUT)	Connect to home position switch output line
6	Home position switch (-)	Connect to home position switch 0 V power supply (-) line
7	Limit switch (+)	Connect to limit switch positive power supply(+) line
8	Limit switch (OUT)	Connect to limit switch output line
9	Limit switch (-)	Connect to limit switch 0 V power supply (-) line
10	N.C.	Do not connect.
11	N.C.	Do not connect.
12	N.C.	Do not connect.
13	b phase (Yellow)	Connect to actuator power line (Yellow)
14	B phase (Red)	Connect to actuator power line (Red)
15	a phase (Blue)	Connect to actuator power line (Blue)
16	A phase (Orange)	Connect to actuator power line (Orange)
17	COM (Black)	Connect to actuator power line (Black)
18	COM (White)	Connect to actuator power line (White)

### ⚠ Caution

Use a 3 wire NPN type for each switch.

### Interface connector input/output signal details

Connector no.	Signal description	Details
1	Input (+) COM	Input COM signal
2	Point input A	Point setting input (point A)
3	Point input B	Point setting input (point B)
4	Point input C	Point setting input (point C)
5	Point input D	Point setting input (point D)
6	Bank input 1	Bank setting input (binary, first bit)
7	Bank input 2	Bank setting input (binary, second bit)
8	Bank input 3	Bank setting input (binary, third bit)
9	Emergency stop input	Emergency stop input
10	Alarm reset input	When an alarm occurs, this signal turns off the alarm after the cause is resolved.
11	Output (-) COM	Output COM signal (GND)
12	Point output A	This signal indicates move completion for point input A.
13	Point output B	This signal indicates move completion for point input B.
14	Point output C	This signal indicates move completion for point input C.
15	Point output D	This signal indicates move completion for point input D.
16	READY output	This signal indicates that the controller is ready.
17	BUSY output	This signal indicates motor control in progress.
18	Home position return output	This signal indicates that home position return is completed.
19	Alarm output	This signal indicates occurrence of alarm.
20	N.C.	Do not connect.

### ⚠ Caution

If input is not provided as prescribed for the operation, this may cause malfunction or failure.

LJ1

LG1

LTF

LC1

LC7

LC8

LXF

LXP

LXS

LC6□

LZ□

LC3F2

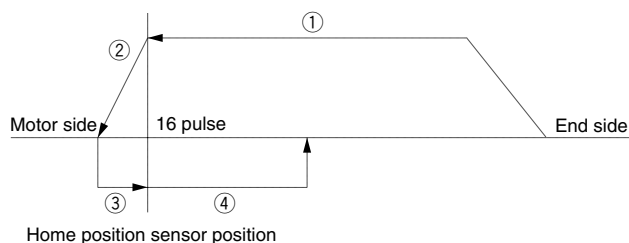
X□

D-□

E-MY

## Home Position Return

### 1 Operation



- ① Moves to the motor side at home position return speed
- ② Decelerates and stops at the home position sensor ON position
- ③ Moves to the end side at low speed
- ④ Moves and stops at 16 pulse position from the home position sensor OFF position

### 2 Operating procedures

1. Confirm that both READY output and alarm output are ON.
2. Turn OFF bank inputs 1 to 3. [Specify bank 0.]
3. When point input A is turned ON, the actuator begins to return to the home position.
4. BUSY output is turned ON during home position return.
5. BUSY output is turned OFF when the actuator reaches the home position, and home position return output turns ON.
6. Turn OFF point input A.

Note) The actuator stops if point input A is turned OFF when BUSY output is ON (home position return movement in progress).

### 3 Home position return speed

Speed is set by parameter number 0D.

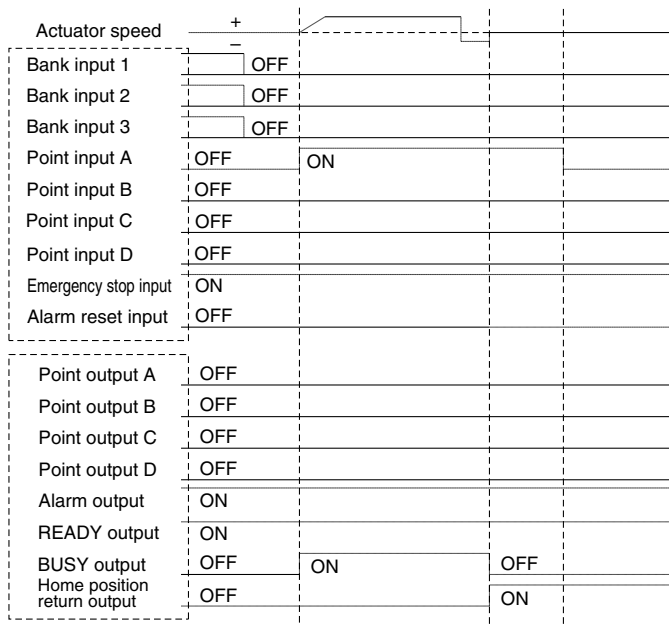
**1.**      **015**

Acceleration no.    Speed no.

### 4 Home position return signal

This signal output turns ON when the home position return movement completes. It turns OFF when an alarm occurs or when JOG movement takes place.

### 5 Time chart

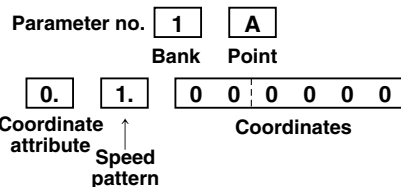


## Point Movement

With this driver, a maximum of 28 point positions can be set by combining banks and points. With the combination of bank and point inputs, the actuator can move to the position indicated by each point.

### 1 Setting detail

To set point settings, use the parameter setting and teaching functions of the dedicated teaching box.

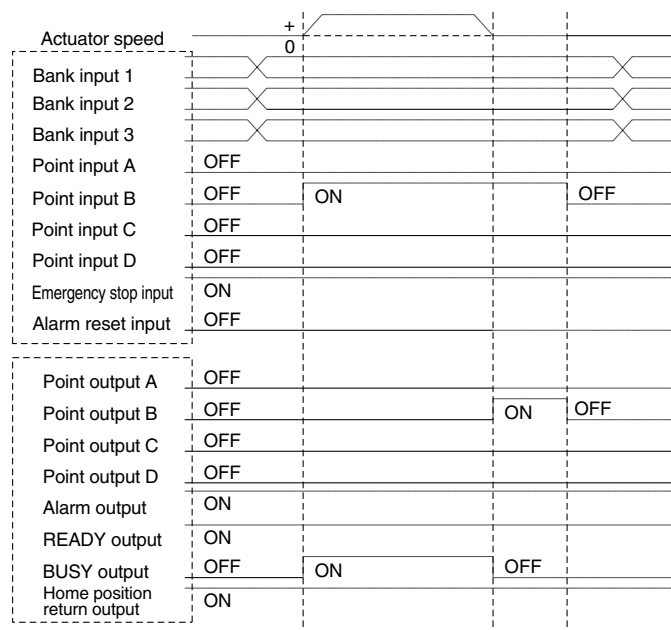


### 2 Operating procedures

1. Confirm that both READY output and alarm output are ON.
2. Set bank with bank inputs 1 to 3. [Bank 1 to 7.]
3. When points are specified with point inputs A to D, the actuator starts to move.
4. BUSY output is ON while the actuator is moving.
5. BUSY output turns OFF when the move completes and point outputs A to D turn ON. These correspond to point inputs A to D that are ON.
6. When point inputs A to D are turned OFF, point outputs A to D turn OFF.

Note) The actuator stops moving if point inputs A to D are turned OFF or two or more of point inputs A to D are turned ON while BUSY output is ON (during movement).

### 3 Time chart (when specifying point B)



# Series LC6C

# Dedicated Teaching Box/LC5-1-T1-02



## Performance/Specifications

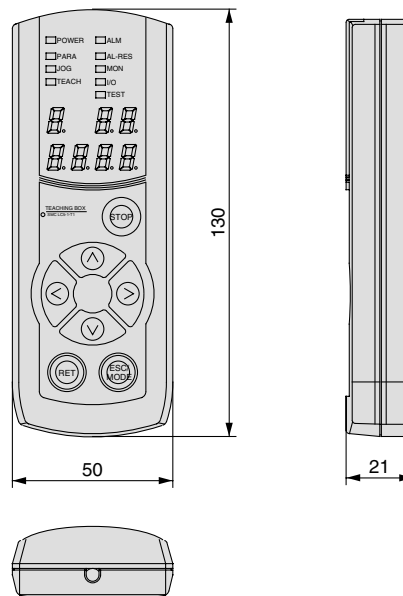
### General specifications

Part no.	LC5-1-T1-02
Power supply	Supplied by LC6C-220AD
Dimensions (mm)	130 x 50 x 21
Mass (g)	110
Body type	Resin body
Indication unit	7 LED numerical indicators, 9 LED indicator lights
Operation unit	Key switches
Cable length	2 m

### Basic performance

	Performance/Specifications
Applicable controller	LC6C-220AD
Operating temperature range	5° to 40°C
Communication method	Conforming to RS485
Functions	Parameter change, JOG operation, alarm reset, teaching, test
Protective function indication	Alarm code

## Dimensions



LJ1

LG1

LTF

LC1

LC7

LC8

LXF

LXP

LXS

LC6□

LZ□

LC3F2

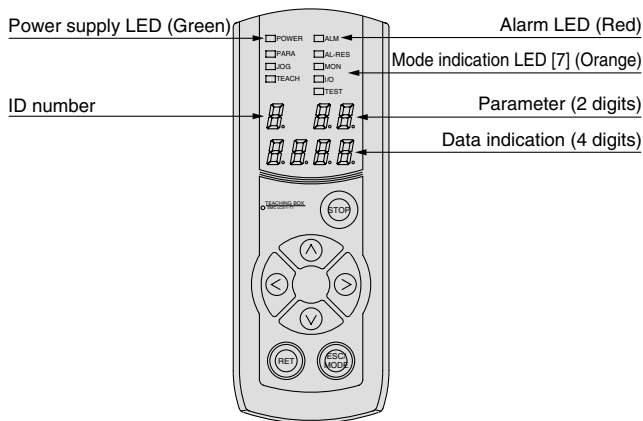
X□

D-□

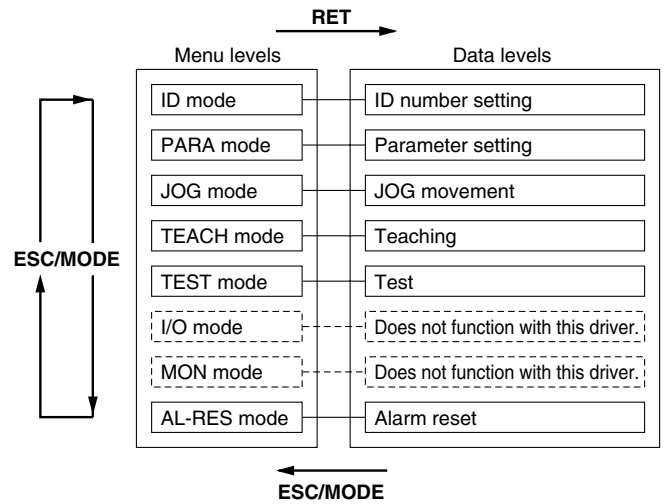
E-MY

# Series LC6C

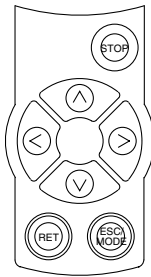
## Part Descriptions



## Operating Method



## Key Arrangement and Functions



As shown above, 6 modes are available. (I/O mode and MON mode do not function with this driver.) When the communication mode is started by the teaching box, a menu can be selected with [ESC/MODE]. Select the mode indication LED for the mode to be implemented (all mode indication LEDs turn Off in the ID mode) and press [RET] to start each mode. Refer to the instruction manual for the operation of each mode.

Mark	Key description	Function
∧	UP	Increases a numerical value.
∨	DOWN	Reduces a numerical value.
<	L	Moves a numerical value place to the left. Rotates the motor counter clockwise during JOG operation.
>	R	Moves a numerical value place to the right. Rotates the motor clockwise during JOG operation.
STOP	STOP	Becomes the emergency stop key when the actuator is moving.
ESC/MODE	ESC/MODE	Selects a mode. Completes each mode and returns to the mode level.
RET	RET	Determines the mode and records data.

### ⚠ Caution

STOP key only stops the driver that is in communication.

## Alarm Details

Alarm no.	Alarm description	Presumed cause and solution
1	Emergency stop input	Emergency stop input is turned OFF (open).
2	Temperature abnormality	The temperature inside the driver is high. Check the installation environment and operation frequency.
3	Power supply abnormality	Operating beyond the range of the specified power supply. Adjust the power supply.
4	Limit switch abnormality	Home position switch and limit switch are operating. Malfunction such as loss of synchronism may have occurred. Check the equipment.

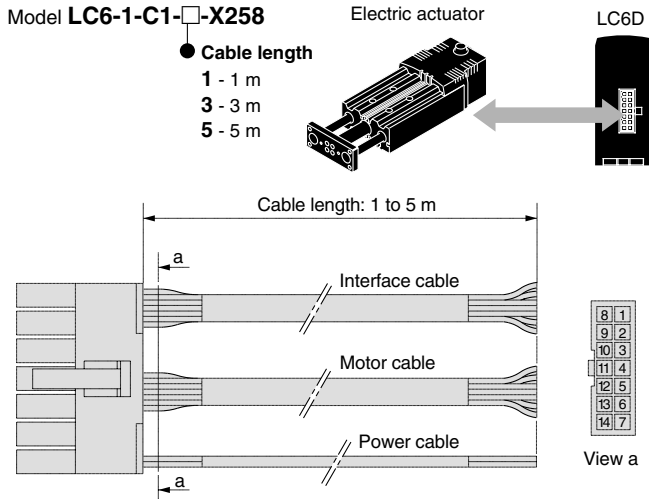
# Series LC6D/LC6C

## Options

### ⚠ Caution

- Do not repeatedly apply bending stress or tension to the cables.  
Wiring that subjects cables to repeated bending stress and tension causes line breakage.
- Make connections based on each driver's connection example.

### LC6D Connector Cable



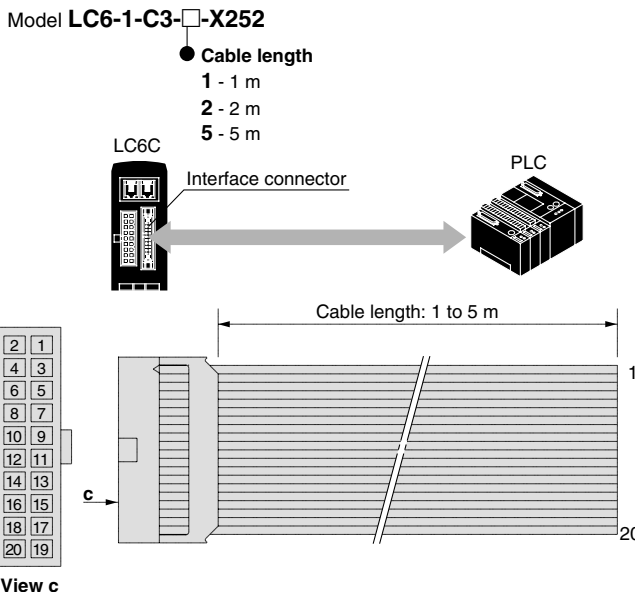
### Wiring

Pin no.	Color	Cable description	Signal description	Pin no.	Color	Cable description	Signal description
1	Yellow	Interface cable	PD+	8	Brown	Interface cable	PD-
2	Red		CCW+ (U/D+)	9	Green		CCW- (U/D-)
3	Black		CW+ (CK+)	10	White		CW- (CK-)
4	White	Motor cable	Motor B	11	Brown	Motor cable	Motor F
5	Black		Motor A	12	Yellow		Motor E
6	Black		GND	13	Green		Motor D
7	White		+24 V	14	Red		Motor C

### LC6D connector

Model **LC6-1-C1** { Receptacle 5557-14R 1 pc.  
Female terminal 5556PBT 14 pcs.  
Molex Japan, Co., Ltd. }

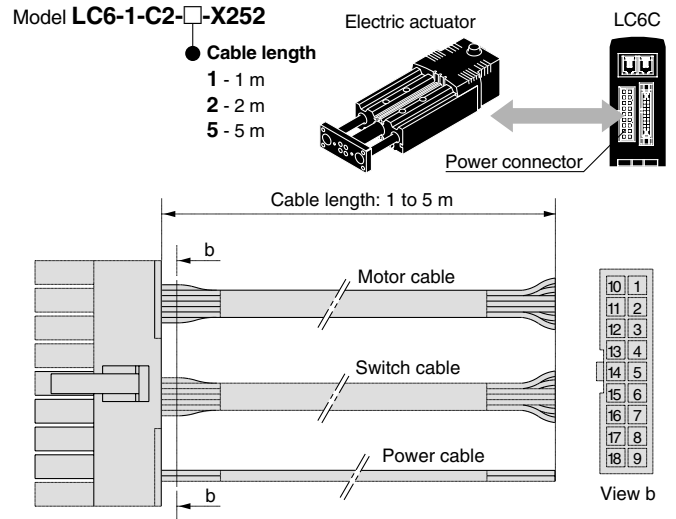
### LC6C Interface Connector Cable



### LC6C interface connector

Model **LC6-1-C3** { Connector XG4M-2030-T Omron }

### LC6C Power Connector Cable



### Wiring

Pin no.	Color	Cable description	Signal description
1	White	Power cable	+24 V
2	Black		0 V
3	Red		FG
4	White	Switch cable	Home position switch (+)
5	Black		Home position switch (OUT)
6	Brown		Home position switch (-)
7	Yellow		Limit switch (+)
8	Green	Motor cable	Limit switch (OUT)
9	Red		Limit switch (-)
13	Red		Motor wire (Yellow)
14	Green		Motor wire (Red)
15	Yellow		Motor wire (Blue)
16	Brown		Motor wire (Orange)
17	Black		Motor wire (Black)
18	White		Motor wire (White)

### LC6C power connector

Model **LC6-1-C2** { Receptacle 5557-18R 1 pc.  
Female terminal 5556PBT 1 pc.  
Molex Japan, Co., Ltd. }

### LC6C Driver Connection Cable

