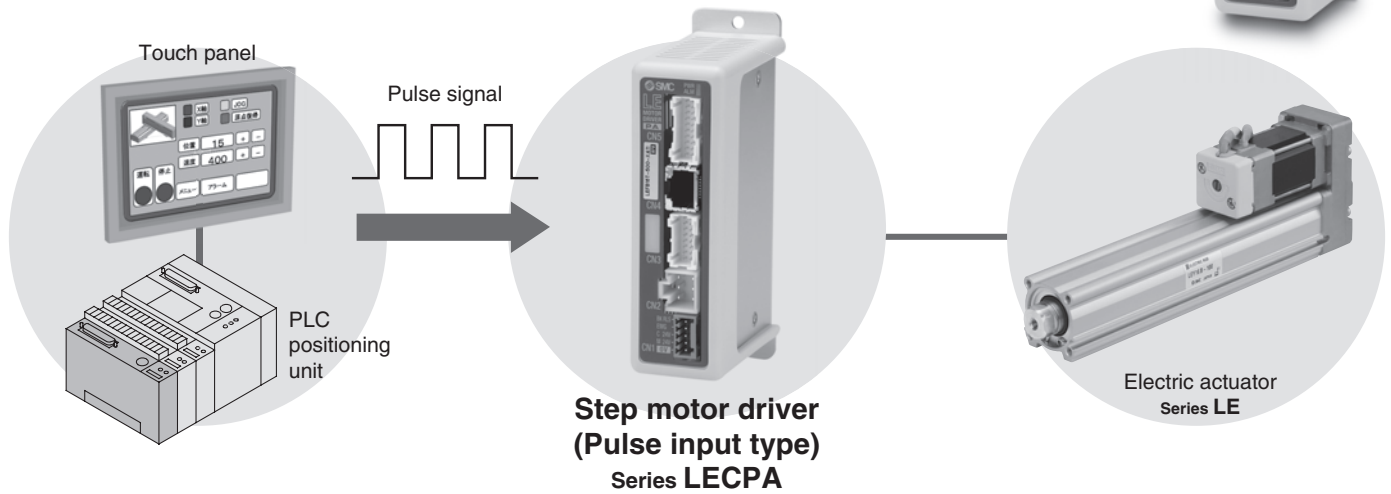


Step Motor Driver (Pulse Input Type) For Step Motor Series *LECPA*

RoHS

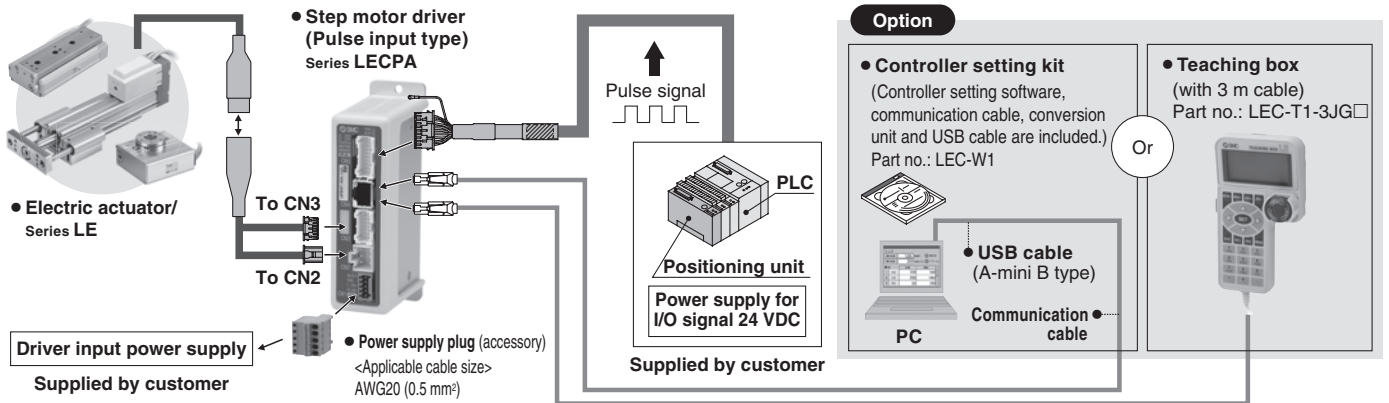


- A driver that uses pulse signals to allow positioning at any position. The actuator can be controlled from the customers' positioning unit.


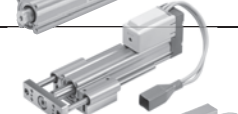






- **Return-to-origin command signal**
 Enables automatic return-to-origin action.

System Construction



Note) Do not use the power supply of "inrush current prevention type" for the driver power supply.
 The power consumption changes depending on the actuator model. Refer to the specifications of actuator for more details.

Compatible actuators	Catalog no.
Electric Actuator/ Rod Type Series LEY 	ES100-83
Electric Actuator/ Guide Rod Type Series LEYG 	
Electric Actuator/ Slider Type Series LEF 	ES100-87

Compatible actuators	Catalog no.
Electric Slide Table Series LES 	ES100-78
Electric Rotary Table Series LER 	ES100-94
Electric Actuator/ Miniature Type Series LEPY/LEPS 	ES100-92

How to Order

Driver with actuator

LEFS16B-100 - S1 AN 1

• Actuator type

Refer to "How to Order" in the actuator catalog.

For compatible actuators, refer to the table below. Example: LEFS16B-100B-S1AN1

Compatible actuators	Catalog no.
Electric Actuator/Rod Type Series LEY*	ES100-83
Electric Actuator/Guide Rod Type Series LEYG*	ES100-83
Electric Actuator/Slider Type Series LEF	ES100-87
Electric Slide Table Series LES*	ES100-78
Electric Rotary Table Series LER*	ES100-94
Electric Actuator/Miniature Type Series LEPY/LEPS*	ES100-92

* Pushing operation is not possible when using this driver.

Actuator cable

• Driver mounting

Nil	Screw mounting
D	DIN rail mounting

• I/O cable length [m]

Nil	None
1	1.5
3	3*
5	5*

* Pulse input usable only with differential. Only 1.5 m cables usable with open collector.

• Driver type

AN	Pulse input type (NPN)
AP	Pulse input type (PNP)

Driver

LECP AN 1 - LEFS16B-100

• Driver type

AN	Pulse input type (NPN)
AP	Pulse input type (PNP)

• I/O cable length [m]

Nil	None
1	1.5
3	3*
5	5*

* Pulse input usable only with differential. Only 1.5 m cables usable with open collector.

• Driver mounting

Nil	Screw mounting
D	DIN rail mounting

• Actuator type

(Except cable specifications and actuator options)
Example: Enter "LEFS16B-100" for the LEFS16B-100B-R1AN1D.

Specifications

Item	LECPA
Compatible motor	Step motor (Servo/24 VDC)
Power supply ^{Note 1)}	Power voltage: 24 VDC ±10% Maximum current consumption: 3 A (Peak 5 A) ^{Note 2)} [Including motor drive power, control power, stop, lock release]
Parallel input	4 inputs (Except photo-coupler isolation, pulse input terminal, COM terminal)
Parallel output	8 outputs (Photo-coupler isolation)
Pulse signal input	Maximum frequency: 60 kpps (Open collector), 200 kpps (Differential) Input method: 1 pulse mode (Pulse input in direction), 2 pulse mode (Pulse input in differing directions)
Compatible encoder	Incremental A/B phase (Encoder resolution: 800 pulse/rotation)
Serial communication	RS485 (Modbus protocol compliant)
Memory	EEPROM
LED indicator	LED (Green/Red) one of each
Lock control	Forced-lock release terminal ^{Note 3)}
Cable length [m]	I/O cable: 1.5 or less (Open collector), 5 or less (Differential) Actuator cable: 20 or less
Cooling system	Natural air cooling
Operating temperature range [°C]	0 to 40 (No freezing)
Operating humidity range [%RH]	90 or less (No condensation)
Storage temperature range [°C]	-10 to 60 (No freezing)
Storage humidity range [%RH]	90 or less (No condensation)
Insulation resistance [MΩ]	Between the housing (radiation fin) and FG terminal 50 (500 VDC)
Weight [g]	120 (Screw mounting) 140 (DIN rail mounting)

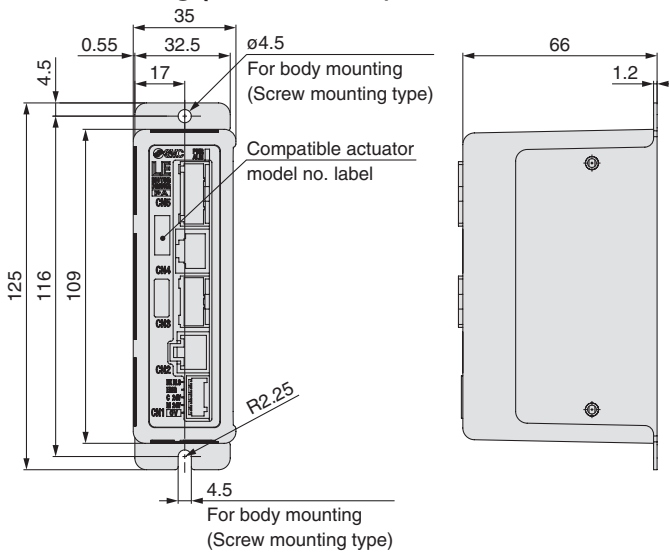
Note 1) Do not use the power supply of "inrush current prevention type" for the driver power supply.

Note 2) The power consumption changes depending on the actuator model. Refer to the specifications of actuator for more details.

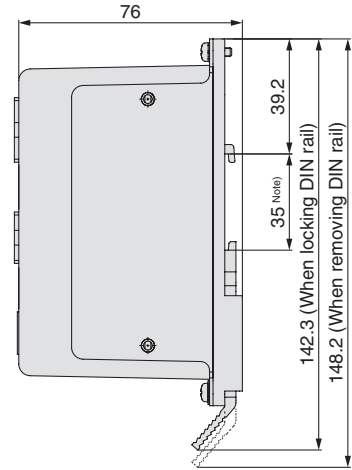
Note 3) Applicable to non-magnetizing lock.

Dimensions

a) Screw mounting (LECPA□□-□)



b) DIN rail mounting (LECPA□□D-□)



Note) DIN rail is not included. The DIN rail should be prepared by the customer or ordered separately [Part no.: AXT100-DR-□ (refer to the catalog)].

Option

[Actuator cable]

LE-CP-1-B-S

Cable length

1	1.5 m
3	3 m
5	5 m
8	8 m*
A	10 m*
B	15 m*
C	20 m*

* Produced upon receipt of order (Robotic cable only)

Cable type

Nil	Robotic cable
S	Standard cable

Motor option

Nil	Without lock
B	With lock

[I/O cable]

LEC-C L5-1

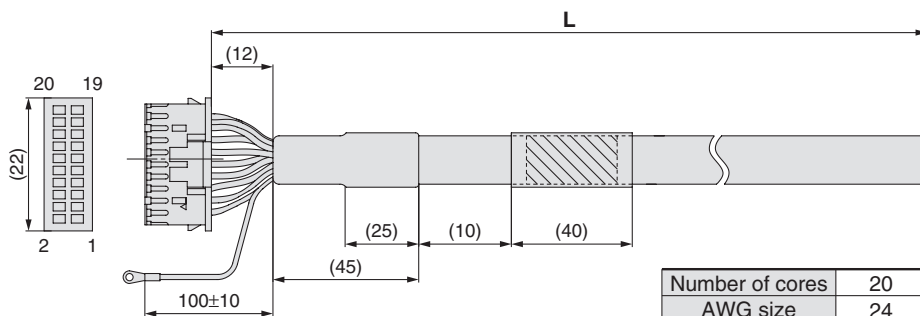
I/O cable type

L5	For Series LECPA
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I/O cable length (L)

1	1.5 m
3	3 m*
5	5 m*

* Pulse input usable only with differential. Only 1.5 m cables usable with open collector.



Number of cores	20
AWG size	24

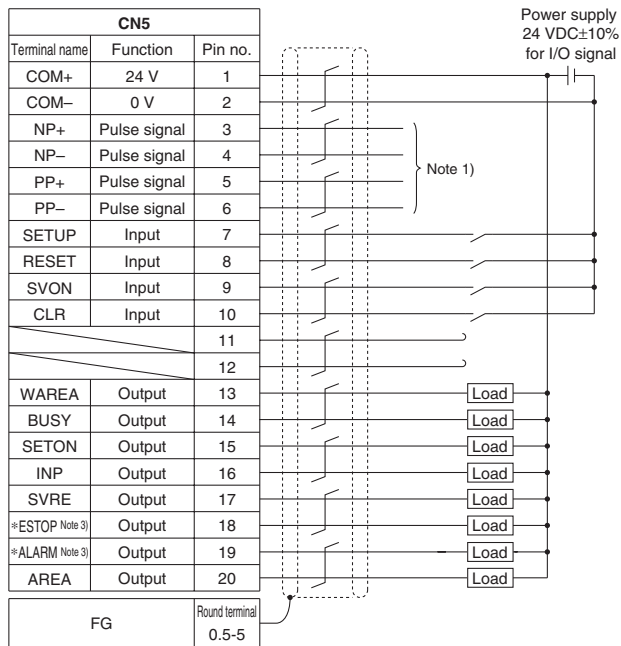
Pin no.	Insulation color	Dot mark	Dot color
1	Light brown	■	Black
2	Light brown	■	Red
3	Yellow	■	Black
4	Yellow	■	Red
5	Light green	■	Black
6	Light green	■	Red
7	Gray	■	Black
8	Gray	■	Red
9	White	■	Black
10	White	■	Red
11	Light brown	■ ■	Black
12	Light brown	■ ■	Red
13	Yellow	■ ■	Black
14	Yellow	■ ■	Red
15	Light green	■ ■	Black
16	Light green	■ ■	Red
17	Gray	■ ■	Black
18	Gray	■ ■	Red
19	White	■ ■	Black
20	White	■ ■	Red

Round terminal 0.5-5	Green
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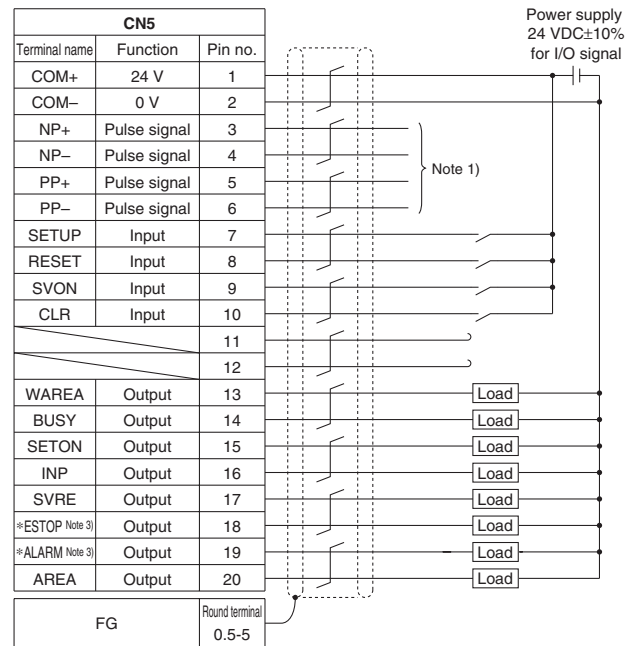
Series LECPA

Wiring Diagram

LECPAN□□-□(NPN)



LECPAP□□-□(PNP)



- Note 1) For pulse signal wiring method, refer to "Detailed Pulse Signal Wiring".
 Note 2) Do not form connection to pins indicated with .
 Note 3) Signal of negative-logic circuit ON (N.C.)

Input Signal

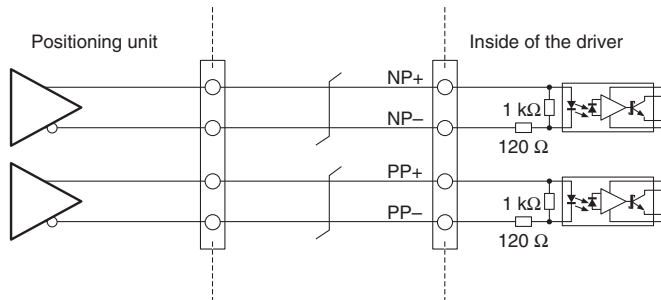
Name	Details
COM+	Connects the power supply 24 V for input/output signal
COM-	Connects the power supply 0 V for input/output signal
SETUP	Instruction to return to the original position
RESET	Alarm reset
SVON	Servo ON instruction
CLR	Deviation reset

Output Signal

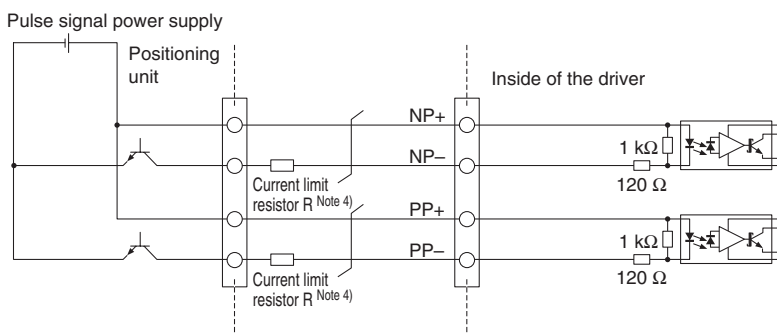
Name	Details
BUSY	Outputs when the actuator is operating
SETON	Outputs when returning to the original position
INP	Outputs when target position is reached
SVRE	Outputs when servo is on
*ESTOP Note 3)	Not output when EMG stop is instructed
*ALARM Note 3)	Not output when alarm is generated
AREA	Outputs within the area output setting range
WAREA	Outputs within W-AREA output setting range

Detailed Pulse Signal Wiring

- Pulse signal output of positioning unit is differential output



- Pulse signal output of positioning unit is open collector output



Note 4) Connect the current limit resistor R in series to correspond to the pulse signal voltage.

Pulse signal power supply voltage	Current limit resistor R specification
24 VDC±10%	3.3 kΩ±5% (0.5 W or more)
5 VDC±5%	390 Ω±5% (0.1 W or more)