

Electric Actuator/Slider Type Ball Screw Drive

Step Motor (Servo/24 VDC)

Servo Motor (24 VDC)

Series *LEFS*

LEFS16, 25, 32, 40



How to Order

LEFS **16** **B** - **100** - **S** **1** **6N** **1**

1 2 3 4 5 6 7 8 9 10

1 Size

16
25
32
40

2 Motor type

Symbol	Type	Applicable size				Compatible controllers/driver
		LEFS16	LEFS25	LEFS32	LEFS40	
Nil	Step motor (Servo/24 VDC)	●	●	●	●	LECP6 LECP1 LECPA
A	Servo motor (24 VDC)	●	●	—	—	LECA6

3 Lead [mm]

Symbol	LEFS16	LEFS25	LEFS32	LEFS40
A	10	12	16	20
B	5	6	8	10

4 Stroke [mm]

100	100
to	to
1000	1000

* Refer to the applicable stroke table.

⚠ Caution

[CE-compliant products]

① EMC compliance was tested by combining the electric actuator LEF series and the controller LEC series.

The EMC depends on the configuration of the customer's control panel and the relationship with other electrical equipment and wiring. Therefore conformity to the EMC directive cannot be certified for SMC components incorporated into the customer's equipment under actual operating conditions. As a result it is necessary for the customer to verify conformity to the EMC directive for the machinery and equipment as a whole.

② For the servo motor (24 VDC) specification, EMC compliance was tested by installing a noise filter set (LEC-NFA). Refer to page 44 for the noise filter set. Refer to the LECA Operation Manual for installation.

[UL-compliant products]

When conformity to UL is required, the electric actuator and controller/driver should be used with a UL1310 Class 2 power supply.

Applicable stroke table

●Standard

Model \ Stroke	100	200	300	400	500	600	700	800	900	1000	Manufacturable stroke range [mm]
LEFS16	●	●	●	●	—	—	—	—	—	—	100 to 400
LEFS25	●	●	●	●	●	●	—	—	—	—	100 to 600
LEFS32	●	●	●	●	●	●	●	●	—	—	100 to 800
LEFS40	—	●	●	●	●	●	●	●	●	●	200 to 1000

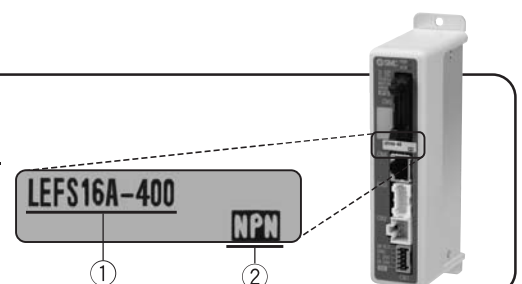
* Consult with SMC for non-standard strokes as they are produced as special orders.

The actuator and controller/driver are sold as a package.

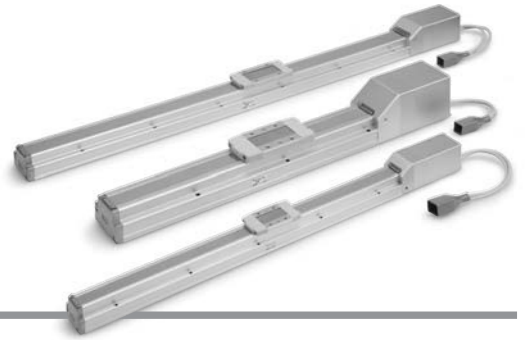
Confirm that the combination of the controller/driver and the actuator is correct.

<Check the following before use.>

- ① Check the actuator label for model number. This matches the controller/driver.
- ② Check Parallel I/O configuration matches (NPN or PNP).



* Refer to the operation manual for using the products. Please download it via our website, <http://www.smcworld.com>



5 Motor option

Nil	Without option
B	With lock

6 Actuator cable type*1

Nil	Without cable
S	Standard cable*2
R	Robotic cable (Flexible cable)

*1 The standard cable should be used on fixed parts. For using on moving parts, select the robotic cable.

*2 Only available for the motor type "Step motor."

7 Actuator cable length [m]

Nil	Without cable
1	1.5
3	3
5	5
8	8*
A	10*
B	15*
C	20*

* Produced upon receipt of order (Robotic cable only)
Refer to the specifications Note 2) on pages 14 and 15.

8 Controller/Driver type*1

Nil	Without controller/driver	
6N	LECP6/LECA6	NPN
6P	(Step data input type)	PNP
1N	LECP1*2	NPN
1P	(Programless type)	PNP
AN	LECPA*2	NPN
AP	(Pulse input type)	PNP

*1 For details about controllers/driver and compatible motors, refer to the compatible controllers/driver below.

*2 Only available for the motor type "Step motor."

9 I/O cable length [m]*1

Nil	Without cable
1	1.5
3	3*2
5	5*2

*1 When "Without controller/driver" is selected for controller/driver types, I/O cable cannot be selected. Refer to page 44 (For LECP6/LECA6), page 57 (For LECP1) or page 64 (For LECPA) if I/O cable is required.





*2 When "Pulse input type" is selected for controller/driver types, pulse input usable only with differential. Only 1.5 m cables usable with open collector.

10 Controller/Driver mounting

Nil	Screw mounting
D	DIN rail mounting*

* DIN rail is not included. Order it separately.

Compatible Controllers/Driver

Type	Step data input type	Step data input type	Programless type	Pulse input type
				
Series	LECP6	LECA6	LECP1	LECPA
Features	Value (Step data) input Standard controller		Capable of setting up operation (step data) without using a PC or teaching box	Operation by pulse signals
Compatible motor	Step motor (Servo/24 VDC)	Servo motor (24 VDC)	Step motor (Servo/24 VDC)	
Maximum number of step data	64 points		14 points	—
Power supply voltage	24 VDC			
Reference page	Page 36	Page 36	Page 51	Page 58

Specifications

Step Motor (Servo/24 VDC)

Model			LEFS16		LEFS25		LEFS32		LEFS40	
Actuator specifications	Stroke [mm] <small>Note 1)</small>		100, 200, 300, 400		100, 200, 300 400, 500, 600		100, 200, 300, 400 500, 600, 700, 800		200, 300, 400, 500, 600 700, 800, 900, 1000	
	Work load [kg] <small>Note 2)</small>	Horizontal	9	10	20	20	40	45	50	60
		Vertical	2	4	7.5	15	10	20	—	23
	Speed [mm/s] <small>Note 2)</small>		10 to 500	5 to 250	12 to 500	6 to 250	16 to 500	8 to 250	20 to 500	10 to 250
	Max. acceleration/deceleration [mm/s ²]		3,000							
	Positioning repeatability [mm]		±0.02							
	Lead [mm]		10	5	12	6	16	8	20	10
	Impact/Vibration resistance [m/s ²] <small>Note 3)</small>		50/20							
	Actuation type		Ball screw							
	Guide type		Linear guide							
	Operating temperature range [°C]		5 to 40							
	Operating humidity range [%RH]		90 or less (No condensation)							
Electric specifications	Motor size		□28		□42		□56.4			
	Motor type		Step motor (Servo/24 VDC)							
	Encoder		Incremental A/B phase (800 pulse/rotation)							
	Rated voltage [V]		24 VDC ±10%							
	Power consumption [W] <small>Note 4)</small>		22		38		50		100	
	Standby power consumption when operating [W] <small>Note 5)</small>		18		16		44		43	
Max. instantaneous power consumption [W] <small>Note 6)</small>		51		57		123		141		
Lock unit specifications	Type <small>Note 7)</small>		Non-magnetizing lock							
	Holding force [N]		20	39	78	157	108	216	113	225
	Power consumption [W] <small>Note 8)</small>		2.9		5		5		5	
	Rated voltage [V]		24 VDC ±10%							

Note 1) Consult with SMC for non-standard strokes as they are produced as special orders.

Note 2) Speed changes according to the work load. Check "Speed-Work Load Graph (Guide)" on page 3.

Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m.

Note 3) 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 4) The power consumption (including the controller) is for when the actuator is operating.

Note 5) The standby power consumption when operating (including the controller) is for when the actuator is stopped in the set position during the operation.

Note 6) The maximum instantaneous power consumption (including the controller) is for when the actuator is operating. This value can be used for the selection of the power supply.

Note 7) With lock only

Note 8) For an actuator with lock, add the power consumption for the lock.