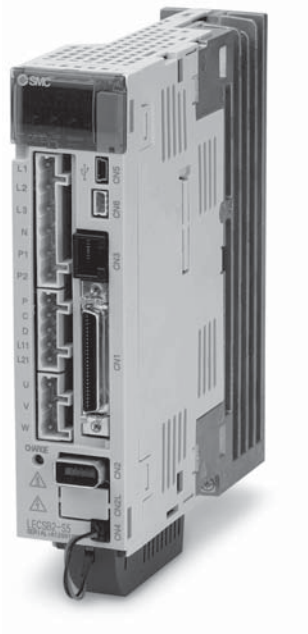
AC Servo Motor Driver
Series LECS□

Pulse Input Type/ Positioning Type ····· Page 604

Incremental Type/ *Series LECSA*

Pulse Input Type ····· Page 604

Absolute Type/ *Series LECSB*



CC-Link Direct Input Type ···· Page 604

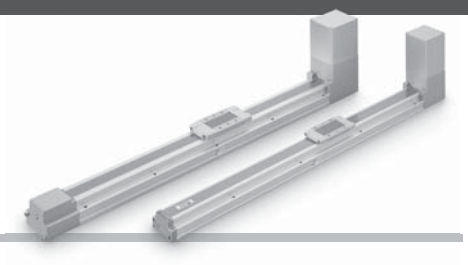
Absolute Type/ *Series LECSC*

CC-Link

SSCNET Ⅲ Type ····· Page 604

Absolute Type/ *Series LECSS*

SSCNETIII
SERVO SYSTEM CONTROLLER NETWORK



Series LECS□ list

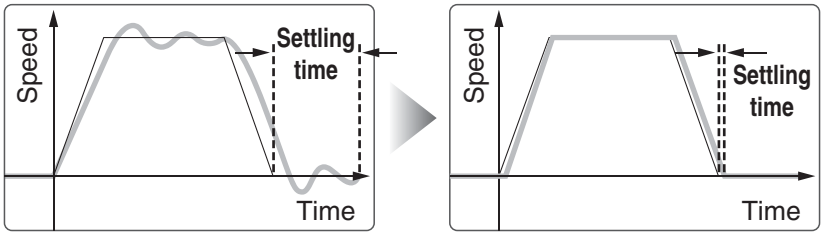
	Series	Compatible motor (100/200 VAC)			Control method			Application/ Function	Compatible option
		100 W	200 W	400 W	Note 1) Positioning	Pulse	Network direct input	Note 2) Synchronous	Setup software LEC-MRC2
Incremental Type	**LECSA** (Pulse input type/ Positioning type) 	●	●	●	Up to 7 points ○	○			●
Absolute Type	**LECSB** (Pulse input type) 	●	●	●		○			●
	CC-Link **LECSC** (CC-Link direct input type) 	●	●	●	Up to 255 points ○		CC-Link Ver. 1.10 ○		●
	SSCNET III SERVO SYSTEM CONTROLLER NETWORK **LECSS** (SSCNET Ⅲ type) Compatible with Mitsubishi Electric's servo system controller network 	●	●	●			SSCNET Ⅲ ○	○	●

Note 1) For positioning type, setting needs to be changed to use with maximum set values.
Setup software (MR Configurator2™) LEC-MRC2 is required.
Note 2) Available when the Mitsubishi motion controller is used for the master equipment.

Servo adjustment using auto gain tuning

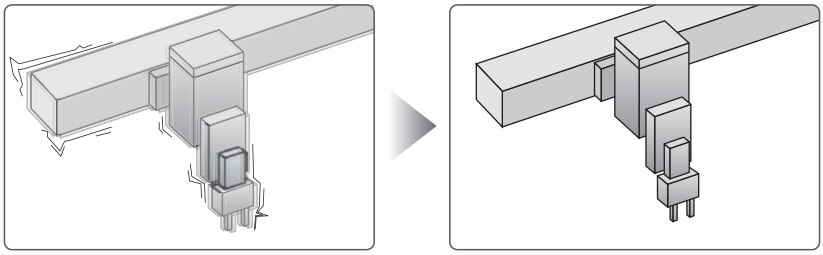
Auto tuning function

- Control the difference between command value and actual action



Advanced vibration suppression control function

- Automatically suppress low frequency machine vibrations (up to 100 Hz)



With display setting function

One-touch adjustment button

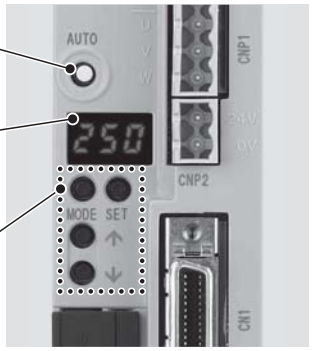
One-touch servo adjustment

Display

Display the monitor, parameter and alarm.

Settings

Set parameters and monitor display, etc. with push buttons.



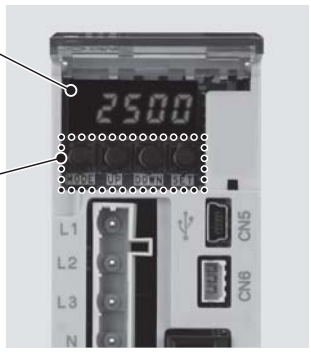
LECSA

Display

Display the monitor, parameter and alarm.

Settings

Set parameters and monitor display, etc. with push buttons.



(With the front cover opened)

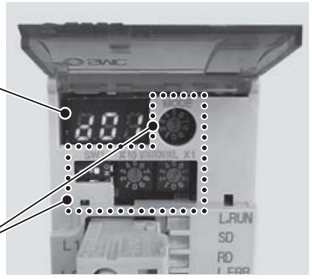
LECSB

Display

Display the communication status with the driver, the alarm and the point table No.

Settings

Control Baud rate, station number and the occupied station count.



(With the front cover opened)

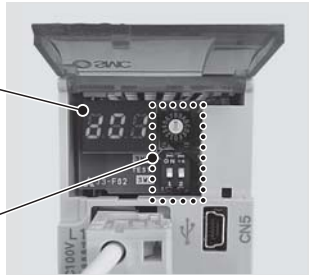
LECSC

Display

Display the communication status with the driver and the alarm.

Settings

Switches for selecting axis and switching to the test operation



(With the front cover opened)

LECSS

System Construction

Incremental encoder compatible *Series* LECSA
(Pulse input type/Positioning type)

Provided by customer

Power supply
Single phase 100 to 120 VAC (50/60 Hz)
200 to 230 VAC (50/60 Hz)

◎Option
Regeneration option Page 615
Part no.: **LEC-MR-RB-□**

Main circuit power supply connector Page 608
(Accessory)

Driver

Provided by customer
Control circuit power supply
24 VDC

◎Option
Setup software Page 616
(MR Configurator2™)
Part no.: **LEC-MRC2□**
PC

Control circuit power supply connector Page 608
(Accessory)

USB cable Page 614
Part no.: **LEC-MR-J3USB**

Motor cable Page 614

Standard cable	Robotic cable
LE-CSM-S□□	LE-CSM-R□□

Lock cable Page 614

Standard cable	Robotic cable
LE-CSB-S□□	LE-CSB-R□□

Electric actuator
Slider type
Ball screw drive
Series **LEFS**

Belt drive
Series **LEFB**

◎Option Page 614
I/O connector
Part no.: **LE-CSNA**

Provided by customer
PLC (Positioning unit)
Power supply for I/O signal 24 VDC

Encoder cable Page 614

Standard cable	Robotic cable
LE-CSE-S□□	LE-CSE-R□□

Absolute encoder compatible *Series* LECSB
(Pulse input type)

Provided by customer

Power supply
Single phase 100 to 120 VAC (50/60 Hz)
200 to 230 VAC (50/60 Hz)
Three phase 200 to 230 VAC (50/60 Hz)

◎Option
Regeneration option Page 615
Part no.: **LEC-MR-RB-□**

Main circuit power supply connector Page 609
(Accessory)

Driver

USB cable Page 616
Part no.: **LEC-MR-J3USB**

◎Option
Setup software Page 616
(MR Configurator2™)
Part no.: **LEC-MRC2□**
PC

Analog monitor output
RS-422 communication

Motor cable Page 614

Standard cable	Robotic cable
LE-CSM-S□□	LE-CSM-R□□

Lock cable Page 614

Standard cable	Robotic cable
LE-CSB-S□□	LE-CSB-R□□

Control circuit power supply connector Page 609
(Accessory)

Electric actuator
Slider type
Ball screw drive
Series **LEFS**

Belt drive
Series **LEFB**

Motor Page 609
connector
(Accessory)

◎Option Page 614
I/O connector
Part no.: **LE-CSNB**

Provided by customer
PLC (Positioning unit)
Power supply for I/O signal 24 VDC

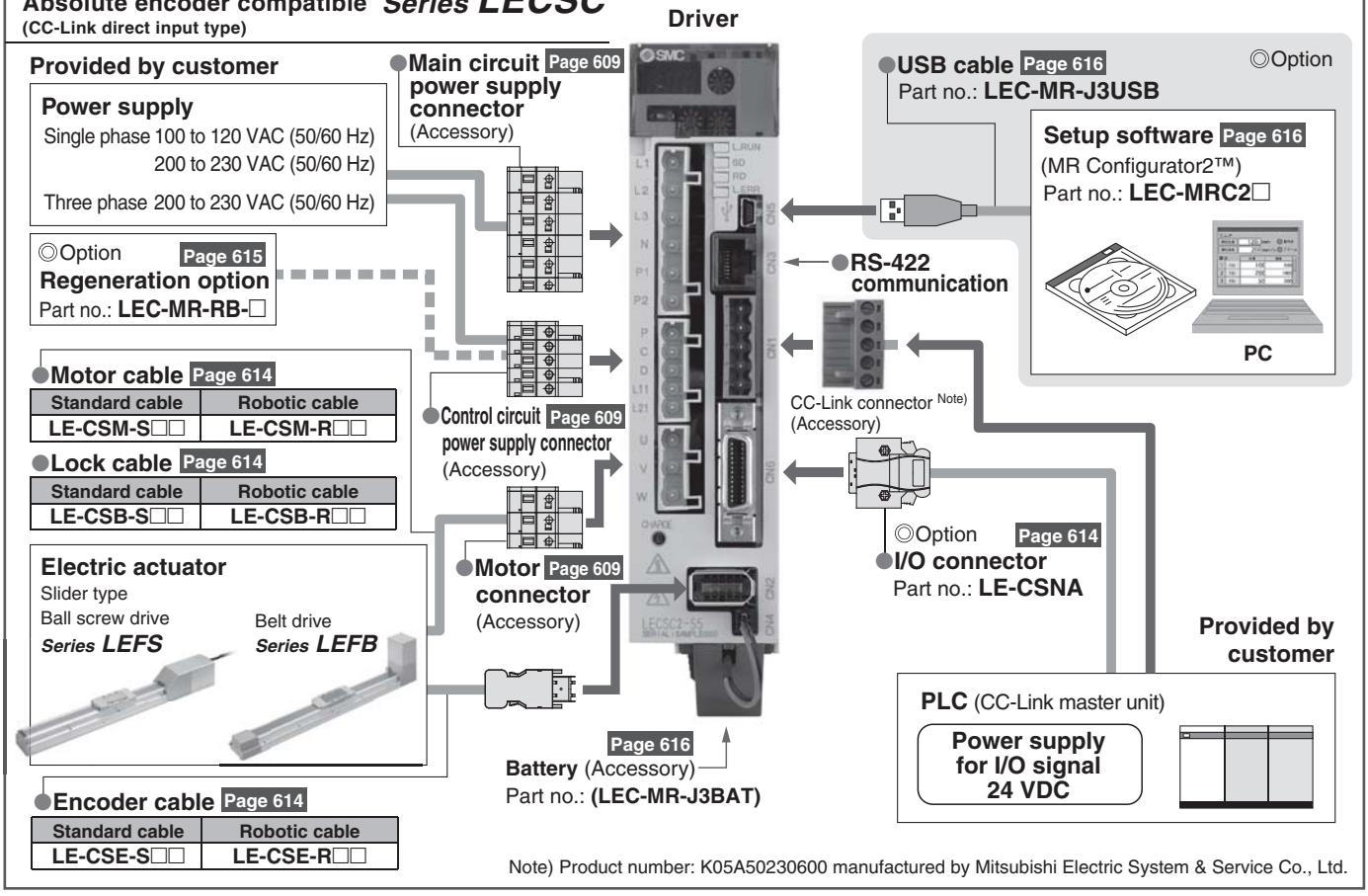
Encoder cable Page 614

Standard cable	Robotic cable
LE-CSE-S□□	LE-CSE-R□□

Page 616
Battery (Accessory)
Part no.: **(LEC-MR-J3BAT)**

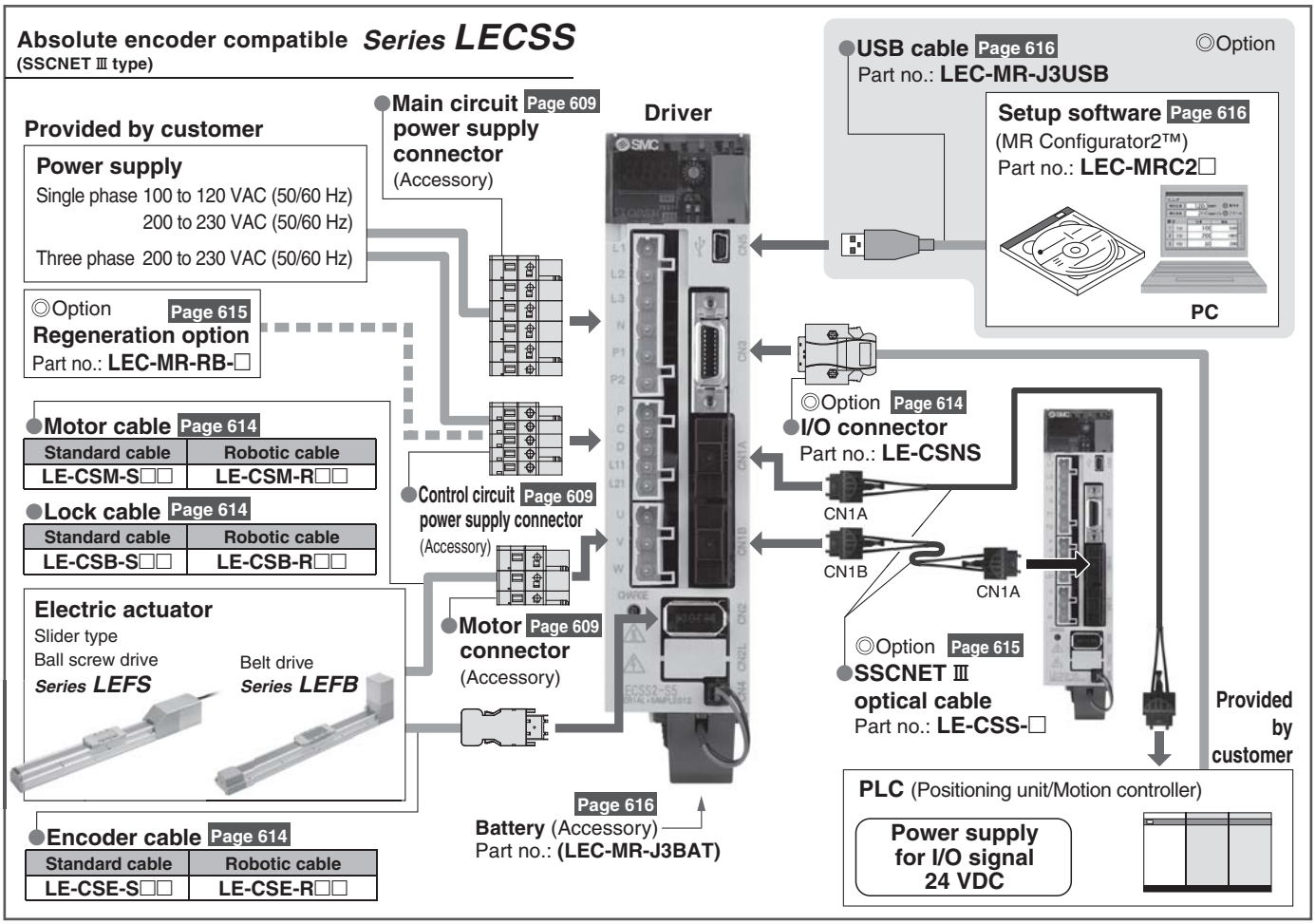
System Construction

Absolute encoder compatible *Series* LECSC
(CC-Link direct input type)



Note) Product number: K05A50230600 manufactured by Mitsubishi Electric System & Service Co., Ltd.

Absolute encoder compatible *Series* LECSS
(SSCNET Ⅲ type)



AC Servo Motor Driver

Series ***LECS□***

Power supply voltage	**100 to 120 VAC 200 to 230 VAC**
Motor capacity	**100/200/400 W**

Incremental Type

Series ***LECSA*** (Pulse input type/ Positioning type)

- **Up to 7 positioning points by point table**
- **Input type:** Pulse input
- **Control encoder:** Incremental 17-bit encoder (Resolution: 131072 pulse/rev)
- **Parallel input:** 6 inputs
  output: 4 outputs

Absolute Type

Series ***LECSB*** (Pulse input type)

- **Input type:** Pulse input
- **Control encoder:** Absolute 18-bit encoder (Resolution: 262144 pulse/rev)
- **Parallel input:** 10 inputs
  output: 6 outputs

Series ***LECSC*** (CC-Link direct input type)

CC-Link

- **Position data/speed data setting and operation start/stop**
- **Positioning by up to 255 point tables (when 2 stations occupied)**
- **Up to 32 drivers connectable (when 2 stations occupied) with CC-Link communication**
- **Applicable Fieldbus protocol:** CC-Link (Ver. 1.10, Max. communication speed: 10 Mbps)
- **Control encoder:** Absolute 18-bit encoder (Resolution: 262144 pulse/rev)

Series ***LECSS*** (SSCNET Ⅲ type)

SSCNET Ⅲ
SERVO SYSTEM CONTROLLER NETWORK

- **Compatible with Mitsubishi Electric's servo system controller network**
- **Reduced wiring and SSCNET Ⅲ optical cable for one-touch connection**
- **SSCNET Ⅲ optical cable provides enhanced noise resistance**
- **Up to 16 drivers connectable with SSCNET Ⅲ communication**
- **Applicable Fieldbus protocol:** SSCNET Ⅲ
  (High-speed optical communication, Max. one-way communication speed: 50 Mbps)
- **Control encoder:** Absolute 18-bit encoder (Resolution: 262144 pulse/rev)

Compatible actuators

LEF LEJ LEY

AC Servo Motor Driver
Incremental Type
Series LECSA (Pulse Input Type/Positioning Type)
Absolute Type
Series LECSB (Pulse Input Type)/*LECSC* (CC-Link Direct Input Type)/*LECSS* (SSCNET Ⅲ Type)

CE RoHS

How to Order

Driver **LECS A 1 – S1**

Driver type

A	Pulse input type/Positioning type (For incremental encoder)
B	Pulse input type (For absolute encoder)
C	CC-Link direct input type (For absolute encoder)
S	SSCNET Ⅲ type (For absolute encoder)

Power supply voltage

1	100 to 120 VAC, 50/60 Hz
2	200 to 230 VAC, 50/60 Hz

Compatible motor type

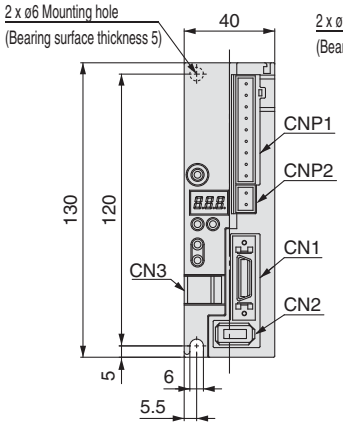
Symbol	Type	Capacity	Encoder
S1	AC servo motor (S2)	100 W	Incremental
S3	AC servo motor (S3)	200 W	
S4	AC servo motor (S4)*	400 W	
S5	AC servo motor (S6)	100 W	Absolute
S7	AC servo motor (S7)	200 W	
S8	AC servo motor (S8)*	400 W	

* Only available for power supply voltage "200 to 230 VAC".

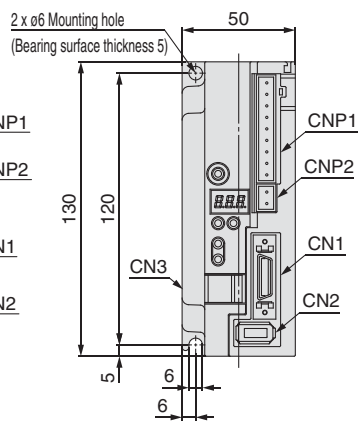
Dimensions

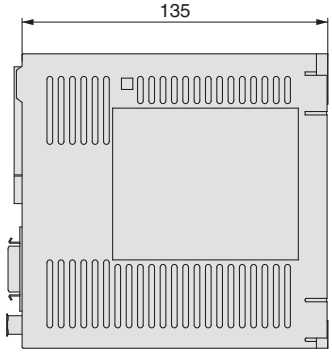
LECSA□

For LECSA□-S1,S3



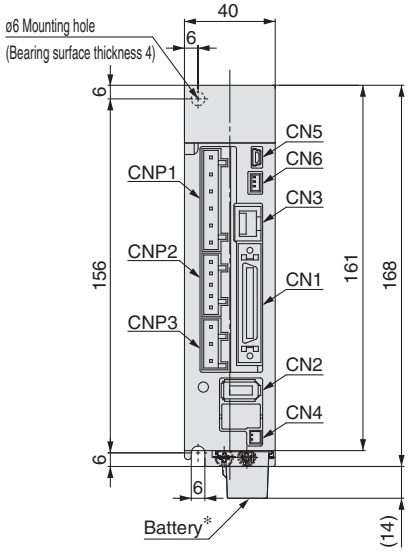
For LECSA□-S4

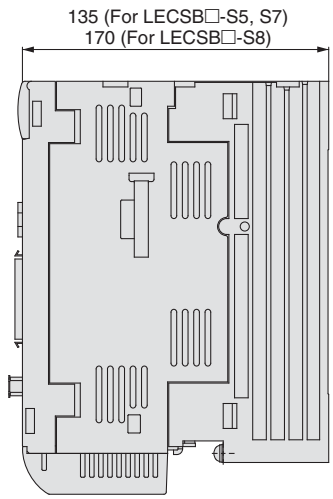




Connector name	Description
CN1	I/O signal connector
CN2	Encoder connector
CN3	USB communication connector
CNP1	Main circuit power supply connector
CNP2	Control circuit power supply connector

LECSB□



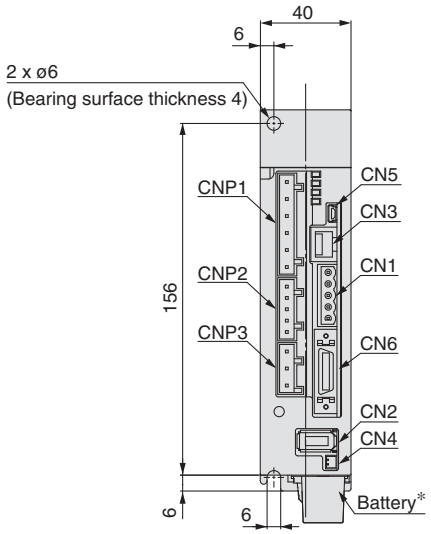


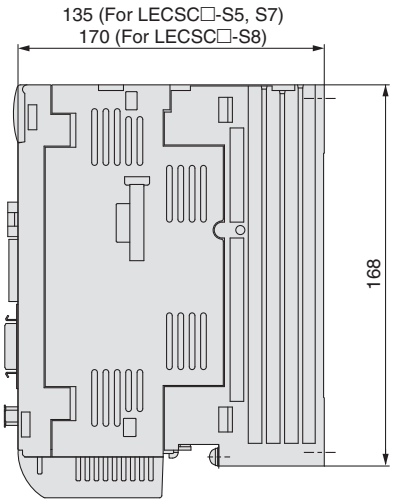
Connector name	Description
CN1	I/O signal connector
CN2	Encoder connector
CN3	RS-422 communication connector
CN4	Battery connector
CN5	USB communication connector
CN6	Analog monitor connector
CNP1	Main circuit power supply connector
CNP2	Control circuit power supply connector
CNP3	Servo motor power connector

* Battery included.

Dimensions

LECSC□

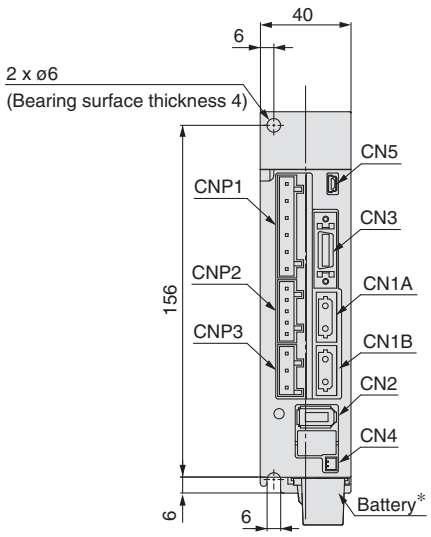


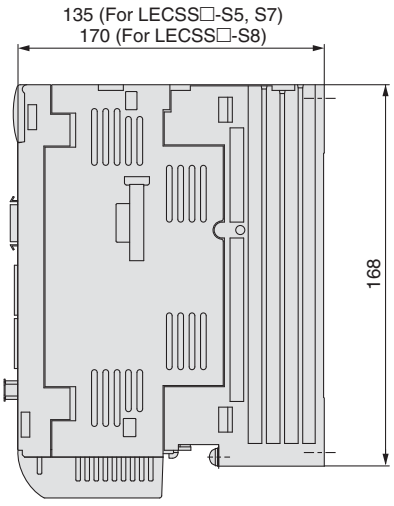


Connector name	Description
CN1	CC-Link connector
CN2	Encoder connector
CN3	RS-422 communication connector
CN4	Battery connector
CN5	USB communication connector
CN6	I/O signal connector
CNP1	Main circuit power supply connector
CNP2	Control circuit power supply connector
CNP3	Servo motor power connector

∗ Battery included.

LECSS□





Connector name	Description
CN1A	Front axis connector for SSCNET Ⅲ optical cable
CN1B	Rear axis connector for SSCNET Ⅲ optical cable
CN2	Encoder connector
CN3	I/O signal connector
CN4	Battery connector
CN5	USB communication connector
CNP1	Main circuit power supply connector
CNP2	Control circuit power supply connector
CNP3	Servo motor power connector

∗ Battery included.

Specifications

Series LECSA

Model		LECSA1-S1	LECSA1-S3	LECSA2-S1	LECSA2-S3	LECSA2-S4
Compatible motor capacity [W]		100	200	100	200	400
Compatible encoder		Incremental 17-bit encoder (Resolution: 131072 p/rev)				
Main power supply	**Power voltage [V]**	Single phase 100 to 120 VAC (50/60 Hz)		Single phase 200 to 230 VAC (50/60 Hz)		
	Allowable voltage fluctuation [V]	Single phase 85 to 132 VAC		Single phase 170 to 253 VAC		
	Rated current [A]	3.0	5.0	1.5	2.4	4.5
Control power supply	**Control power supply voltage [V]**	24 VDC				
	Allowable voltage fluctuation [V]	21.6 to 26.4 VDC				
	Rated current [A]	0.5				
Parallel input		6 inputs				
Parallel output		4 outputs				
Max. input pulse frequency [pps]		1 M (for differential receiver), 200 k (for open collector)				
Function	**In-position range setting [pulse]**	0 to ±65535 (Command pulse unit)				
	Error excessive	±3 rotations				
	Torque limit	Parameter setting				
	Communication	USB communication				
Operating temperature range [°C]		0 to 55 (No freezing)				
Operating humidity range [%RH]		90 or less (No condensation)				
Storage temperature range [°C]		–20 to 65 (No freezing)				
Storage humidity range [%RH]		90 or less (No condensation)				
Insulation resistance [MΩ]		Between the housing and SG: 10 (500 VDC)				
Weight [g]		600				700

Series LECSB

Model		LECSB1-S5	LECSB1-S7	LECSB2-S5	LECSB2-S7	LECSB2-S8
Compatible motor capacity [W]		100	200	100	200	400
Compatible encoder		Absolute 18-bit encoder (Resolution: 262144 p/rev)				
Main power supply	**Power voltage [V]**	Single phase 100 to 120 VAC (50/60 Hz)		Three phase 200 to 230 VAC (50/60 Hz) Single phase 200 to 230 VAC (50/60 Hz)		
	Allowable voltage fluctuation [V]	Single phase 85 to 132 VAC		Three phase 170 to 253 VAC Single phase 170 to 253 VAC		
	Rated current [A]	3.0	5.0	0.9	1.5	2.6
Control power supply	**Control power supply voltage [V]**	Single phase 100 to 120 VAC (50/60 Hz)		Single phase 200 to 230 VAC (50/60 Hz)		
	Allowable voltage fluctuation [V]	Single phase 85 to 132 VAC		Single phase 170 to 253 VAC		
	Rated current [A]	0.4		0.2		
Parallel input		10 inputs				
Parallel output		6 outputs				
Max. input pulse frequency [pps]		1 M (for differential receiver), 200 k (for open collector)				
Function	**In-position range setting [pulse]**	0 to ±10000 (Command pulse unit)				
	Error excessive	±3 rotations				
	Torque limit	Parameter setting or external analog input setting (0 to 10 VDC)				
	Communication	USB communication, RS422 communication*1				
Operating temperature range [°C]		0 to 55 (No freezing)				
Operating humidity range [%RH]		90 or less (No condensation)				
Storage temperature range [°C]		–20 to 65 (No freezing)				
Storage humidity range [%RH]		90 or less (No condensation)				
Insulation resistance [MΩ]		Between the housing and SG: 10 (500 VDC)				
Weight [g]		800				1000

*1 USB communication and RS422 communication cannot be performed at the same time.

Specifications

Series LECSC

Model			LECSC1-S5	LECSC1-S7	LECSC2-S5	LECSC2-S7	LECSC2-S8
Compatible motor capacity [W]			100	200	100	200	400
Compatible encoder			Absolute 18-bit encoder (Resolution: 262144 p/rev)				
Main power supply	Power voltage [V]		Single phase 100 to 120 VAC (50/60 Hz)		Three phase 200 to 230 VAC (50/60 Hz) Single phase 200 to 230 VAC (50/60 Hz)		
	Allowable voltage fluctuation [V]		Single phase 85 to 132 VAC		Three phase 170 to 253 VAC Single phase 170 to 253 VAC		
	Rated current [A]		3.0	5.0	0.9	1.5	2.6
Control power supply	Control power supply voltage [V]		Single phase 100 to 120 VAC (50/60 Hz)		Single phase 200 to 230 VAC (50/60 Hz)		
	Allowable voltage fluctuation [V]		Single phase 85 to 132 VAC		Single phase 170 to 253 VAC		
	Rated current [A]		0.4		0.2		
Communication specifications	Applicable Fieldbus protocol (Version)		CC-Link communication (Ver. 1.10)				
	Connection cable		CC-Link Ver. 1.10 compliant cable (Shielded 3-core twisted pair cable)*1				
	Remote station number		1 to 64				
	Cable length	Communication speed [bps]	16 k	625 k	2.5 M	5 M	10 M
		Maximum overall cable length [m]	1200	900	400	160	100
		Cable length between stations [m]	0.2 or more				
	I/O occupation area (Inputs/Outputs)		1 station occupied (Remote I/O 32 points/32 points)/(Remote register 4 words/4 words) 2 stations occupied (Remote I/O 64 points/64 points)/(Remote register 8 words/8 words)				
	Number of connectable drivers		Up to 42 (when 1 station is occupied by 1 driver), Up to 32 (when 2 stations are occupied by 1 driver), when there are only remote device stations.				
Command method	Remote register input		Available with CC-Link communication (2 stations occupied)				
	Point table No. input		Available with CC-Link communication, RS422 communication CC-Link communication (1 station occupied): 31 points CC-Link communication (2 stations occupied): 255 points RS422 communication: 255 points				
	Indexer positioning input		Available with CC-Link communication CC-Link communication (1 station occupied): 31 points CC-Link communication (2 stations occupied): 255 points				
Communication function			USB communication, RS-422 communication*2				
Operating temperature range [°C]			0 to 55 (No freezing)				
Operating humidity range [%RH]			90 or less (No condensation)				
Storage temperature range [°C]			–20 to 65 (No freezing)				
Storage humidity range [%RH]			90 or less (No condensation)				
Insulation resistance [MΩ]			Between the housing and SG: 10 (500 VDC)				
Weight [g]			800				1000

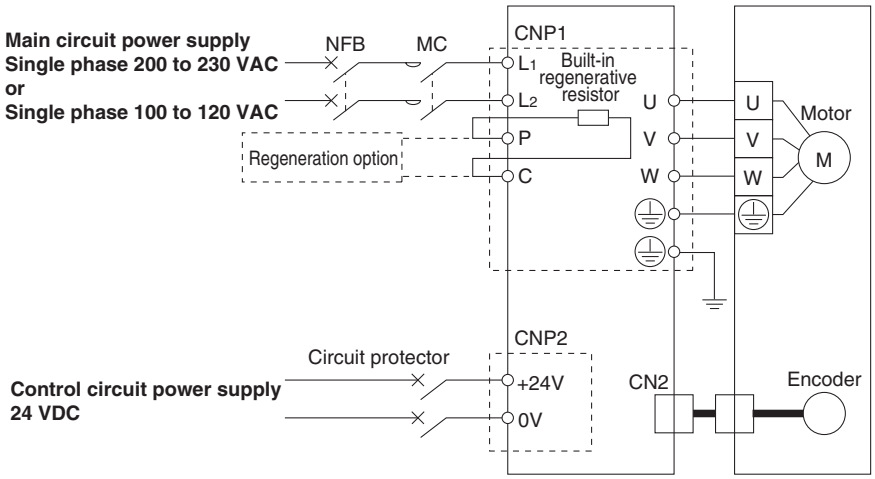
*1 If the system comprises of both CC-Link Ver. 1.00 and Ver. 1.10 compliant cables, Ver. 1.00 specifications are applied to the overall cable length and the cable length between stations.
*2 USB communication and RS422 communication cannot be performed at the same time.

Series LECSS

Model		LECSS1-S5	LECSS1-S7	LECSS2-S5	LECSS2-S7	LECSS2-S8
Compatible motor capacity [W]		100	200	100	200	400
Compatible encoder		Absolute 18-bit encoder (Resolution: 262144 p/rev)				
Main power supply	Power voltage [V]	Single phase 100 to 120 VAC (50/60 Hz)		Three phase 200 to 230 VAC (50/60 Hz) Single phase 200 to 230 VAC (50/60 Hz)		
	Allowable voltage fluctuation [V]	Single phase 85 to 132 VAC		Three phase 170 to 253 VAC Single phase 170 to 253 VAC		
	Rated current [A]	3.0	5.0	0.9	1.5	2.6
Control power supply	Control power supply voltage [V]	Single phase 100 to 120 VAC (50/60 Hz)		Single phase 200 to 230 VAC (50/60 Hz)		
	Allowable voltage fluctuation [V]	Single phase 85 to 132 VAC		Single phase 170 to 253 VAC		
	Rated current [A]	0.4		0.2		
Applicable Fieldbus protocol		SSCNET Ⅲ (High-speed optical communication)				
Communication function		USB communication				
Operating temperature range [°C]		0 to 55 (No freezing)				
Operating humidity range [%RH]		90 or less (No condensation)				
Storage temperature range [°C]		–20 to 65 (No freezing)				
Storage humidity range [%RH]		90 or less (No condensation)				
Insulation resistance [MΩ]		Between the housing and SG: 10 (500 VDC)				
Weight [g]		800				1000

Power Supply Wiring Example: LECSA

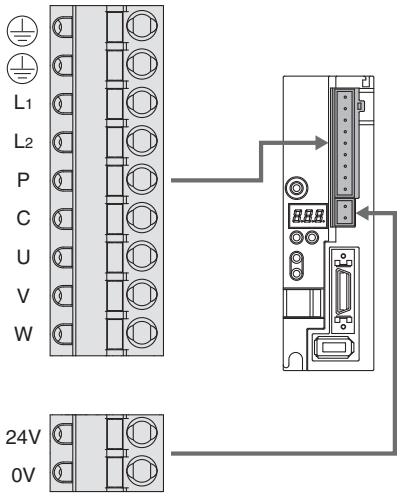
LECSA□-□



Main Circuit Power Supply Connector: CNP1

∗ Accessory

Terminal name	Function	Details
⏚	Protective earth (PE)	Should be grounded by connecting the servo motor's earth terminal and the control panel's protective earth (PE).
L_1	Main circuit power supply	Connect the main circuit power supply. LECSA1: Single phase 100 to 120 VAC, 50/60 Hz LECSA2: Single phase 200 to 230 VAC, 50/60 Hz
L_2		
P	Regeneration option	Terminal to connect regeneration option LECSA□-S1: Not connected at time of shipping. LECSA□-S3, S4: Connected at time of shipping. ∗ If regeneration option is required for "Model Selection", connect to this terminal.
C		
U	Servo motor power (U)	Connect to motor cable (U, V, W).
V	Servo motor power (V)	
W	Servo motor power (W)	



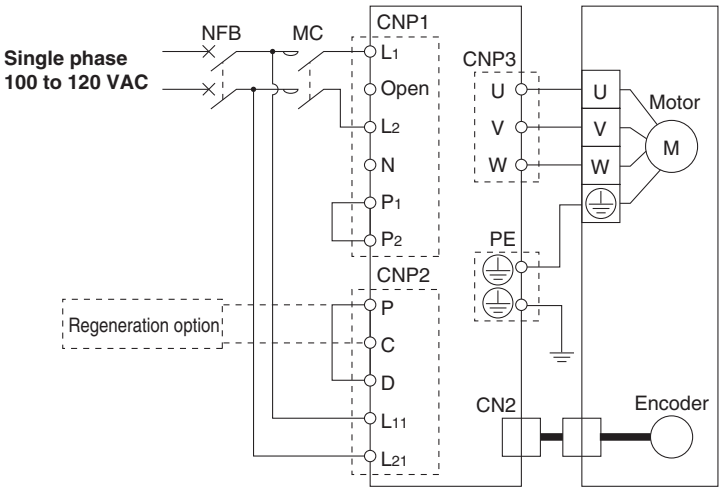
Control Circuit Power Supply Connector: CNP2

∗ Accessory

Terminal name	Function	Details
24V	Control circuit power supply (24 V)	24 V side of the control circuit power supply (24 VDC) supplied to the driver
0V	Control circuit power supply (0 V)	0 V side of the control circuit power supply (24 VDC) supplied to the driver

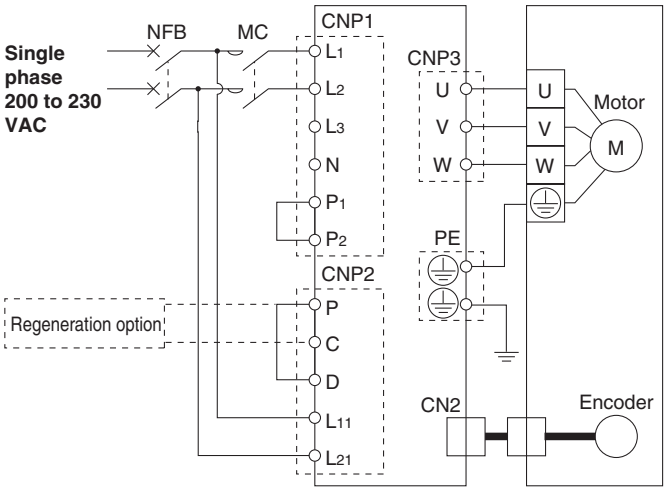
Power Supply Wiring Example: LECSB, LECSC, LECSS

LECSB1-□
LECSC1-□
LECSS1-□

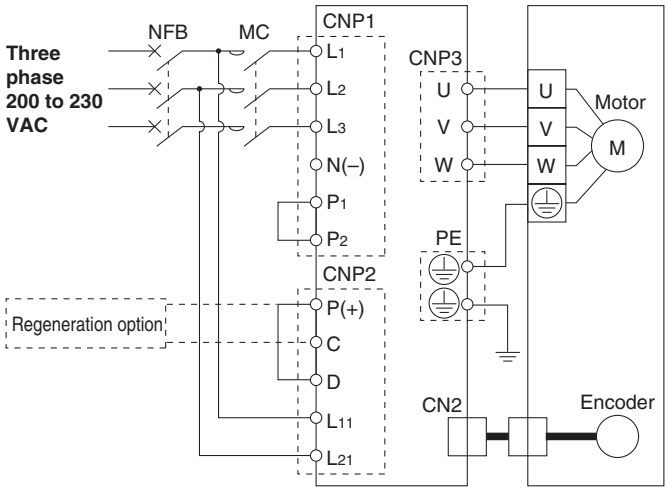


LECSB2-□
LECSC2-□
LECSS2-□

For single phase 200 VAC



For three phase 200 VAC



Note) For single phase 200 to 230 VAC, power supply should be connected to L_1 and L_2 terminals, with nothing connected to L_3.

Main Circuit Power Supply Connector: CNP1 ∗ Accessory

Terminal name	Function	Details
L_1	Main circuit power supply	Connect the main circuit power supply. LECSB1/LECSC1/LECSS1: Single phase 100 to 120 VAC, 50/60 Hz Connection terminal: L_1,L_2 LECSB2/LECSC2/LECSS2: Single phase 200 to 230 VAC, 50/60 Hz Connection terminal: L_1,L_2 Three phase 200 to 230 VAC, 50/60 Hz Connection terminal: L_1,L_2,L_3
L_2		
L_3		
N	Do not connect.	
P_1	Connect between P_1 and P_2. (Connected at time of shipping.)	
P_2		

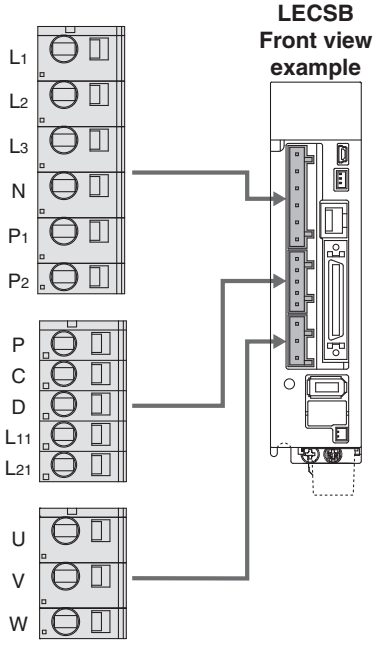
Control Circuit Power Supply Connector: CNP2 ∗ Accessory

Terminal name	Function	Details
P	Regeneration option	Connect between P and D. (Connected at time of shipping.) ∗ If regeneration option is required for "Model Selection", connect to this terminal.
C		
D		
L_{11}	Control circuit power supply	Connect the control circuit power supply. LECSB1/LECSC1/LECSS1: Single phase 100 to 120 VAC, 50/60 Hz Connection terminal: L_{11},L_{21} LECSB2/LECSC2/LECSS2: Single phase 200 to 230 VAC, 50/60 Hz Connection terminal: L_{11},L_{21} Three phase 200 to 230 VAC, 50/60 Hz Connection terminal: L_{11},L_{21}
L_{21}		

Motor Connector: CNP3 ∗ Accessory

Terminal name	Function	Details
U	Servo motor power (U)	Connect to motor cable (U, V, W)
V	Servo motor power (V)	
W	Servo motor power (W)	

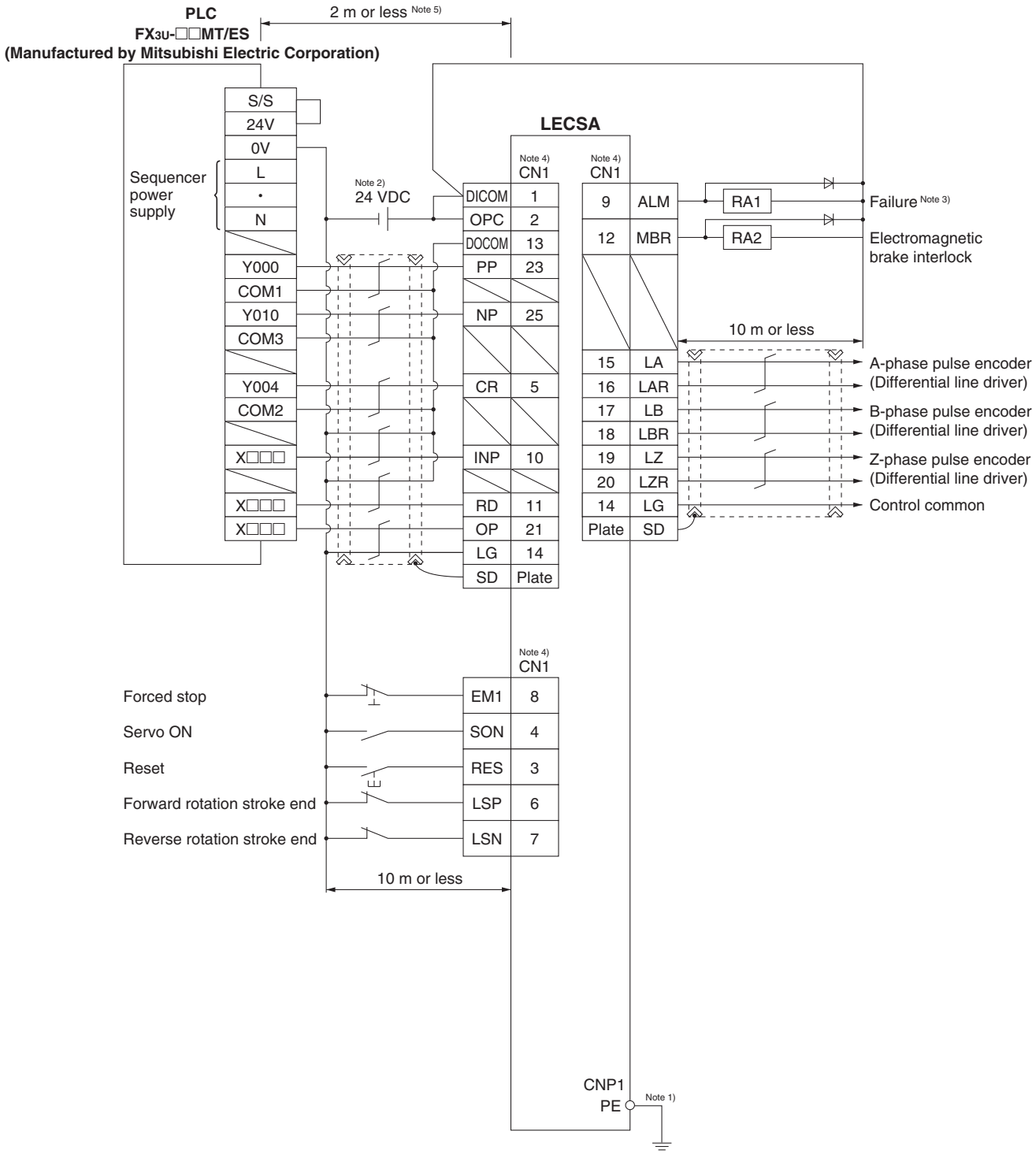
LECSB Front view example



Control Signal Wiring Example: LECSA

LECSA□-□

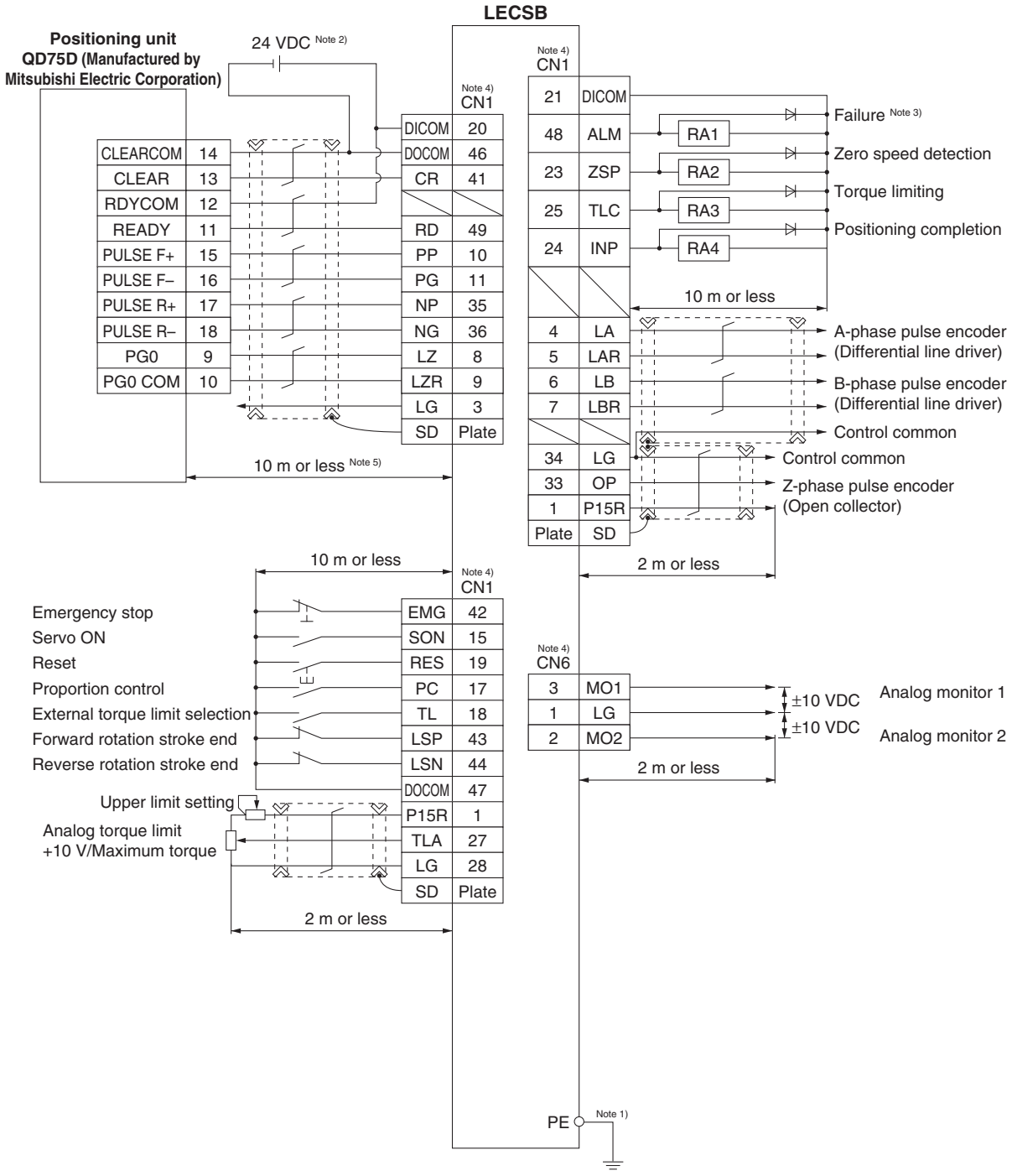
This wiring example shows connection with a PLC (FX3U-□□MT/ES) manufactured by Mitsubishi Electric Corporation as when used in position control mode. Refer to the LECSA series Operation Manual and any technical literature or operation manuals for your PLC and positioning unit before connecting to another PLC or positioning unit.



Note 1) For preventing electric shock, be sure to connect the driver main circuit power supply connector (CNP1)'s protective earth (PE) terminal (marked ⏚) to the control panel's protective earth (PE).
Note 2) For interface use, supply 24 VDC ±10% 200 mA using an external source. 200 mA is the value when all I/O command signals are used and reducing the number of inputs/outputs can decrease current capacity. Refer to "Operation Manual" for required current for interface.
Note 3) The failure (ALM) is ON during normal conditions. When it is OFF (alarm occurs), stop the sequencer signal using the sequence program.
Note 4) The same name signals are connected inside the driver.
Note 5) For command pulse input with an open collector method. When a positioning unit loaded with a differential line driver method is used, it is 10 m or less.

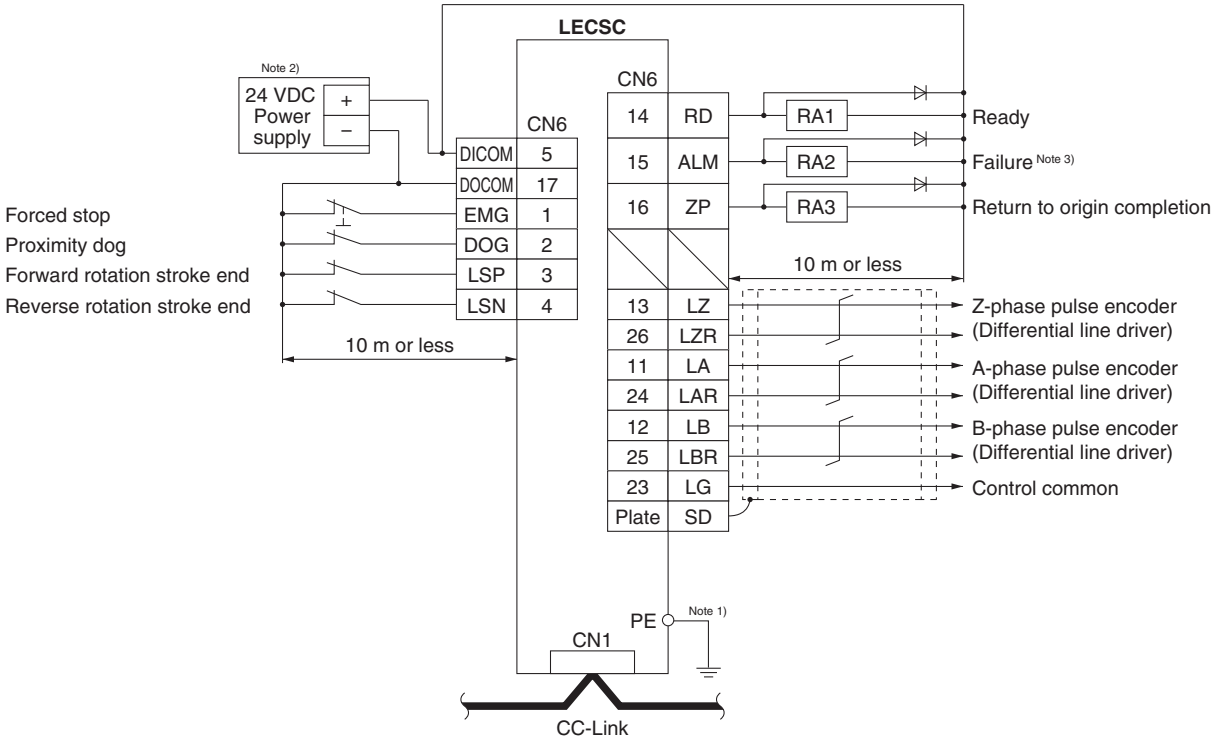
Control Signal Wiring Example: LECSB

This wiring example shows connection with a positioning unit (QD75D) manufactured by Mitsubishi Electric Corporation as when used in position control mode. Refer to the LECSB series Operation Manual and any technical literature or operation manuals for your PLC and positioning unit before connecting to another PLC or positioning unit.



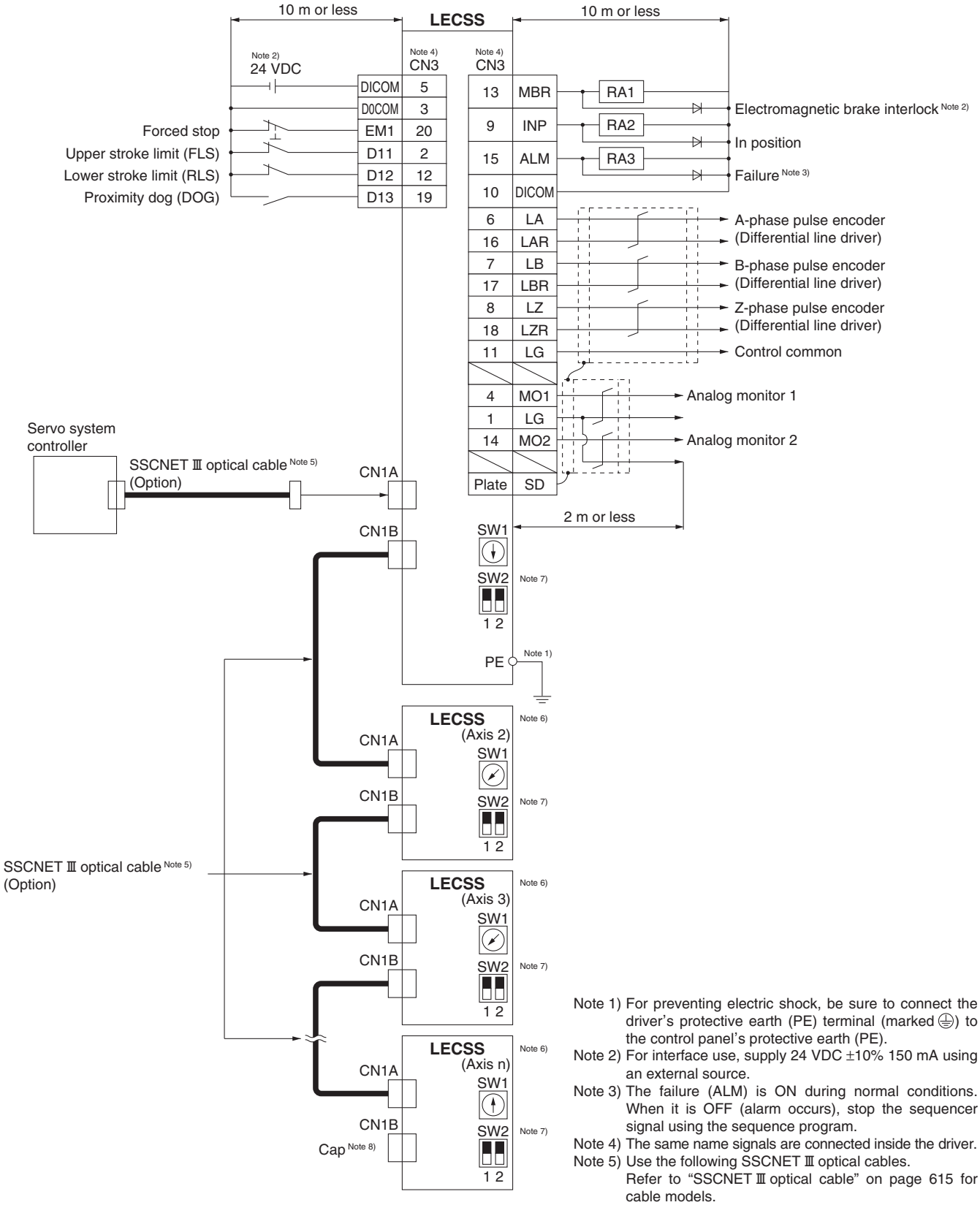
Note 1) For preventing electric shock, be sure to connect the driver's protective earth (PE) terminal (marked ⏚) to the control panel's protective earth (PE).
Note 2) For interface use, supply 24 VDC ±10% 300 mA using an external source.
Note 3) The failure (ALM) is ON during normal conditions. When it is OFF (alarm occurs), stop the sequencer signal using the sequence program.
Note 4) The same name signals are connected inside the driver.
Note 5) For command pulse input with a differential line driver method. For open collector method, it is 2 m or less.

Control Signal Wiring Example: LECSC



Note 1) For preventing electric shock, be sure to connect the driver's protective earth (PE) terminal (marked ⏚) to the control panel's protective earth (PE).
Note 2) For interface use, supply 24 VDC ±10% 150 mA using an external source.
Note 3) The failure (ALM) is ON during normal conditions. When it is OFF (alarm occurs), stop the sequencer signal using the sequence program.

Control Signal Wiring Example: LECSS



Note 1) For preventing electric shock, be sure to connect the driver's protective earth (PE) terminal (marked ⏚) to the control panel's protective earth (PE).
Note 2) For interface use, supply 24 VDC ±10% 150 mA using an external source.
Note 3) The failure (ALM) is ON during normal conditions. When it is OFF (alarm occurs), stop the sequencer signal using the sequence program.
Note 4) The same name signals are connected inside the driver.
Note 5) Use the following SSCNET Ⅲ optical cables.
Refer to "SSCNET Ⅲ optical cable" on page 615 for cable models.

Cable	Cable model	Cable length
SSCNET Ⅲ optical cable	**LE-CSS-□**	0.15 m to 3 m

Note 6) Connections from Axis 2 onward are omitted.
Note 7) Up to 16 axes can be set.
Note 8) Be sure to place a cap on unused CN1A/CN1B.

Options

Motor cable, Lock cable, Encoder cable (LECS□ common)

LE − CS M − S 5 A

Motor type

S	AC servo motor

Cable description

M	Motor cable
B	Lock cable
E	Encoder cable

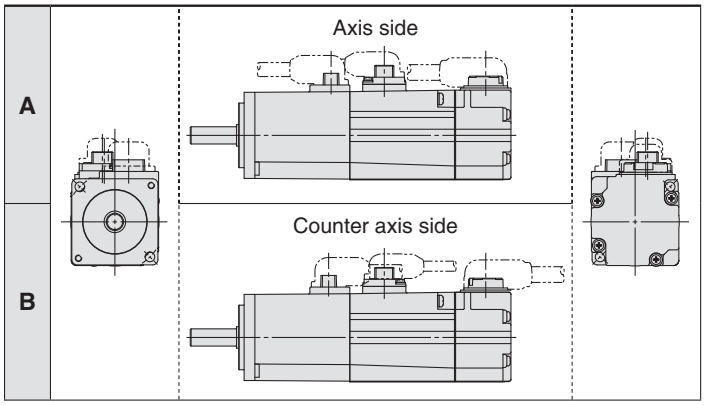
Cable type

S	Standard cable
R	Robotic cable

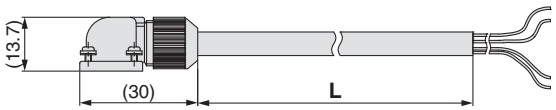
Cable length (L) [m]

2	2
5	5
A	10

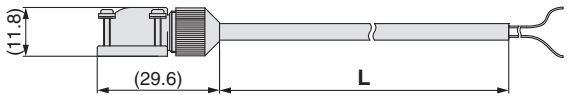
Direction of connector



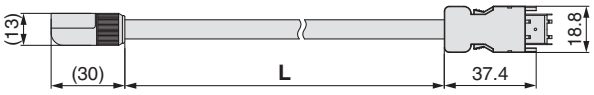
LE-CSM-□□: Motor cable



LE-CSB-□□: Lock cable



LE-CSE-□□: Encoder cable



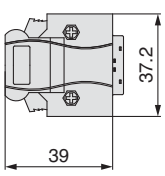
I/O connector (Without cable, Connector only)

LE − CSN A

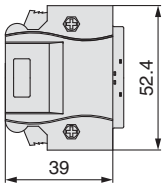
Driver type

A	LECSA□, LECSC□
B	LECSB□
S	LECSS□

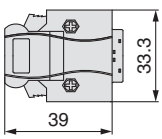
LE-CSNA



LE-CSNB



LE-CSNS



∗ LE-CSNA: 10126-3000PE (connector)/10326-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
LE-CSNB: 10150-3000PE (connector)/10350-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
LE-CSNS: 10120-3000PE (connector)/10320-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
∗ Applicable conductor size: AWG24 to 30

Options

SSCNET Ⅲ optical cable

LE−CSS−1

Motor type

S	AC servo motor

Cable description

S	SSCNET Ⅲ optical cable

Cable length

L	0.15 m
K	0.3 m
J	0.5 m
1	1 m
3	3 m

∗ LE-CSS-□ is MR-J3BUS□M manufactured by Mitsubishi Electric Corporation.

I/O cable

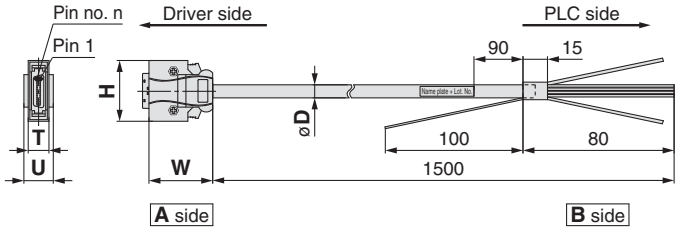
LEC−CSN A−1

Driver type

A	LECSA□, LECSC□
B	LECSB□
S	LECSS□

Cable length (L) [m]

1	1.5



∗ LEC-CSNA-1: 10126-3000PE (connector)/10326-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
LEC-CSNB-1: 10150-3000PE (connector)/10350-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
LEC-CSNS-1: 10120-3000PE (connector)/10320-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
∗ Conductor size: AWG24

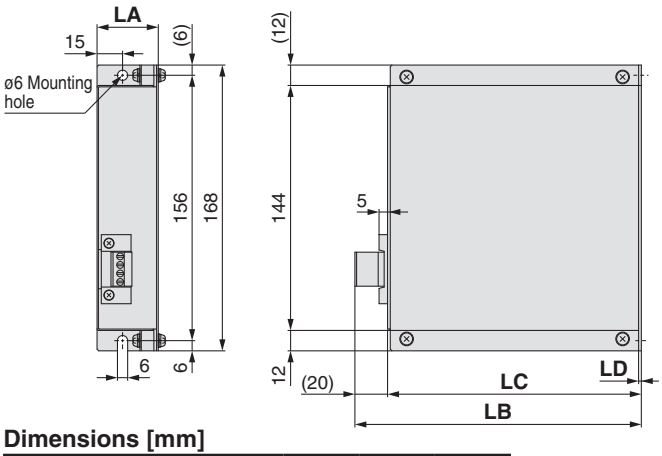
Regeneration option (LECS□ common)

LEC−MR−RB−12

Regeneration option type

032	Allowable regenerative power 30 W
12	Allowable regenerative power 100 W

∗ Confirm regeneration option to be used in “Model Selection”.



Dimensions [mm]

Model	LA	LB	LC	LD
LEC-MR-RB-032	30	119	99	1.6
LEC-MR-RB-12	40	169	149	2

∗ MR-RB-□ manufactured by Mitsubishi Electric Corporation.

Cable O.D.

Product no.	øD
LEC-CSNA-1	11.1
LEC-CSNB-1	13.8
LEC-CSNS-1	9.1

Dimensions/Pin No.

Product no.	W	H	T	U	Pin no. n
LEC-CSNA-1	39	37.2	12.7	14	14
LEC-CSNB-1		52.4		18	26
LEC-CSNS-1		33.3		14	21

Wiring

LEC-CSNA-1: Pin no. 1 to 26
LEC-CSNB-1: Pin no. 1 to 50
LEC-CSNS-1: Pin no. 1 to 20

	Connector pin no.	Pair no. of wire	Insulation color	Dot mark	Dot color
A side	1	1	Orange	▬	Red
	2			▬	Black
	3	2	Light gray	▬	Red
	4			▬	Black
	5	3	White	▬	Red
	6			▬	Black
	7	4	Yellow	▬	Red
	8			▬	Black
	9	5	Pink	▬	Red
	10			▬	Black
	11	6	Orange	▬ ▬	Red
	12			▬ ▬	Black
	13	7	Light gray	▬ ▬	Red
	14			▬ ▬	Black
	15	8	White	▬ ▬	Red
	16			▬ ▬	Black
	17	9	Yellow	▬ ▬	Red
	18			▬ ▬	Black

	Connector pin no.	Pair no. of wire	Insulation color	Dot mark	Dot color
A side	19	10	Pink	▬ ▬	Red
	20			▬ ▬	Black
	21	11	Orange	▬ ▬ ▬	Red
	22			▬ ▬ ▬	Black
	23	12	Light gray	▬ ▬ ▬	Red
	24			▬ ▬ ▬	Black
	25	13	White	▬ ▬ ▬	Red
	26			▬ ▬ ▬	Black
	27	14	Yellow	▬ ▬ ▬	Red
	28			▬ ▬ ▬	Black
	29	15	Pink	▬ ▬ ▬	Red
	30			▬ ▬ ▬	Black
	31	16	Orange	▬ ▬ ▬ ▬	Red
	32			▬ ▬ ▬ ▬	Black
	33	17	Light gray	▬ ▬ ▬ ▬	Red
	34			▬ ▬ ▬ ▬	Black

	Connector pin no.	Pair no. of wire	Insulation color	Dot mark	Dot color
A side	35	18	White	▬ ▬ ▬ ▬	Red
	36			▬ ▬ ▬ ▬	Black
	37	19	Yellow	▬ ▬ ▬ ▬	Red
	38			▬ ▬ ▬ ▬	Black
	39	20	Pink	▬ ▬ ▬ ▬	Red
	40			▬ ▬ ▬ ▬	Black
	41	21	Orange	▬ ▬ ▬ ▬ ▬	Red
	42			▬ ▬ ▬ ▬ ▬	Black
	43	22	Light gray	▬ ▬ ▬ ▬ ▬	Red
	44			▬ ▬ ▬ ▬ ▬	Black
	45	23	White	▬ ▬ ▬ ▬ ▬	Red
	46			▬ ▬ ▬ ▬ ▬	Black
	47	24	Yellow	▬ ▬ ▬ ▬ ▬	Red
	48			▬ ▬ ▬ ▬ ▬	Black
	49	25	Pink	▬ ▬ ▬ ▬ ▬	Red
	50			▬ ▬ ▬ ▬ ▬	Black

Options

LECSA LECSB LECSC LECSS
Drivers

USB cable

PC

Setup software
(MR Configurator2™)

Setup software (MR Configurator2™) (LECSA, LECSB, LECSC, LECSS common)

LEC−MRC2□

Display language

Nil	Japanese version
E	English version
C	Chinese version

∗ SW1DNC-MRC2-□ manufactured by Mitsubishi Electric Corporation.
Refer to Mitsubishi Electric Corporation's website for operating environment and version upgrade information.
MR Configurator2™ is a registered trademark or trademark of Mitsubishi Electric Corporation.

Adjustment, waveform display, diagnostics, parameter read/write, and test operation can be performed upon a PC.

Compatible PC

When using setup software (MR Configurator2™), use an IBM PC/AT compatible PC that meets the following operating conditions.

Hardware Requirements

Equipment		Setup software (MR Configurator2™) **LEC-MRC2□**
Note 1) 2) 3) 4) 5) 6) 7) 9) PC	OS	Microsoft® Windows®8 Enterprise Operating System Microsoft® Windows®8 Pro Operating System Microsoft® Windows®8 Operating System Microsoft® Windows®7 Enterprise Operating System Microsoft® Windows®7 Ultimate Operating System Microsoft® Windows®7 Professional Operating System Microsoft® Windows®7 Home Premium Operating System Microsoft® Windows®7 Starter Operating System Microsoft® Windows Vista® Enterprise Operating System Microsoft® Windows Vista® Ultimate Operating System Microsoft® Windows Vista® Business Operating System Microsoft® Windows Vista® Home Premium Operating System Microsoft® Windows Vista® Home Basic Operating System Microsoft® Windows®XP Professional Operating System, Service Pack 2 or later Microsoft® Windows®XP Home Edition Operating System, Service Pack 2 or later Microsoft® Windows®2000 Professional Operating System, Service Pack 4 or later
	Available HD space	1 GB or more
	Communication interface	Use USB port.
Display		Resolution 1024 x 768 or more Must be capable of high color (16-bit) display. The connectable with the above PC
Keyboard		The connectable with the above PC
Mouse		The connectable with the above PC
Printer		The connectable with the above PC
USB cable Note 8)		LEC-MR-J3USB

Note 1) Before using a PC for setting LECSA point table method/program operation method, upgrade to version 1.18U (Japanese version)/ version 1.19V (English version) or later. Refer to Mitsubishi Electric Corporation's website for version upgrade information.
Note 2) Windows® and Windows Vista® are registered trademarks of Microsoft Corporation in the United States and other countries.
Note 3) On some PCs, setup software (MR Configurator2™) may not run properly.
Note 4) When Windows®XP or later is used, the following functions cannot be used.
· Windows Program Compatibility mode
· Fast User Switching
· Remote Desktop
· Large Fonts Mode (Display property)
· DPI settings other than 96 DPI (Display property)
· 64-bit OSs are not supported, except for Microsoft® Windows®7 or later.
Note 5) When Windows®7 is used, the following functions cannot be used.
· Windows XP Mode
· Windows Touch
Note 6) When using this software with Windows Vista® or later, log in as a user having USER authority or higher.
Note 7) When Windows®8 is used, the following functions cannot be used.
· Hyper-V
· Modern UI style
Note 8) Order USB cable separately.
· This cable is compatible with the setup software (MR Configurator™: LEC-MR-SETUP221□).
Note 9) Using a PC for setting Windows®8.1, upgrade to version 1.25B or later. Refer to Mitsubishi Electric Corporation's website for version upgrade information.

Setup Software Compatible Driver

Compatible driver	Setup software	
	MR Configurator™	MR Configurator2™
	LEC-MR-SETUP221□	LEC-MRC2□
LECSA	○	○
LECSB	○	○
LECSC	○	○
LECSS□-S□	○	○
LECSS2-T□	—	○

USB cable (3 m)

LEC−MR−J3USB

∗ MR-J3USBCBL3M manufactured by Mitsubishi Electric Corporation.

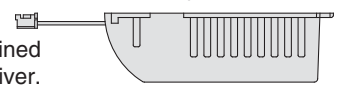
Cable for connecting PC and driver when using the setup software (MR Configurator2™).
Do not use any cable other than this cable.

Battery (only for LECSB, LECSC or LECSS)

LEC−MR−J3BAT

∗ MR-J3BAT manufactured by Mitsubishi Electric Corporation.

Battery for replacement.
Absolute position data is maintained by installing the battery to the driver.



Series LECS□
Specific Product Precautions 1

Be sure to read this before handling. Refer to page 906 for Safety Instructions. For Electric Actuator Precautions, refer to pages 907 to 912, or "Handling Precautions for SMC Products" and the Operation Manual on SMC website, http://www.smcworld.com

Design/Selection

⚠Warning

1. Use the specified voltage.
If the applied voltage is higher than the specified voltage, malfunction and damage to the driver 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. Also, confirm that the operating voltage does not drop below the specified voltage during operation.

2. Do not use the products outside the specifications.
Otherwise, fire, malfunction or damage to the driver/actuator can result. Check the specifications before 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.

6. The parameters of the driver are set to initial values. Please change parameters according to the specifications of the customer's equipment before use. Refer to the operation manual for details of parameters.

Handling

⚠Warning

1. Never touch the inside of the driver and its peripheral devices.
Otherwise, electric shock or failure can result.

2. Do not operate or set up this equipment with wet hands.
Otherwise, electric shock can result.

3. Do not use a product that is damaged or missing any components.
Electric shock, fire or injury can result.

4. Use only the specified combination between the electric actuator and driver.
Otherwise, it may cause damage to the driver or to the other equipment.

5. Be careful not to touch, get caught or hit by the workpiece while the actuator is moving.
An injury can result.

6. 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.

7. 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.

8. 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.

Handling

⚠Warning

9. Static electricity may cause a malfunction or damage the driver. Do not touch the driver while power is supplied to it.
Take sufficient safety measures to eliminate static electricity when it is necessary to touch the driver for maintenance.

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 driver 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 driver 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 these products in a place subject to vibration and impact.
Otherwise, a malfunction or failure can result.

17. When a surge generating load such as a relay or solenoid valve is directly driven, use a product that incorporates a surge absorption element.

Mounting

⚠Warning

1. Install the driver and its peripheral devices on fireproof material.
Direct installation on or near flammable material may cause fire.

2. Do not install these products in a place subject to vibration and impact.
Otherwise, a malfunction or failure can result.

3. The driver should be mounted on a vertical wall in a vertical direction.
Also, do not cover the driver's suction/exhaust ports.

4. Install the driver and its peripheral devices on a flat surface.
If the mounting surface is not flat or uneven, excessive force may be applied to the housing and other parts resulting in a malfunction.

Specific Product Precautions 2

Be sure to read this before handling. Refer to page 906 for Safety Instructions. For Electric Actuator Precautions, refer to pages 907 to 912, or "Handling Precautions for SMC Products" and the Operation Manual on SMC website, http://www.smcworld.com

Power Supply

⚠Caution

1. Use a power supply with low noise between lines and between power and ground.
In cases where noise is high, use an isolation transformer.

2. Take appropriate measures to prevent surges from lightning. Ground the surge absorber for lightning separately from the grounding of the driver and its peripheral devices.

Wiring

⚠Warning

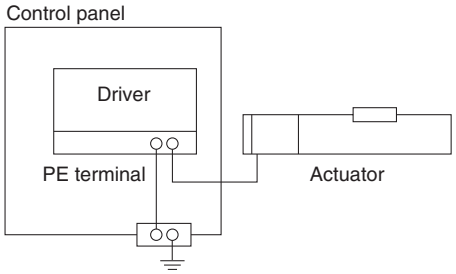
1. The driver will be damaged if a commercial power supply (100V/200V) is added to the driver's servo motor power (U, V, W). Be sure to check wiring such as wiring mistakes when the power supply is turned on.

2. Connect the ends of the U, V, W wires from the motor cable correctly to the phases (U, V, W) of the servo motor power. If these wires do not match up, it is unable to control the servo motor.

Grounding

⚠Warning

1. For grounding actuator, connect the copper wire of the actuator to the driver's protective earth (PE) terminal and connect the copper wire of the driver to the earth via the control panel's protective earth (PE) terminal. Do not connect them directly to the control panel's protective earth (PE) terminal.



2. In the unlikely event that malfunction is caused by the ground, it may be disconnected.

Maintenance

⚠Warning

1. Perform maintenance checks periodically.
Confirm wiring and screws are not loose.
Loose screws or wires may cause unexpected malfunction.

2. Conduct an appropriate functional inspection and test after completed maintenance.
In case of any abnormalities (if the actuator does not move or the equipment does not operate properly etc.), stop the operation of the system.
Otherwise, unexpected malfunction may occur and safety cannot be assured.
Conduct a test of the emergency stop to confirm the safety of the equipment.

3. Do not disassemble, modify or repair the driver or its peripheral devices.

4. Do not put anything conductive or flammable inside the driver.
Otherwise, fire can result.

5. Do not conduct an insulation resistance test or insulation withstand voltage test.

6. Reserve sufficient space for maintenance.
Design the system so that it allows required space for maintenance.

AC Servo Motor Driver
Series LECSS-T

CE RoHS

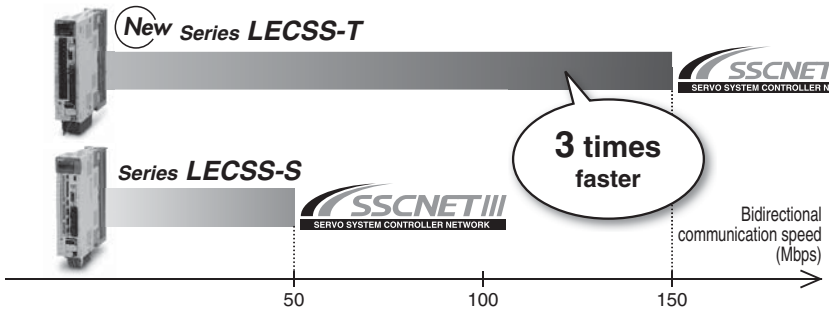
Power supply voltage (V)
200 to 240 VAC

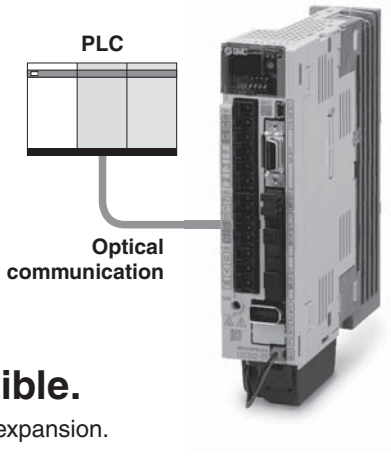
Motor capacity (W)
100/200/400

SSCNET Ⅲ/H Compatible

- **Applicable Fieldbus protocol:** SSCNET Ⅲ/H SERVO SYSTEM CONTROLLER NETWORK **(High-speed optical communication, max. bidirectional communication speed: 150 Mbps)**
- **Bidirectional communication speed: 3 times**

Page 641



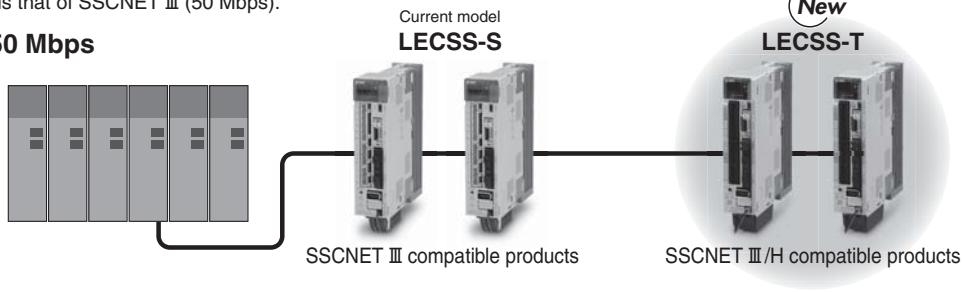


- **SSCNET Ⅲ/H and SSCNET Ⅲ products are compatible.**

SSCNET Ⅲ/H compatible products can be added to existing SSCNET Ⅲ systems for system expansion.
Reassembly of the system (new installation of master PLC) is not required.
* Note that the communication speed is that of SSCNET Ⅲ (50 Mbps).

■ Communication speed: 50 Mbps

SSCNET Ⅲ/H compatible controllers
SSCNET Ⅲ compatible controllers



- **Improved noise resistance**
- **STO (Safe Torque Off) safety function available**
- **Control encoder: Absolute 22-bit encoder (Resolution: 4194304 p/rev)**

Compatible Actuators

Slider Type

Pages 623, 624

Ball screw drive
Series LEFS

Series LEFS

Size	Max. work load [kg]	Stroke [mm]
25	20	Up to 800
32	45	Up to 1000
40	60	Up to 1200

Belt drive
Series LEFB

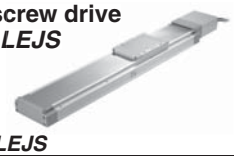
Series LEFB

Size	Max. work load [kg]	Stroke [mm]
25	5	Up to 2000
32	15	Up to 2500
40	25	Up to 3000

High Rigidity Slider Type

Pages 625, 626

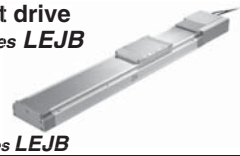
Ball screw drive
Series LEJS



Series LEJS

Size	Max. work load [kg]	Stroke [mm]
40	55	Up to 1200
63	85	Up to 1500

Belt drive
Series LEJB



Series LEJB

Size	Max. work load [kg]	Stroke [mm]
40	20	Up to 2000
63	30	Up to 3000

Rod Type

Page 627

Basic type
Series LEY

Series LEY

Size	Pushing force [N]	Stroke [mm]
25	485	Up to 400
32	588	Up to 500
63	3343	Up to 800

In-line motor type
Series LEY□D

Series LEY

Size	Pushing force [N]	Stroke [mm]
25	485	Up to 400
32	736	Up to 500
63	1910	Up to 800

Guide Rod Type

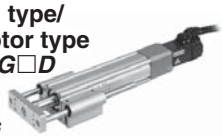
Page 635

Guide rod type
Series LEYG

Series LEYG

Size	Pushing force [N]	Stroke [mm]
25	485	Up to 300
32	588	

Guide rod type/ In-line motor type
Series LEYG□D



Series LEYG

Size	Pushing force [N]	Stroke [mm]
25	485	Up to 300
32	736	

System Construction

Absolute encoder compatible *Series* LECSS-T

SSCNET III/H
SERVO SYSTEM CONTROLLER NETWORK

◎Option

Setup software Page 646
(MR Configurator2™)
Part no.: **LEC-MRC2□**

PC

USB cable Page 647
Part no.: **LEC-MR-J3USB**

Provided by customer

Power supply
Single phase 200 to 240 VAC (50/60 Hz)
Three phase 200 to 240 VAC (50/60 Hz)

Main circuit power supply connector Page 642
(Accessory)

Driver

◎Option Page 645
Regeneration option
Part no.: **LEC-MR-RB-□**

CN3

◎Option
I/O connector Page 644
Part no.: **LE-CSNS**

Motor cable Page 644

Standard cable	Robotic cable
LE-CSM-S□□	LE-CSM-R□□

Lock cable Page 644

Standard cable	Robotic cable
LE-CSB-S□□	LE-CSB-R□□

◎Option
STO cable (3 m) Page 647
Part no.: **LEC-MR-D05UDL3M**

Control circuit power supply connector Page 642
(Accessory)

CN1A

Motor connector Page 642
(Accessory)

◎Option Page 645
SSCNET III optical cable
Part no.: **LE-CSS-□**

CN1B

CN1A

Battery (Accessory) Page 647
Part no.: **(LEC-MR-BAT6V1SET)**

Encoder cable Page 644

Standard cable	Robotic cable
LE-CSE-S□□	LE-CSE-R□□

Provided by customer

PLC
(Positioning unit/Motion controller)

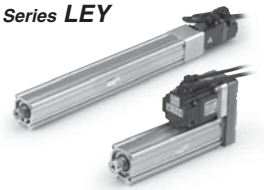
Power supply for I/O signal 24 VDC

Electric actuator

Slider type
***Series* LEF**

High rigidity slider type
***Series* LEJ**

Rod type
***Series* LEY**



Guide rod type
***Series* LEYG**

∗ The LECSS2-T□ cannot be used with the LEC-MR-SETUP221□.

SSCNET III/H SERVO SYSTEM CONTROLLER NETWORK Compatible AC Servo Motor Driver

AC Servo Motor

Electric Actuator/Slider Type
Ball Screw Drive

Series LEFS LEFS25, 32, 40

CE RoHS

Please contact SMC for clean room specification and the models compatible with secondary batteries.

There are changes in the How to Order. Refer to page 68 and after for other details.

How to Order

LEFS H 32 R T7 B – 200 B – S 5 S2 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❶ Accuracy

Nil	Basic type
H	High precision type

❷ Size

25
32
40

❸ Motor mounting position

Nil	In-line
R	Right side parallel
L	Left side parallel

❹ Motor type *1

Symbol	Type	Output [W]	Actuator size	Compatible driver
T6	AC servo motor (Absolute encoder)	100	25	LECSS2-T5
T7		200	32	LECSS2-T7
T8		400	40	LECSS2-T8

*1 For motor type T6, the compatible driver part number suffix is T5.

❺ Lead [mm]

Symbol	LEFS25	LEFS32	LEFS40
H	20	24	30
A	12	16	20
B	6	8	10

❻ Stroke [mm] *2

50	50
to	to
1200	1200

*2 Refer to the applicable stroke table.

❼ Motor option

Nil	Without option
B	With lock

❽ Cable type *4, *6

Nil	Without cable
S	Standard cable
R	Robotic cable (Flexible cable)

*4 The motor and encoder cables are included. (The lock cable is also included when the motor with lock option is selected.)

❾ Cable length [m] *5, *6

Nil	Without cable
2	2
5	5
A	10

*5 The length of the encoder, motor and lock cables are the same.

❿ Driver type *6

	Compatible driver	Power supply voltage [V]
Nil	Without driver	—
S2	LECSS2-T□	200 to 240

*6 When the driver type is selected, the cable is included. Select cable type and cable length.
Example)
S2S2: Standard cable (2 m) + Driver (LECSS2)
S2 : Standard cable (2 m)
Nil : Without cable and driver

⓫ I/O cable length [m] *7

Nil	Without cable
H	Without cable (Connector only)
1	1.5

*7 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 645 if I/O cable is required. (Options are shown on page 645.)

Applicable Stroke Table *3

●: Standard

Model \ Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200
LEFS25	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	—	—	—	—	—	—
LEFS32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	—	—
LEFS40	—	—	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

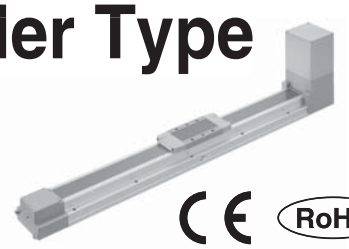
*3 Please consult with SMC for non-standard strokes as they are produced as special orders.

Compatible Driver

Driver type	SSCNET Ⅲ/H type 
Series	**LECSS-T**
Applicable network	SSCNET Ⅲ/H
Control encoder	Absolute 22-bit encoder
Communication function	USB communication
Power supply voltage [V]	200 to 240 VAC (50/60 Hz)
Reference page	Page 641

Electric Actuator/Slider Type
Belt Drive

Series LEFB LEFB25, 32, 40



There are changes in the How to Order.
Refer to page 89 and after for other details.

How to Order

LEFB 32 ❶ T7 ❸ S ❹ – 300 ❺ ❻ – S ❼ 2 ❽ S2 ❾ ❿

❶ Size

25
32
40

❷ Motor mounting position

Nil	Top mounting
U	Bottom mounting

❸ Motor type *

Symbol	Type	Output [W]	Actuator size	Compatible driver
T6	AC servo motor (Absolute encoder)	100	25	LECSS2-T5
T7		200	32	LECSS2-T7
T8		400	40	LECSS2-T8

* For motor type T6, the compatible driver part number suffix is T5.

❹ Lead [mm]

S	54

❺ Stroke [mm]

300	300
to	to
3000	3000

* Refer to the applicable stroke table.

❻ Motor option

Nil	Without option
B	With lock

❼ Cable type *1, *2

Nil	Without cable
S	Standard cable
R	Robotic cable (Flexible cable)

*1 The motor and encoder cables are included. (The lock cable is also included when the motor with lock option is selected.)
*2 Standard cable entry direction is "(A) Axis side". (Refer to page 644 for details.)

❽ Cable length [m]

Nil	Without cable
2	2
5	5
A	10

* The length of the encoder, motor and lock cables are the same.

❾ Driver type *

	Compatible driver	Power supply voltage [V]
Nil	Without driver	—
S2	LECSS2-T□	200 to 240

* When the driver type is selected, the cable is included. Select cable type and cable length.
Example)
S2S2: Standard cable (2 m) + Driver (LECSS2)
S2 : Standard cable (2 m)
Nil : Without cable and driver

❿ I/O cable length [m] *

Nil	Without cable
H	Without cable (Connector only)
1	1.5

* When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected.
Refer to page 645 if I/O cable is required.
(Options are shown on page 645.)

Applicable Stroke Table *

●: Standard/○: Produced upon receipt of order

Model \ Stroke [mm]	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2500	3000
LEFB25	●	●	●	●	●	●	●	●	○	●	○	○	●	○	○	○	○	●	—	—
LEFB32	●	●	●	●	●	●	●	●	○	●	○	○	●	○	○	○	○	●	●	—
LEFB40	●	●	●	●	●	●	●	●	○	●	○	○	●	○	○	○	○	●	●	●

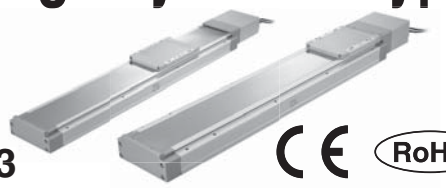
* Please consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.

Compatible Driver

Driver type	SSCNETⅢ/H type 
Series	**LECSS-T**
Applicable network	SSCNET Ⅲ/H
Control encoder	Absolute 22-bit encoder
Communication function	USB communication
Power supply voltage [V]	200 to 240 VAC (50/60 Hz)
Reference page	Page 641

Electric Actuator/High Rigidity Slider Type
Ball Screw Drive

Series LEJS LEJS40, 63



Please contact SMC for clean room specification and the models compatible with secondary batteries.

There are changes in the How to Order. Refer to page 124 and after for other details.

How to Order

LEJS H 40 T6 A – 500 □ – □ □ □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶ Accuracy

Nil	Basic type
H	High precision type

❷ Size

40
63

❸ Motor type *1

Symbol	Type	Output [W]	Actuator size	Compatible driver
T6	AC servo motor (Absolute encoder)	100	40	LECSS2-T5
T7		200	63	LECSS2-T7

*1 For motor type T6, the compatible driver part number suffix is T5.

❹ Lead [mm]

Symbol	LEJS40	LEJS63
H	24	30
A	16	20
B	8	10

❺ Stroke [mm] *2

200
to
1500

*2 Refer to the applicable stroke table.

❻ Motor option

Nil	Without option
B	With lock

❼ Cable type *4, *6

Nil	Without cable
S	Standard cable
R	Robotic cable (Flexible cable)

*4 The motor and encoder cables are included. (The lock cable is also included when the motor with lock option is selected.)

❽ Cable length [m] *5, *6

Nil	Without cable
2	2
5	5
A	10

*5 The length of the encoder, motor and lock cables are the same.

❾ Driver type *6

	Compatible driver	Power supply voltage [V]
Nil	Without driver	—
S2	LECSS2-T□	200 to 240

*6 When the driver type is selected, the cable is included. Select cable type and cable length.
Example)
S2S2: Standard cable (2 m) + Driver (LECSS2)
S2 : Standard cable (2 m)
Nil : Without cable and driver

❿ I/O cable length [m] *7

Nil	Without cable
H	Without cable (Connector only)
1	1.5

*7 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected.
Refer to page 645 if I/O cable is required.
(Options are shown on page 645.)

Applicable Stroke Table *3

●: Standard

Model \ Stroke [mm]	200	300	400	500	600	700	800	900	1000	1200	1500
LEJS40	●	●	●	●	●	●	●	●	●	●	—
LEJS63	—	●	●	●	●	●	●	●	●	●	●

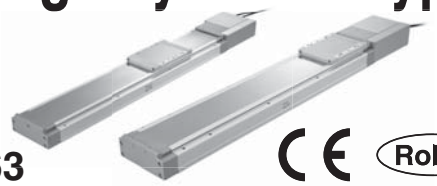
*3 Please consult with SMC for non-standard strokes as they are produced as special orders.

Compatible Driver

Driver type	SSCNET Ⅲ/H type 
Series	**LECSS-T**
Applicable network	SSCNET Ⅲ/H
Control encoder	Absolute 22-bit encoder
Communication function	USB communication
Power supply voltage [V]	200 to 240 VAC (50/60 Hz)
Reference page	Page 641

Electric Actuator/High Rigidity Slider Type
Belt Drive

Series LEJB LEJB40, 63



There are changes in the How to Order.
Refer to page 129 and after for other details.

How to Order

LEJB **40** **T6** **T** – **500** □ – □ □ □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

❶ Size

40
63

❷ Motor type *1

Symbol	Type	Output [W]	Actuator size	Compatible driver
T6	AC servo motor (Absolute encoder)	100	40	LECSS2-T5
T7		200	63	LECSS2-T7

*1 For motor type T6, the compatible driver part number suffix is T5.

❸ Lead [mm]

Symbol	LEJB40	LEJB63
T	27	42

❹ Stroke [mm] *2

200
to
3000

*2 Refer to the applicable stroke table.

❺ Motor option

Nil	Without option
B	With lock

❽ Driver type *6

	Compatible driver	Power supply voltage [V]
Nil	Without driver	—
S2	LECSS2-T□	200 to 240

*6 When the driver type is selected, the cable is included. Select cable type and cable length.
Example)
S2S2: Standard cable (2 m) + Driver (LECSS2)
S2 : Standard cable (2 m)
Nil : Without cable and driver

❾ I/O cable length [m] *7

Nil	Without cable
H	Without cable (Connector only)
1	1.5

*7 When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected.
Refer to page 645 if I/O cable is required.
(Options are shown on page 645.)

❻ Cable type *4, *6

Nil	Without cable
S	Standard cable
R	Robotic cable (Flexible cable)

*4 The motor and encoder cables are included. (The lock cable is also included when the motor with lock option is selected.)

❼ Cable length [m] *5, *6

Nil	Without cable
2	2
5	5
A	10

*5 The length of the encoder, motor and lock cables are the same.

Applicable Stroke Table *3

●: Standard

Model \ Stroke [mm]	200	300	400	500	600	700	800	900	1000	1200	1500	2000	3000
LEJB40	●	●	●	●	●	●	●	●	●	●	●	●	—
LEJB63	—	●	●	●	●	●	●	●	●	●	●	●	●

*3 Please consult with SMC for non-standard strokes as they are produced as special orders.

Compatible Driver

Driver type	SSCNETⅢ/H type 
Series	LECSS-T
Applicable network	SSCNET Ⅲ/H
Control encoder	Absolute 22-bit encoder
Communication function	USB communication
Power supply voltage [V]	200 to 240 VAC (50/60 Hz)
Reference page	Page 641

AC Servo Motor

Electric Actuator/ Rod Type

Series LEY LEY25, 32, 63

Please contact SMC for dust-tight/water-jet-proof (IP65 equivalent) and the models compatible with secondary batteries.

There are changes in the How to Order, force conversion graph, specifications, weight and dimensions. Refer to page 248 and after for other details.

How to Order

LEY **H** **25** **□** **T6** **B** – **200** **□** **□** **□** **□** – **S** **2** **S2** **□**

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭ ⓮

❶ Accuracy

Nil	Basic type
H	High precision type

❷ Size

25
32
63

❸ Motor mounting position

Nil	Top mounting
R	Right side parallel
L	Left side parallel
D	In-line

❹ Motor type *

Symbol	Type	Output [W]	Actuator size	Compatible driver
T6	AC servo motor (Absolute encoder)	100	25	LECSS2-T5
T7		200	32	LECSS2-T7
T8		400	63	LECSS2-T8

* For motor type T6, the compatible driver part number suffix is T5.

❺ Lead [mm]

Symbol	LEY25	LEY32 *1	LEY63
A	12	16 (20)	20
B	6	8 (10)	10
C	3	4 (5)	5
L	—	—	2.86 *2

*1 The values shown in ( ) are the lead for top mounting, right/left side parallel types. (Equivalent lead which includes the pulley ratio [1.25:1])

*2 Only available for top mounting and right/left side parallel types. (Equivalent lead which includes the pulley ratio [4:7])

❻ Stroke [mm]

30	30
to	to
800	800

* Refer to the applicable stroke table.

❼ Dust-tight/Water-jet-proof (Only available for LEY63)

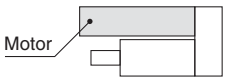
Symbol	LEY25/32	LEY63
Nil	IP4x equivalent	IP5x equivalent (Dust-protected)
P	—	IP65 equivalent (Dust-tight/ Water-jet-proof)/With vent hole tap

* When using the dust-tight/water-jet-proof (IP65 equivalent), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water.
* The fitting and tubing should be provided separately by the customer.
  Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].
* Cannot be used in environments exposed to cutting oil etc. Take suitable protective measures.

❽ Motor option

Nil	Without option
B	With lock

* When "With lock" is selected for the top mounting and right/left side parallel types, the motor body will stick out of the end of the body for size 25 with strokes 30 mm or less. Check for interference with workpieces before selecting a model.



❾ Rod end thread

Nil	Rod end female thread
M	Rod end male thread (1 rod end nut is included.)

❿ Mounting *1

Symbol	Type	Motor mounting position	
		Top/Parallel	In-line
Nil	Ends tapped/ Body bottom tapped *2	●	●
L	Foot	●	—
F	Rod flange *2	● *4	●
G	Head flange *2	● *5	—
D	Double clevis *3	●	—

*1 Mounting bracket is shipped together, (but not assembled).

*2 For horizontal cantilever mounting with the rod flange, head flange and ends tapped, use the actuator within the following stroke range.
· LEY25: 200 mm or less · LEY32: 100 mm or less · LEY63: 400 mm or less

*3 For mounting with the double clevis, use the actuator within the following stroke range.
· LEY25: 200 mm or less · LEY32: 200 mm or less · LEY63: 300 mm or less

*4 Rod flange is not available for the LEY25 with strokes 30 mm and motor option "With lock".

*5 Head flange is not available for the LEY32/63.

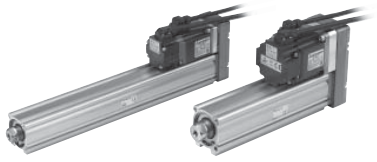
Applicable Stroke Table

●: Standard

Model \ Stroke [mm]	30	50	100	150	200	250	300	350	400	450	500	600	700	800	Manufacturable stroke range
LEY25	●	●	●	●	●	●	●	●	●	—	—	—	—	—	15 to 400
LEY32	●	●	●	●	●	●	●	●	●	●	●	—	—	—	20 to 500
LEY63	—	—	●	—	●	—	●	—	●	—	●	●	●	●	50 to 800

* Please consult with SMC for non-standard strokes as they are produced as special orders.

SMC



Motor mounting position: Top/Parallel

Motor mounting position: In-line

⓫ Cable type

Nil	Without cable
S	Standard cable
R	Robotic cable (Flexible cable)

⓬ Cable length [m]

Nil	Without cable
2	2
5	5
A	10

⓭ Driver type

	Compatible driver	Power supply voltage [V]
Nil	Without driver	—
S2	LECSS2-T□	200 to 240

∗ When the driver type is selected, the cable is included. Select cable type and cable length.
Example)
S2S2: Standard cable (2 m) + Driver (LECSS2)
S2 : Standard cable (2 m)
Nil : Without cable and driver

⓮ I/O cable length [m] ∗

Nil	Without cable
H	Without cable (Connector only)
1	1.5

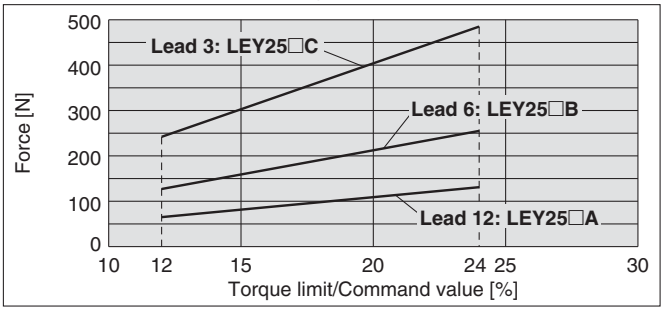
∗ When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 645 if I/O cable is required. (Options are shown on page 645.)

Compatible Driver

Driver type	SSCNET Ⅲ/H type 
Series	**LECSS-T**
Applicable network	SSCNET Ⅲ/H
Control encoder	Absolute 22-bit encoder
Communication function	USB communication
Power supply voltage [V]	200 to 240 VAC (50/60 Hz)
Reference page	Page 641

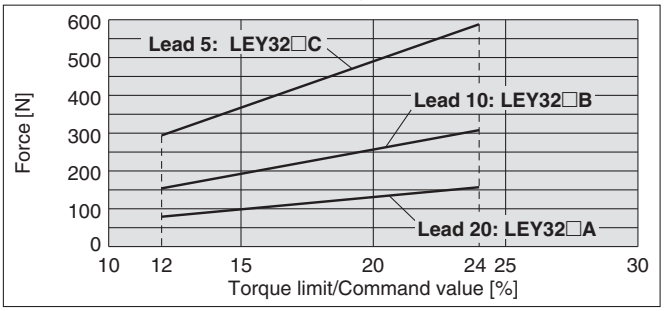
Force Conversion Graph (Guide)

LEY25□T6 (Motor mounting position: Top/Parallel, In-line)



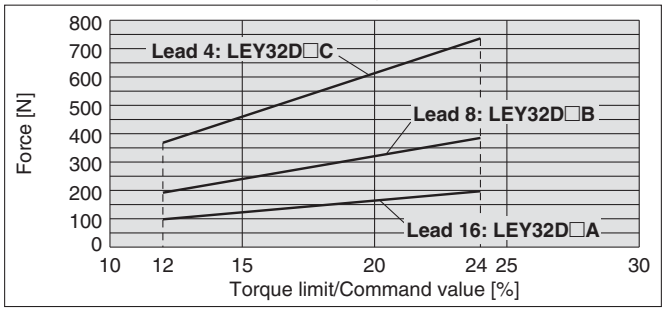
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [minute]
20 or less	100	—
24	60	1.5

LEY32□T7 (Motor mounting position: Top/Parallel)



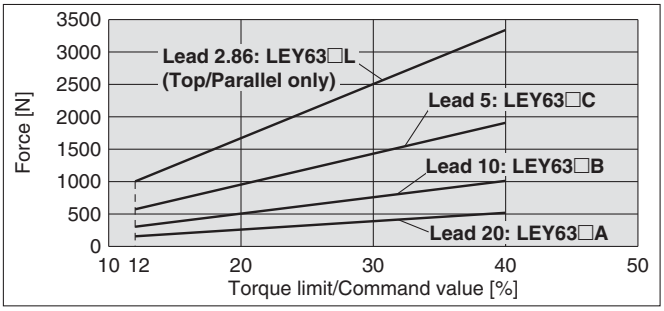
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [minute]
20 or less	100	—
24	60	1.5

LEY32DT7 (Motor mounting position: In-line)



Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [minute]
20 or less	100	—
24	60	1.5

LEY63□T8 (Motor mounting position: Top/Parallel, In-line)



Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [minute]
20 or less	100	—
24	60	1.5
32	30	0.5
40	20	0.16

Specifications

Model			LEY25 (Top/Parallel)/LEY25D (In-line)			LEY32 (Top/Parallel)			LEY32D (In-line)		
Actuator specifications	Stroke [mm] Note 1)		30, 50, 100, 150, 200, 250, 300, 350, 400			30, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500			30, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500		
	Work load [kg]	Horizontal Note 2)	18	50	50	30	60	60	30	60	60
		Vertical	8	16	30	9	19	37	12	24	46
	Pushing force [N] Note 3) (Set value: 12 to 24%)		65 to 131	127 to 255	242 to 485	79 to 157	154 to 308	294 to 588	98 to 197	192 to 385	368 to 736
	Max. speed [mm/s] Note 4) Stroke range	Up to 300	900	450	225	1200	600	300	1000	500	250
		305 to 400	600	300	150						
		405 to 500	—	—	—	800	400	200	640	320	160
	Pushing speed [mm/s] Note 5)		35 or less			30 or less			30 or less		
	Max. acceleration/deceleration [mm/s²]		5000			5000					
	Positioning repeatability [mm]	Basic type	±0.02			±0.02					
		High precision type	±0.01			±0.01					
	Lost motion Note 6) [mm]	Basic type	0.1 or less								
		High precision type	0.05 or less								
	Lead [mm] (including pulley ratio)		12	6	3	20	10	5	16	8	4
	Impact/Vibration resistance [m/s²] Note 7)		50/20			50/20					
	Actuation type		Ball screw + Belt (LEY□)/Ball screw (LEY□D)			Ball screw + Belt [1.25:1]			Ball screw		
	Guide type		Sliding bushing (Piston rod)			Sliding bushing (Piston rod)					
	Operating temperature range [°C]		5 to 40			5 to 40					
	Operating humidity range [%RH]		90 or less (No condensation)			90 or less (No condensation)					
	Required conditions for Note 8) "Regeneration option" [kg]	Horizontal	8 or more	31 or more	Not required	15 or more	Not required	Not required	23 or more	Not required	Not required
		Vertical	3 or more	2 or more	2 or more	6 or more	7 or more	11 or more	6 or more	7 or more	12 or more
Electric specifications	Motor output/Size		100 W/□40			200 W/□60					
	Motor type		AC servo motor (200 VAC)			AC servo motor (200 VAC)					
	Encoder		Motor type T6, T7: Absolute 22-bit encoder (Resolution: 4194304 p/rev)								
	Power consumption [W] Note 9)	Horizontal	45			65			65		
		Vertical	145			175			175		
	Standby power consumption when operating [W] Note 10)	Horizontal	2			2			2		
		Vertical	8			8			8		
	Max. instantaneous power consumption [W] Note 11)		445			724			724		
Lock unit specifications	Type Note 12)		Non-magnetizing lock								
	Holding force [N]		131	255	485	157	308	588	197	385	736
	Power consumption [W] at 20°C Note 13)		6.3			7.9			7.9		
	Rated voltage [V]		24 VDC $^{0}_{-10\%}$								

Note 1) Please consult with SMC for non-standard strokes as they are produced as special orders.
Note 2) The maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Please confirm using actual device.
Note 3) The force setting range (set values for the driver) for the pushing operation with the torque control mode, etc. Set it with reference to "Force Conversion Graph (Guide)" on page 629.
Note 4) The allowable speed changes according to the stroke.
Note 5) The allowable collision speed for the pushing operation with the torque control mode, etc.
Note 6) A reference value for correcting an error in reciprocal operation.
Note 7) Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Note 8) The work load conditions which require "Regeneration option" when operating at the maximum speed (Duty ratio: 100%). Order the regeneration option separately. For details and order numbers, refer to "Required Conditions for Regeneration Option" on pages 225 and 226.
Note 9) The power consumption (including the driver) is for when the actuator is operating.
Note 10) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.
Note 11) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
Note 12) Only when motor option "With lock" is selected.
Note 13) For an actuator with lock, add the power consumption for the lock.

Weight

Product Weight

[kg]

Series		LEY25□ (Motor mounting position: Top/Parallel)									LEY32□ (Motor mounting position: Top/Parallel)										
Stroke [mm]		30	50	100	150	200	250	300	350	400	30	50	100	150	200	250	300	350	400	450	500
Motor type	Absolute encoder	1.4	1.5	1.6	1.9	2.0	2.2	2.4	2.6	2.7	2.3	2.4	2.7	3.2	3.5	3.8	4.1	4.3	4.6	4.9	5.2

Series		LEY25D□ (Motor mounting position: In-line)									LEY32D□ (Motor mounting position: In-line)										
Stroke [mm]		30	50	100	150	200	250	300	350	400	30	50	100	150	200	250	300	350	400	450	500
Motor type	Absolute encoder	1.4	1.5	1.6	1.9	2.1	2.2	2.4	2.6	2.8	2.4	2.5	2.8	3.2	3.5	3.8	4.1	4.4	4.6	4.9	5.2

Additional Weight

[kg]

Size		25	32
Lock	Absolute encoder	0.3	0.4
Rod end male thread	Male thread	0.03	0.03
	Nut	0.02	0.02
Foot (2 sets including mounting bolt)		0.08	0.14
Rod flange (including mounting bolt)		0.17	0.20
Head flange (including mounting bolt)			
Double clevis (including pin, retaining ring and mounting bolt)		0.16	0.22

Specifications

Model			LEY63□ (Top/Parallel)				LEY63D□ (In-line)		
Actuator specifications	Stroke [mm] Note 1)		100, 200, 300, 400, 500, 600, 700, 800						
	Work load [kg]	Horizontal Note 2)	40	70	80	200	40	70	80
		Vertical	19	38	72	115	19	38	72
	Pushing force [N] Note 3) (Set value: 12 to 40%)		156 to 521	304 to 1012	573 to 1910	1003 to 3343	156 to 521	304 to 1012	573 to 1910
	Max. speed [mm/s] Note 4) Stroke range	Up to 500	1000	500	250	70	1000	500	250
		505 to 600	800	400	200		800	400	200
		605 to 700	600	300	150		600	300	150
		705 to 800	500	250	125		500	250	125
	Pushing speed [mm/s] Note 5)		30 or less						
	Max. acceleration/deceleration [mm/s²]		5000			3000	5000		
	Positioning repeatability [mm]	Basic type	±0.02						
		High precision type	±0.01						
	Lost motion [mm] Note 6)	Basic type	0.1 or less						
		High precision type	0.05 or less						
	Screw lead [mm] (including pulley ratio)		20	10	5	5 (2.86)	20	10	5
	Impact/Vibration resistance [m/s²] Note 7)		50/20						
	Actuation type		Ball screw + Belt			Ball screw + Belt [Pulley ratio 4:7]	Ball screw		
	Guide type		Sliding bushing (Piston rod)						
	Operating temperature range [°C]		5 to 40						
	Operating humidity range [%RH]		90 or less (No condensation)						
	Required conditions for "Regeneration option" [kg] Note 8)	Horizontal	Not required	Not required	Not required	Not required	Not required	Not required	Not required
		Vertical	2 or more	5 or more	12 or more	46 or more	2 or more	5 or more	12 or more
Electric specifications	Motor output/Size		400 W/□60						
	Motor type		AC servo motor (200 VAC)						
	Encoder		Motor type T8: Absolute 22-bit encoder (Resolution: 4194304 p/rev)						
	Power consumption [W] Note 9)	Horizontal	210						
		Vertical	230						
	Standby power consumption when operating [W] Note 10)	Horizontal	2						
		Vertical	18						
	Max. instantaneous power consumption [W] Note 11)		1275						
Lock unit specifications	Type Note 12)		Non-magnetizing lock						
	Holding force [N]		313	607	1146	2006	313	607	1146
	Power consumption [W] at 20°C Note 13)		7.9						
	Rated voltage [V]		24 VDC $^{0}_{-10\%}$						

Note 1) Please consult with SMC for non-standard strokes as they are produced as special orders.
Note 2) The maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Please confirm using actual device.
Note 3) The force setting range (set values for the driver) for the pushing operation with the torque control mode, etc. The pushing force and duty ratio change according to the set value. Set it with reference to "Force Conversion Graph (Guide)" on page 629.
Note 4) The allowable speed changes according to the stroke.
Note 5) The allowable collision speed for the pushing operation with the torque control mode, etc.
Note 6) A reference value for correcting an error in reciprocal operation.
Note 7) Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Note 8) The work load conditions which require "Regeneration option" when operating at the maximum speed (Duty ratio: 100%).
Order the regeneration option separately. For details and order numbers, refer to "Required Conditions for Regeneration Option" on page 227.
Note 9) The power consumption (including the driver) is for when the actuator is operating.
Note 10) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.
Note 11) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
Note 12) Only when motor option "With lock" is selected.
Note 13) For an actuator with lock, add the power consumption for the lock.

Weight

Product Weight

[kg]

Series		LEY63□ (Motor mounting position: Top/Parallel)							
Stroke [mm]		100	200	300	400	500	600	700	800
Motor type	Absolute encoder	5.4	6.6	8.3	9.4	10.5	12.2	13.4	14.5

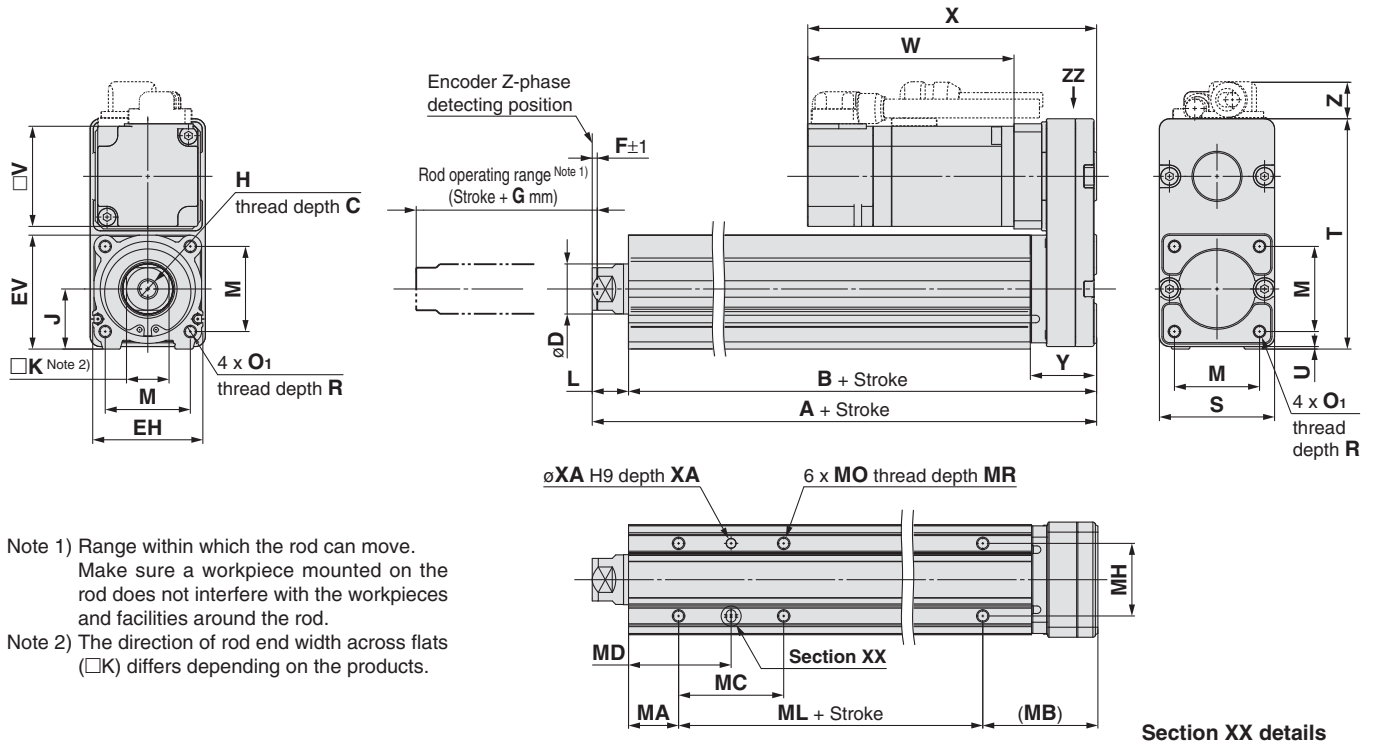
Series		LEY63D□□ (Motor mounting position: In-line)							
Stroke [mm]		100	200	300	400	500	600	700	800
Motor type	Absolute encoder	5.6	6.7	8.4	9.6	10.7	12.4	13.5	14.7

Additional Weight

[kg]

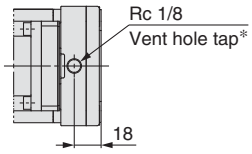
Size		63
Lock	Absolute encoder	0.4
Rod end male thread	Male thread	0.12
	Nut	0.04
Foot (2 sets including mounting bolt)		0.26
Rod flange (including mounting bolt)		0.51
Double clevis (including pin, retaining ring and mounting bolt)		0.58

Dimensions: Motor Top/Parallel



Note 1) Range within which the rod can move. Make sure a workpiece mounted on the rod does not interfere with the workpieces and facilities around the rod.
Note 2) The direction of rod end width across flats (□K) differs depending on the products.

IP65 equivalent (Dust-tight/Water-jet-proof): LEY63□□□-□P (View ZZ)



* When using the dust-tight/water-jet-proof (IP65 equivalent), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water. The fitting and tubing should be provided separately by the customer.
Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].

[mm]

Size	Stroke range [mm]	A	B	C	D	EH	EV	F	G	H	J	K	L	M	O1	R	S	T	U	Y	V
25	15 to 100	130.5	116	13	20	44	45.5	2	4	M8 x 1.25	24	17	14.5	34	M5 x 0.8	8	46	92	1	26.5	40
	105 to 400	155.5	141																		
32	20 to 100	148.5	130	13	25	51	56.5	2	4	M8 x 1.25	31	22	18.5	40	M6 x 1.0	10	60	118	1	34	60
	105 to 500	178.5	160																		
63	Up to 200	192.6	155.2	21	40	76	82	4	8	M16 x 2	44	36	37.4	60	M8 x 1.25	16	80	146	4	32.2	60
	205 to 500	227.6	190.2																		
	505 to 800	262.6	225.2																		

Size	Stroke range [mm]	Without lock			With lock		
		W	X	Z	W	X	Z
25	15 to 100	82.4	115.4	14.1	123	156	15.8
	105 to 400						
32	20 to 100	76.6	116.6	17.1	113.4	153.4	17.1
	105 to 500						
63	Up to 200	98.3	138.3	15.6 (16.6)	135.1	175.1	15.6 (16.6)
	205 to 500						
	505 to 800						

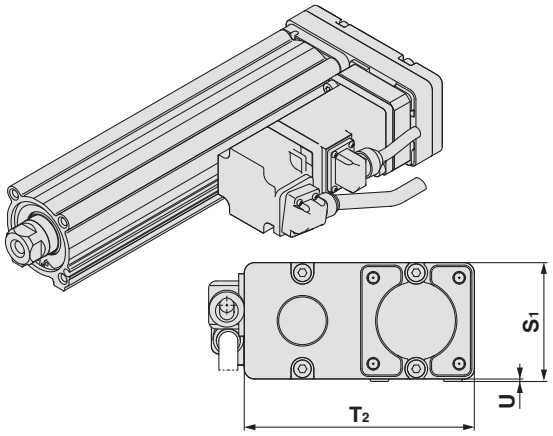
Body Bottom Tapped

[mm]

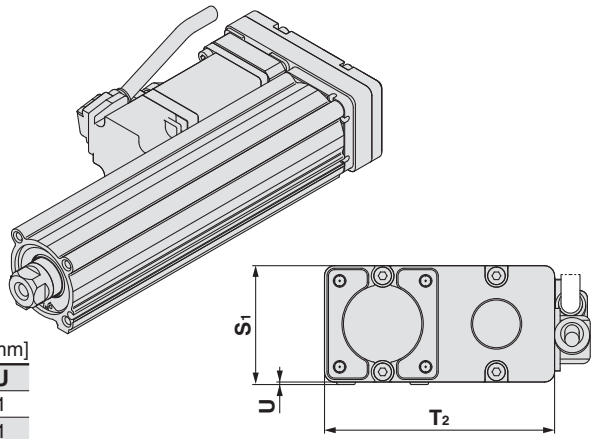
Size	Stroke range [mm]	MA	MB	MC	MD	MH	ML	MO	MR	XA	XB
25	15 to 35	20	46	24	32	29	50	M5 x 0.8	6.5	4	5
	40 to 100			42	41						
	105 to 120						75				
	125 to 200			59	49.5						
	205 to 400			76	58						
32	20 to 35	25	55	22	36	30	50	M6 x 1	8.5	5	6
	40 to 100			36	43						
	105 to 120						80				
	125 to 200			53	51.5						
	205 to 500			70	60						
63	50 to 70	38	52.2	24	50	44	65	M8 x 1.25	10	6	7
	75 to 120			45	60.5						
	125 to 200			58	67						
	205 to 500			86	81		100				
	505 to 800						135				

Dimensions: Motor Top/Parallel

Motor left side parallel type: LEY 25/32/63 L



Motor right side parallel type: LEY 25/32/63 R

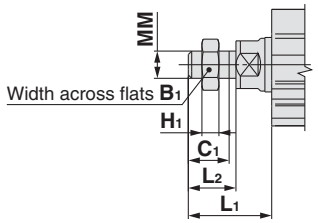


[mm]

Size	S_1	T_2	U
25	47	91	1
32	61	117	1
63	84	142	4

Note) When the motor is mounted on the left or right side in parallel, the groove for auto switch on the side to which the motor is mounted is hidden.

End male thread: LEY 25/32/63 □□ A/B/C -□□M



∗ Refer to page 241 for details about the rod end nut and mounting bracket.

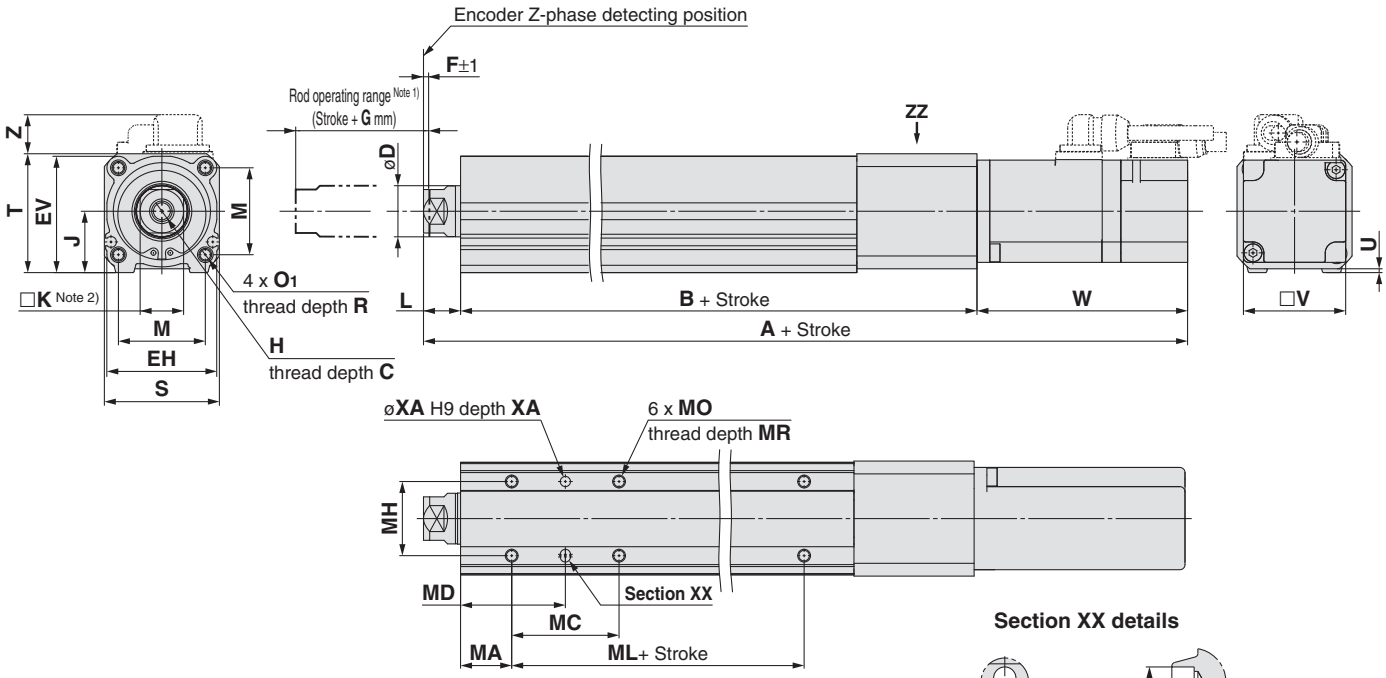
Note) Refer to the precautions on page 296 when mounting end brackets such as knuckle joint or workpieces.

[mm]

Size	B_1	C_1	H_1	L_1*	L_2	MM
25	22	20.5	8	38	23.5	M14 x 1.5
32	22	20.5	8	42.0	23.5	M14 x 1.5
63	27	26	11	76.4	39	M18 x 1.5

∗ The L_1 measurement is when the unit is in the Z-phase first detecting position. At this position, 2 mm at the end (size 25, 32) and 4 mm at the end (size 63).

Dimensions: In-line Motor



Note 1) Range within which the rod can move. Make sure a workpiece mounted on the rod does not interfere with the workpieces and facilities around the rod.
Note 2) The direction of rod end width across flats (□K) differs depending on the products.

[mm]

Size	Stroke range [mm]	C	D	EH	EV	F	G	H	J	K	L	M	O1	R	S	T	U	B	V
25	15 to 100	13	20	44	45.5	2	4	M8 x 1.25	24	17	14.5	34	M5 x 0.8	8	45	46.5	1.5	136.5	40
	105 to 400																	161.5	
32	20 to 100	13	25	51	56.5	2	4	M8 x 1.25	31	22	18.5	40	M6 x 1.0	10	60	61	1	156	60
	105 to 500																	186	
63	Up to 200	21	40	76	82	4	8	M16 x 2	44	36	37.4	60	M8 x 1.25	16	78	83	5	190.7	60
	205 to 500																	225.7	
	505 to 800																	260.7	

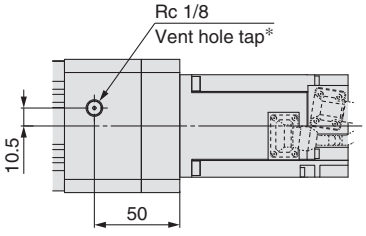
Size	Stroke range [mm]	Without lock			With lock		
		A	W	Z	A	W	Z
25	15 to 100	233.4	82.4	14.6	274	123	16.3
	105 to 400	258.4			299		
32	20 to 100	251.1	76.6	17.1	287.9	113.4	17.1
	105 to 500	281.1			317.9		
63	Up to 200	326.4	98.3	8.1	363.2	135.1	8.1
	205 to 500	361.4			398.2		
	505 to 800	396.4			433.2		

Body Bottom Tapped

[mm]

Size	Stroke range [mm]	MA	MC	MD	MH	ML	MO	MR	XA	XB
25	15 to 35	20	24	32	29	50	M5 x 0.8	6.5	4	5
	40 to 100		42	41						
	105 to 120					75				
	125 to 200		59	49.5						
	205 to 400		76	58						
32	20 to 35	25	22	36	30	50	M6 x 1	8.5	5	6
	40 to 100		36	43						
	105 to 120					80				
	125 to 200		53	51.5						
	205 to 500		70	60						
63	50 to 70	38	24	50	44	65	M8 x 1.25	10	6	7
	75 to 120		45	60.5						
	125 to 200		58	67						
	205 to 500		86	81		100				
	505 to 800					135				

IP65 equivalent (Dust-tight/Water-jet-proof): LEY63D□□-□P (View ZZ)



* When using the dust-tight/water-jet-proof (IP65 equivalent), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water. The fitting and tubing should be provided separately by the customer.
Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].

Electric Actuator/ Guide Rod Type

Series LEYG LEYG25, 32

There are changes in the How to Order, force conversion graph, specifications, weight and dimensions. Refer to page 290 and after for other details.

How to Order

LEY H G 25 M ☐ T6 B – 200 ☐ ☐ – S 2 S2 ☐

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

❶ Accuracy

Nil	Basic type
H	High precision type

❷ Size

25
32

❸ Bearing type

M	Sliding bearing
L	Ball bushing bearing

❹ Motor mounting position

Nil	Top mounting
D	In-line

❺ Motor type *

Symbol	Type	Output [W]	Actuator size	Compatible driver
T6	AC servo motor (Absolute encoder)	100	25	LECSS2-T5
T7		200	32	LECSS2-T7

* For motor type T6, the compatible driver part number suffix is T5.

❻ Lead [mm]

Symbol	LEYG25	LEYG32*
A	12	16 (20)
B	6	8 (10)
C	3	4 (5)

* The values shown in ( ) are the lead for top mounting type. (Equivalent lead which includes the pulley ratio [1.25:1])

❼ Stroke [mm]

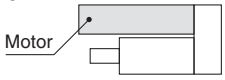
30	30
to	to
300	300

* Refer to the applicable stroke table.
* There is a limit for mounting size 32 top mounting type and 50 mm stroke or less. Refer to the dimensions.

❽ Motor option

Nil	Without option
B	With lock

* When "With lock" is selected for the top mounting type, the motor body will stick out of the end of the body for size 25 with strokes 30 mm or less. Check for interference with workpieces before selecting a model.



❾ Guide option

Nil	Without option
F	With grease retaining function

* Only available for sliding bearing.

❿ Cable type

Nil	Without cable
S	Standard cable
R	Robotic cable (Flexible cable)

⓫ Cable length [m]

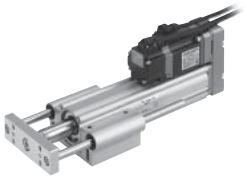
Nil	Without cable
2	2
5	5
A	10

Applicable Stroke Table

●: Standard

Model \ Stroke [mm]	30	50	100	150	200	250	300	Manufacturable stroke range
LEYG25	●	●	●	●	●	●	●	15 to 300
LEYG32	●	●	●	●	●	●	●	20 to 300

* Please consult with SMC for non-standard strokes as they are produced as special orders.



Motor mounting position: Top mounting

Motor mounting position: In-line

⓬ Driver type

	Compatible driver	Power supply voltage [V]
Nil	Without driver	—
S2	LECSS2-T□	200 to 240

∗ When the driver type is selected, the cable is included. Select cable type and cable length.
Example)
S2S2 : Standard cable (2 m) + Driver (LECSS2)
S2 : Standard cable (2 m)
Nil : Without cable and driver

⓭ I/O cable length [m] ∗

Nil	Without cable
H	Without cable (Connector only)
1	1.5

∗ When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected.
Refer to page 645 if I/O cable is required.
(Options are shown on page 645.)

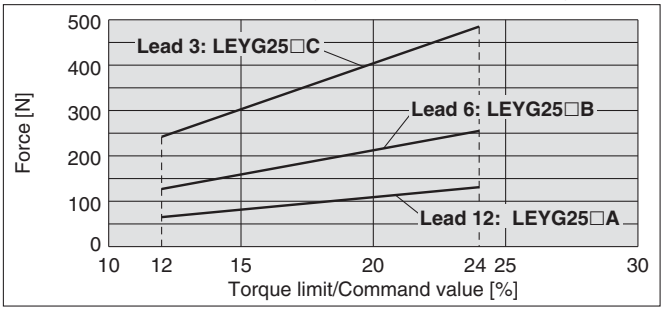
Use of auto switches for the guide rod type LEYG series
· Insert the auto switch from the front side with rod (plate) sticking out.
· For the parts hidden behind the guide attachment (Rod stick out side), the auto switch cannot be fixed.
· Please consult with SMC when using auto switch on the rod stick out side, as it is produced as a special order.

Compatible Driver

Driver type	SSCNETⅢ/H type 
Series	**LECSS-T**
Applicable network	SSCNET Ⅲ/H
Control encoder	Absolute 22-bit encoder
Communication function	USB communication
Power supply voltage [V]	200 to 240 VAC (50/60 Hz)
Reference page	Page 641

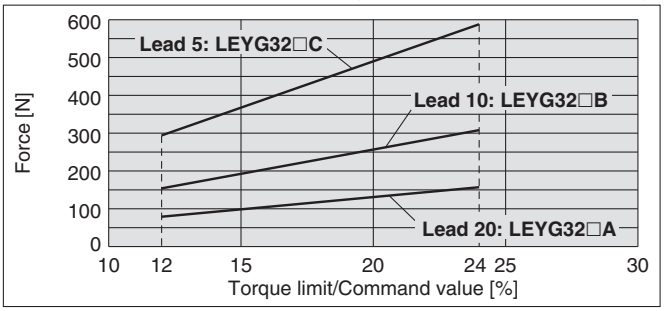
Force Conversion Graph

LEYG25□T6 (Motor mounting position: Top mounting, In-line)



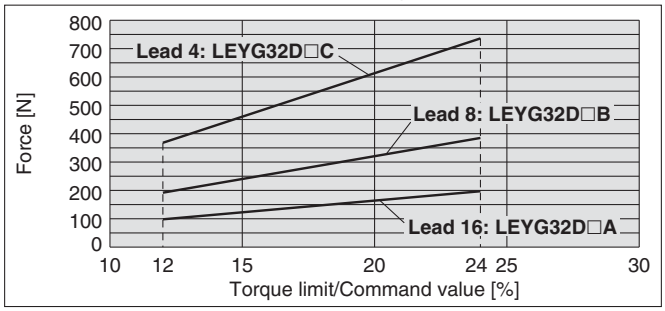
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [minute]
20 or less	100	—
24	60	1.5

LEYG32□T7 (Motor mounting position: Top mounting)



Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [minute]
20 or less	100	—
24	60	1.5

LEYG32DT7 (Motor mounting position: In-line)



Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [minute]
20 or less	100	—
24	60	1.5

Specifications

Model			LEYG25$^{M}_{L}$ (Top mounting) LEYG25$^{M}_{L}$D (In-line)			LEYG32$^{M}_{L}$ (Top mounting)			LEYG32$^{M}_{L}$D (In-line)		
Actuator specifications	Stroke [mm] Note 1)		30, 50, 100, 150, 200, 250, 300			30, 50, 100, 200, 250, 300			30, 50, 100, 200, 250, 300		
	Work load [kg]	Horizontal Note 2)	18	50	50	30	60	60	30	60	60
		Vertical	7	15	29	7	17	35	10	22	44
	Pushing force [N] Note 3) (Set value: 12 to 24%)		65 to 131	127 to 255	242 to 485	79 to 157	154 to 308	294 to 588	98 to 197	192 to 385	368 to 736
	Max. speed [mm/s]		900	450	225	1200	600	300	1000	500	250
	Pushing speed [mm/s] Note 4)		35 or less			30 or less			30 or less		
	Max. acceleration/deceleration [mm/s^2]		5000			5000					
	Positioning repeatability [mm]	Basic type	±0.02			±0.02					
		High precision type	±0.01			±0.01					
	Lost motion Note 5) [mm]	Basic type	0.1 or less								
		High precision type	0.05 or less								
	Lead [mm] (including pulley ratio)		12	6	3	20	10	5	16	8	4
	Impact/Vibration resistance [m/s^2] Note 6)		50/20			50/20					
	Actuation type		Ball screw + Belt [1:1]/Ball screw			Ball screw + Belt [1:1.25]			Ball screw		
	Guide type		Sliding bearing (LEYG□M), Ball bushing bearing (LEYG□L)								
	Operating temperature range [°C]		5 to 40			5 to 40					
	Operating humidity range [%RH]		90 or less (No condensation)			90 or less (No condensation)					
	Required conditions for "Regeneration option" [kg] Note 7)	Horizontal	8 or more	31 or more	Not required	15 or more	Not required	Not required	23 or more	Not required	Not required
		Vertical	2 or more	1 or more	1 or more	4 or more	5 or more	9 or more	4 or more	5 or more	9 or more
Electric specifications	Motor output/Size		100 W/□40			200 W/□60					
	Motor type		AC servo motor (200 VAC)			AC servo motor (200 VAC)					
	Encoder		Motor type T6, T7: Absolute 22-bit encoder (Resolution: 4194304 p/rev)								
	Power consumption [W] Note 8)	Horizontal	45			65			65		
		Vertical	145			175			175		
	Standby power consumption when operating [W] Note 9)	Horizontal	2			2			2		
		Vertical	8			8			8		
	Max. instantaneous power consumption [W] Note 10)		445			724			724		
Lock unit specifications	Type Note 11)		Non-magnetizing lock			Non-magnetizing lock					
	Holding force [N]		131	255	485	157	308	588	197	385	736
	Power consumption [W] at 20°C Note 12)		6.3			7.9			7.9		
	Rated voltage [V]		24 VDC$^{0}_{-10\%}$								

Note 1) Please consult with SMC for non-standard strokes as they are produced as special orders.
Note 2) The maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Please confirm using actual device.
Note 3) The force setting range (set values for the driver) for the pushing operation with the torque control mode, etc. Set it with reference to "Force Conversion Graph" on page 637.
Note 4) The allowable collision speed for the pushing operation with the torque control mode, etc.
Note 5) A reference value for correcting an error in reciprocal operation.
Note 6) Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Note 7) The work load conditions which require "Regeneration option" when operating at the maximum speed (Duty ratio: 100%). Order the regeneration option separately. For details and order numbers, refer to "Required Conditions for Regeneration Option" on page 273.
Note 8) The power consumption (including the driver) is for when the actuator is operating.
Note 9) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.
Note 10) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
Note 11) Only when motor option "With lock" is selected.
Note 12) For an actuator with lock, add the power consumption for the lock.

Weight

Weight: Top Mounting Type

[kg]

Series		LEYG25M							LEYG32M						
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300
Motor type	Absolute encoder	1.8	2.0	2.4	2.8	3.1	3.5	3.7	3.2	3.4	4.0	4.7	5.3	5.7	6.2

Series		LEYG25L							LEYG32L						
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300
Motor type	Absolute encoder	1.9	2.1	2.3	2.7	3.0	3.3	3.6	3.2	3.4	3.8	4.6	5.0	5.5	5.9

Weight: In-line Motor Type

[kg]

Series		LEYG25MD							LEYG32MD						
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300
Motor type	Absolute encoder	1.9	2.1	2.4	2.8	3.1	3.5	3.7	3.2	3.4	4.0	4.7	5.3	5.8	6.2

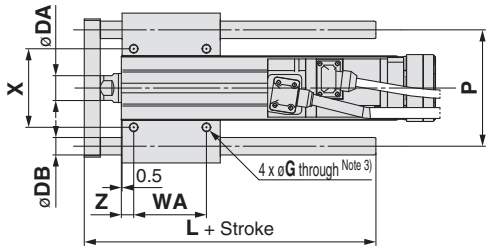
Series		LEYG25LD							LEYG32LD						
Stroke [mm]		30	50	100	150	200	250	300	30	50	100	150	200	250	300
Motor type	Absolute encoder	1.9	2.1	2.3	2.8	3.0	3.3	3.6	3.2	3.4	3.8	4.6	5.0	5.5	5.9

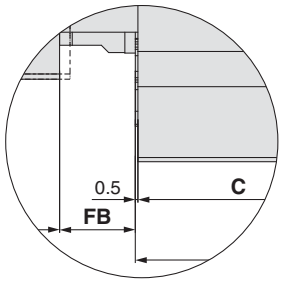
Additional Weight

[kg]

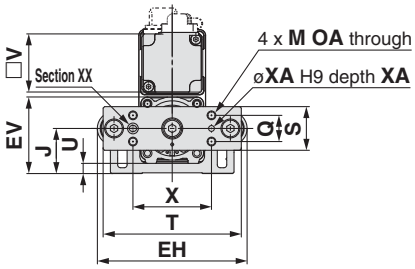
Size		25	32
Lock	Absolute encoder	0.3	0.7

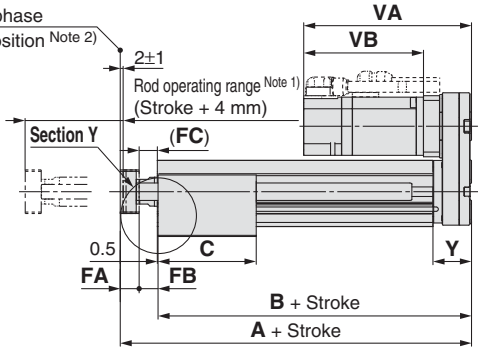
Dimensions: Top Mounting

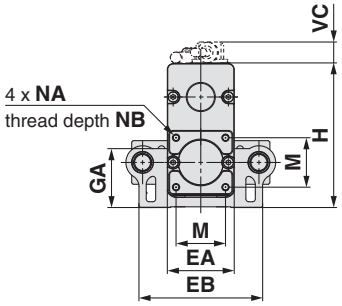




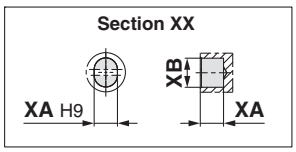
Section Y details

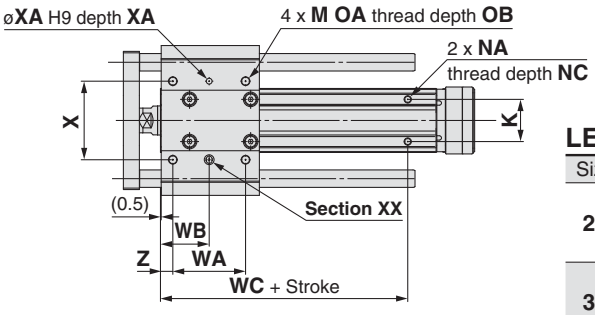






Note 1) Range within which the rod can move. Make sure a workpiece mounted on the rod does not interfere with the workpieces and facilities around the rod.
Note 2) The Z-phase first detecting position from the stroke end of the motor side.
Note 3) Through holes cannot be used for size 32 with 50 mm stroke or less.





LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range [mm]	L	DB
25	15 to 110	91	10
	115 to 190	115	
	195 to 300	133	
32	20 to 110	97.5	13
	115 to 190	116.5	
	195 to 300	134	

LEYG□M (Sliding bearing) [mm]

Size	Stroke range [mm]	L	DB
25	15 to 55	67.5	12
	60 to 185	100.5	
	190 to 300	138	
32	20 to 55	74	16
	60 to 185	107	
	190 to 300	144	

LEYG□M, LEYG□L Common

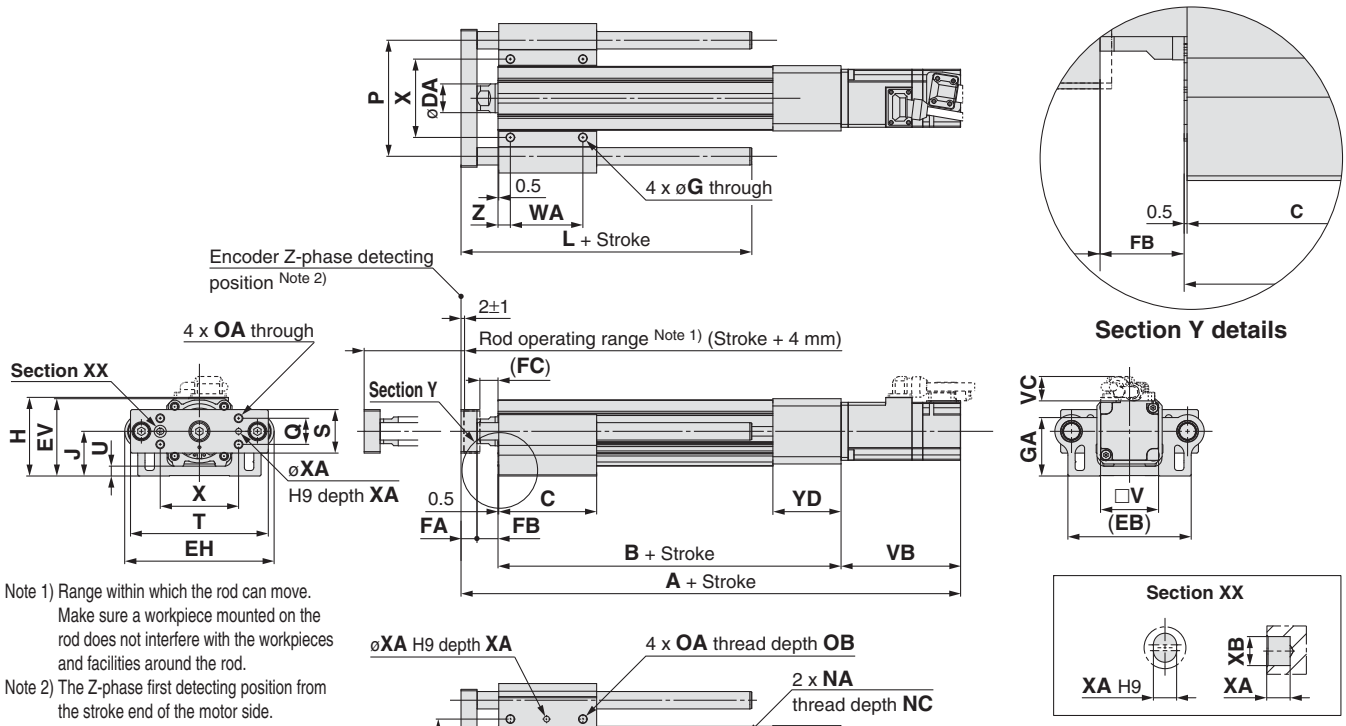
[mm]

Size	Stroke range [mm]	A	B	C	DA	EA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	M	NA	NB	NC
25	15 to 35	141.5	116	50	20	46	85	103	52.3	11	14.5	12.5	5.4	40.3	98.8	30.8	29	34	M5 x 0.8	8	6.5
	40 to 100			67.5																	
	105 to 120	166.5	141																		
	125 to 200			84.5																	
	205 to 300			102																	
32	20 to 35	160.5	130	55	25	60	101	123	63.8	12	18.5	16.5	5.4	50.3	125.3	38.3	30	40	M6 x 1.0	10	8.5
	40 to 100			68																	
	105 to 120	190.5	160																		
	125 to 200			85																	
	205 to 300			102																	

Size	Stroke range [mm]	OA	OB	P	Q	S	T	U	V	WA	WB	WC	X	XA	XB	Y	Z
25	15 to 35	M6 x 1.0	12	80	18	30	95	6.8	40	35	26	70	54	4	5	26.5	8.5
	40 to 100									50	33.5						
	105 to 120											95					
	125 to 200									70	43.5						
	205 to 300									85	51						
32	20 to 35	M6 x 1.0	12	95	28	40	117	7.3	60	40	28.5	75	64	5	6	34	8.5
	40 to 100									50	33.5						
	105 to 120											105					
	125 to 200									70	43.5						
	205 to 300									85	51						

Size	Without lock			With lock		
	VA	VB	VC	VA	VB	VC
25	115.4	82.4	14.1	156	123	15.8
32	116.6	76.6	17.1	153.4	113.4	17.1

Dimensions: In-line Motor



Note 1) Range within which the rod can move. Make sure a workpiece mounted on the rod does not interfere with the workpieces and facilities around the rod.
Note 2) The Z-phase first detecting position from the stroke end of the motor side.

LEYG□L (Ball bushing bearing) [mm]

Size	Stroke range [mm]	L	DB
25	15 to 110	91	10
	115 to 190	115	
	195 to 300	133	
32	20 to 110	97.5	13
	115 to 190	116.5	
	195 to 300	134	

LEYG□M (Sliding bearing) [mm]

Size	Stroke range [mm]	L	DB
25	15 to 55	67.5	12
	60 to 185	100.5	
	190 to 300	138	
32	20 to 55	74	16
	60 to 185	107	
	190 to 300	144	

LEYG□M, LEYG□L Common [mm]

Size	Stroke range [mm]	B	C	DA	EB	EH	EV	FA	FB	FC	G	GA	H	J	K	NA	NC
25	15 to 35	136.5	50	20	85	103	52.3	11	14.5	12.5	5.4	40.3	53.3	30.8	29	M5 x 0.8	6.5
	40 to 100		67.5														
	105 to 120	161.5															
	125 to 200		84.5														
	205 to 300		102														
32	20 to 35	156	55	25	101	123	63.8	12	18.5	16.5	5.4	50.3	68.3	38.3	30	M6 x 1.0	8.5
	40 to 100		68														
	105 to 120	186															
	125 to 200		85														
	205 to 300		102														

Size	Stroke range [mm]	OA	OB	P	Q	S	T	U	V	WA	WB	WC	X	XA	XB	YD	Z
25	15 to 35	M6 x 1.0	12	80	18	30	95	6.8	40	35	26	70	54	4	5	47	8.5
	40 to 100									50	33.5						
	105 to 120											95					
	125 to 200									70	43.5						
	205 to 300									85	51						
32	20 to 35	M6 x 1.0	12	95	28	40	117	7.3	60	40	28.5	75	64	5	6	60	8.5
	40 to 100									50	33.5						
	105 to 120											105					
	125 to 200									70	43.5						
	205 to 300									85	51						

Size	Stroke range [mm]	Without lock			With lock		
		A	VB	VC	A	VB	VC
25	15 to 100	244.4	82.4	14.6	285	123	16.3
	105 to 300	269.4			310		
32	15 to 100	263.1	76.6	17.1	299.9	113.4	17.1
	105 to 300	293.1			329.9		

AC Servo Motor Driver
Absolute Type

Series LECSS-T (SSCNET Ⅲ/H Type)

CE RoHS

How to Order

Driver LECS S 2 – T5

Driver type

S	SSCNET Ⅲ/H type (For absolute encoder)

Power supply voltage

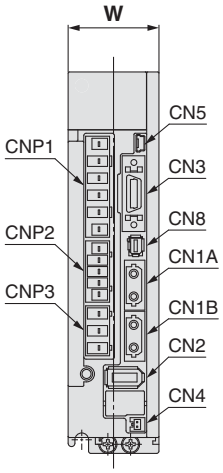
2	200 to 240 VAC, 50/60 Hz

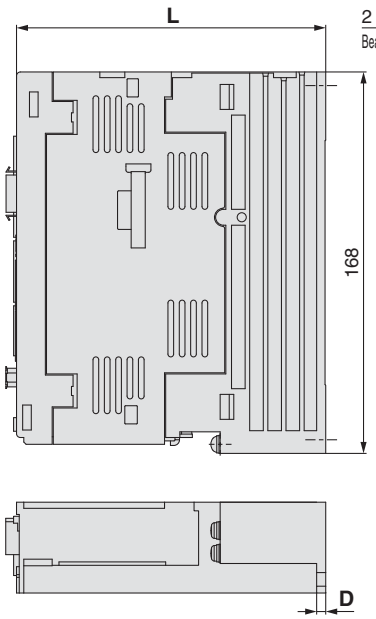
Compatible motor type

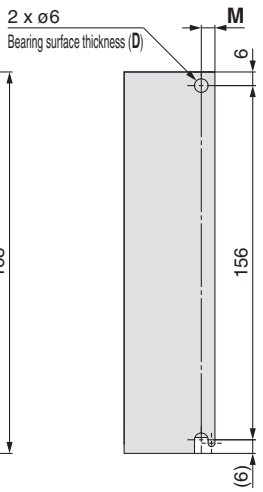
Symbol	Type	Capacity	Encoder
T5	AC servo motor (T6)	100 W	Absolute
T7	AC servo motor (T7)	200 W	
T8	AC servo motor (T8)	400 W	

Dimensions

LECSS2-T□







Connector name	Description
CN1A	Front axis connector for SSCNET Ⅲ/H
CN1B	Rear axis connector for SSCNET Ⅲ/H
CN2	Encoder connector
CN3	I/O signal connector
CN4	Battery connector
CN5	USB communication connector
CN8	STO input signal connector
CNP1	Main circuit power supply connector
CNP2	Control circuit power supply connector
CNP3	Servo motor power connector

Dimensions [mm]

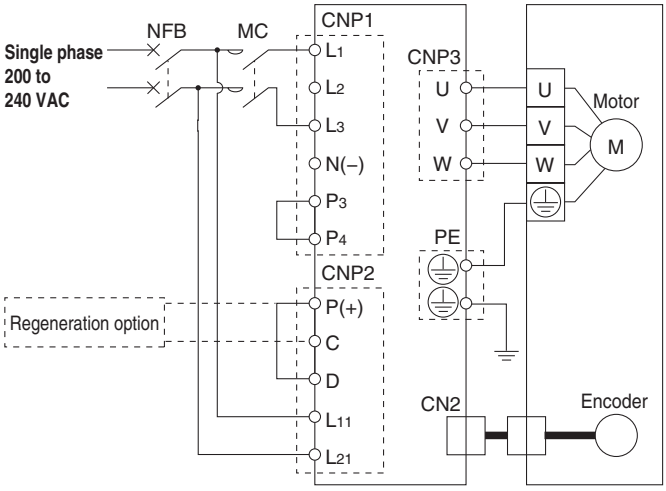
Model	W	L	D	M
LECSS2-T5	40	135	4	6
LECSS2-T7				
LECSS2-T8		170	5	

Specifications

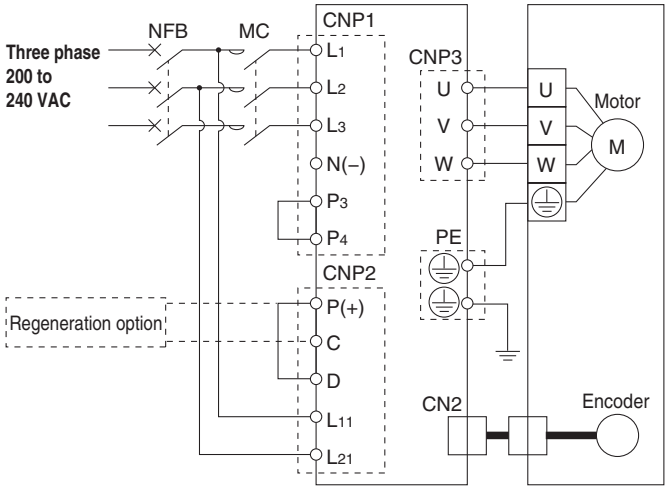
Model		LECSS2-T5	LECSS2-T7	LECSS2-T8
Compatible motor capacity [W]		100	200	400
Compatible encoder		Absolute 22-bit encoder (Resolution: 4194304 p/rev)		
Main power supply	Power voltage [V]	Three phase 200 to 240 VAC (50/60 Hz), Single phase 200 to 240 VAC (50/60 Hz)		
	Allowable voltage fluctuation [V]	Three phase 170 to 264 VAC (50/60 Hz), Single phase 170 to 264 VAC (50/60 Hz)		
	Rated current [A]	0.9	1.5	2.6
Control power supply	Control power supply voltage [V]	Single phase 200 to 240 VAC (50/60 Hz)		
	Allowable voltage fluctuation [V]	Single phase 170 to 264 VAC		
	Rated current [A]	0.2		
Applicable Fieldbus protocol		SSCNET Ⅲ/H (High-speed optical communication)		
Communication function		USB communication		
Operating temperature range [°C]		0 to 55 (No freezing)		
Operating humidity range [%RH]		90 or less (No condensation)		
Storage temperature range [°C]		–20 to 65 (No freezing)		
Storage humidity range [%RH]		90 or less (No condensation)		
Insulation resistance [MΩ]		Between the housing and SG: 10 (500 VDC)		
Weight [g]		800		1000

Power Supply Wiring Example: LECSS2-T□

For single phase 200 VAC



For three phase 200 VAC



Note) For single phase 200 to 240 VAC, power supply should be connected to L_1 and L_3 terminals, with nothing connected to L_2.

Main Circuit Power Supply Connector: CNP1

∗ Accessory

Terminal name	Function	Details
L_1	Main circuit power supply	Connect the main circuit power supply. LECSS2: Single phase 200 to 240 VAC, 50/60 Hz Connection terminal: L_1,L_3 Three phase 200 to 240 VAC, 50/60 Hz Connection terminal: L_1,L_2,L_3
L_2		
L_3		
N(–)	Do not connect.	
P_3	Connect between P_3 and P_4. (Connected at time of shipping.)	
P_4		

Control Circuit Power Supply Connector: CNP2

∗ Accessory

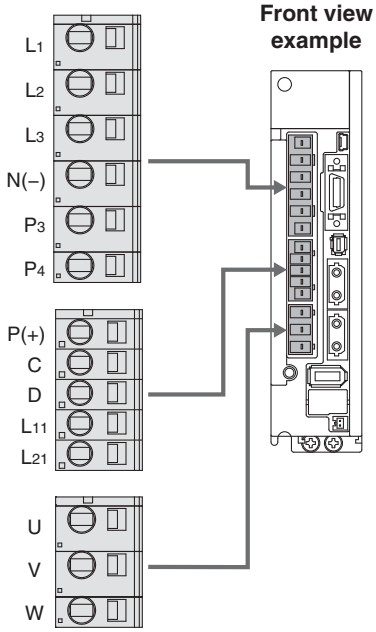
Terminal name	Function	Details
P(+)	Regeneration option	Connect between P(+) and D. (Connected at time of shipping.) ∗ If regeneration option is required for "Model Selection", connect to this terminal.
C		
D		
L_{11}	Control circuit power supply	Connect the control circuit power supply. LECSS2: Single phase 200 to 240 VAC, 50/60 Hz Connection terminal: L_{11},L_{21} Three phase 200 to 240 VAC, 50/60 Hz Connection terminal: L_{11},L_{21}
L_{21}		

Motor Connector: CNP3

∗ Accessory

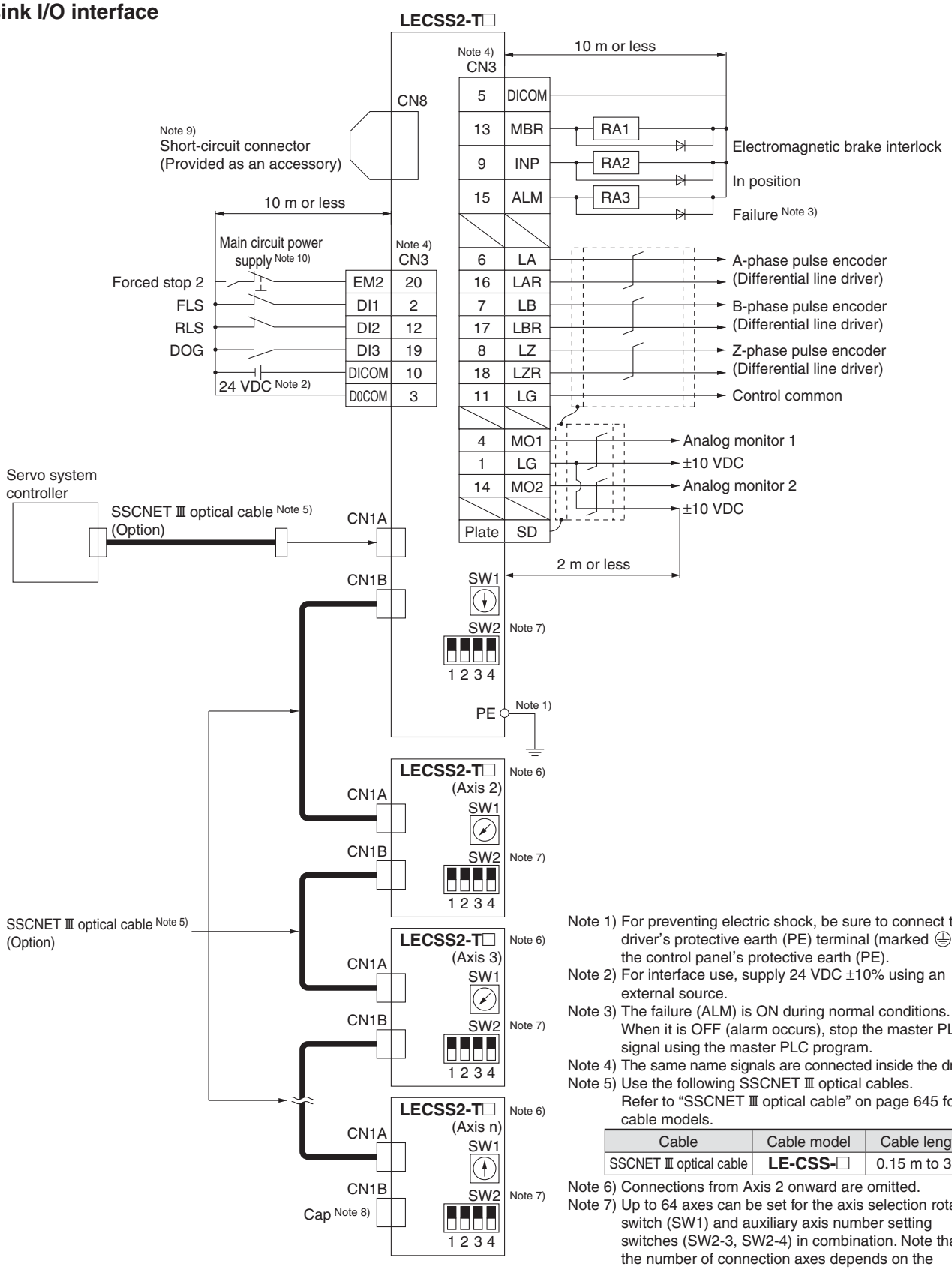
Terminal name	Function	Details
U	Servo motor power (U)	Connect to motor cable (U, V, W).
V	Servo motor power (V)	
W	Servo motor power (W)	

LECSS2-T□ Front view example



Control Signal Wiring Example: LECSS2-T□

For sink I/O interface



Note 1) For preventing electric shock, be sure to connect the driver's protective earth (PE) terminal (marked ⏚) to the control panel's protective earth (PE).
Note 2) For interface use, supply 24 VDC ±10% using an external source.
Note 3) The failure (ALM) is ON during normal conditions. When it is OFF (alarm occurs), stop the master PLC signal using the master PLC program.
Note 4) The same name signals are connected inside the driver.
Note 5) Use the following SSCNET Ⅲ optical cables. Refer to "SSCNET Ⅲ optical cable" on page 645 for cable models.

Cable	Cable model	Cable length
SSCNET Ⅲ optical cable	**LE-CSS-□**	0.15 m to 3 m

Note 6) Connections from Axis 2 onward are omitted.
Note 7) Up to 64 axes can be set for the axis selection rotary switch (SW1) and auxiliary axis number setting switches (SW2-3, SW2-4) in combination. Note that the number of connection axes depends on the specifications of the master PLC.
Note 8) Be sure to place a cap on unused CN1A/CN1B.
Note 9) When not using the STO function, use the driver with the short-circuit connector (provided as an accessory) inserted.
Note 10) Configure a circuit to turn off EM2 when the main circuit power is turned off to prevent an unexpected restart of the driver.

Options

Motor cable, Lock cable, Encoder cable (LECS□ common)

LE − CS M − S 5 A

Motor type

S	AC servo motor

Cable description

M	Motor cable
B	Lock cable
E	Encoder cable

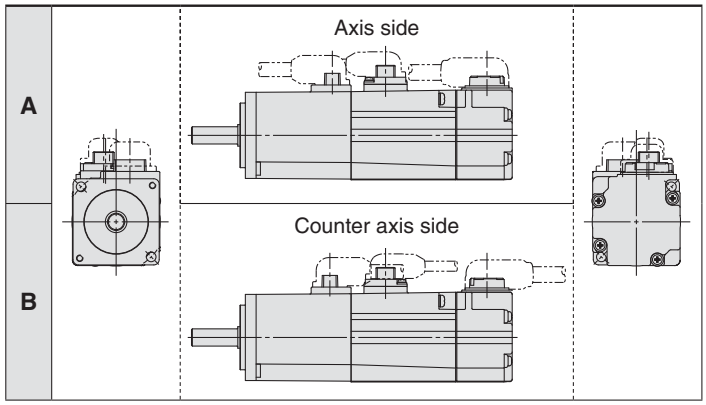
Cable type

S	Standard cable
R	Robotic cable

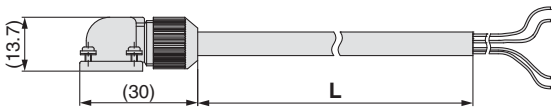
Cable length (L) [m]

2	2
5	5
A	10

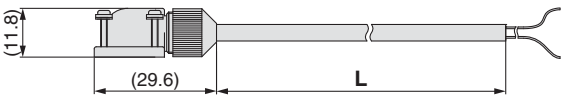
Direction of connector



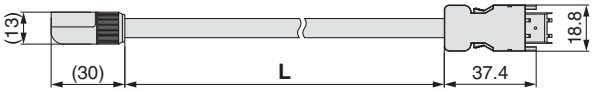
LE-CSM-□□: Motor cable



LE-CSB-□□: Lock cable



LE-CSE-□□: Encoder cable



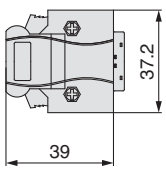
I/O connector (Without cable, Connector only)

LE − CSN A

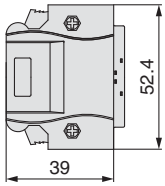
Driver type

A	LECSA□, LECSC□
B	LECSB□
S	LECSS□-S□, LECSS2-T□

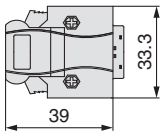
LE-CSNA



LE-CSNB



LE-CSNS



∗ LE-CSNA: 10126-3000PE (connector)/10326-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
LE-CSNB: 10150-3000PE (connector)/10350-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
LE-CSNS: 10120-3000PE (connector)/10320-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
∗ Applicable conductor size: AWG24 to 30

Options

SSCNET Ⅲ optical cable (LECSS□-S□, LECSS2-T□)

LE−CSS−1

Motor type

S	AC servo motor

Cable description

S	SSCNET Ⅲ optical cable

Cable length

L	0.15 m
K	0.3 m
J	0.5 m
1	1 m
3	3 m

∗ LE-CSS-□ is MR-J3BUS□M manufactured by Mitsubishi Electric Corporation.

I/O cable

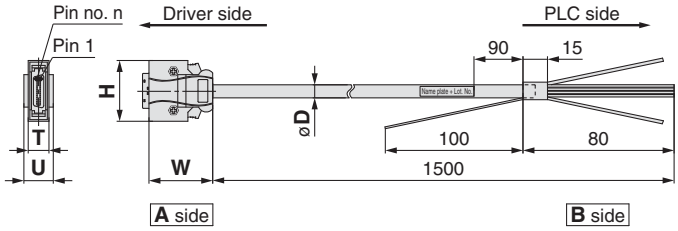
LEC−CSN A−1

Driver type

A	LECSA□, LECSC□
B	LECSB□
S	LECSS□-S□, LECSS2-T□

Cable length (L) [m]

1	1.5



∗ LEC-CSNA-1: 10126-3000PE (connector)/10326-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
LEC-CSNB-1: 10150-3000PE (connector)/10350-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
LEC-CSNS-1: 10120-3000PE (connector)/10320-52F0-008 (shell kit) manufactured by Sumitomo 3M Limited or equivalent item.
∗ Conductor size: AWG24

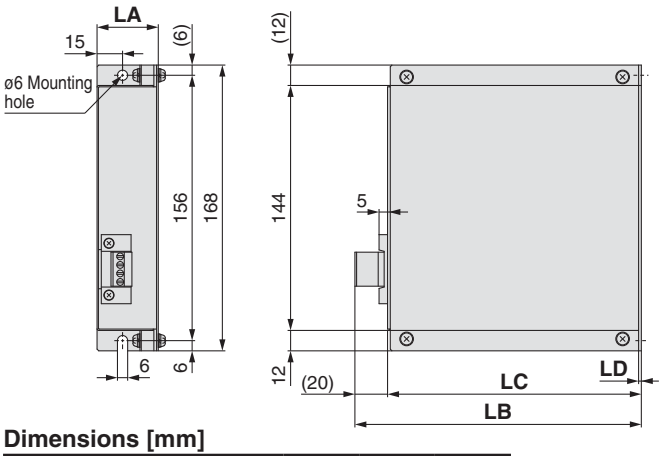
Regeneration option (LECS□ common)

LEC−MR−RB−12

Regeneration option type

032	Allowable regenerative power 30 W
12	Allowable regenerative power 100 W

∗ Confirm regeneration option to be used in "Model Selection".



Dimensions [mm]

Model	LA	LB	LC	LD
LEC-MR-RB-032	30	119	99	1.6
LEC-MR-RB-12	40	169	149	2

∗ MR-RB□ manufactured by Mitsubishi Electric Corporation.

Cable O.D.

Product no.	øD
LEC-CSNA-1	11.1
LEC-CSNB-1	13.8
LEC-CSNS-1	9.1

Dimensions/Pin No.

Product no.	W	H	T	U	Pin no. n
LEC-CSNA-1	39	37.2	12.7	14	14
LEC-CSNB-1		52.4		18	26
LEC-CSNS-1		33.3		14	21

Wiring

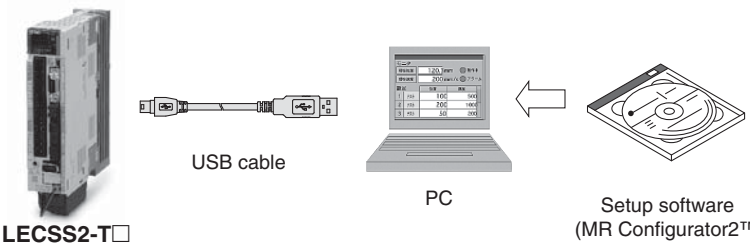
LEC-CSNA-1: Pin no. 1 to 26
LEC-CSNB-1: Pin no. 1 to 50
LEC-CSNS-1: Pin no. 1 to 20

Connector pin no.		Pair no. of wire	Insulation color	Dot mark	Dot color
A side	1	1	Orange	▬	Red
	2			▬	Black
	3	2	Light gray	▬	Red
	4			▬	Black
	5	3	White	▬	Red
	6			▬	Black
	7	4	Yellow	▬	Red
	8			▬	Black
	9	5	Pink	▬	Red
	10			▬	Black
	11	6	Orange	▬ ▬	Red
	12			▬ ▬	Black
	13	7	Light gray	▬ ▬	Red
	14			▬ ▬	Black
	15	8	White	▬ ▬	Red
	16			▬ ▬	Black
	17	9	Yellow	▬ ▬	Red
	18			▬ ▬	Black

Connector pin no.		Pair no. of wire	Insulation color	Dot mark	Dot color
A side	19	10	Pink	▬ ▬	Red
	20			▬ ▬	Black
	21	11	Orange	▬ ▬ ▬	Red
	22			▬ ▬ ▬	Black
	23	12	Light gray	▬ ▬ ▬	Red
	24			▬ ▬ ▬	Black
	25	13	White	▬ ▬ ▬	Red
	26			▬ ▬ ▬	Black
	27	14	Yellow	▬ ▬ ▬	Red
	28			▬ ▬ ▬	Black
	29	15	Pink	▬ ▬ ▬	Red
	30			▬ ▬ ▬	Black
	31	16	Orange	▬ ▬ ▬ ▬	Red
	32			▬ ▬ ▬ ▬	Black
	33	17	Light gray	▬ ▬ ▬ ▬	Red
	34			▬ ▬ ▬ ▬	Black

Connector pin no.		Pair no. of wire	Insulation color	Dot mark	Dot color
A side	35	18	White	▬ ▬ ▬ ▬	Red
	36			▬ ▬ ▬ ▬	Black
	37	19	Yellow	▬ ▬ ▬ ▬	Red
	38			▬ ▬ ▬ ▬	Black
	39	20	Pink	▬ ▬ ▬ ▬	Red
	40			▬ ▬ ▬ ▬	Black
	41	21	Orange	▬ ▬ ▬ ▬ ▬	Red
	42			▬ ▬ ▬ ▬ ▬	Black
	43	22	Light gray	▬ ▬ ▬ ▬ ▬	Red
	44			▬ ▬ ▬ ▬ ▬	Black
	45	23	White	▬ ▬ ▬ ▬ ▬	Red
	46			▬ ▬ ▬ ▬ ▬	Black
	47	24	Yellow	▬ ▬ ▬ ▬ ▬	Red
	48			▬ ▬ ▬ ▬ ▬	Black
	49	25	Pink	▬ ▬ ▬ ▬ ▬	Red
	50			▬ ▬ ▬ ▬ ▬	Black

Options



LECSS2-T□

Setup software (MR Configurator2™) (LECSA, LECSB, LECSC, LECSS common)

LEC−MRC2□

Display language

Nil	Japanese version
E	English version
C	Chinese version

* SW1DNC-MRC2-□ manufactured by Mitsubishi Electric Corporation.
Refer to Mitsubishi Electric Corporation's website for operating environment and version upgrade information.
MR Configurator2™ is a registered trademark or trademark of Mitsubishi Electric Corporation.

Adjustment, waveform display, diagnostics, parameter read/write, and test operation can be performed upon a PC.

Compatible PC

When using setup software (MR Configurator2™), use an IBM PC/AT compatible PC that meets the following operating conditions.

Hardware Requirements

Equipment		Setup software (MR Configurator2™) **LEC-MRC2□**
Note 1) 2) 3) 4) 5) 6) 7) 9) PC	OS	Microsoft® Windows®8 Enterprise Operating System Microsoft® Windows®8 Pro Operating System Microsoft® Windows®8 Operating System Microsoft® Windows®7 Enterprise Operating System Microsoft® Windows®7 Ultimate Operating System Microsoft® Windows®7 Professional Operating System Microsoft® Windows®7 Home Premium Operating System Microsoft® Windows®7 Starter Operating System Microsoft® Windows Vista® Enterprise Operating System Microsoft® Windows Vista® Ultimate Operating System Microsoft® Windows Vista® Business Operating System Microsoft® Windows Vista® Home Premium Operating System Microsoft® Windows Vista® Home Basic Operating System Microsoft® Windows®XP Professional Operating System, Service Pack 2 or later Microsoft® Windows®XP Home Edition Operating System, Service Pack 2 or later Microsoft® Windows®2000 Professional Operating System, Service Pack 4 or later
	Available HD space	1 GB or more
	Communication interface	Use USB port.
Display		Resolution 1024 x 768 or more Must be capable of high color (16-bit) display. The connectable with the above PC
Keyboard		The connectable with the above PC
Mouse		The connectable with the above PC
Printer		The connectable with the above PC
USB cable Note 8)		LEC-MR-J3USB

Note 1) Before using a PC for setting LECSA point table method/program operation method, upgrade to version 1.18U (Japanese version)/ version 1.19V (English version) or later. Refer to Mitsubishi Electric Corporation's website for version upgrade information.
Note 2) Windows® and Windows Vista® are registered trademarks of Microsoft Corporation in the United States and other countries.
Note 3) On some PCs, setup software (MR Configurator2™) may not run properly.
Note 4) When Windows®XP or later is used, the following functions cannot be used.
· Windows Program Compatibility mode
· Fast User Switching
· Remote Desktop
· Large Fonts Mode (Display property)
· DPI settings other than 96 DPI (Display property)
· 64-bit OSs are not supported, except for Microsoft® Windows®7 or later.
Note 5) When Windows®7 is used, the following functions cannot be used.
· Windows XP Mode
· Windows Touch
Note 6) When using this software with Windows Vista® or later, log in as a user having USER authority or higher.
Note 7) When Windows®8 is used, the following functions cannot be used.
· Hyper-V
· Modern UI style
Note 8) Order USB cable separately.
· This cable is compatible with the setup software (MR Configurator™: LEC-MR-SETUP221□).
Note 9) Using a PC for setting Windows®8.1, upgrade to version 1.25B or later. Refer to Mitsubishi Electric Corporation's website for version upgrade information.

Setup Software Compatible Driver

Compatible driver	Setup software	
	MR Configurator™	MR Configurator2™
	LEC-MR-SETUP221□	LEC-MRC2□
LECSA	○	○
LECSB	○	○
LECSC	○	○
LECSS□-S□	○	○
LECSS2-T□	—	○

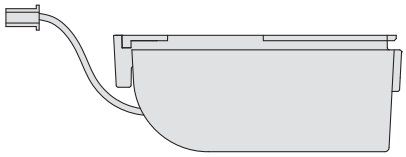
Options

Battery (only for LECSS2-T□)

LEC−MR−BAT6V1SET

∗ MR-BAT6V1SET manufactured by Mitsubishi Electric Corporation.

Battery for replacement.
Absolute position data is maintained by installing the battery to the driver.



Note) The LEC-MR-BAT6V1SET is an assembled battery that uses lithium metal battery 2CR17335A. This battery is not applicable to UN regulation Dangerous Goods (Class 9). When transporting lithium metal batteries and devices with built-in lithium metal batteries by a method subject to UN regulations, it is necessary to apply measures according to the regulations stipulated in the United Nations Recommendations on the Transport of Dangerous Goods, the Technical Instructions (ICAO-TI) of the International Civil Aviation Organization (ICAO), and the International Maritime Dangerous Goods Code (IMDG CODE) of the International Maritime Organization (IMO). If a customer is transporting products such as shown above, it is necessary to confirm the latest regulations, or the laws and regulations of the country of transport on your own, in order to apply the proper measures. Please contact SMC sales representative for details.

USB cable (3 m)

LEC−MR−J3USB

∗ MR-J3USBCBL3M manufactured by Mitsubishi Electric Corporation.

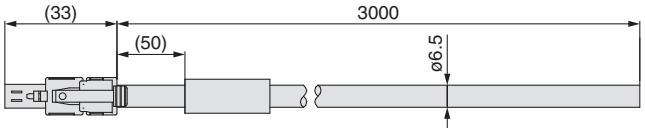
Cable for connecting PC and driver when using the setup software (MR Configurator2™).
Do not use any cable other than this cable.

STO cable (3 m)

LEC−MR−D05UDL3M

∗ MR-D05UDL3M manufactured by Mitsubishi Electric Corporation.

Cable for connecting the driver and device, when using the safety function.
Do not use any cable other than this cable.



AC Servo Motor Driver
Series LECYM/LECYU

CE RoHS

MECHATROLINK Compatible

Power supply voltage (V)
200 to 230 VAC

Motor capacity (W)
100/200/400

- **Position control, speed control and torque control can be used.**
- **Control encoder: Absolute 20-bit encoder (Resolution: 1048576 p/rev)**

MECHATROLINK-Ⅱ Type — *Series LECYM* Page 755

- **Applicable Fieldbus protocol: MECHATROLINK-Ⅱ**
- **Number of connectable drivers: 30 units (Transmission distance: Max. 50 m in total)**

Max. transmission speed: **10 Mbps**

Min. transmission cycle: **250 μs**

MECHATROLINK-Ⅲ Type — *Series LECYU* Page 755

- **Applicable Fieldbus protocol: MECHATROLINK-Ⅲ**
- **Number of connectable drivers: 62 units (Transmission distance: Max. 75 m between stations)**

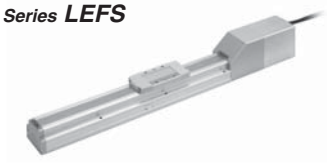
Max. transmission speed: **100 Mbps**

Min. transmission cycle: **125 μs**

Compatible Actuators

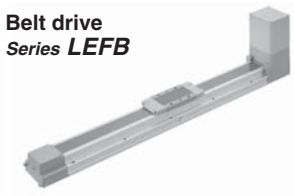
Slider Type Pages 653, 671

Ball screw drive
Series ***LEFS***



Size	Max. work load [kg]	Stroke [mm]
25	20	Up to 800
32	45	Up to 1000
40	60	Up to 1200

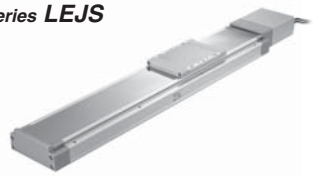
Belt drive
Series ***LEFB***



Size	Max. work load [kg]	Stroke [mm]
25	5	Up to 2000
32	15	Up to 2500
40	25	Up to 3000

High Rigidity Slider Type Page 691

Ball screw drive
Series ***LEJS***



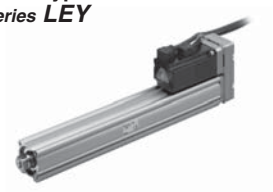
Size	Max. work load [kg]	Stroke [mm]
40	55	Up to 1200
63	85	Up to 1500

Belt drive
Series ***LEJB***

Size	Max. work load [kg]	Stroke [mm]
40	20	Up to 2000
63	30	Up to 3000

Rod Type Page 719

Basic type
Series ***LEY***



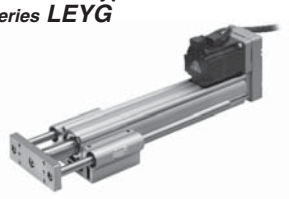
Size	Pushing force [N]	Stroke [mm]
25	485	Up to 400
32	588	Up to 500
63	3343	Up to 800

In-line motor type
Series ***LEY□D***

Size	Pushing force [N]	Stroke [mm]
25	485	Up to 400
32	736	Up to 500
63	1910	Up to 800

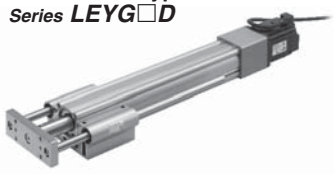
Guide Rod Type Page 735

Guide rod type
Series ***LEYG***



Size	Pushing force [N]	Stroke [mm]
25	485	Up to 300
32	588	

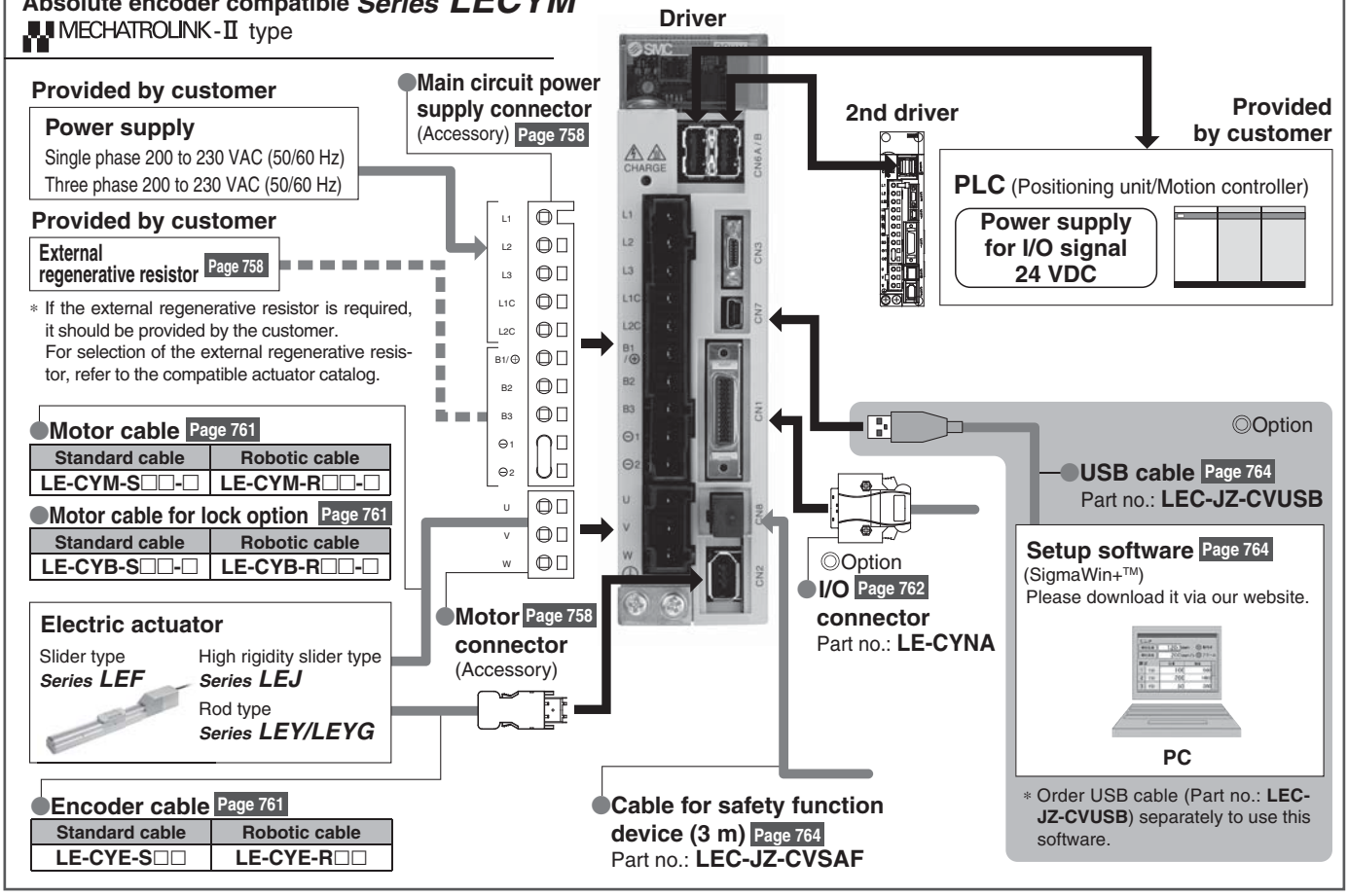
Guide rod type/ In-line motor type
Series ***LEYG□D***



Size	Pushing force [N]	Stroke [mm]
25	485	Up to 300
32	736	

System Construction

Absolute encoder compatible *Series LECYM*
MECHATROLINK-Ⅱ type

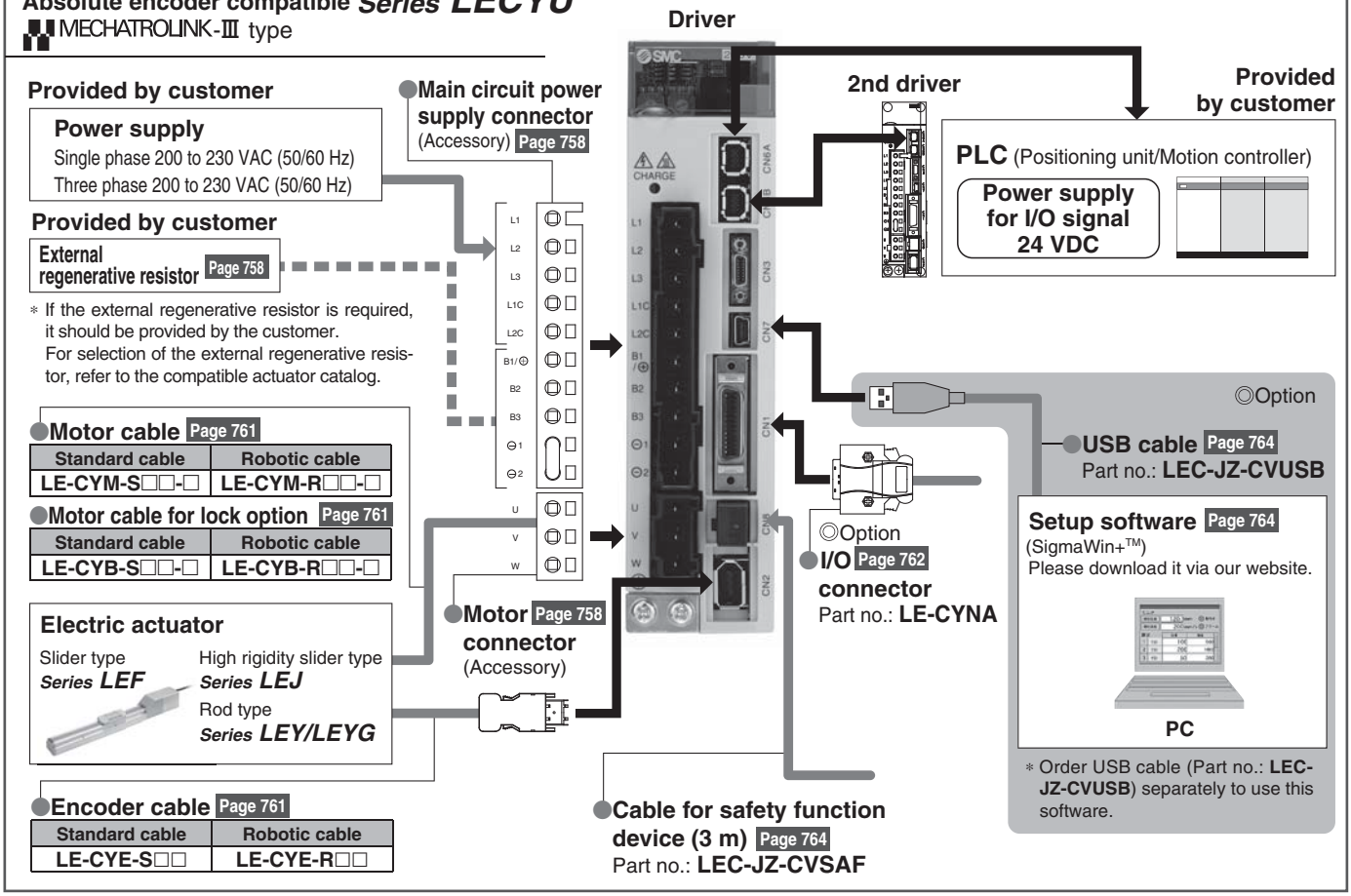


Motor cable Page 761	
Standard cable	Robotic cable
LE-CYM-S□□-□	LE-CYM-R□□-□

Motor cable for lock option Page 761	
Standard cable	Robotic cable
LE-CYB-S□□-□	LE-CYB-R□□-□

Encoder cable Page 761	
Standard cable	Robotic cable
LE-CYE-S□□	LE-CYE-R□□

Absolute encoder compatible *Series LECYU*
MECHATROLINK-Ⅲ type



Motor cable Page 761	
Standard cable	Robotic cable
LE-CYM-S□□-□	LE-CYM-R□□-□

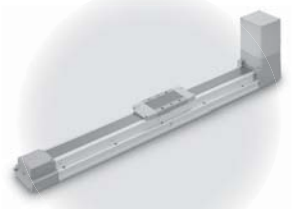
Motor cable for lock option Page 761	
Standard cable	Robotic cable
LE-CYB-S□□-□	LE-CYB-R□□-□

Encoder cable Page 761	
Standard cable	Robotic cable
LE-CYE-S□□	LE-CYE-R□□

MECHATROLINK Compatible AC Servo Motor Driver

◎Electric Actuator/ Slider Type, Ball Screw Drive *Series LEFS*

◎Electric Actuator/ Slider Type, Belt Drive *Series LEFB*



◎Electric Actuator/ High Rigidity Slider Type, Ball Screw Drive *Series LEJS*

◎Electric Actuator/ High Rigidity Slider Type, Belt Drive *Series LEJB*

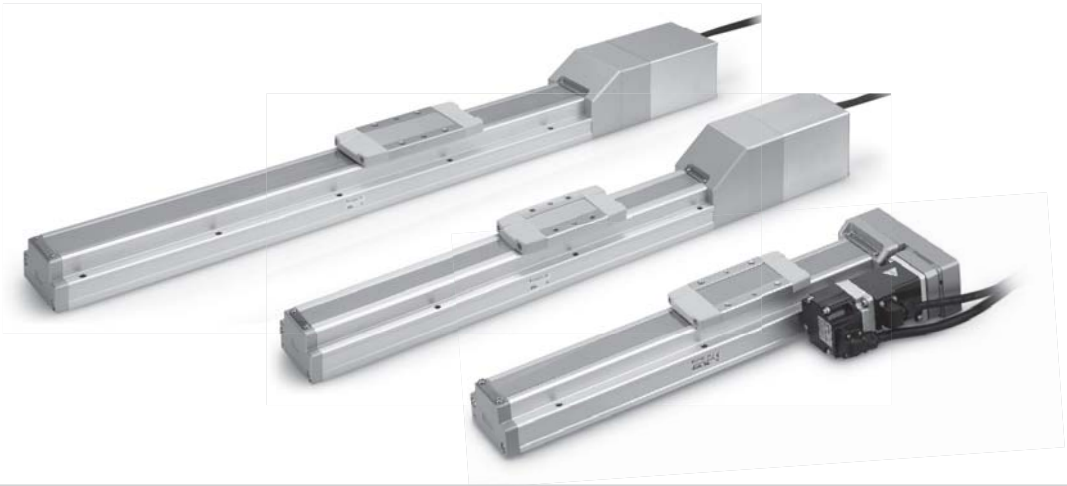
◎Electric Actuator/Rod Type *Series LEY*

◎Electric Actuator/Guide Rod Type *Series LEYG*

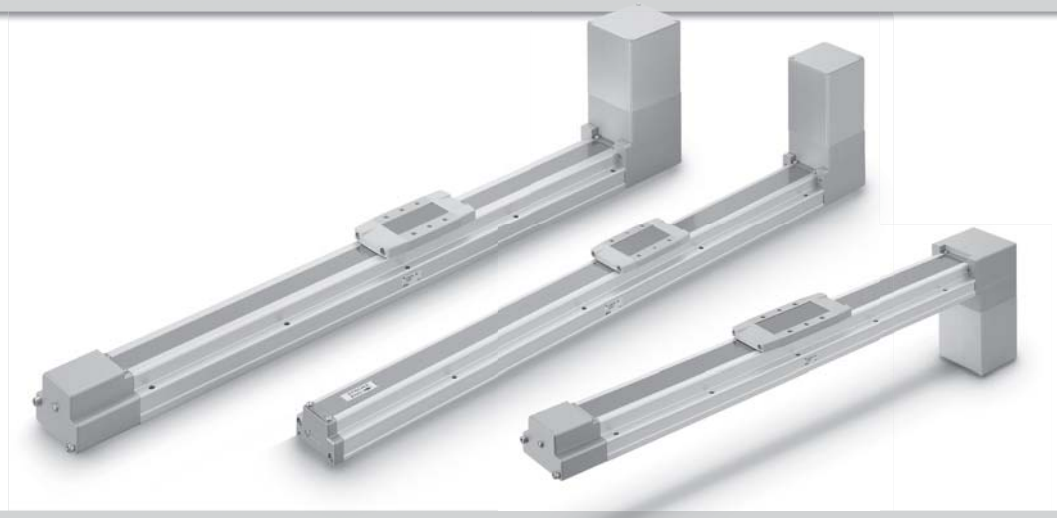
◎AC Servo Motor Driver *Series LECYM/LECYU*

AC Servo Motor

Ball Screw Drive *Series LEFS*

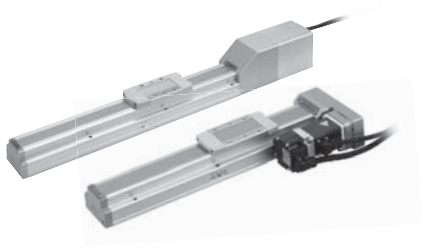


Belt Drive *Series LEFB*



AC Servo Motor Driver *Series LECYM/LECYU*

Model Selection



Series LEFS ▶ Page 661

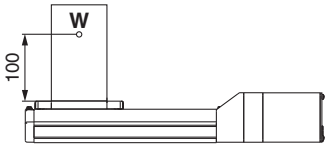
Selection Procedure

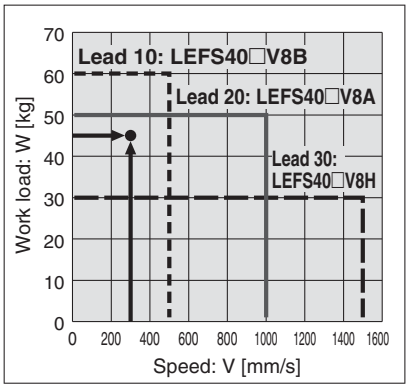
Step 1 Check the work load–speed. → **Step 2** Check the cycle time. → **Step 3** Check the allowable moment.

Selection Example

Operating conditions

- Workpiece mass: 45 [kg]
- Speed: 300 [mm/s]
- Acceleration/Deceleration: 3000 [mm/s²]
- Stroke: 200 [mm]
- Mounting position: Horizontal upward
- Workpiece mounting condition:





<Speed–Work load graph> (LEFS40)

Step 1 Check the work load–speed. <Speed–Work load graph> (Page 654)

Select the target model based on the workpiece mass and speed with reference to the <Speed–Work load graph>.

Selection example) The **LEFS40V8B-200** is temporarily selected based on the graph shown on the right side.

Step 2 Check the cycle time.

Calculate the cycle time using the following calculation method.

Cycle time:

T can be found from the following equation.

$$T = T1 + T2 + T3 + T4 \text{ [s]}$$

- T1: Acceleration time and T3: Deceleration time can be obtained by the following equation.

$$T1 = V/a1 \text{ [s]} \qquad T3 = V/a2 \text{ [s]}$$

- T2: Constant speed time can be found from the following equation.

$$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V} \text{ [s]}$$

- T4: Settling time varies depending on the motor type and load. The value below is recommended.

$$T4 = 0.05 \text{ [s]}$$

Calculation example)
T1 to T4 can be calculated as follows.

$T1 = V/a1 = 300/3000 = 0.1$ [s],

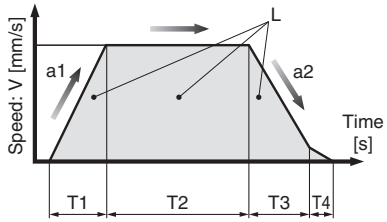
$T3 = V/a2 = 300/3000 = 0.1$ [s]

$$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V} = \frac{200 - 0.5 \cdot 300 \cdot (0.1 + 0.1)}{300} = 0.57 \text{ [s]}$$

$T4 = 0.05$ [s]

Therefore, the cycle time can be obtained as follows.

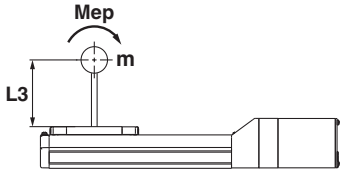
$T = T1 + T2 + T3 + T4 = 0.1 + 0.57 + 0.1 + 0.05 =$ **0.82 [s]**

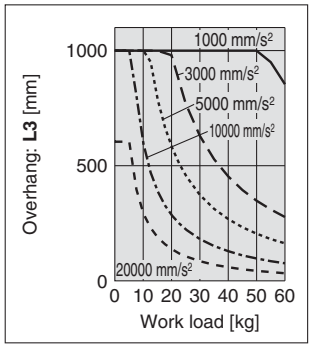


L : Stroke [mm]
··· (Operating condition)
V : Speed [mm/s]
··· (Operating condition)
a1: Acceleration [mm/s²]
··· (Operating condition)
a2: Deceleration [mm/s²]
··· (Operating condition)

T1: Acceleration time [s]
Time until reaching the set speed
T2: Constant speed time [s]
Time while the actuator is operating at a constant speed
T3: Deceleration time [s]
Time from the beginning of the constant speed operation to stop
T4: Settling time [s]
Time until positioning is completed

Step 3 Check the guide moment.





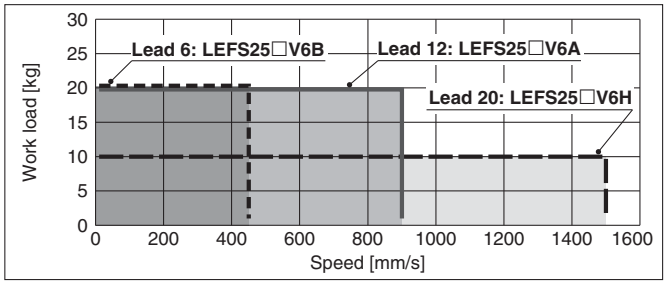
Based on the above calculation result, the LEFS40V8B-200 is selected.

Speed–Work Load Graph/Conditions for "Regenerative Resistor" (Guide)

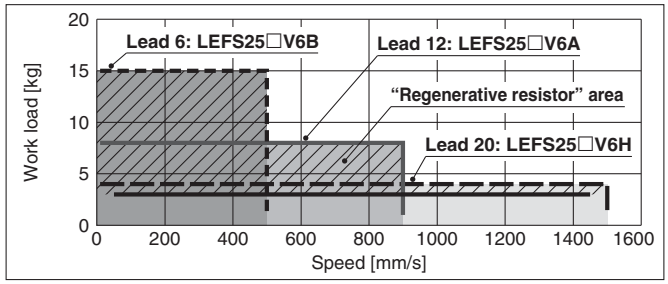
∗ The allowable speed is restricted depending on the stroke. Select it by referring to "Allowable Stroke Speed" below.

LEFS25/Ball Screw Drive

Horizontal

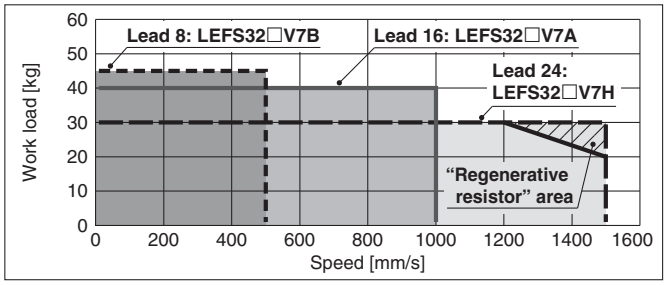


Vertical

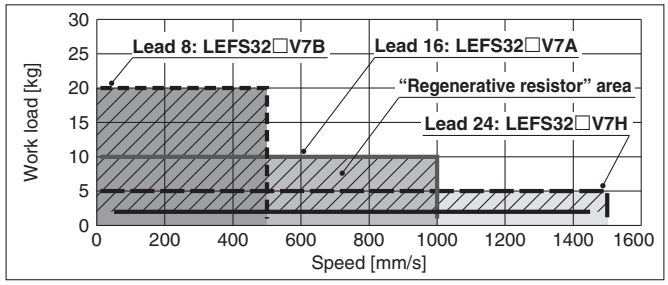


LEFS32/Ball Screw Drive

Horizontal

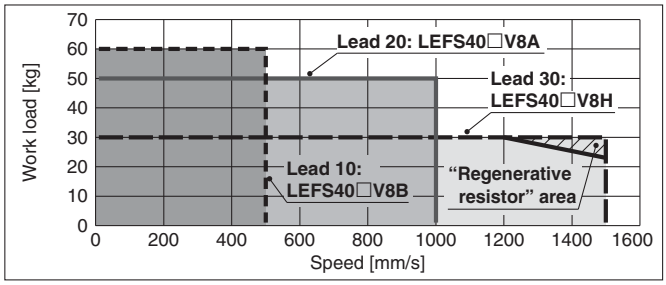


Vertical

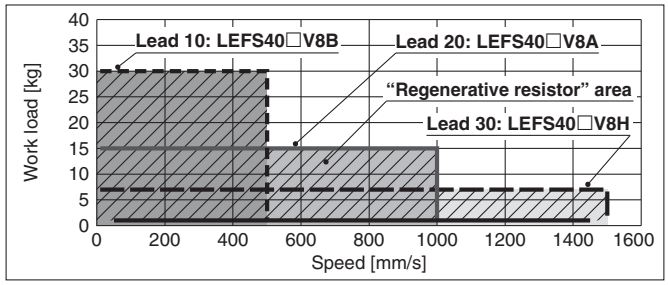


LEFS40/Ball Screw Drive

Horizontal



Vertical



"Regenerative resistor" area

∗ When using the actuator in the "Regenerative resistor" area, download the "AC servo capacity selection program/SigmaJunmaSize+" from the SMC website. Then, calculate the necessary regenerative resistor capacity to prepare an appropriate external regenerative resistor.
∗ Regenerative resistor should be provided by the customer.

Applicable Motor/Driver

Model	Applicable model	
	Motor	Servopack (SMC driver)
LEFS25□	SGMJV-01A3A	SGDV-R90A11□ (LECYM2-V5) SGDV-R90A21□ (LECYU2-V5)
LEFS32□	SGMJV-02A3A	SGDV-1R6A11□ (LECYM2-V7) SGDV-1R6A21□ (LECYU2-V7)
LEFS40□	SGMJV-04A3A	SGDV-2R8A11□ (LECYM2-V8) SGDV-2R8A21□ (LECYU2-V8)

Allowable Stroke Speed

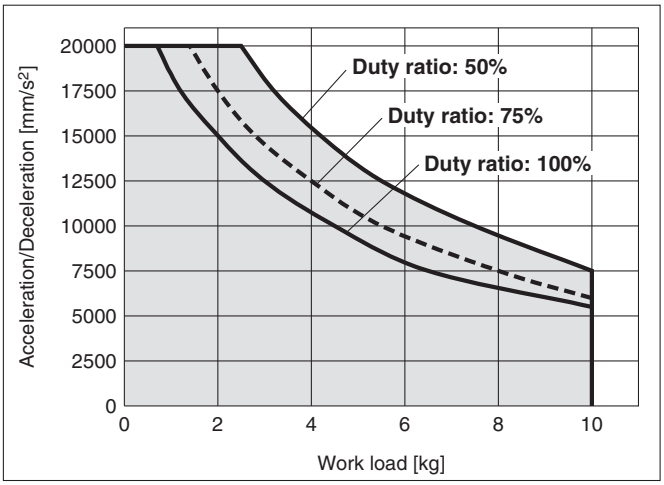
[mm/s]

Model	AC servo motor	Lead		Stroke [mm]												
		Symbol	[mm]	Up to 100	Up to 200	Up to 300	Up to 400	Up to 500	Up to 600	Up to 700	Up to 800	Up to 900	Up to 1000	Up to 1100	Up to 1200
LEFS25	100 W /□40	H	20	1500				1100	860	700	550	—	—	—	—
		A	12	900				720	540	420	330	—	—	—	—
		B	6	450				360	270	210	160	—	—	—	—
		(Motor rotation speed)		(4500 rpm)				(3650 rpm)	(2700 rpm)	(2100 rpm)	(1650 rpm)	—	—	—	—
LEFS32	200 W /□60	H	24	1500					1200	930	750	610	510	—	—
		A	16	1000					800	620	500	410	340	—	—
		B	8	500					400	310	250	200	170	—	—
		(Motor rotation speed)		(3750 rpm)					(3000 rpm)	(2325 rpm)	(1875 rpm)	(1537 rpm)	(1275 rpm)	—	—
LEFS40	400 W /□60	H	30	—	1500					1410	1140	930	780	660	570
		A	20	—	1000					940	760	620	520	440	380
		B	10	—	500					470	380	310	260	220	190
		(Motor rotation speed)		—	(3000 rpm)					(2820 rpm)	(2280 rpm)	(1860 rpm)	(1560 rpm)	(1320 rpm)	(1140 rpm)

Work Load–Acceleration/Deceleration Graph (Guide)

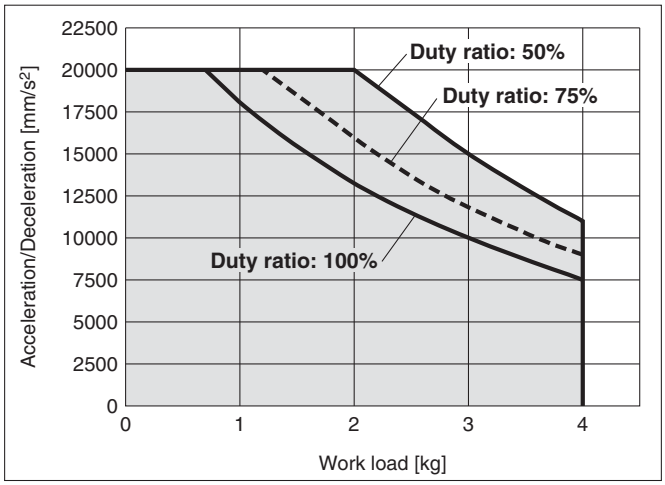
LEFS25□V6H/Ball Screw Drive

Horizontal



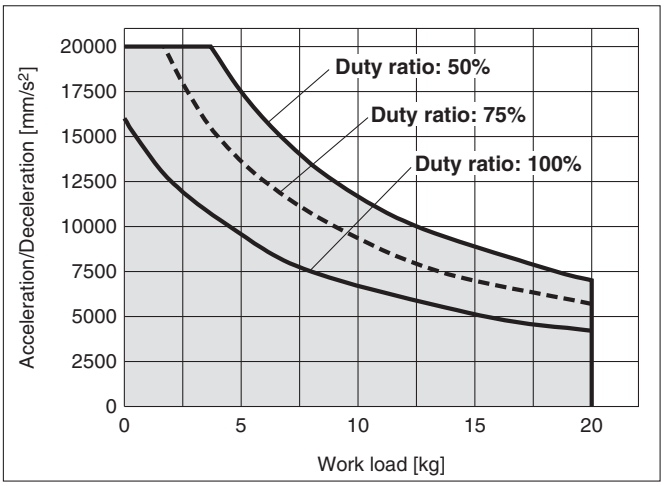
LEFS25□V6H/Ball Screw Drive

Vertical



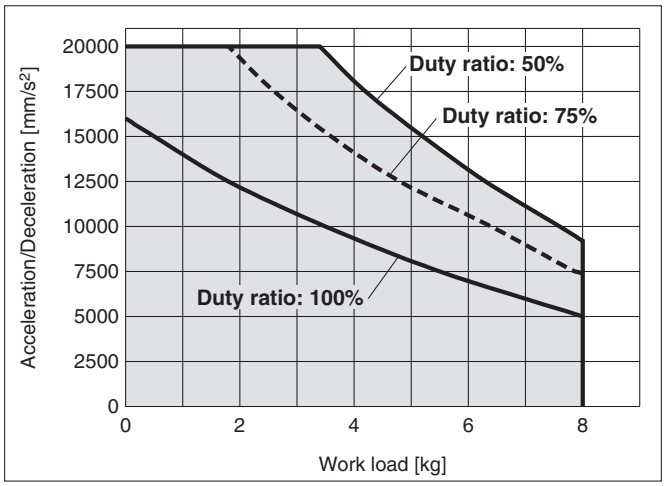
LEFS25□V6A/Ball Screw Drive

Horizontal



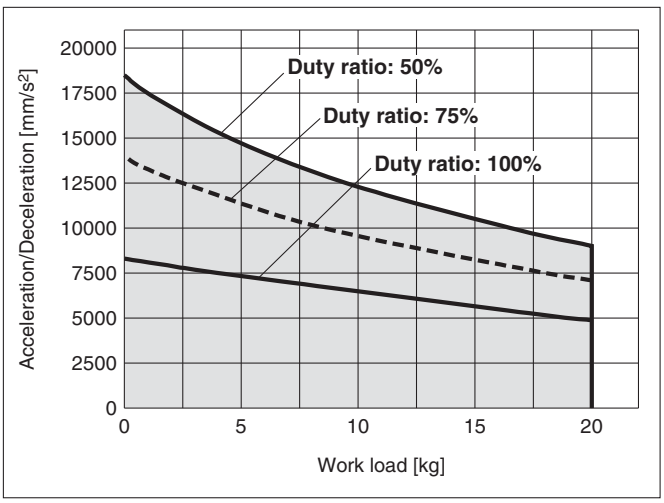
LEFS25□V6A/Ball Screw Drive

Vertical



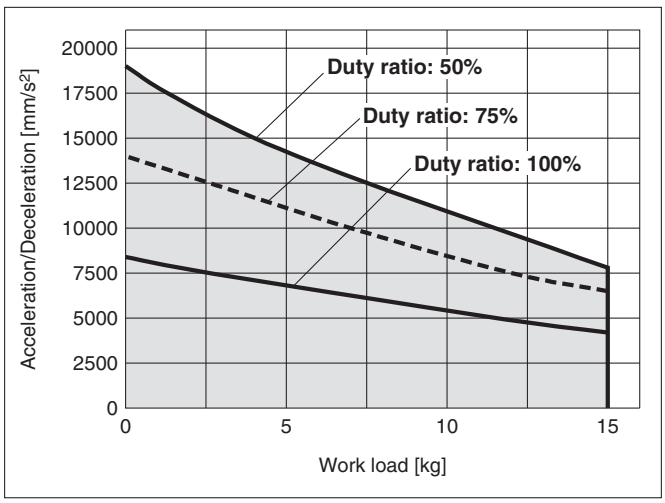
LEFS25□V6B/Ball Screw Drive

Horizontal



LEFS25□V6B/Ball Screw Drive

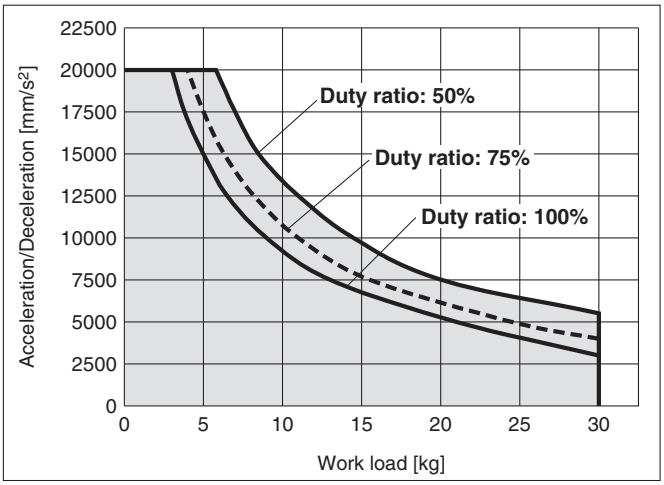
Vertical



Work Load–Acceleration/Deceleration Graph (Guide)

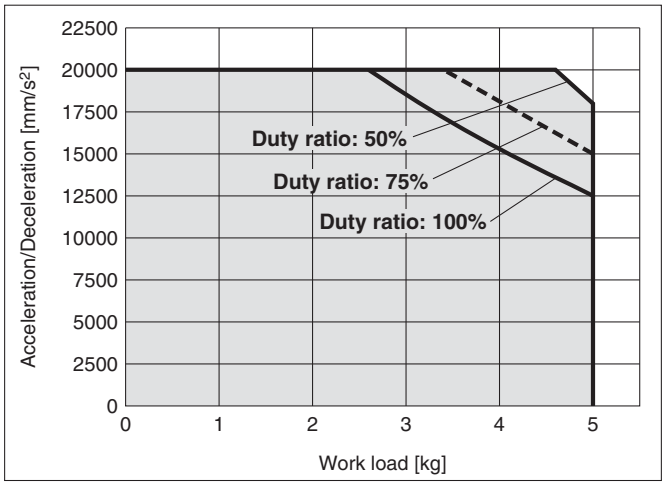
LEFS32□V7H/Ball Screw Drive

Horizontal



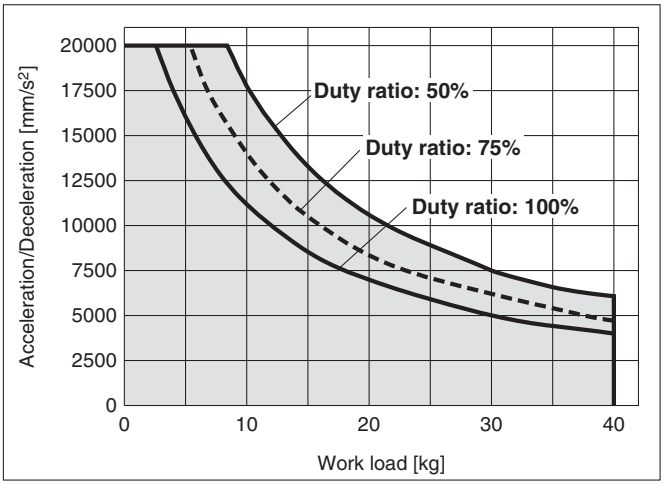
LEFS32□V7H/Ball Screw Drive

Vertical



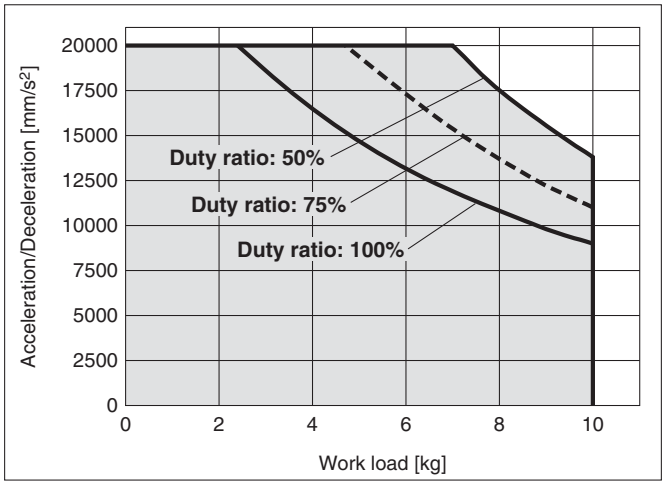
LEFS32□V7A/Ball Screw Drive

Horizontal



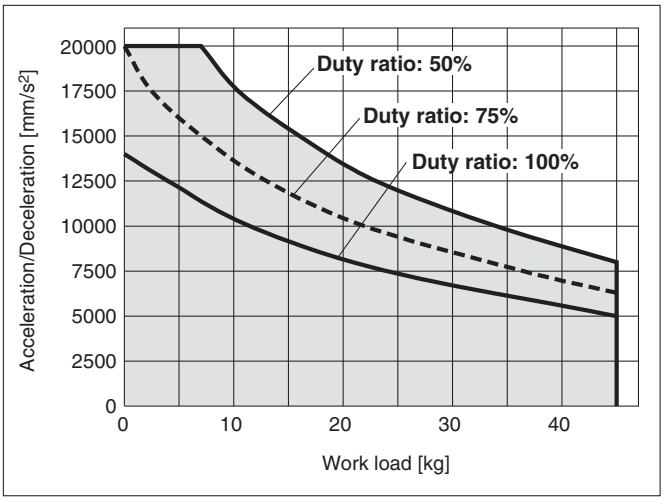
LEFS32□V7A/Ball Screw Drive

Vertical



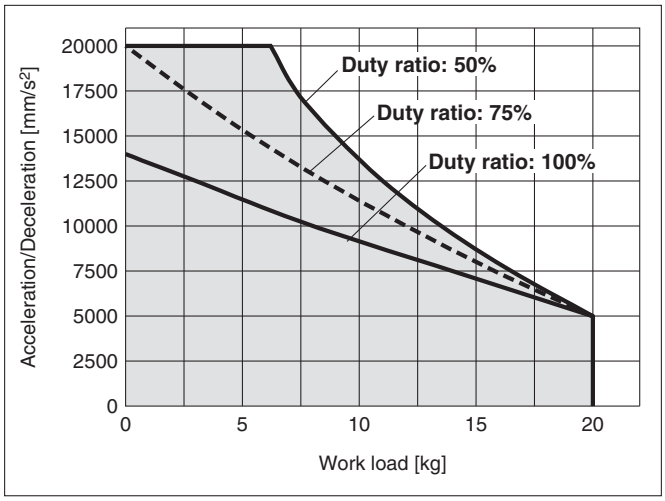
LEFS32□V7B/Ball Screw Drive

Horizontal



LEFS32□V7B/Ball Screw Drive

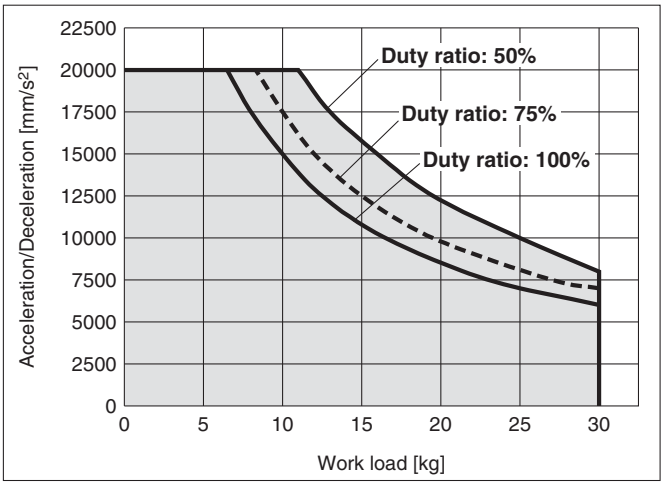
Vertical



Work Load–Acceleration/Deceleration Graph (Guide)

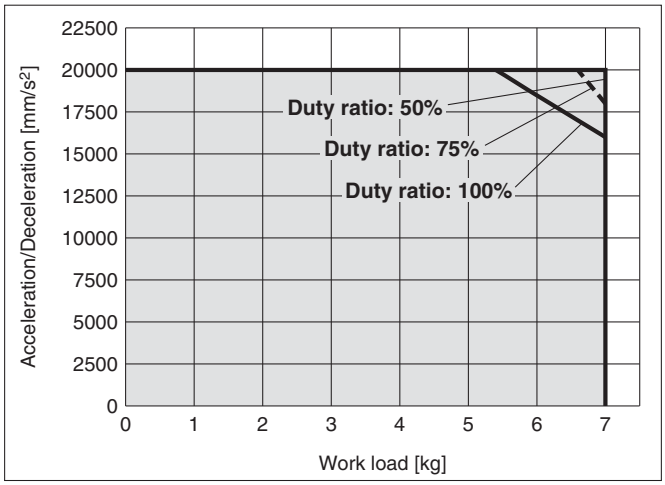
LEFS40□V8H/Ball Screw Drive

Horizontal



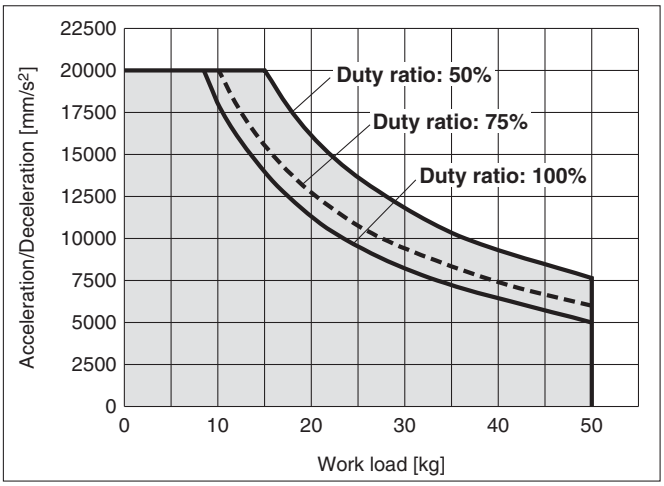
LEFS40□V8H/Ball Screw Drive

Vertical



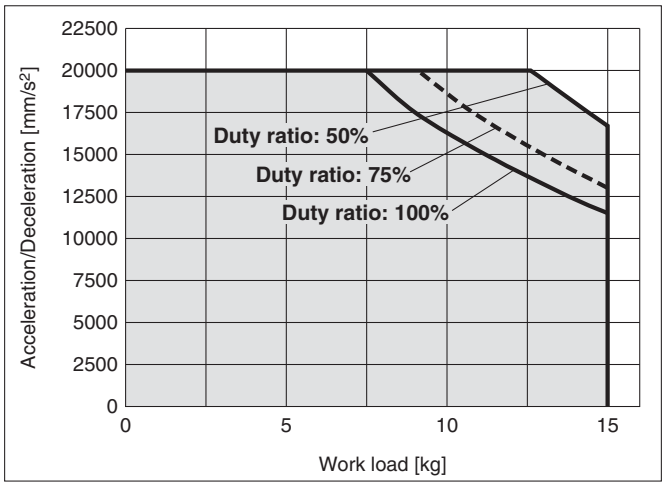
LEFS40□V8A/Ball Screw Drive

Horizontal



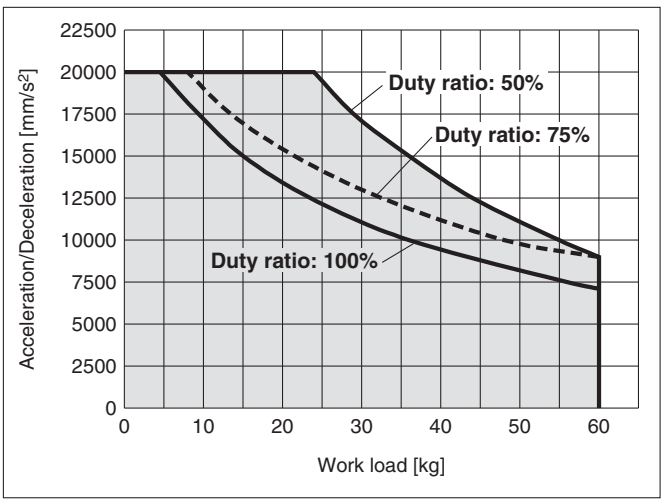
LEFS40□V8A/Ball Screw Drive

Vertical



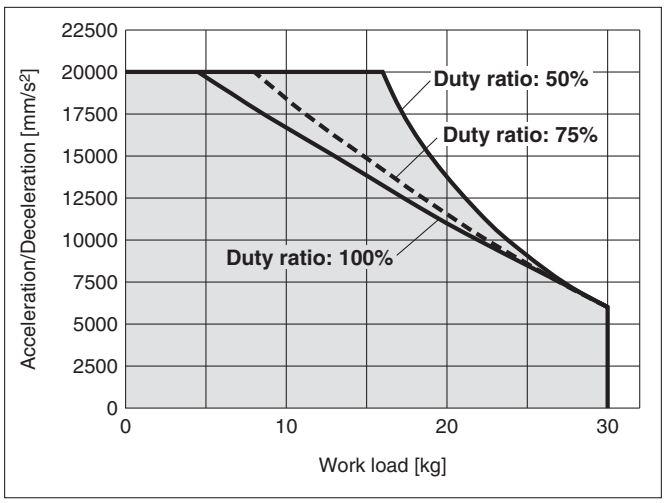
LEFS40□V8B/Ball Screw Drive

Horizontal



LEFS40□V8B/Ball Screw Drive

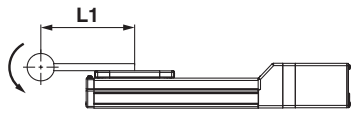
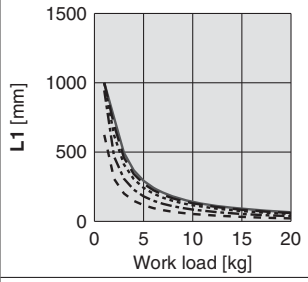
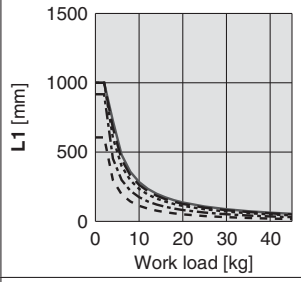
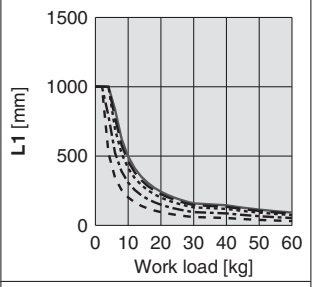
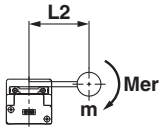
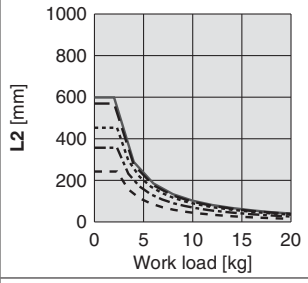
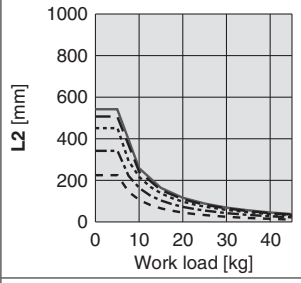
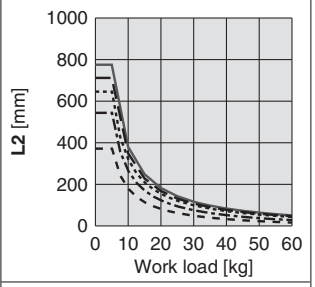
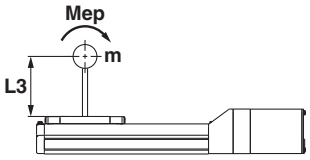
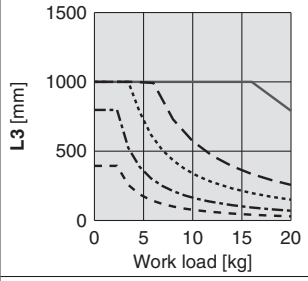
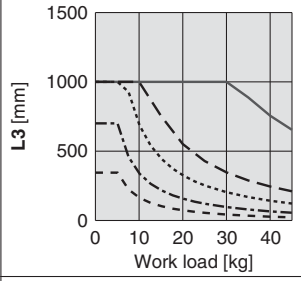
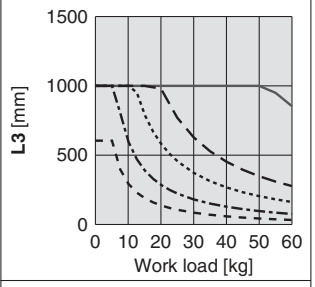
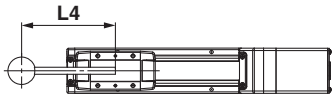
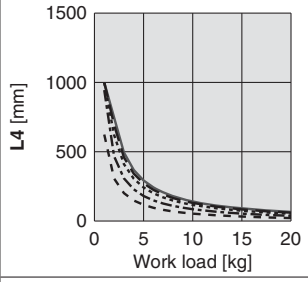
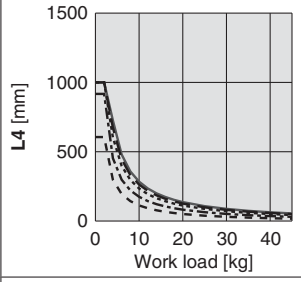
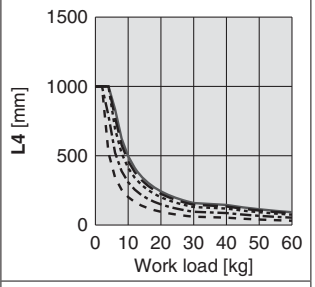
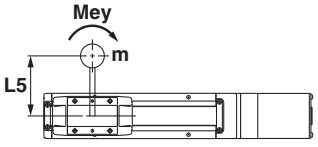
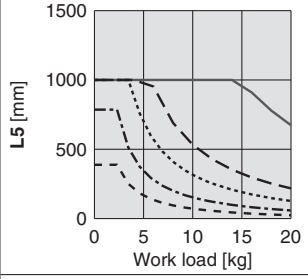
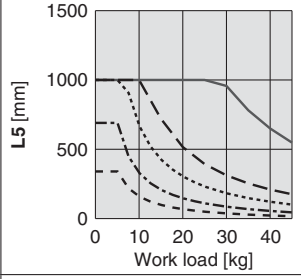
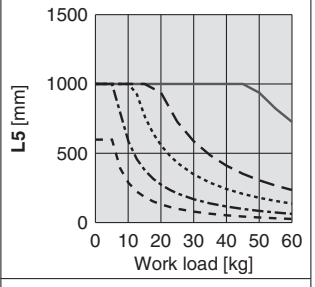
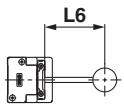
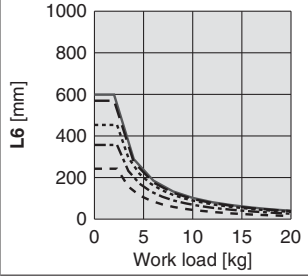
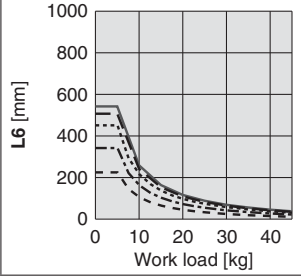
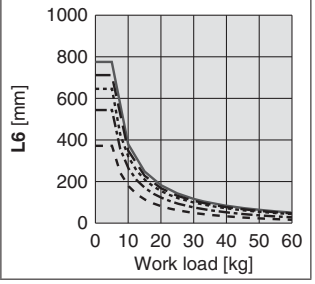
Vertical



Dynamic Allowable Moment

∗ This graph shows the amount of allowable overhang (guide unit) when the center of gravity of the workpiece overhangs in one direction. When selecting the overhang, refer to "Calculation of Guide Load Factor" or the Electric Actuator Selection Software for confirmation, http://www.smcworld.com

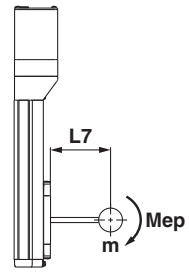
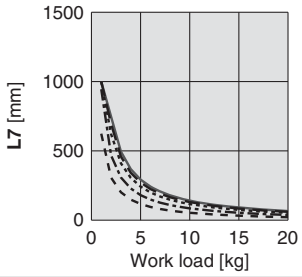
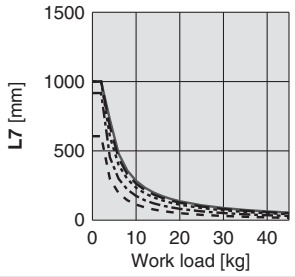
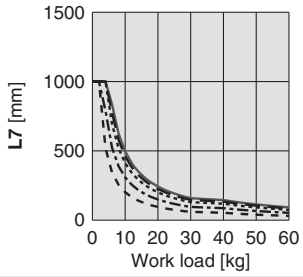
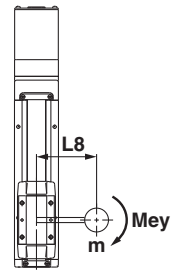
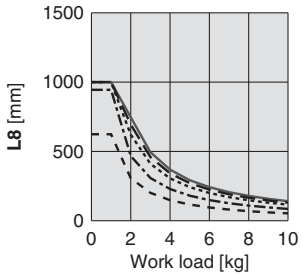
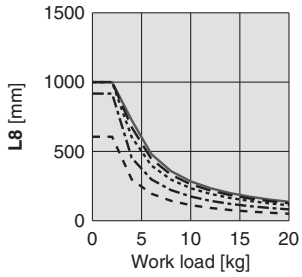
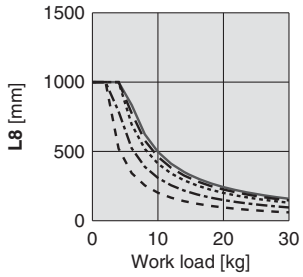
Acceleration/Deceleration ——1000 mm/s² — — —3000 mm/s² ·····5000 mm/s² —·—·—10000 mm/s² - - - - 20000 mm/s²

Orientation	Load overhanging direction **m** : Work load [kg] **Me**: Dynamic allowable moment [N·m] **L** : Overhang to the work load center of gravity [mm]		Model LEFS25□V6	Model LEFS32□V7	Model LEFS40□V8
Horizontal/Bottom		X			
		Y			
		Z			
Wall		X			
		Y			
		Z			

Dynamic Allowable Moment

∗ This graph shows the amount of allowable overhang (guide unit) when the center of gravity of the workpiece overhangs in one direction. When selecting the overhang, refer to "Calculation of Guide Load Factor" or the Electric Actuator Selection Software for confirmation, http://www.smcworld.com

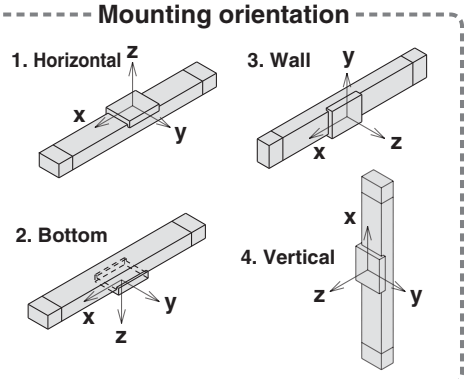
Acceleration/Deceleration ——1000 mm/s² — — —3000 mm/s² ·····5000 mm/s² –·–·–10000 mm/s² - - - - 20000 mm/s²

Orientation	Load overhanging direction **m** : Work load [kg] **Me**: Dynamic allowable moment [N·m] **L** : Overhang to the work load center of gravity [mm]		Model LEFS25□V6	Model LEFS32□V7	Model LEFS40□V8
Vertical		Y			
		Z			

Calculation of Guide Load Factor

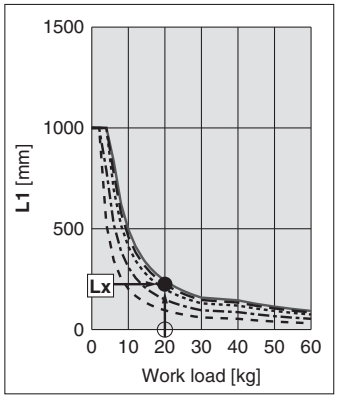
1. Decide operating conditions.
   Model: LEFS
   Size: 25/32/40
   Mounting orientation: Horizontal/Bottom/Wall/Vertical
   Acceleration [mm/s²]: **a**
   Work load [kg]: **m**
   Work load center position [mm]: **Xc/Yc/Zc**
2. Select the target graph with reference to the model, size and mounting orientation.
3. Based on the acceleration and work load, obtain the overhang [mm]: **Lx/Ly/Lz** from the graph.
4. Calculate the load factor for each direction.
   $\alpha x = Xc/Lx$, $\alpha y = Yc/Ly$, $\alpha z = Zc/Lz$
5. Confirm the total of αx, αy and αz is 1 or less.
   $\alpha x + \alpha y + \alpha z \leq 1$
   When 1 is exceeded, please consider a reduction of acceleration and work load, or a change of the work load center position and series.

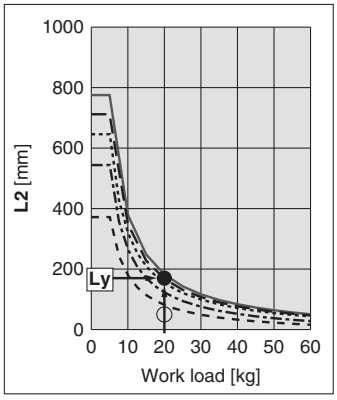
Mounting orientation



Example

1. Operating conditions
   Model: LEFS40
   Size: 40
   Mounting orientation: Horizontal
   Acceleration [mm/s²]: 3000
   Work load [kg]: 20
   Work load center position [mm]: **Xc = 0**, **Yc = 50**, **Zc = 200**
2. Select the graphs for horizontal of the LEFS40 on page 658.
3. **Lx = 250 mm**, **Ly = 180 mm**, **Lz = 1000 mm**
4. The load factor for each direction can be obtained as follows.
   $\alpha x = 0/250 = 0$
   $\alpha y = 50/180 = 0.27$
   $\alpha z = 200/1000 = 0.2$
5. $\alpha x + \alpha y + \alpha z = 0.47 \leq 1$





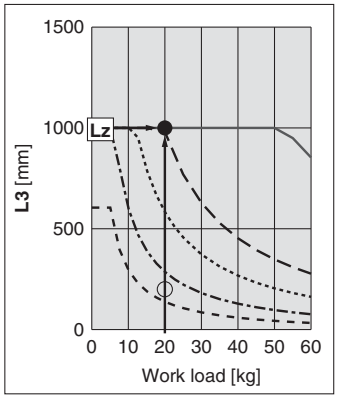
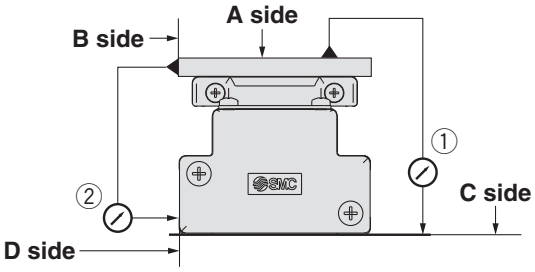


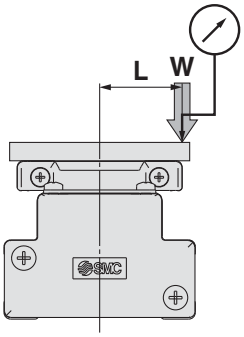
Table Accuracy

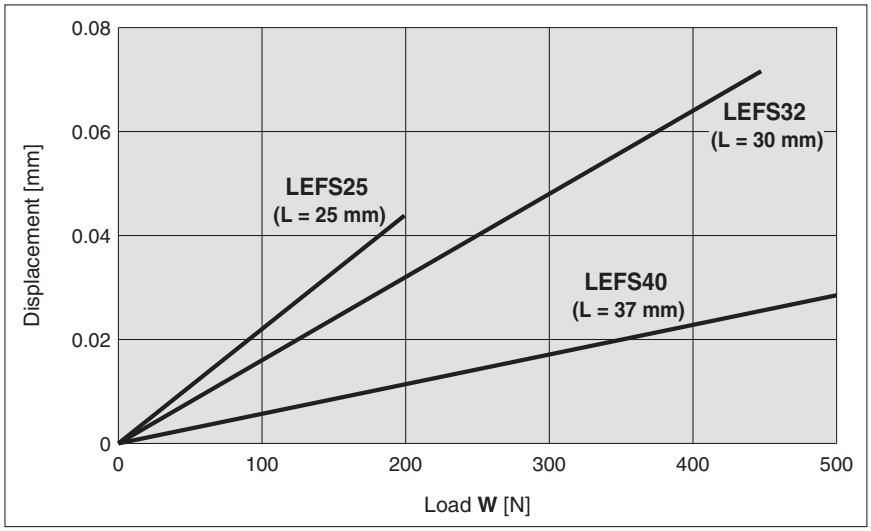


Model	Traveling parallelism [mm] (Every 300 mm)	
	① C side traveling parallelism to A side	② D side traveling parallelism to B side
LEFS25	0.05	0.03
LEFS32	0.05	0.03
LEFS40	0.05	0.03

Note) Traveling parallelism does not include the mounting surface accuracy.

Table Displacement (Reference Value)

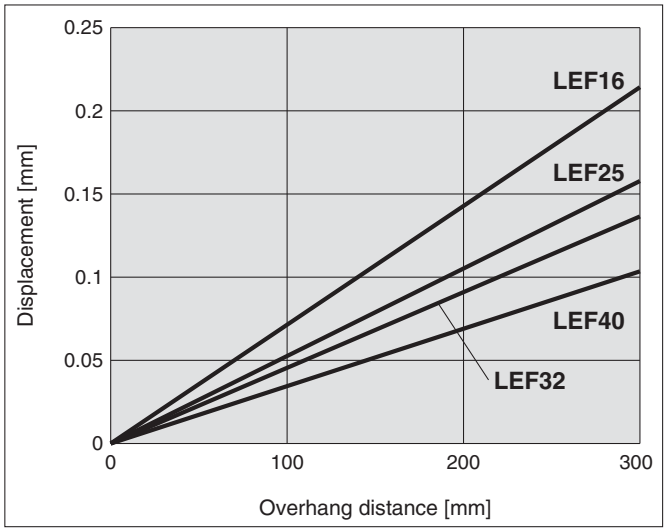




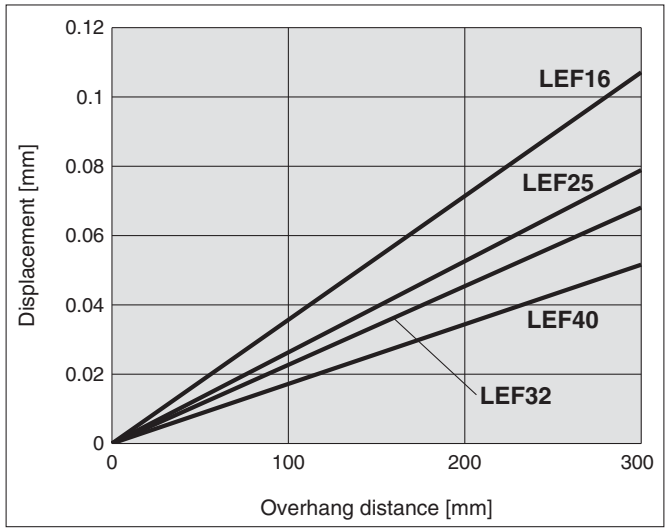
Note 1) This displacement is measured when a 15 mm aluminum plate is mounted and fixed on the table.
Note 2) Check the clearance and play of the guide separately.

Overhang Displacement Due to Table Clearance (Reference Value)

Basic type

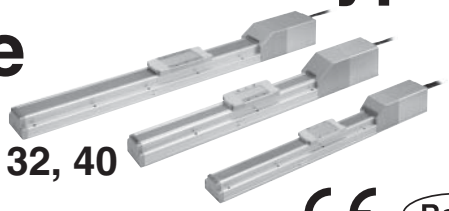


High precision type



Electric Actuator/Slider Type
Ball Screw Drive

Series LEFS LEFS25, 32, 40



Please contact SMC for clean room specification and the models compatible with secondary batteries.

How to Order

LEFS H 32 R V7 B – 200 B – S 3 M2 ☐

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❶ Accuracy

Nil	Basic type
H	High precision type

❷ Size

25
32
40

❸ Motor mounting position

Nil	In-line
R	Right side parallel
L	Left side parallel

❹ Motor type

Symbol	Type	Output [W]	Size	Compatible driver
V6	AC servo motor (Absolute encoder)	100	25	LECYM2-V5/LECYU2-V5
V7		200	32	LECYM2-V7/LECYU2-V7
V8		400	40	LECYM2-V8/LECYU2-V8

❺ Lead [mm]

Symbol	LEFS25	LEFS32	LEFS40
H	20	24	30
A	12	16	20
B	6	8	10

❻ Stroke [mm]

50	50
to	to
1200	1200

❼ Motor option

Nil	Without option
B	With lock

❽ Cable type

Nil	Without cable
S	Standard cable
R	Robotic cable (Flexible cable)

❾ Actuator cable length [m]

Nil	Without cable
3	3
5	5
A	10
C	20

❿ Driver type

	Compatible driver	Power supply voltage [V]
Nil	Without driver	—
M2	LECYM2-V☐	200 to 230
U2	LECYU2-V☐	200 to 230

⓫ I/O cable length [m] *

Nil	Without cable
H	Without cable (Connector only)
1	1.5

* When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 762 if I/O cable is required. (Options are shown on page 762.)

Applicable Stroke Table

●: Standard

Model \ Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200
LEFS25	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	—	—	—	—	—	—
LEFS32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	—	—
LEFS40	—	—	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

* Please consult with SMC for non-standard strokes as they are produced as special orders.

Compatible Driver

	MECHATROLINK-Ⅱ type	MECHATROLINK-Ⅲ type
Driver type		
Series	**LECYM**	**LECYU**
Applicable network	MECHATROLINK-Ⅱ	MECHATROLINK-Ⅲ
Control encoder	Absolute 20-bit encoder	
Communication device	USB communication, RS-422 communication	
Power supply voltage [V]	200 to 230 VAC (50/60 Hz)	
Reference page	Page 755	

Specifications

AC Servo Motor

Model			LEFS25□V6			LEFS32□V7			LEFS40□V8		
Actuator specifications	Stroke [mm] Note 1)		50 to 800			50 to 1000			150 to 1200		
	Work load [kg] Note 2)	Horizontal	10	20	20	30	40	45	30	50	60
		Vertical	4	8	15	5	10	20	7	15	30
	Max. speed [mm/s] Note 3)	Up to 400	1500	900	450	1500	1000	500	1500	1000	500
		401 to 500	1200	720	360	1500	1000	500	1500	1000	500
		501 to 600	900	540	270	1200	800	400	1500	1000	500
		601 to 700	700	420	210	930	620	310	1410	940	470
		701 to 800	550	330	160	750	500	250	1140	760	380
		801 to 900	—	—	—	610	410	200	930	620	310
		901 to 1000	—	—	—	510	340	170	780	520	260
		1001 to 1100	—	—	—	—	—	—	500	440	220
		1101 to 1200	—	—	—	—	—	—	500	380	190
	Max. acceleration/deceleration [mm/s²]		20000 (Refer to pages 655 to 657 for limit according to work load and duty ratio.)								
	Positioning repeatability [mm]	Basic type	±0.02								
		High precision type	±0.01								
	Lost motion [mm] Note 4)	Basic type	0.1 or less								
		High precision type	0.05 or less								
	Lead [mm]		20	12	6	24	16	8	30	20	10
	Impact/Vibration resistance [m/s²] Note 5)		50/20								
	Actuation type		Ball screw (LEFS□), Ball screw + Belt (LEFS□$^{R}_{L}$)								
	Guide type		Linear guide								
	Operating temperature range [°C]		5 to 40								
	Operating humidity range [%RH]		90 or less (No condensation)								
Electric specifications	Motor output/Size		100 W/□40			200 W/□60			400 W/□60		
	Motor type		AC servo motor (200 VAC)								
	Encoder		Absolute 20-bit encoder (Resolution: 1048576 p/rev)								
	Power consumption [W] Note 6)	Horizontal	45			65			210		
		Vertical	145			175			230		
	Standby power consumption when operating [W] Note 7)	Horizontal	2			2			2		
		Vertical	8			8			18		
	Max. instantaneous power consumption [W] Note 8)		445			725			1275		
Lock unit specifications	Type Note 9)		Non-magnetizing lock								
	Holding force [N]		78	131	255	131	197	385	220	330	660
	Power consumption at 20°C [W] Note 10)		5.5			6			6		
	Rated voltage [V]		24 VDC ±10%								

Note 1) Please consult with SMC for non-standard strokes as they are produced as special orders.
Note 2) For details, refer to "Speed–Work Load Graph (Guide)" on page 654.
Note 3) The allowable speed changes according to the stroke.
Note 4) A reference value for correcting an error in reciprocal operation.
Note 5) Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Note 6) The power consumption (including the driver) is for when the actuator is operating.
Note 7) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.
Note 8) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
Note 9) Only when motor option "With lock" is selected.
Note 10) For an actuator with lock, add the power consumption for the lock.

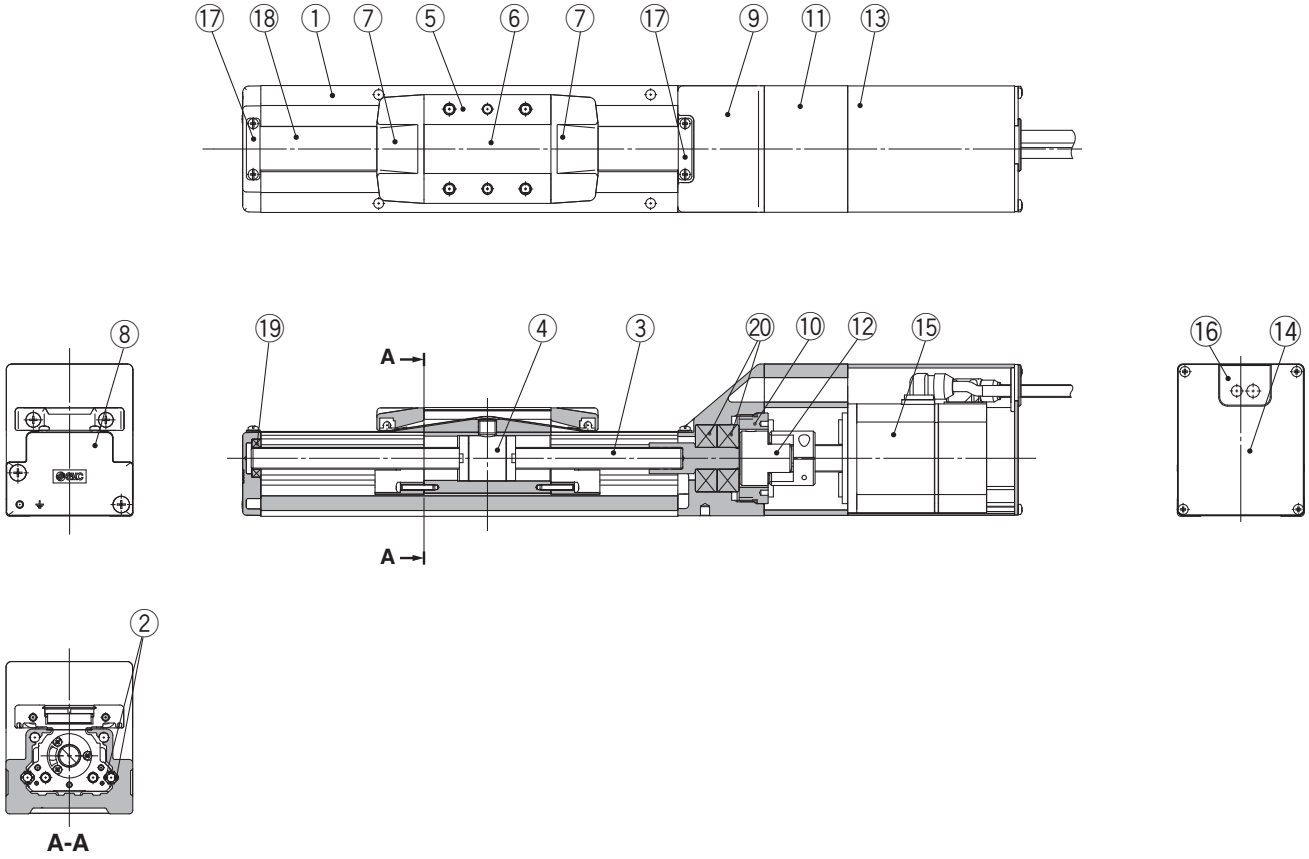
Weight

Series	LEFS25□V6															
Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
Product weight [kg]	2.06	2.20	2.34	2.50	2.62	2.75	2.90	3.05	3.18	3.30	3.46	3.60	3.74	3.88	4.02	4.20
Additional weight with lock [kg]	0.3															

Series	LEFS32□V7																			
Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Product weight [kg]	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60	5.80	6.00	6.20	6.40	6.60	6.80	7.00	7.20
Additional weight with lock [kg]	0.7																			

Series	LEFS40□V8																				
Stroke [mm]	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200
Product weight [kg]	5.92	6.20	6.48	6.75	7.05	7.35	7.61	7.90	8.17	8.35	8.73	9.00	9.30	9.55	9.86	10.15	10.42	10.70	11.26	11.82
Additional weight with lock [kg]	0.7																			

Construction



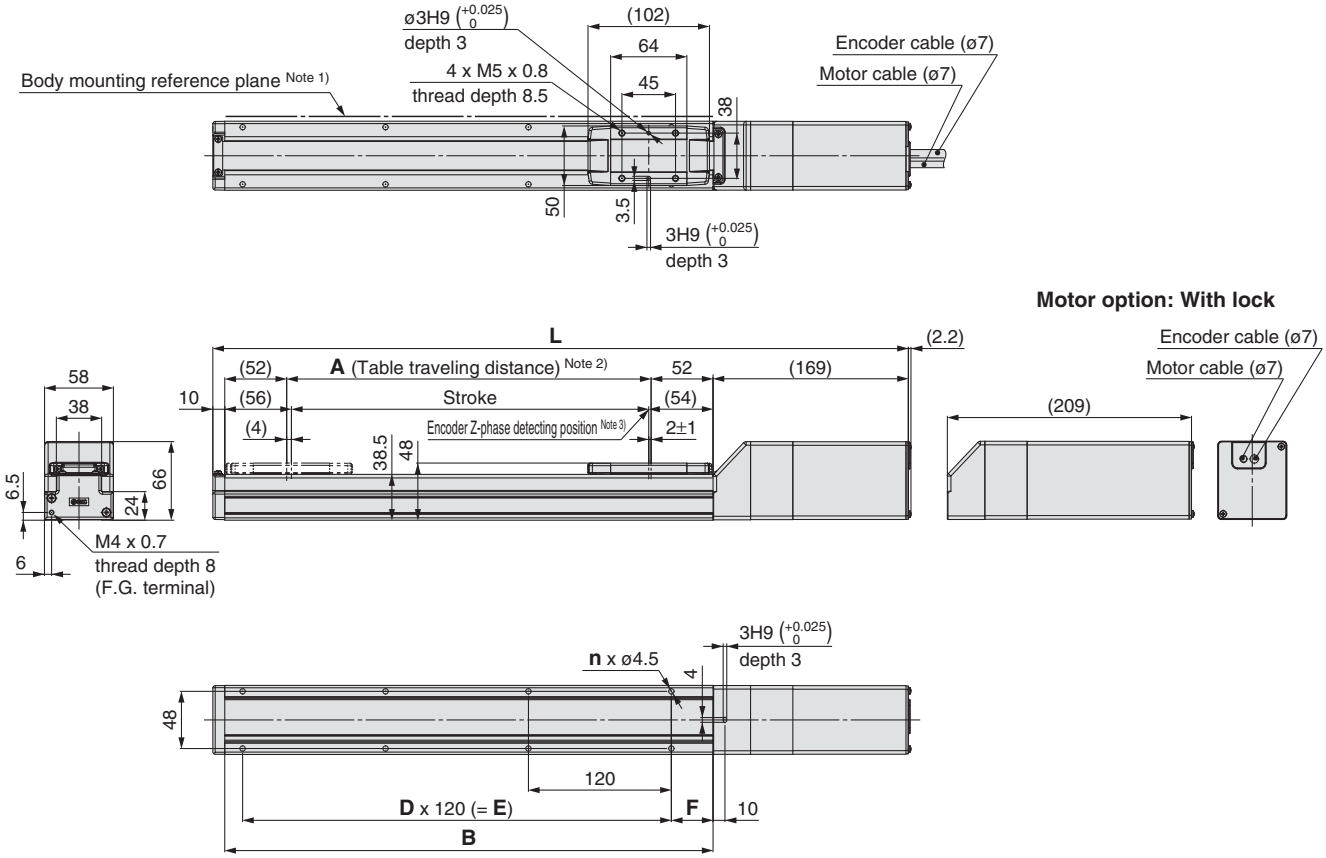
Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Rail guide**	—	
3	**Ball screw shaft**	—	
4	**Ball screw nut**	—	
5	**Table**	Aluminum alloy	Anodized
6	**Blanking plate**	Aluminum alloy	Anodized
7	**Seal band holder**	Synthetic resin	
8	**Housing A**	Aluminum die-cast	Coating
9	**Housing B**	Aluminum die-cast	Coating
10	**Bearing stopper**	Aluminum alloy	

No.	Description	Material	Note
11	**Motor mount**	Aluminum alloy	Coating
12	**Coupling**	—	
13	**Motor cover**	Aluminum alloy	Anodized
14	**Motor end cover**	Aluminum alloy	Anodized
15	**Motor**	—	
16	**Grommet**	NBR	
17	**Band stopper**	Stainless steel	
18	**Dust seal band**	Stainless steel	
19	**Bearing**	—	
20	**Bearing**	—	

Dimensions: In-line Motor

LEFS25



Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more because of round chamfering. (Recommended height 5 mm)
Note 2) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.
Note 3) The Z-phase first detecting position from the stroke end of the motor side.

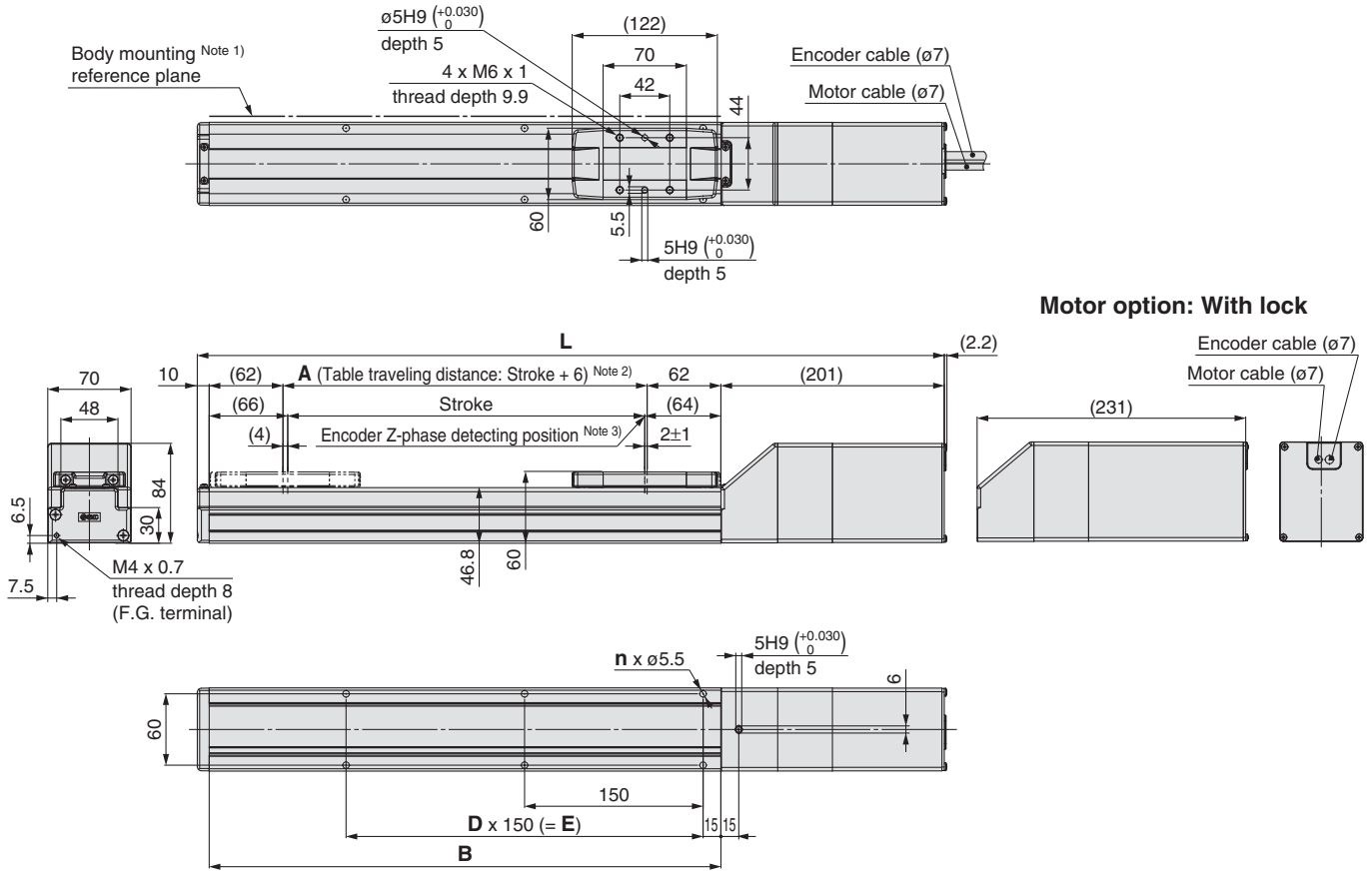
Dimensions

[mm]

Model	L		A	B	n	D	E	F
	Without lock	With lock						
LEFS25□□-50□	339	379	56	160	4	—	—	20
LEFS25□□-100□	389	429	106	210	4	—	—	35
LEFS25□□-150□	439	479	156	260	4	—	—	
LEFS25□□-200□	489	529	206	310	6	2	240	
LEFS25□□-250□	539	579	256	360	6	2	240	
LEFS25□□-300□	589	629	306	410	8	3	360	
LEFS25□□-350□	639	679	356	460	8	3	360	
LEFS25□□-400□	689	729	406	510	8	3	360	
LEFS25□□-450□	739	779	456	560	10	4	480	
LEFS25□□-500□	789	829	506	610	10	4	480	
LEFS25□□-550□	839	879	556	660	12	5	600	
LEFS25□□-600□	889	929	606	710	12	5	600	
LEFS25□□-650□	939	979	656	760	12	5	600	
LEFS25□□-700□	989	1029	706	810	14	6	720	
LEFS25□□-750□	1039	1079	756	860	14	6	720	
LEFS25□□-800□	1089	1129	806	910	16	7	840	

Dimensions: In-line Motor

LEFS32



Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more because of round chamfering. (Recommended height 5 mm)

Note 2) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.

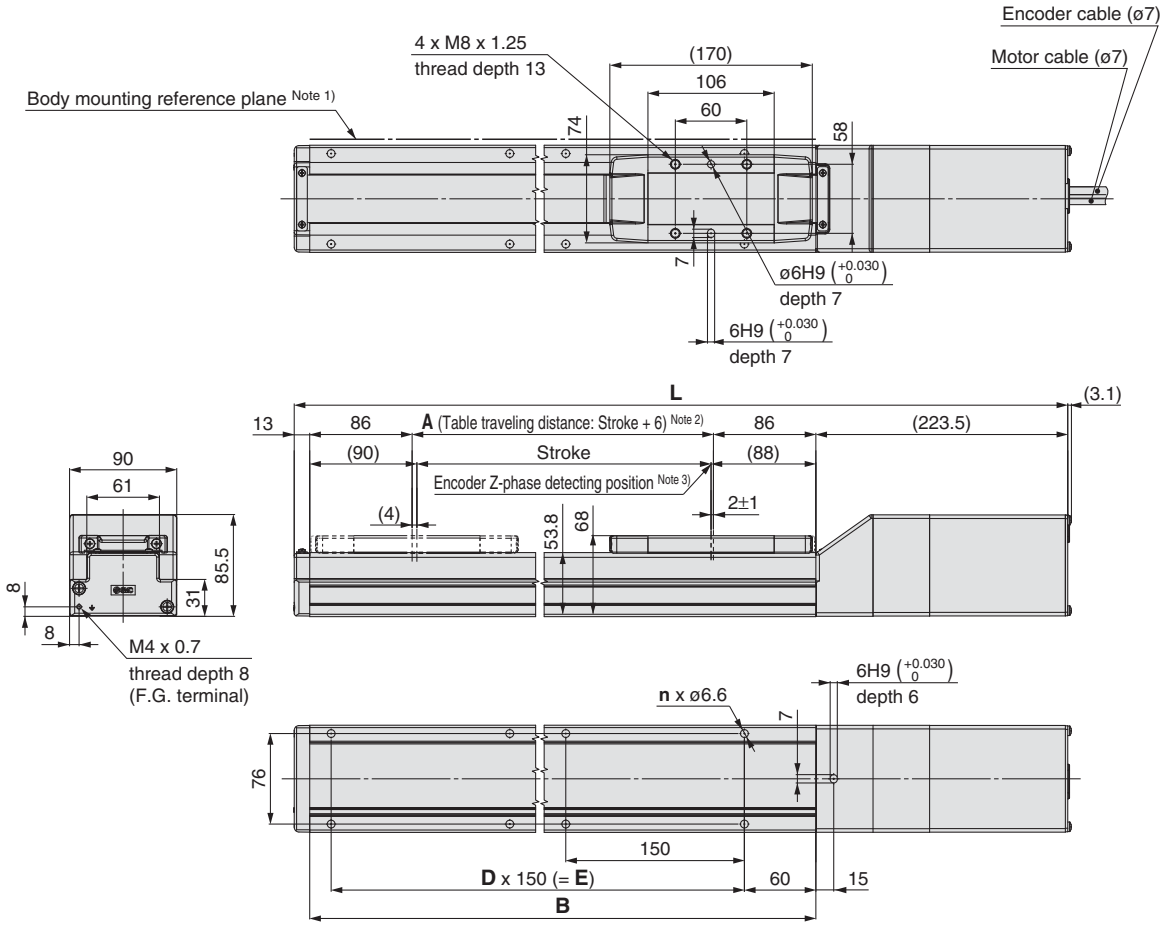
Note 3) The Z-phase first detecting position from the stroke end of the motor side.

Dimensions [mm]

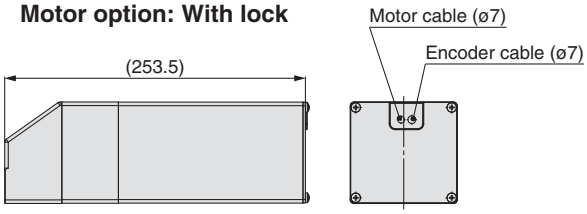
Model	L		A	B	n	D	E
	Without lock	With lock					
LEFS32□□-50□	391	421	56	180	4	—	—
LEFS32□□-100□	441	471	106	230	4	—	—
LEFS32□□-150□	491	521	156	280	4	—	—
LEFS32□□-200□	541	571	206	330	6	2	300
LEFS32□□-250□	591	621	256	380	6	2	300
LEFS32□□-300□	641	671	306	430	6	2	300
LEFS32□□-350□	691	721	356	480	8	3	450
LEFS32□□-400□	741	771	406	530	8	3	450
LEFS32□□-450□	791	821	456	580	8	3	450
LEFS32□□-500□	841	871	506	630	10	4	600
LEFS32□□-550□	891	921	556	680	10	4	600
LEFS32□□-600□	941	971	606	730	10	4	600
LEFS32□□-650□	991	1021	656	780	12	5	750
LEFS32□□-700□	1041	1071	706	830	12	5	750
LEFS32□□-750□	1091	1121	756	880	12	5	750
LEFS32□□-800□	1141	1171	806	930	14	6	900
LEFS32□□-850□	1191	1221	856	980	14	6	900
LEFS32□□-900□	1241	1271	906	1030	14	6	900
LEFS32□□-950□	1291	1321	956	1080	16	7	1050
LEFS32□□-1000□	1341	1371	1006	1130	16	7	1050

Dimensions: In-line Motor

LEFS40



Motor option: With lock



Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more because of round chamfering. (Recommended height 5 mm)

Note 2) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the workpieces and facilities around the table.

Note 3) The Z-phase first detecting position from the stroke end of the motor side.

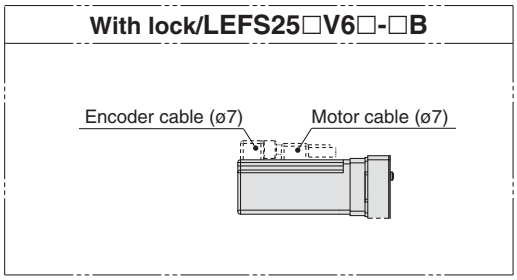
Dimensions [mm]

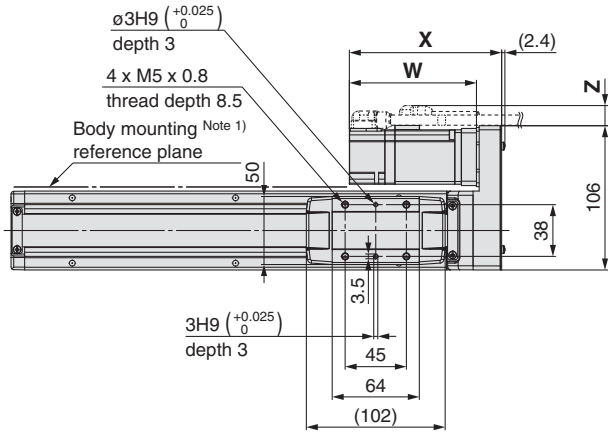
Model	L		A	B	n	D	E
	Without lock	With lock					
LEFS40□□-150□	564.5	594.5	156	328	4	—	150
LEFS40□□-200□	614.5	644.5	206	378	6	2	300
LEFS40□□-250□	664.5	694.5	256	428	6	2	300
LEFS40□□-300□	714.5	744.5	306	478	6	2	300
LEFS40□□-350□	764.5	794.5	356	528	8	3	450
LEFS40□□-400□	814.5	844.5	406	578	8	3	450
LEFS40□□-450□	864.5	894.5	456	628	8	3	450
LEFS40□□-500□	914.5	944.5	506	678	10	4	600
LEFS40□□-550□	964.5	994.5	556	728	10	4	600
LEFS40□□-600□	1014.5	1044.5	606	778	10	4	600
LEFS40□□-650□	1064.5	1094.5	656	828	12	5	750
LEFS40□□-700□	1114.5	1144.5	706	878	12	5	750
LEFS40□□-750□	1164.5	1194.5	756	928	12	5	750
LEFS40□□-800□	1214.5	1144.5	806	978	14	6	900
LEFS40□□-850□	1264.5	1294.5	856	1028	14	6	900
LEFS40□□-900□	1314.5	1344.5	906	1078	14	6	900
LEFS40□□-950□	1364.5	1394.5	956	1128	16	7	1050
LEFS40□□-1000□	1414.5	1444.5	1006	1178	16	7	1050
LEFS40□□-1100□	1514.5	1544.5	1106	1278	18	8	1200
LEFS40□□-1200□	1614.5	1644.5	1206	1378	18	8	1200

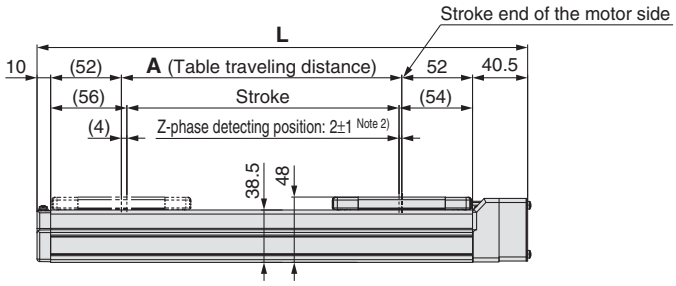
Dimensions: Motor Parallel

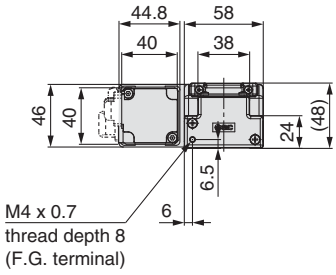
LEFS25R

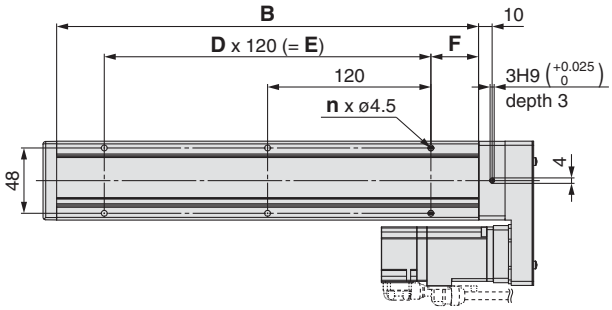
With lock/LEFS25□V6□-□B



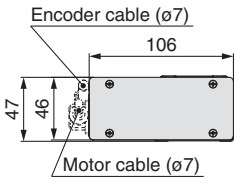




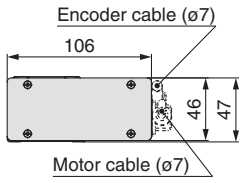




Motor mounting position: Left side parallel
LEFS25LV□□



Motor mounting position: Right side parallel
LEFS25RV□□



Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more. (Recommended height 5 mm)

Note 2) The Z-phase first detecting position from the stroke end of the motor side. Please consult with SMC for adjusting the Z-phase detecting position at the stroke end of the end side.

Motor Dimensions [mm]

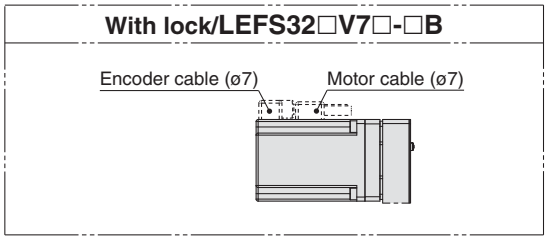
Motor type	X		W		Z	
	Without lock	With lock	Without lock	With lock	Without lock	With lock
V6	112	157	82.5	127.5	11	

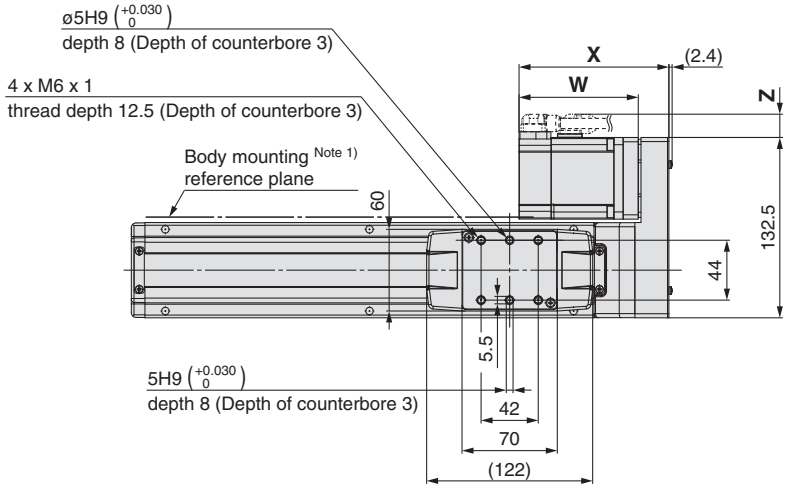
Dimensions [mm]

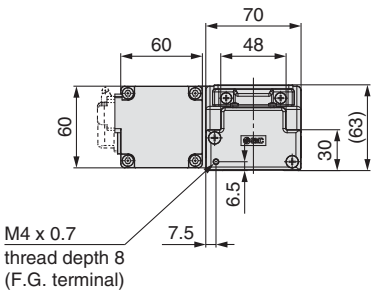
Model	L	A	B	n	D	E	F
LEFS25□□□-50□	210.5	56	160	4	—	—	20
LEFS25□□□-100□	260.5	106	210	4	—	—	
LEFS25□□□-150□	310.5	156	260	4	—	—	
LEFS25□□□-200□	360.5	206	310	6	2	240	
LEFS25□□□-250□	410.5	256	360	6	2	240	
LEFS25□□□-300□	460.5	306	410	8	3	360	
LEFS25□□□-350□	510.5	356	460	8	3	360	
LEFS25□□□-400□	560.5	406	510	8	3	360	
LEFS25□□□-450□	610.5	456	560	10	4	480	35
LEFS25□□□-500□	660.5	506	610	10	4	480	
LEFS25□□□-550□	710.5	556	660	12	5	600	
LEFS25□□□-600□	760.5	606	710	12	5	600	
LEFS25□□□-650□	810.5	656	760	12	5	600	
LEFS25□□□-700□	860.5	706	810	14	6	720	
LEFS25□□□-750□	910.5	756	860	14	6	720	
LEFS25□□□-800□	960.5	806	910	16	7	840	

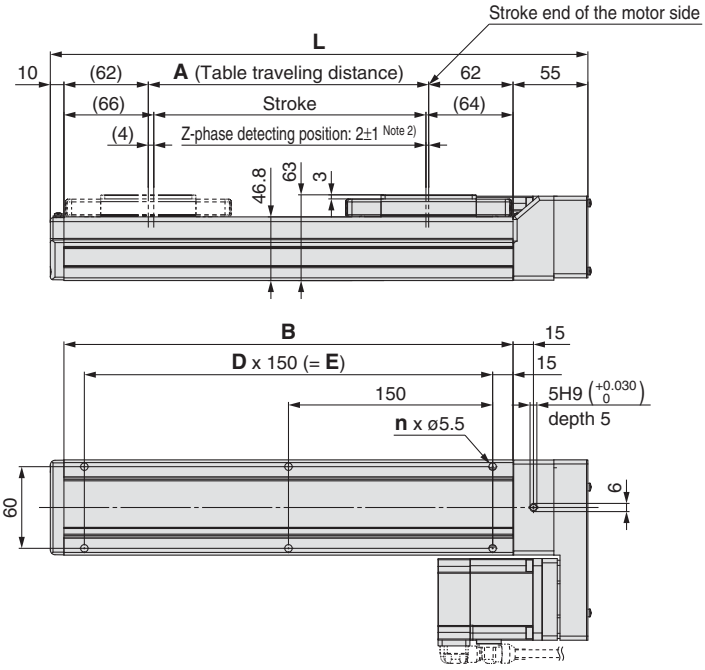
Dimensions: Motor Parallel

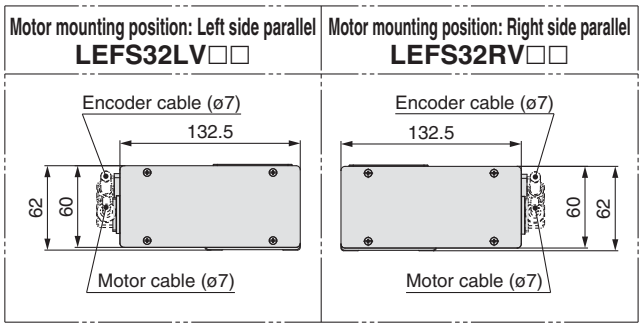
LEFS32R











Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more. (Recommended height 5 mm)

Note 2) The Z-phase first detecting position from the stroke end of the motor side. Please consult with SMC for adjusting the Z-phase detecting position at the stroke end of the end side.

Motor Dimensions [mm]

Motor type	X		W		Z	
	Without lock	With lock	Without lock	With lock	Without lock	With lock
V7	113.5	153.5	80	120	14	14

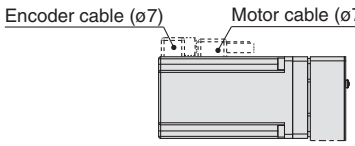
Dimensions [mm]

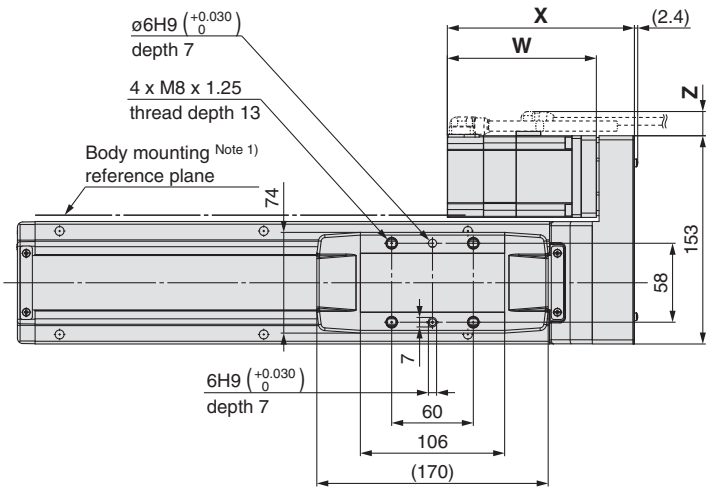
Model	L	A	B	n	D	E
LEFS32□□□-50□	245	56	180	4	—	—
LEFS32□□□-100□	295	106	230	4	—	—
LEFS32□□□-150□	345	156	280	4	—	—
LEFS32□□□-200□	395	206	330	6	2	300
LEFS32□□□-250□	445	256	380	6	2	300
LEFS32□□□-300□	495	306	430	6	2	300
LEFS32□□□-350□	545	356	480	8	3	450
LEFS32□□□-400□	595	406	530	8	3	450
LEFS32□□□-450□	645	456	580	8	3	450
LEFS32□□□-500□	695	506	630	10	4	600
LEFS32□□□-550□	745	556	680	10	4	600
LEFS32□□□-600□	795	606	730	10	4	600
LEFS32□□□-650□	845	656	780	12	5	750
LEFS32□□□-700□	895	706	830	12	5	750
LEFS32□□□-750□	945	756	880	12	5	750
LEFS32□□□-800□	995	806	930	14	6	900
LEFS32□□□-850□	1045	856	980	14	6	900
LEFS32□□□-900□	1095	906	1030	14	6	900
LEFS32□□□-950□	1145	956	1080	16	7	1050
LEFS32□□□-1000□	1195	1006	1130	16	7	1050

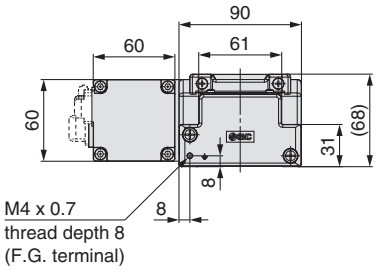
Dimensions: Motor Parallel

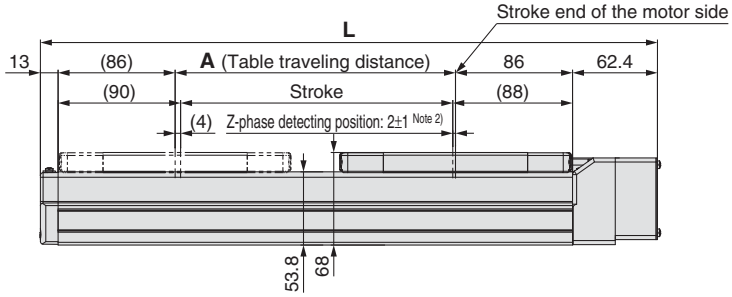
LEFS40R

With lock/LEFS40□V8□-□B

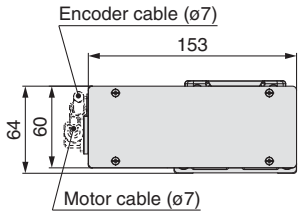




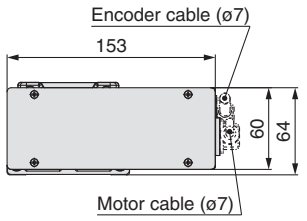


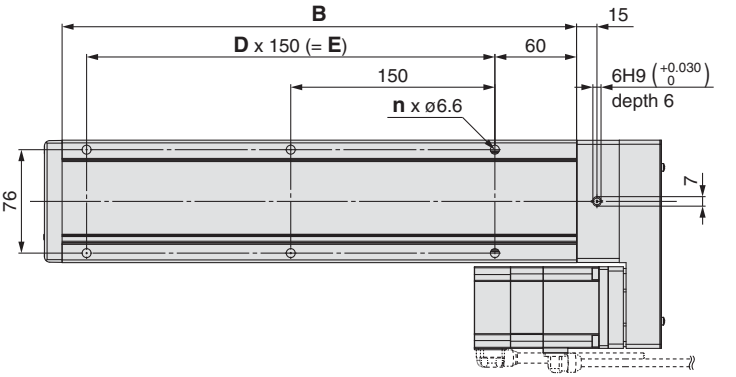


Motor mounting position: Left side parallel
LEFS40LV□□



Motor mounting position: Right side parallel
LEFS40RV□□





Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more. (Recommended height 5 mm)

Note 2) The Z-phase first detecting position from the stroke end of the motor side. Please consult with SMC for adjusting the Z-phase detecting position at the stroke end of the end side.

Motor Dimensions

[mm]

Motor type	X		W		Z	
	Without lock	With lock	Without lock	With lock	Without lock	With lock
V8	137.5	177.5	98.5	138.5	14	14

Dimensions

[mm]

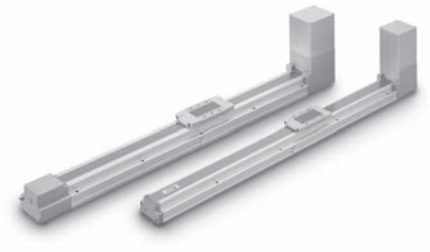
Model	L	A	B	n	D	E
LEFS40□□□-150□	403.4	156	328	4	—	150
LEFS40□□□-200□	453.4	206	378	6	2	300
LEFS40□□□-250□	503.4	256	428	6	2	300
LEFS40□□□-300□	553.4	306	478	6	2	300
LEFS40□□□-350□	603.4	356	528	8	3	450
LEFS40□□□-400□	653.4	406	578	8	3	450
LEFS40□□□-450□	703.4	456	628	8	3	450
LEFS40□□□-500□	753.4	506	678	10	4	600
LEFS40□□□-550□	803.4	556	728	10	4	600
LEFS40□□□-600□	853.4	606	778	10	4	600
LEFS40□□□-650□	903.4	656	828	12	5	750
LEFS40□□□-700□	953.4	706	878	12	5	750
LEFS40□□□-750□	1003.4	756	928	12	5	750
LEFS40□□□-800□	1053.4	806	978	14	6	900
LEFS40□□□-850□	1103.4	856	1028	14	6	900
LEFS40□□□-900□	1153.4	906	1078	14	6	900
LEFS40□□□-950□	1203.4	956	1128	16	7	1050
LEFS40□□□-1000□	1253.4	1006	1178	16	7	1050
LEFS40□□□-1100□	1353.4	1106	1278	18	8	1200
LEFS40□□□-1200□	1453.4	1206	1378	18	8	1200

AC Servo Motor

Electric Actuator/Slider Type

Belt Drive/*Series LEFB*

Model Selection



Series LEFB ▶ Page 677

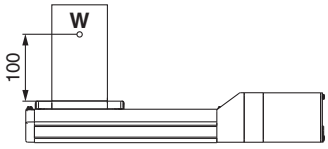
Selection Procedure

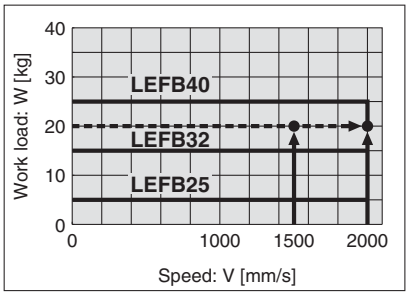
Step 1 Check the work load–speed. → **Step 2** Check the cycle time. → **Step 3** Check the allowable moment.

Selection Example

Operating conditions

- Workpiece mass: 20 [kg]
- Speed: 1500 [mm/s]
- Acceleration/Deceleration: 3000 [mm/s²]
- Stroke: 2000 [mm]
- Mounting position: Horizontal upward
- Workpiece mounting condition:





<Speed–Work load graph> (LEFB40)

Step 1 **Check the work load–speed. <Speed–Work load graph>** (Page 672)

Select the target model based on the workpiece mass and speed with reference to the <Speed–Work load graph>.

Selection example) The **LEFB40V8S-2000** is temporarily selected based on the graph shown on the right side.

Step 2 **Check the cycle time.**

Calculate the cycle time using the following calculation method.

Cycle time:

T can be found from the following equation.

$$T = T1 + T2 + T3 + T4 \text{ [s]}$$

- T1: Acceleration time and T3: Deceleration time can be obtained by the following equation.

$$T1 = V/a1 \text{ [s]} \qquad T3 = V/a2 \text{ [s]}$$

- T2: Constant speed time can be found from the following equation.

$$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V} \text{ [s]}$$

- T4: Settling time varies depending on the motor type and load. The value below is recommended.

$$T4 = 0.05 \text{ [s]}$$

Calculation example)
T1 to T4 can be calculated as follows.

$T1 = V/a1 = 1500/3000 = 0.5$ [s],

$T3 = V/a2 = 1500/3000 = 0.5$ [s]

$$T2 = \frac{L - 0.5 \cdot V \cdot (T1 + T3)}{V} = \frac{2000 - 0.5 \cdot 1500 \cdot (0.5 + 0.5)}{1500} = 0.83 \text{ [s]}$$

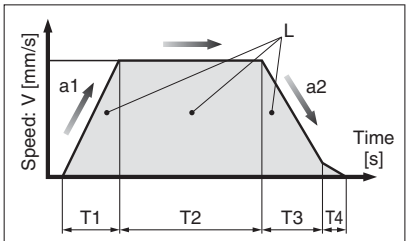
$T4 = 0.05$ [s]

Therefore, the cycle time can be obtained as follows.

$T = T1 + T2 + T3 + T4$

$= 0.5 + 0.83 + 0.5 + 0.05$

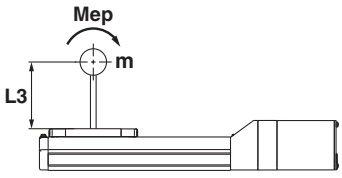
$=$ **1.88 [s]**

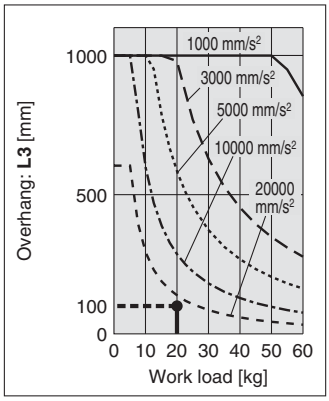


L : Stroke [mm]
··· (Operating condition)
V : Speed [mm/s]
··· (Operating condition)
a1: Acceleration [mm/s²]
··· (Operating condition)
a2: Deceleration [mm/s²]
··· (Operating condition)

T1: Acceleration time [s]
Time until reaching the set speed
T2: Constant speed time [s]
Time while the actuator is operating at a constant speed
T3: Deceleration time [s]
Time from the beginning of the constant speed operation to stop
T4: Settling time [s]
Time until positioning is completed

Step 3 **Check the guide moment.**



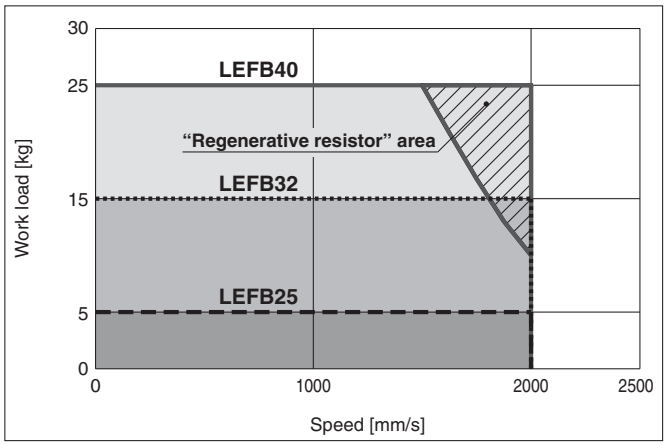


Based on the above calculation result, the LEFB40V8S-2000 is selected.

SMC

Speed–Work Load Graph (Guide)

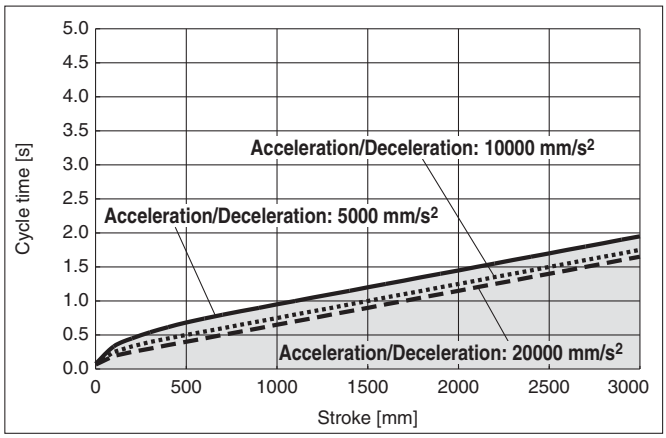
LEFB□/Belt Drive



Cycle Time Graph (Guide)

LEFB□/Belt Drive

LEFB25/32/40



∗ Cycle time is for when maximum speed.
∗ Maximum stroke: LEFB25: 2000 mm
LEFB32: 2500 mm
LEFB40: 3000 mm

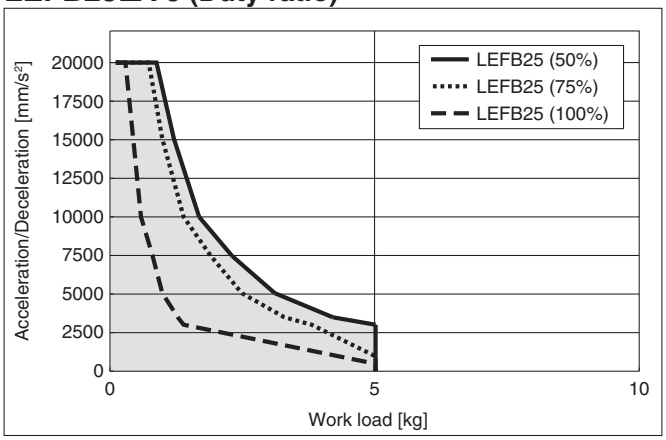
"Regenerative resistor" area

∗ When using the actuator in the "Regenerative resistor" area, download the "AC servo capacity selection program/SigmaJunmaSize+" from the SMC website. Then, calculate the necessary regenerative resistor capacity to prepare an appropriate external regenerative resistor.
∗ Regenerative resistor should be provided by the customer.

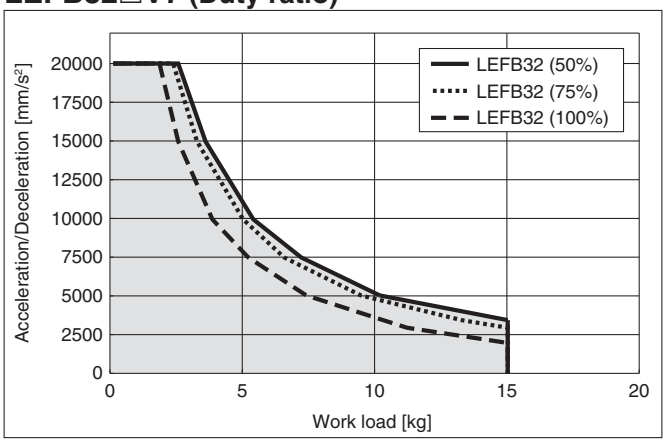
Work Load–Acceleration/Deceleration Graph (Guide)

LEFB□/Belt Drive

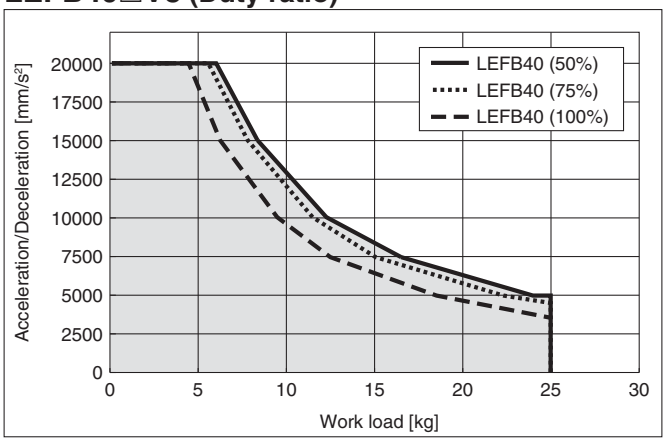
LEFB25□V6 (Duty ratio)



LEFB32□V7 (Duty ratio)



LEFB40□V8 (Duty ratio)



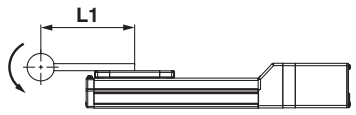
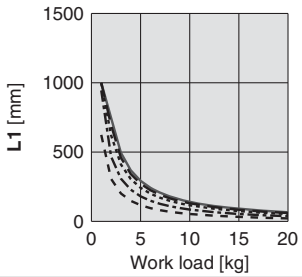
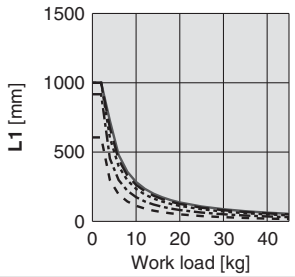
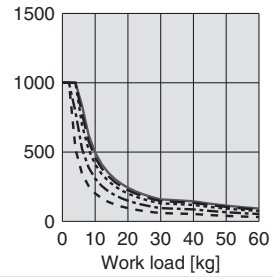
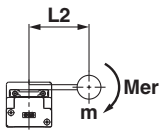
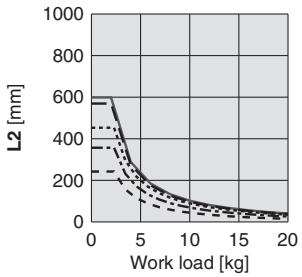
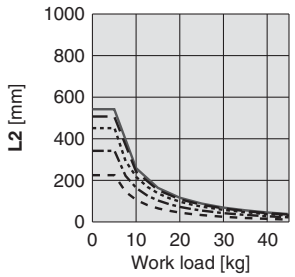
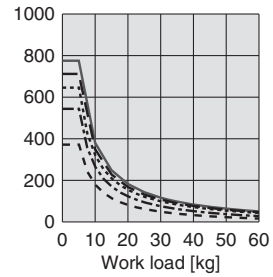
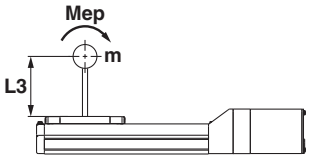
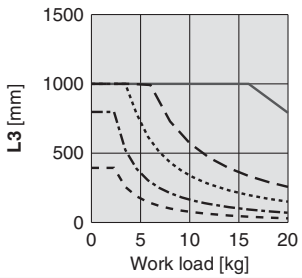
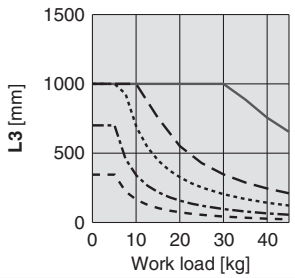
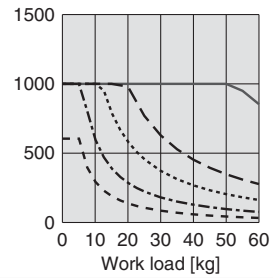
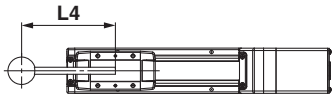
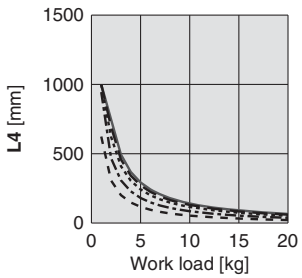
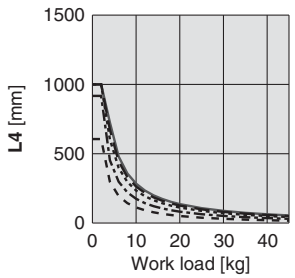
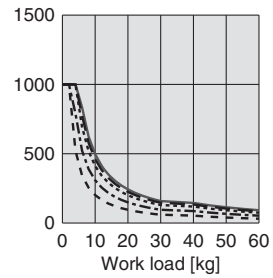
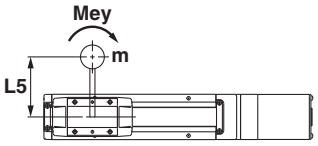
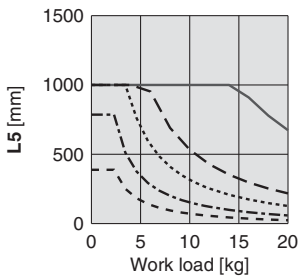
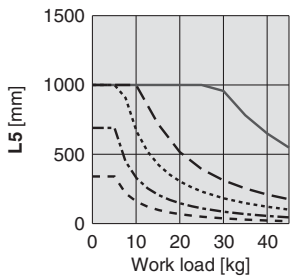
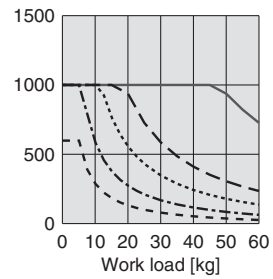
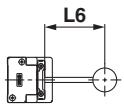
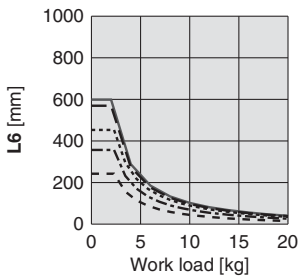
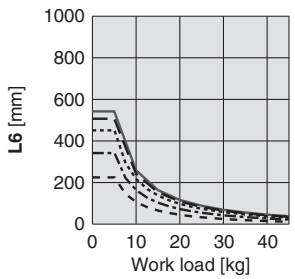
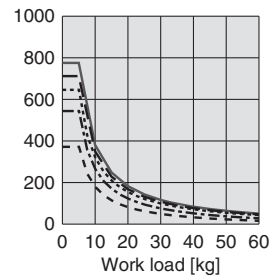
Applicable Motor/Driver

Model	Applicable model	
	Motor	Servopack (SMC driver)
LEFB25□	SGMJV-01A3A	SGDV-R90A11□ (LECYM2-V5) SGDV-R90A21□ (LECYU2-V5)
LEFB32□	SGMJV-02A3A	SGDV-1R6A11□ (LECYM2-V7) SGDV-1R6A21□ (LECYU2-V7)
LEFB40□	SGMJV-04A3A	SGDV-2R8A11□ (LECYM2-V8) SGDV-2R8A21□ (LECYU2-V8)

Dynamic Allowable Moment

∗ This graph shows the amount of allowable overhang (guide unit) when the center of gravity of the workpiece overhangs in one direction. When selecting the overhang, refer to "Calculation of Guide Load Factor" or the Electric Actuator Selection Software for confirmation, http://www.smcworld.com

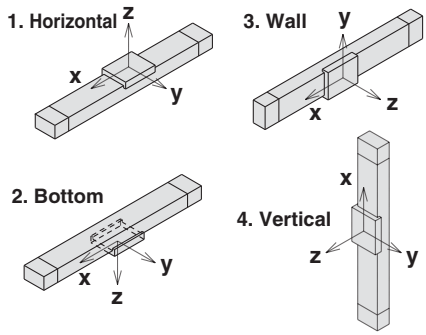
Acceleration/Deceleration ——1000 mm/s² — — —3000 mm/s² ·····5000 mm/s² —·—·—10000 mm/s² - - - - 20000 mm/s²

Orientation	Load overhanging direction **m** : Work load [kg] **Me**: Dynamic allowable moment [N·m] **L** : Overhang to the work load center of gravity [mm]		Model		
			LEFB25□V6	**LEFB32□V7**	**LEFB40□V8**
Horizontal/Bottom		X			
		Y			
		Z			
Wall		X			
		Y			
		Z			

Calculation of Guide Load Factor

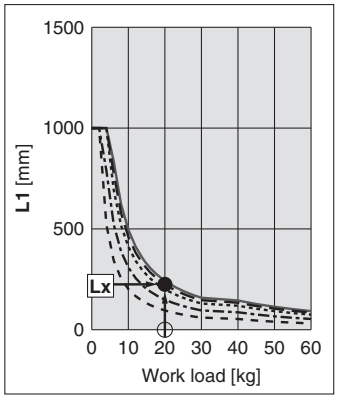
1. Decide operating conditions.
   Model: LEFB
   Size: 25/32/40
   Mounting orientation: Horizontal/Bottom/Wall/Vertical
   Acceleration [mm/s²]: **a**
   Work load [kg]: **m**
   Work load center position [mm]: **Xc/Yc/Zc**
2. Select the target graph with reference to the model, size and mounting orientation.
3. Based on the acceleration and work load, obtain the overhang [mm]: **Lx/Ly/Lz** from the graph.
4. Calculate the load factor for each direction.
   α**x = Xc/Lx**, α**y = Yc/Ly**, α**z = Zc/Lz**
5. Confirm the total of α**x**, α**y** and α**z** is 1 or less.
   α**x + αy + αz ≤ 1**
   When 1 is exceeded, please consider a reduction of acceleration and work load, or a change of the work load center position and series.

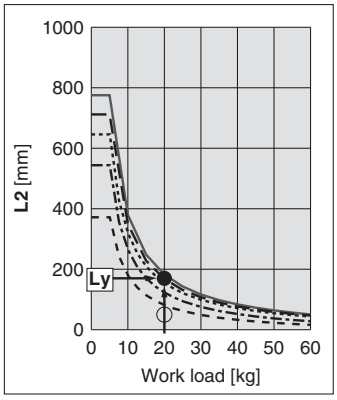
Mounting orientation



Example

1. Operating conditions
   Model: LEFB40
   Size: 40
   Mounting orientation: Horizontal
   Acceleration [mm/s²]: 3000
   Work load [kg]: 20
   Work load center position [mm]: **Xc = 0**, **Yc = 50**, **Zc = 200**
2. Select the graphs for horizontal of the LEFB40 on page 673.
3. **Lx = 250 mm**, **Ly = 180 mm**, **Lz = 1000 mm**
4. The load factor for each direction can be obtained as follows.
   αx = 0/250 = 0
   αy = 50/180 = 0.27
   αz = 200/1000 = 0.2
5. **αx + αy + αz = 0.47 ≤ 1**





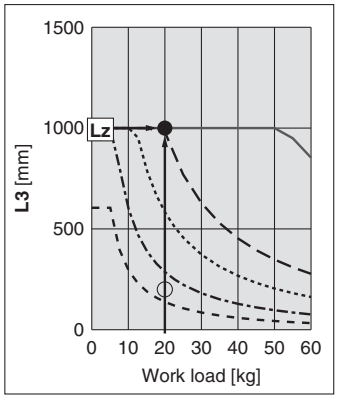
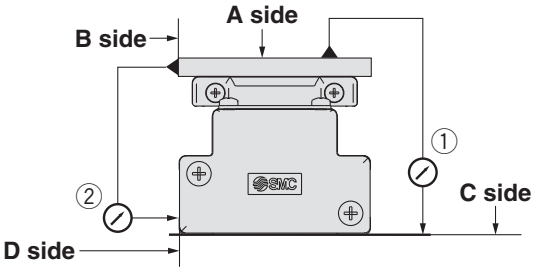


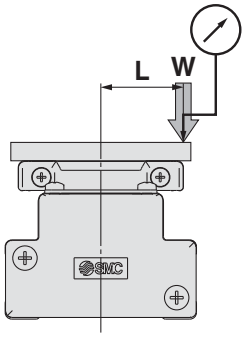
Table Accuracy

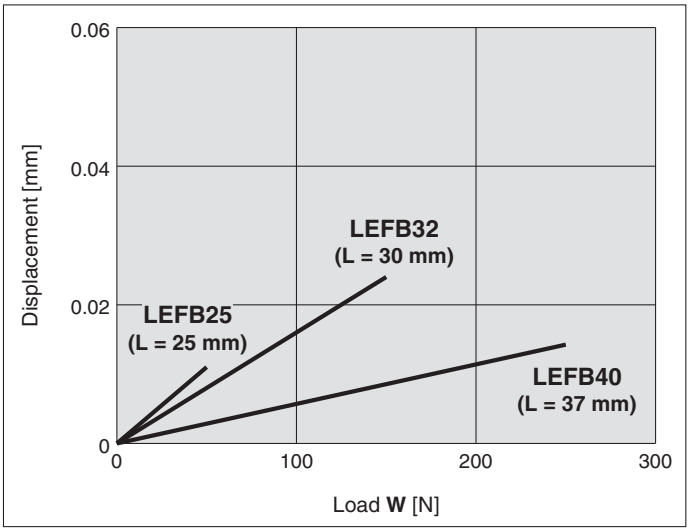


Model	Traveling parallelism [mm] (Every 300 mm)	
	① C side traveling parallelism to A side	② D side traveling parallelism to B side
LEFB25	0.05	0.03
LEFB32	0.05	0.03
LEFB40	0.05	0.03

Note) Traveling parallelism does not include the mounting surface accuracy.

Table Displacement (Reference Value)

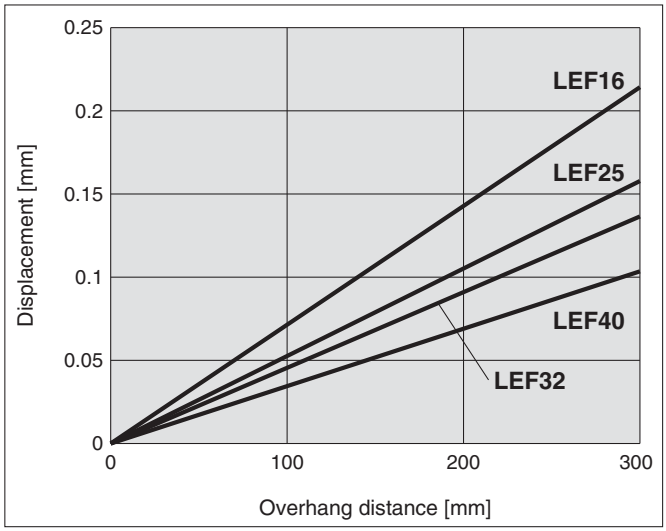




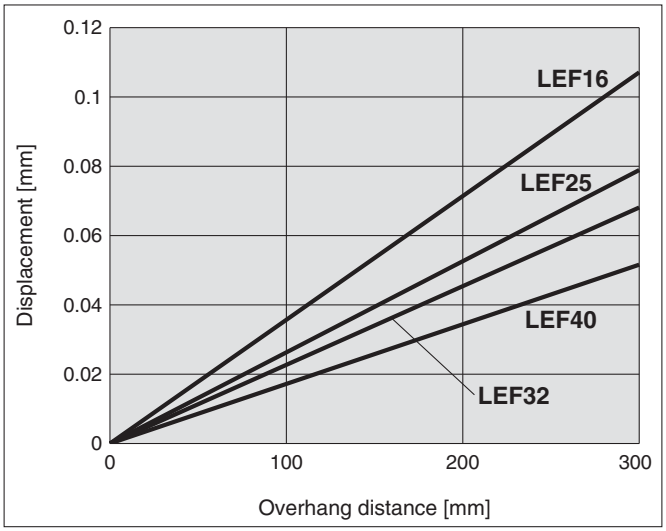
Note 1) This displacement is measured when a 15 mm aluminum plate is mounted and fixed on the table.
Note 2) Check the clearance and play of the guide separately.

Overhang Displacement Due to Table Clearance (Reference Value)

Basic type



High precision type



Electric Actuator/Slider Type Belt Drive

Series LEFB LEFB25, 32, 40

CE RoHS

How to Order

LEFB 32 ❑ V7 S – 300 B – S 3 M2 ❑

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶ Size

25
32
40

❷ Motor mounting position

Nil	Top mounting
U	Bottom mounting

❸ Motor type

Symbol	Type	Output [W]	Size	Compatible driver
V6	AC servo motor (Absolute encoder)	100	25	LECYM2-V5/LECYU2-V5
V7		200	32	LECYM2-V7/LECYU2-V7
V8		400	40	LECYM2-V8/LECYU2-V8

❹ Equivalent lead [mm]

S	54

❺ Stroke [mm]

300	300
to	to
3000	3000

❻ Motor option

Nil	Without option
B	With lock

❼ Cable type

Nil	Without cable
S	Standard cable
R	Robotic cable (Flexible cable)

❽ Actuator cable length [m]

Nil	Without cable
3	3
5	5
A	10
C	20

❾ Driver type

	Compatible driver	Power supply voltage [V]
Nil	Without driver	—
M2	LECYM2-V❑	200 to 230
U2	LECYU2-V❑	200 to 230

❿ I/O cable length [m] *

Nil	Without cable
H	Without cable (Connector only)
1	1.5

* When "Without driver" is selected for driver type, only "Nil: Without cable" can be selected. Refer to page 762 if I/O cable is required. (Options are shown on page 762.)

Applicable Stroke Table

●: Standard/○: Produced upon receipt of order

	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2500	3000	Manufacturable stroke range [mm]
LEFB25	●	●	●	●	●	●	●	●	○	●	○	○	●	○	○	○	○	●	—	—	300 to 2000
LEFB32	●	●	●	●	●	●	●	●	○	●	○	○	●	○	○	○	○	●	●	—	300 to 2500
LEFB40	●	●	●	●	●	●	●	●	○	●	○	○	●	○	○	○	○	●	●	●	300 to 3000

* Please consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.

Compatible Driver

Driver type	MECHATROLINK-Ⅱ type 	MECHATROLINK-Ⅲ type 
Series	LECYM	LECYU
Applicable network	MECHATROLINK-Ⅱ	MECHATROLINK-Ⅲ
Control encoder	Absolute 20-bit encoder	
Communication device	USB communication, RS-422 communication	
Power supply voltage [V]	200 to 230 VAC (50/60 Hz)	
Reference page	Page 755	

Specifications

AC Servo Motor

Model			LEFB25V6	LEFB32V7	LEFB40V8
Actuator specifications	Stroke [mm] Note 1)		300, 400, 500 600, 700, 800 900, 1000, (1100) 1200, (1300, 1400) 1500, (1600, 1700) (1800, 1900), 2000	300, 400, 500 600, 700, 800 900, 1000, (1100) 1200, (1300, 1400) 1500, (1600, 1700) (1800, 1900), 2000 2500	300, 400, 500 600, 700, 800 900, 1000, (1100) 1200, (1300, 1400) 1500, (1600, 1700) (1800, 1900), 2000 2500, 3000
	Work load [kg] Note 2)	Horizontal	5	15	25
	Max. speed [mm/s]		2000	2000	2000
	Max. acceleration/deceleration [mm/s²]		20000 (Refer to page 672 for limit according to work load and duty ratio.) Note 3)		
	Positioning repeatability [mm]		±0.06		
	Lost motion [mm] Note 4)		0.1 or less		
	Equivalent lead [mm]		54		
	Impact/Vibration resistance [m/s²] Note 5)		50/20		
	Actuation type		Belt		
	Guide type		Linear guide		
	Operating temperature range [°C]		5 to 40		
	Operating humidity range [%RH]		90 or less (No condensation)		
Electric specifications	Motor output/Size		100 W/□40	200 W/□60	400 W/□60
	Motor type		AC servo motor (200 VAC)		
	Encoder		Absolute 20-bit encoder (Resolution: 1048576 p/rev)		
	Power consumption [W] Note 6)	Horizontal	29	41	72
		Vertical	—	—	—
	Standby power consumption when operating [W] Note 7)	Horizontal	2	2	2
		Vertical	—	—	—
	Max. instantaneous power consumption [W] Note 8)		445	725	1275
Lock unit specifications	Type Note 9)		Non-magnetizing lock		
	Holding force [N]		27	54	110
	Power consumption at 20°C [W] Note 10)		5.5	6.0	6.0
	Rated voltage [V]		24 VDC $^{0}_{-10\%}$		

Note 1) Please consult with SMC as all non-standard and non-made-to-order strokes are produced as special orders.
Note 2) For details, refer to “Speed–Work Load Graph (Guide)” on page 672.
Note 3) Maximum acceleration/deceleration changes according to the work load. Check “Work Load–Acceleration/Deceleration Graph (Guide)” of the catalog.
Note 4) A reference value for correcting an error in reciprocal operation.
Note 5) Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Note 6) The power consumption (including the driver) is for when the actuator is operating.
Note 7) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.
Note 8) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
Note 9) Only when motor option “With lock” is selected.
Note 10) For an actuator with lock, add the power consumption for the lock.

Weight

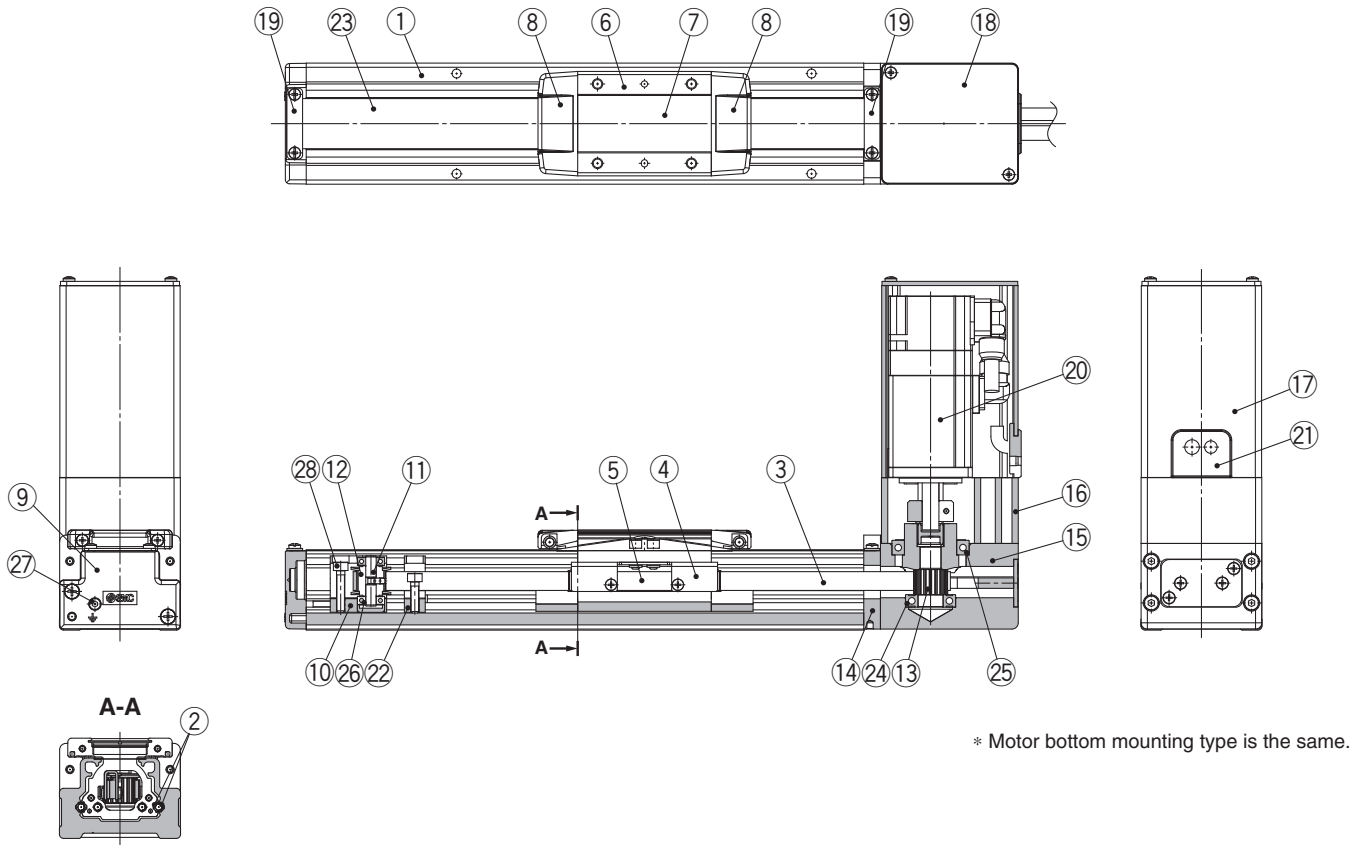
Series	LEFB25																	
Stroke [mm]	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
Product weight [kg]	3.06	3.31	3.56	3.81	4.06	4.31	4.56	4.81	5.06	5.31	5.56	5.81	6.06	6.31	6.56	6.81	7.06	7.31
Additional weight with lock [kg]	0.3																	

Series	LEFB32																		
Stroke [mm]	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2500
Product weight [kg]	4.90	5.25	5.60	5.95	6.30	6.65	7.00	7.35	7.70	8.05	8.40	8.75	9.10	9.45	9.80	10.15	10.50	10.85	12.60
Additional weight with lock [kg]	0.7																		

Series	LEFB40																			
Stroke [mm]	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2500	3000
Product weight [kg]	7.20	7.65	8.10	8.55	9.00	9.45	9.90	10.35	10.80	11.25	11.70	12.15	12.60	13.05	13.50	13.95	14.40	14.85	17.10	19.35
Additional weight with lock [kg]	0.7																			

Construction

LEFB25V6S



∗ Motor bottom mounting type is the same.

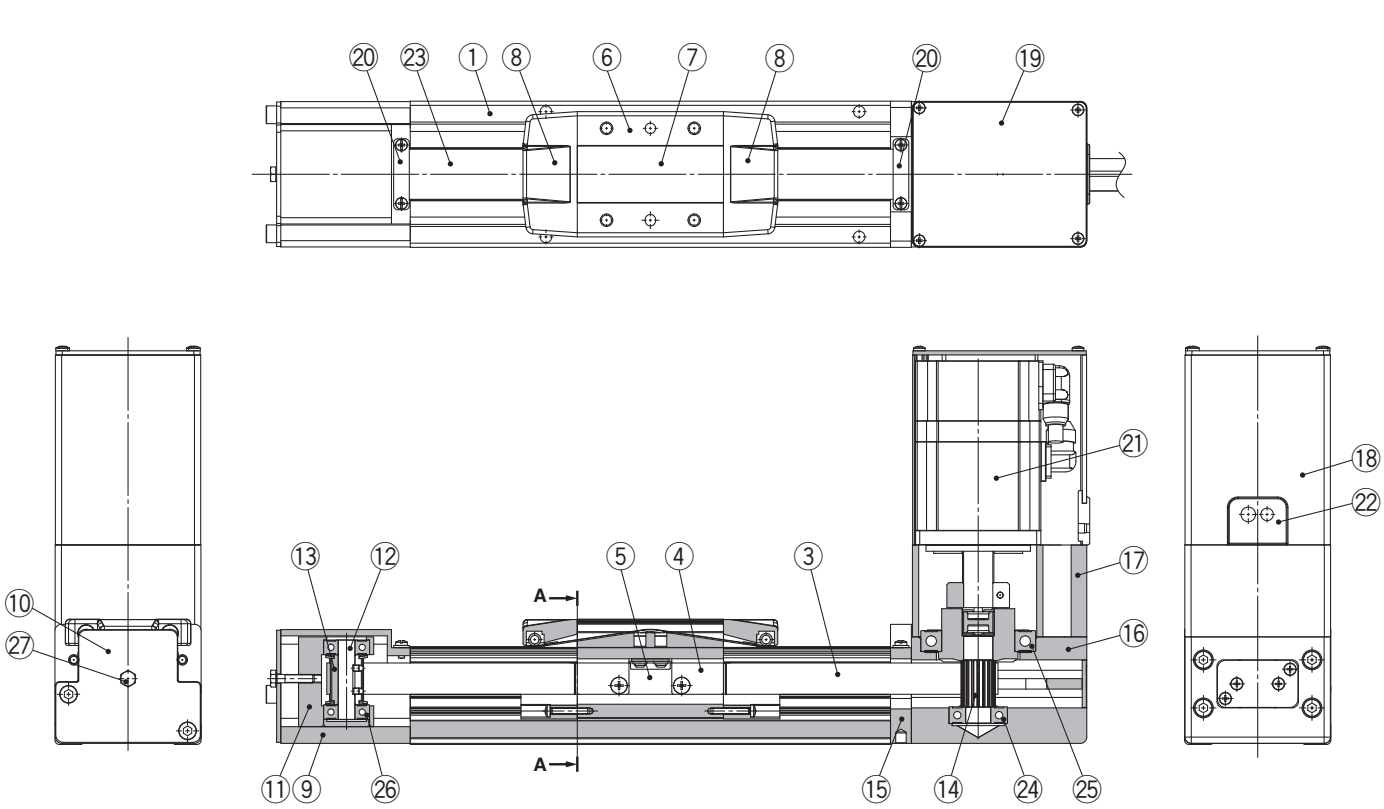
Component Parts

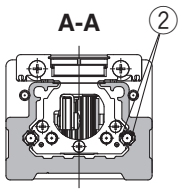
No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Rail guide**		
3	**Belt**		
4	**Belt holder**	Carbon steel	Chromating
5	**Belt stopper**	Aluminum alloy	Anodized
6	**Table**	Aluminum alloy	Anodized
7	**Blanking plate**	Aluminum alloy	Anodized
8	**Seal band holder**	Synthetic resin	
9	**Housing A**	Aluminum die-cast	Coating
10	**Pulley holder**	Aluminum alloy	
11	**Pulley shaft**	Stainless steel	
12	**End pulley**	Aluminum alloy	Anodized
13	**Motor pulley**	Aluminum alloy	Anodized
14	**Return flange**	Aluminum alloy	Coating

No.	Description	Material	Note
15	**Housing**	Aluminum alloy	Coating
16	**Motor mount**	Aluminum alloy	Coating
17	**Motor cover**	Aluminum alloy	Anodized
18	**Motor end cover**	Aluminum alloy	Anodized
19	**Band stopper**	Stainless steel	
20	**Motor**		
21	**Rubber bushing**	NBR	
22	**Stopper**	Aluminum alloy	
23	**Dust seal band**	Stainless steel	
24	**Bearing**		
25	**Bearing**		
26	**Spacer**	Aluminum alloy	
27	**Tension adjustment cap screw**	Chromium molybdenum steel	Chromating
28	**Pulley retaining screw**	Chromium molybdenum steel	Chromating

Construction

LEFB32/40V□S





∗ Motor bottom mounting type is the same.

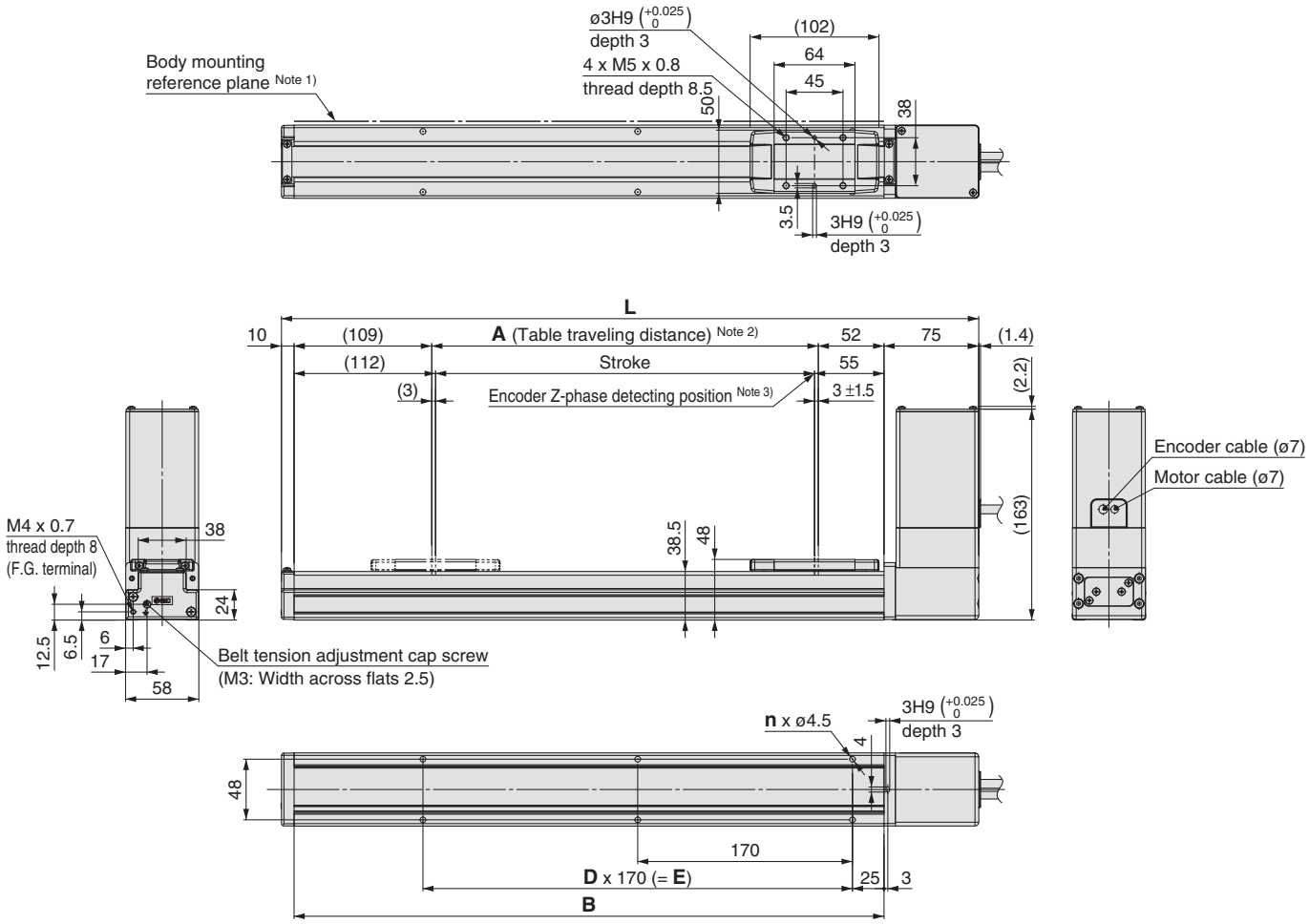
Component Parts

No.	Description	Material	Note
1	**Body**	Aluminum alloy	Anodized
2	**Rail guide**		
3	**Belt**		
4	**Belt holder**	Carbon steel	Chromating
5	**Belt stopper**	Aluminum alloy	Anodized
6	**Table**	Aluminum alloy	Anodized
7	**Blanking plate**	Aluminum alloy	Anodized
8	**Seal band stopper**	Synthetic resin	
9	**End block**	Aluminum alloy	Coating
10	**End block cover**		
11	**Pulley holder**	Aluminum alloy	
12	**Pulley shaft**	Stainless steel	
13	**End pulley**	Aluminum alloy	Anodized
14	**Motor pulley**	Aluminum alloy	Anodized

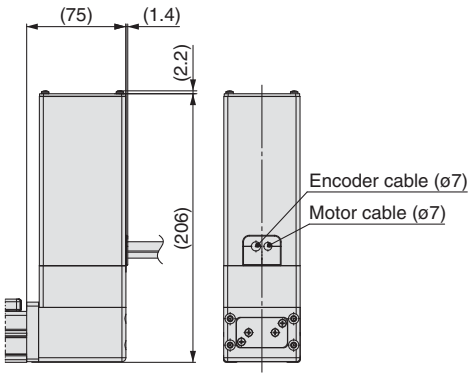
No.	Description	Material	Note
15	**Return flange**	Aluminum alloy	Coating
16	**Housing**	Aluminum alloy	Coating
17	**Motor mount**	Aluminum alloy	Coating
18	**Motor cover**	Aluminum alloy	Anodized
19	**Motor end cover**	Aluminum alloy	Anodized
20	**Band stopper**	Stainless steel	
21	**Motor**		
22	**Rubber bushing**	NBR	
23	**Dust seal band**	Stainless steel	
24	**Bearing**		
25	**Bearing**		
26	**Bearing**		
27	**Tension adjustment bolt**	Chromium molybdenum steel	Chromating

Dimensions: Belt Drive

LEFB25/Motor top mounting type



Motor option: With lock



Dimensions [mm]

Stroke	L	A	B	n	D	E
300	552	306	467	6	2	340
400	652	406	567	8	3	510
500	752	506	667	8	3	510
600	852	606	767	10	4	680
700	952	706	867	10	4	680
800	1052	806	967	12	5	850
900	1152	906	1067	14	6	1020
1000	1252	1006	1167	14	6	1020
1100	1352	1106	1267	16	7	1190
1200	1452	1206	1367	16	7	1190
1300	1552	1306	1467	18	8	1360
1400	1652	1406	1567	20	9	1530
1500	1752	1506	1667	20	9	1530
1600	1852	1606	1767	22	10	1700
1700	1952	1706	1867	22	10	1700
1800	2052	1806	1967	24	11	1870
1900	2152	1906	2067	24	11	1870
2000	2252	2006	2167	26	12	2040

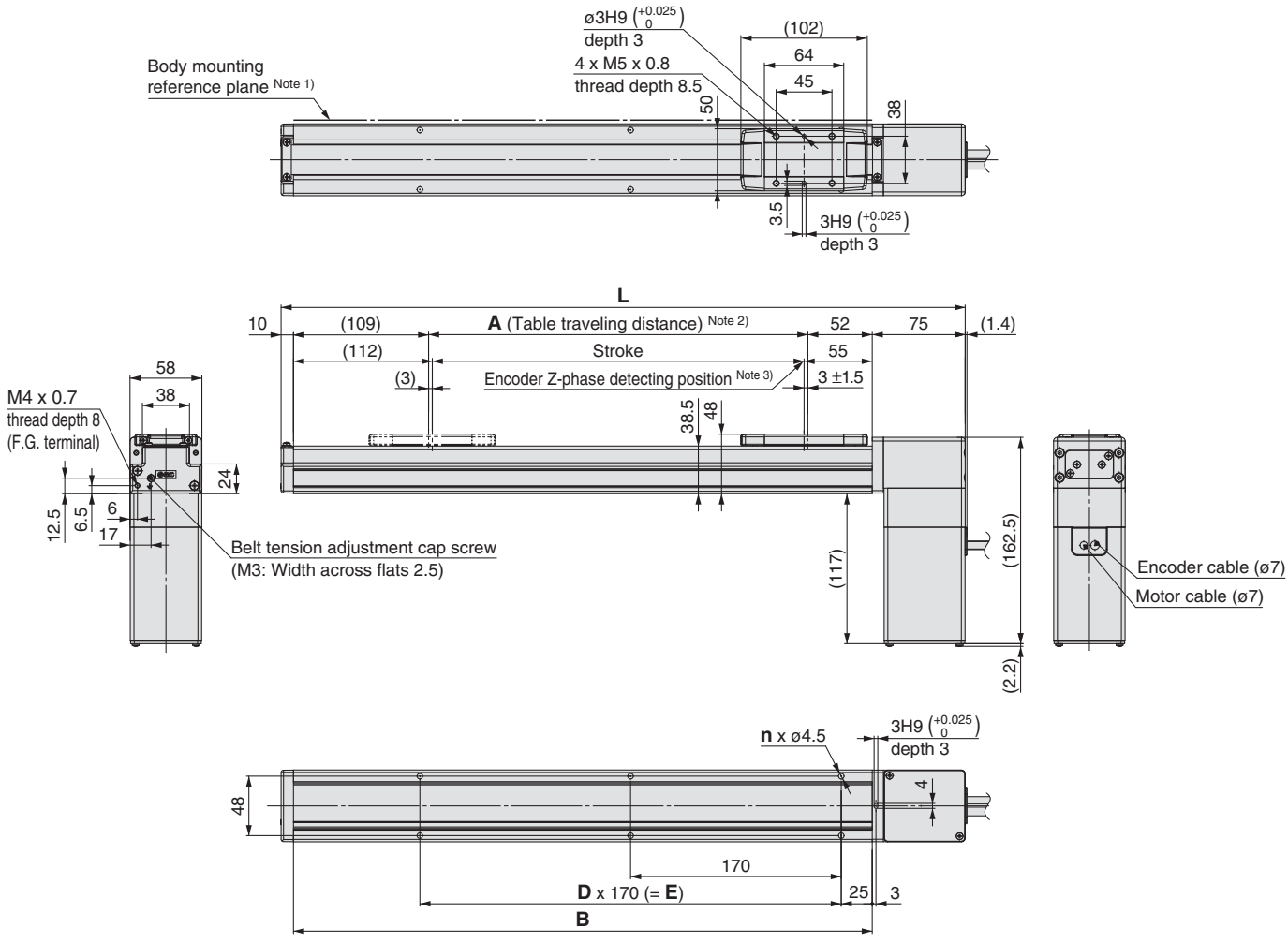
Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more because of round chamfering. (Recommended height 5 mm)

Note 2) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the work pieces and facilities around the table.

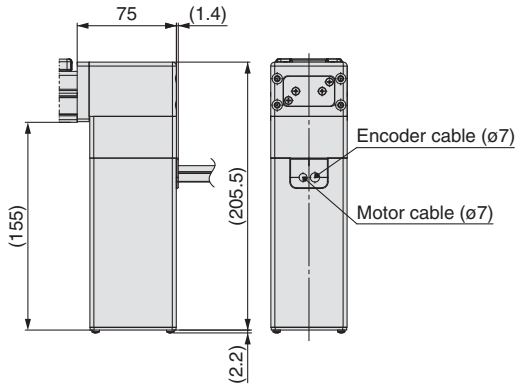
Note 3) The Z-phase first detecting position from the stroke end of the motor side

Dimensions: Belt Drive

LEFB25U/Motor bottom mounting type



Motor option: With lock



Dimensions [mm]

Stroke	L	A	B	n	D	E
300	552	306	467	6	2	340
400	652	406	567	8	3	510
500	752	506	667	8	3	510
600	852	606	767	10	4	680
700	952	706	867	10	4	680
800	1052	806	967	12	5	850
900	1152	906	1067	14	6	1020
1000	1252	1006	1167	14	6	1020
1100	1352	1106	1267	16	7	1190
1200	1452	1206	1367	16	7	1190
1300	1552	1306	1467	18	8	1360
1400	1652	1406	1567	20	9	1530
1500	1752	1506	1667	20	9	1530
1600	1852	1606	1767	22	10	1700
1700	1952	1706	1867	22	10	1700
1800	2052	1806	1967	24	11	1870
1900	2152	1906	2067	24	11	1870
2000	2252	2006	2167	26	12	2040

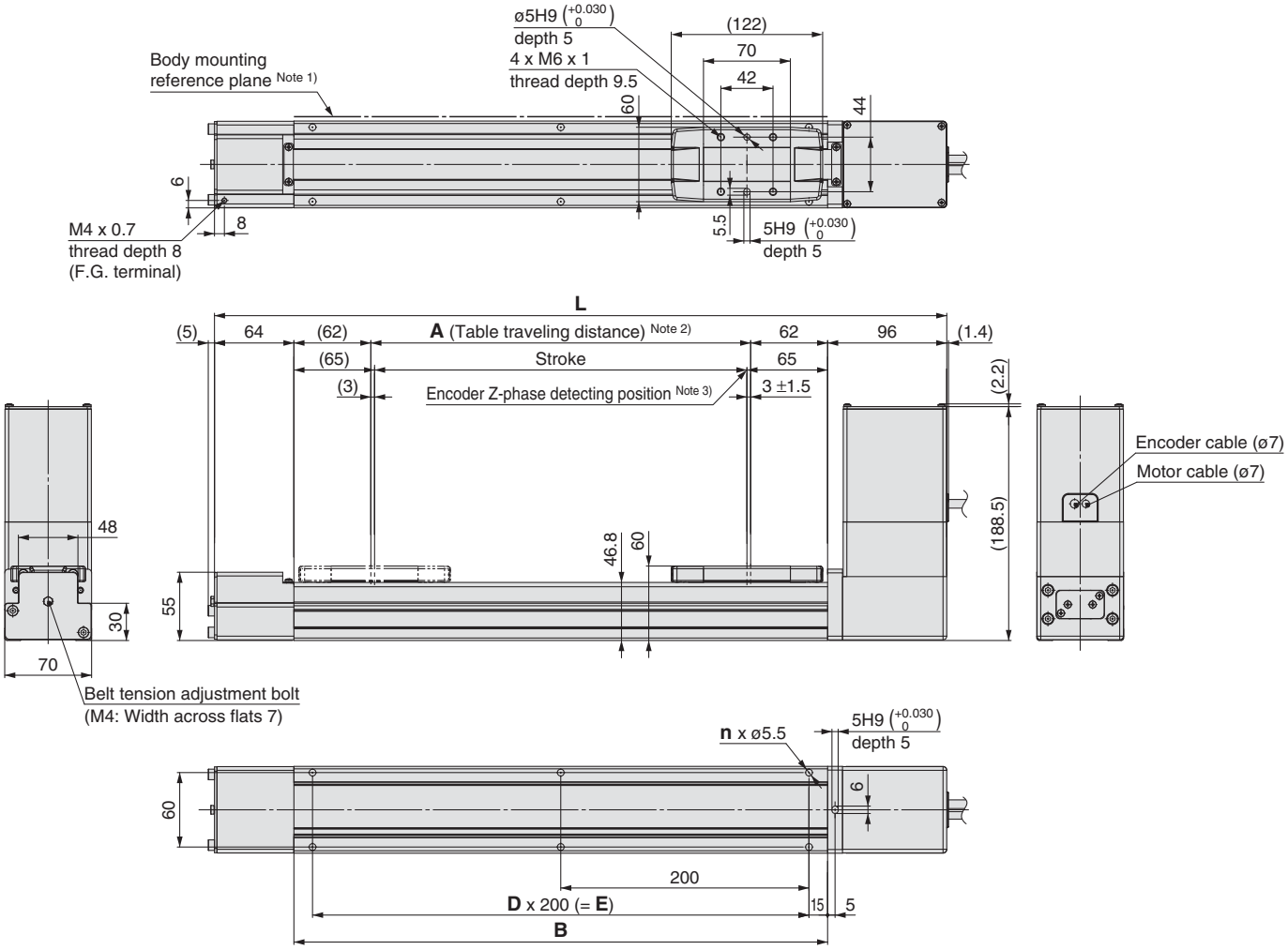
Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more because of round chamfering. (Recommended height 5 mm)

Note 2) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the work pieces and facilities around the table.

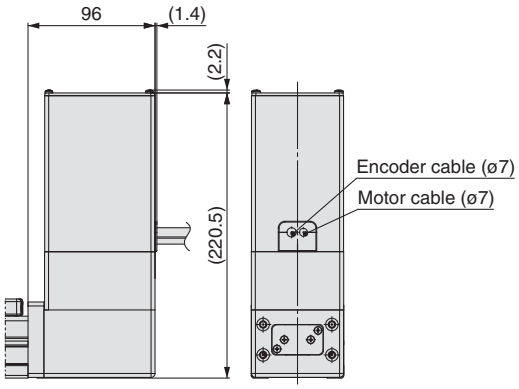
Note 3) The Z-phase first detecting position from the stroke end of the motor side

Dimensions: Belt Drive

LEFB32/Motor top mounting type



Motor option: With lock



Dimensions [mm]

Stroke	L	A	B	n	D	E
300	590	306	430	6	2	400
400	690	406	530	6	2	400
500	790	506	630	8	3	600
600	890	606	730	8	3	600
700	990	706	830	10	4	800
800	1090	806	930	10	4	800
900	1190	906	1030	12	5	1000
1000	1290	1006	1130	12	5	1000
1100	1390	1106	1230	14	6	1200
1200	1490	1206	1330	14	6	1200
1300	1590	1306	1430	16	7	1400
1400	1690	1406	1530	16	7	1400
1500	1790	1506	1630	18	8	1600
1600	1890	1606	1730	18	8	1600
1700	1990	1706	1830	20	9	1800
1800	2090	1806	1930	20	9	1800
1900	2190	1906	2030	22	10	2000
2000	2290	2006	2130	22	10	2000
2500	2790	2506	2630	28	13	2600

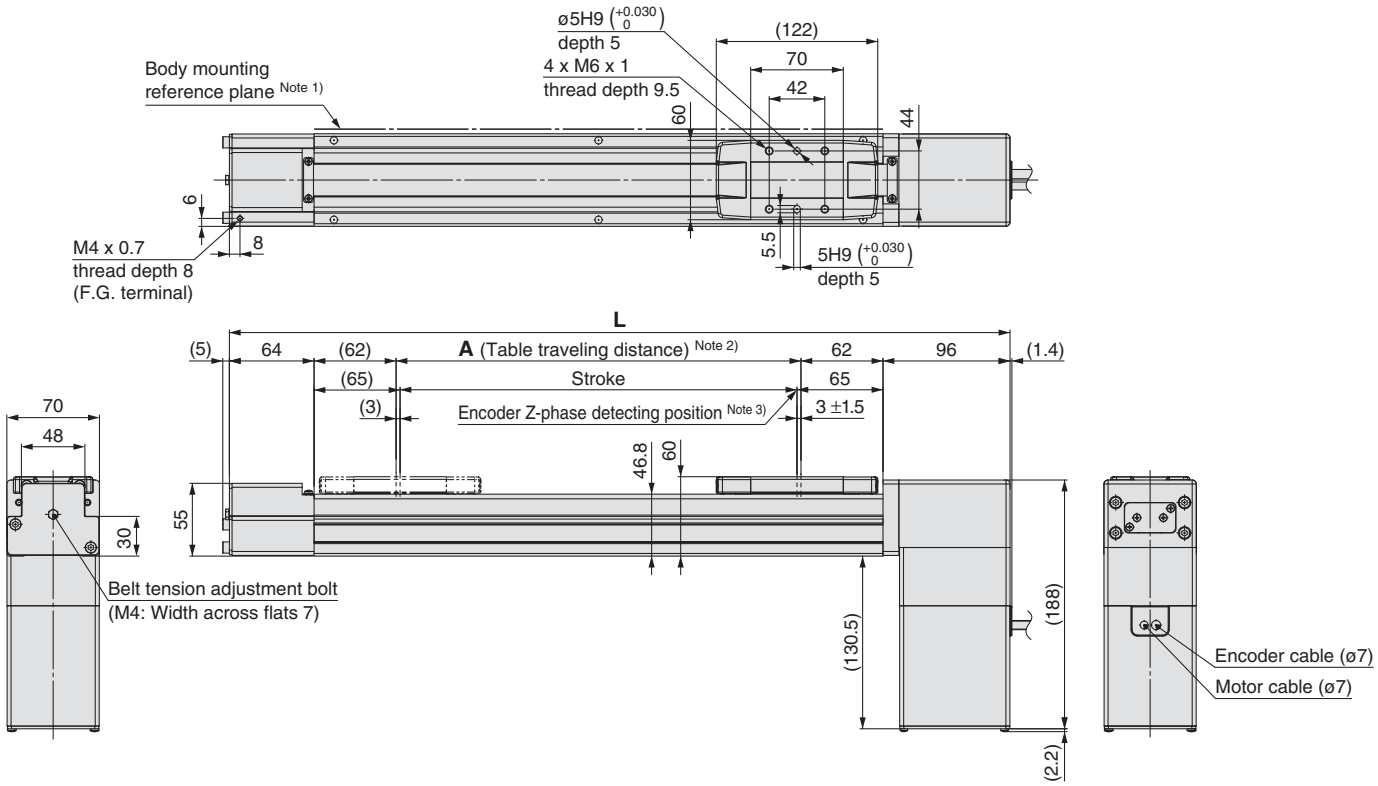
Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more because of round chamfering. (Recommended height 5 mm)

Note 2) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the work pieces and facilities around the table.

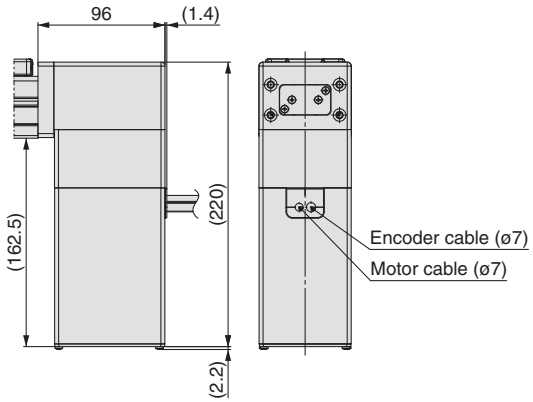
Note 3) The Z-phase first detecting position from the stroke end of the motor side

Dimensions: Belt Drive

LEFB32U/Motor bottom mounting type



Motor option: With lock



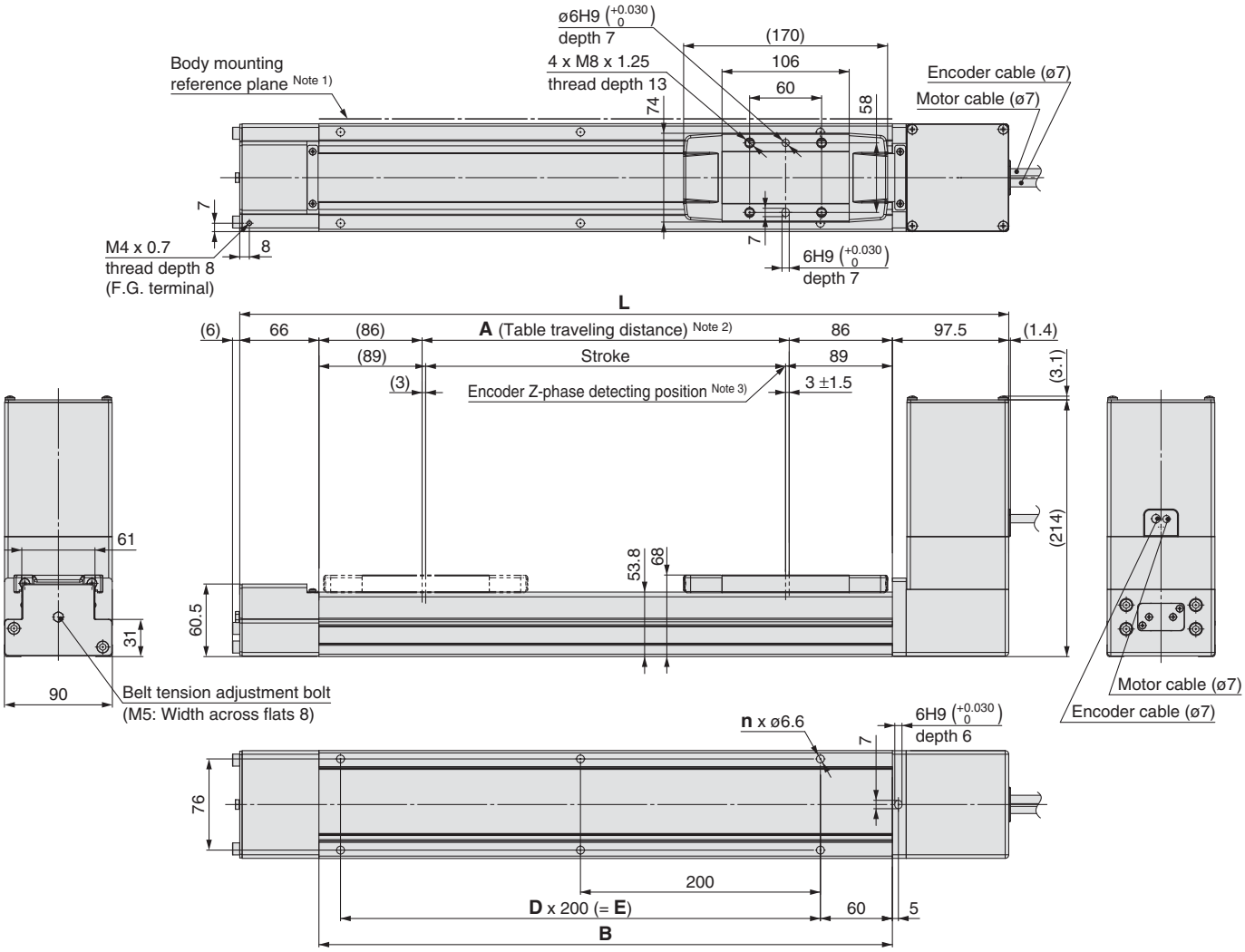
Dimensions [mm]

Stroke	L	A	B	n	D	E
300	590	306	430	6	2	400
400	690	406	530	6	2	400
500	790	506	630	8	3	600
600	890	606	730	8	3	600
700	990	706	830	10	4	800
800	1090	806	930	10	4	800
900	1190	906	1030	12	5	1000
1000	1290	1006	1130	12	5	1000
1100	1390	1106	1230	14	6	1200
1200	1490	1206	1330	14	6	1200
1300	1590	1306	1430	16	7	1400
1400	1690	1406	1530	16	7	1400
1500	1790	1506	1630	18	8	1600
1600	1890	1606	1730	18	8	1600
1700	1990	1706	1830	20	9	1800
1800	2090	1806	1930	20	9	1800
1900	2190	1906	2030	22	10	2000
2000	2290	2006	2130	22	10	2000
2500	2790	2506	2630	28	13	2600

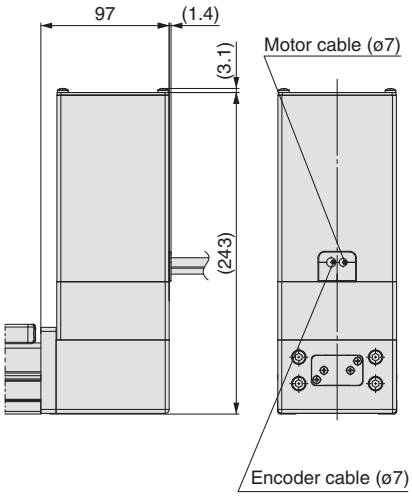
Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more because of round chamfering. (Recommended height 5 mm)
Note 2) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the work pieces and facilities around the table.
Note 3) The Z-phase first detecting position from the stroke end of the motor side

Dimensions: Belt Drive

LEFB40/Motor top mounting type



Motor option: With lock



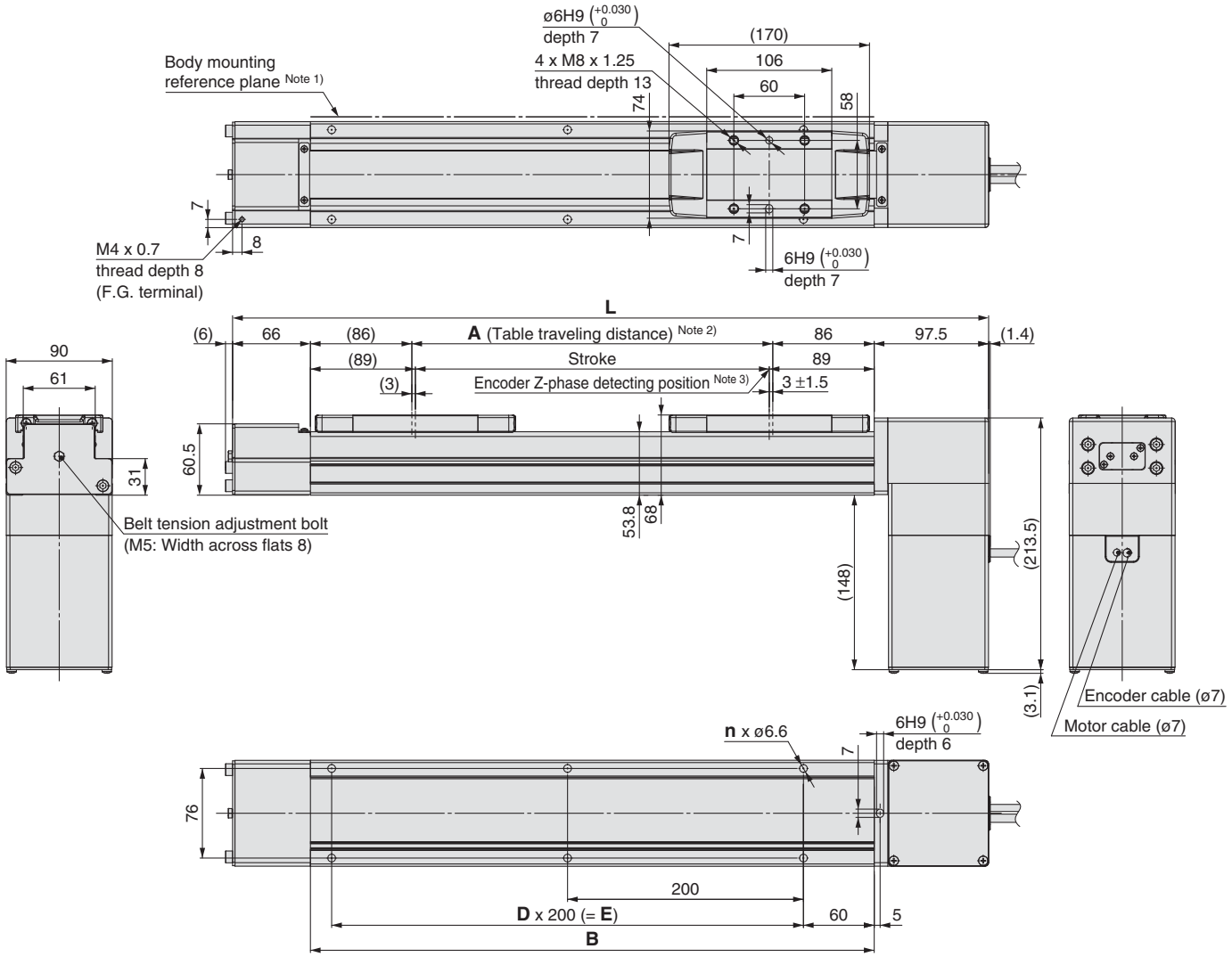
Dimensions [mm]

Stroke	L	A	B	n	D	E
300	641.5	306	478	6	2	400
400	741.5	406	578	6	2	400
500	841.5	506	678	8	3	600
600	941.5	606	778	8	3	600
700	1041.5	706	878	10	4	800
800	1141.5	806	978	10	4	800
900	1241.5	906	1078	12	5	1000
1000	1341.5	1006	1178	12	5	1000
1100	1441.5	1106	1278	14	6	1200
1200	1541.5	1206	1378	14	6	1200
1300	1641.5	1306	1478	16	7	1400
1400	1741.5	1406	1578	16	7	1400
1500	1841.5	1506	1678	18	8	1600
1600	1941.5	1606	1778	18	8	1600
1700	2041.5	1706	1878	20	9	1800
1800	2141.5	1806	1978	20	9	1800
1900	2241.5	1906	2078	22	10	2000
2000	2341.5	2006	2178	22	10	2000
2500	2841.5	2506	2678	28	13	2600
3000	3341.5	3006	3178	32	15	3000

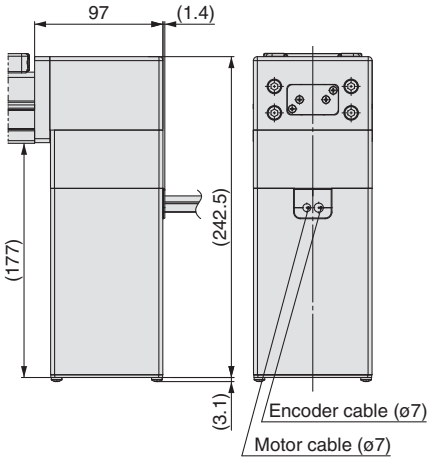
Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more because of round chamfering. (Recommended height 5 mm)
Note 2) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the work pieces and facilities around the table.
Note 3) The Z-phase first detecting position from the stroke end of the motor side

Dimensions: Belt Drive

LEFB40U/Motor bottom mounting type



Motor option: With lock



Dimensions [mm]

Stroke	L	A	B	n	D	E
300	641.5	306	478	6	2	400
400	741.5	406	578	6	2	400
500	841.5	506	678	8	3	600
600	941.5	606	778	8	3	600
700	1041.5	706	878	10	4	800
800	1141.5	806	978	10	4	800
900	1241.5	906	1078	12	5	1000
1000	1341.5	1006	1178	12	5	1000
1100	1441.5	1106	1278	14	6	1200
1200	1541.5	1206	1378	14	6	1200
1300	1641.5	1306	1478	16	7	1400
1400	1741.5	1406	1578	16	7	1400
1500	1841.5	1506	1678	18	8	1600
1600	1941.5	1606	1778	18	8	1600
1700	2041.5	1706	1878	20	9	1800
1800	2141.5	1806	1978	20	9	1800
1900	2241.5	1906	2078	22	10	2000
2000	2341.5	2006	2178	22	10	2000
2500	2841.5	2506	2678	28	13	2600
3000	3341.5	3006	3178	32	15	3000

Note 1) When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more because of round chamfering. (Recommended height 5 mm)
Note 2) Distance within which the table can move when it returns to origin. Make sure a workpiece mounted on the table does not interfere with the work pieces and facilities around the table.
Note 3) The Z-phase first detecting position from the stroke end of the motor side

Series LEF
Electric Actuator/ Specific Product Precautions 1

Be sure to read this before handling. Refer to page 906 for Safety Instructions. For Electric Actuator Precautions, refer to pages 907 to 912, or "Handling Precautions for SMC Products" and the Operation Manual on SMC website, http://www.smcworld.com

Design

⚠Caution

1. Do not apply a load in excess of the specification limits.

Select a suitable actuator by work load and allowable moment. If the product is used outside of the specification limits, the eccentric load applied to the guide will be excessive and have adverse effects such as creating play on the guide, degrading accuracy and shortening the life of the product.

2. Do not use the product in applications where excessive external force or impact force is applied to it.

This can cause a failure.

Selection

⚠Warning

1. Do not increase the speed in excess of the specification limits.

Select a suitable actuator by the relationship between the allowable work load and speed, and the allowable speed of each stroke. If the product is used outside of the specification limits, it will have adverse effects such as creating noise, degrading accuracy and shortening the life of the product.

2. Do not use the product in applications where excessive external force or impact force is applied to it.

This can cause a failure.

3. When the product repeatedly cycles with partial strokes (see the table below), operate it at a full stroke at least once every dozens of cycles.

Otherwise, lubrication can run out.

Model	Partial stroke
LEFS25	65 mm or less
LEFS32	70 mm or less
LEFS40	105 mm or less

4. When external force is applied to the table, it is necessary to add external force to the work load as the total carried load for the sizing.

When a cable duct or flexible moving tube is attached to the actuator, the sliding resistance of the table increases and may lead to operational failure of the product.

5. The forward/reverse torque limit is set to 800% as default.

When the product is operated with a smaller value than 300%, acceleration when driving can decrease. Set the value after confirming the actual device to be used.

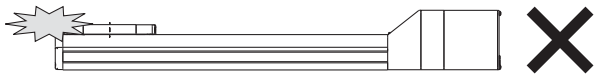
Handling

⚠Caution

1. Do not allow the table to hit the end of stroke.

When incorrect instructions are inputted, such as using the product outside of the specification limits or operation outside of actual stroke through changes in the controller/driver setting and/or origin position, the table may collide against the stroke end of the actuator. Check these points before use.

If the table collides against the stroke end of the actuator, the guide, belt or internal stopper can be broken. This may lead to abnormal operation.



Handle the actuator with care when it is used in the vertical direction as the workpiece will fall freely from its own weight.

2. The actual speed of this actuator is affected by the work load and stroke.

Check the specifications with reference to the model selection section of the catalog.

3. Do not apply a load, impact or resistance in addition to the transferred load during return to origin.

4. Do not dent, scratch or cause other damage to the body and table mounting surfaces.

This may cause unevenness in the mounting surface, play in the guide or an increase in the sliding resistance.

5. Do not apply strong impact or an excessive moment while mounting a workpiece.

If an external force over the allowable moment is applied, it may cause play in the guide or an increase in the sliding resistance.

6. Keep the flatness of mounting surface 0.1 mm or less.

Unevenness of a workpiece or base mounted on the body of the product may cause play in the guide and an increase in the sliding resistance.

7. When mounting the product, keep a 40 mm or longer diameter for bends in the cable.

8. Do not hit the table with the workpiece in the positioning operation and positioning range.

9. Grease is applied to the dust seal band for sliding. When wiping off the grease to remove foreign matter etc., be sure to apply it again.

10. For bottom mounting, the dust seal band may be deflected.

Series LEF
Electric Actuator/ Specific Product Precautions 2

Be sure to read this before handling. Refer to page 906 for Safety Instructions. For Electric Actuator Precautions, refer to pages 907 to 912, or "Handling Precautions for SMC Products" and the Operation Manual on SMC website, http://www.smcworld.com

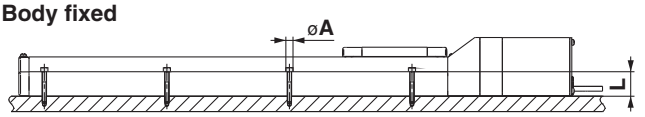
Handling

⚠Caution

11. When mounting the product, use screws with adequate length and tighten them with adequate torque.

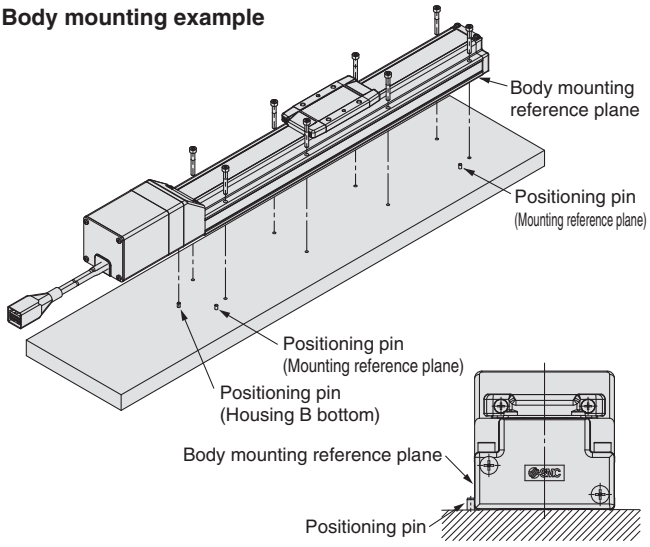
Tightening the screws with a higher torque than recommended may cause a malfunction, whilst the tightening with a lower torque can cause the displacement of the mounting position or in extreme conditions the actuator could become detached from its mounting position.

Body fixed



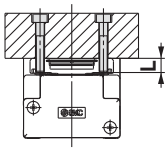
Model	Screw size	Max. tightening torque [N·m]	ø**A** [mm]	**L** [mm]
LEF□25	M4	1.5	4.5	24
LEF□32	M5	3	5.5	30
LEF□40	M6	5.2	6.6	31

Body mounting example



The traveling parallelism is the reference plane for the body mounting reference plane. If the traveling parallelism for a table is required, set the reference plane against positioning pins etc.

Workpiece fixed



Model	Screw size	Max. tightening torque [N·m]	**L** (Max. screw-in depth) [mm]
LEF□25	M5 x 0.8	3.0	8
LEF□32	M6 x 1	5.2	9
LEF□40	M8 x 1.25	12.5	13

To prevent the workpiece retaining screws from touching the body, use screws that are 0.5 mm or shorter than the maximum screw-in depth. If long screws are used, they can touch the body and cause a malfunction etc.

12. Do not operate by fixing the table and moving the actuator body.

13. Check the specifications for the minimum speed of each actuator.

Otherwise, unexpected malfunctions, such as knocking, may occur.

14. The belt drive actuator cannot be used vertically for applications.

Maintenance

⚠Warning

Maintenance frequency

Perform maintenance according to the table below.

Frequency	Appearance check	Internal check
Inspection before daily operation	○	—
Inspection every 6 months/1000 km/ 5 million cycles*	○	○

* Select whichever comes first.

• Items for visual appearance check

1. Loose set screws, Abnormal dirt
2. Check of flaw and cable joint
3. Vibration, Noise

• Items for internal check

1. Lubricant condition on moving parts.
2. Loose or mechanical play in fixed parts or fixing screws.