Electric Actuator

High Performance

SliderType/ High Precision Type

Battery-less Absolute (Step Motor 24 VDC)

New

CE UKCA

* For details, refer to page 47 and onward.

RoHS

Reduces cycle time

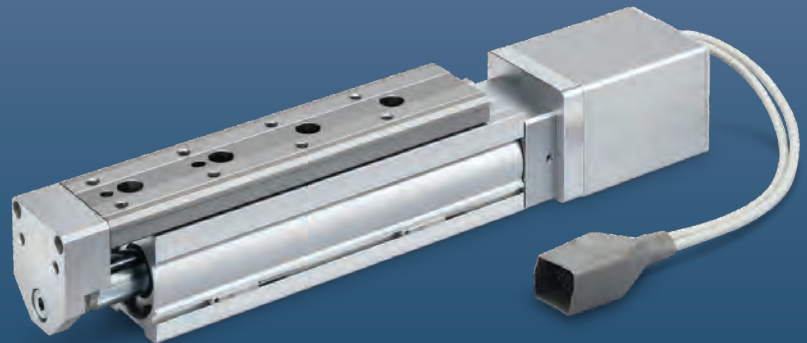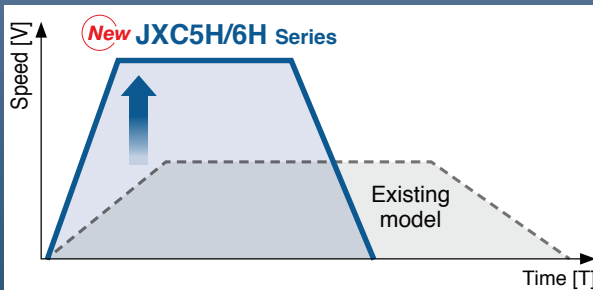|	
Cycle time	**Reduced by 39%** (0.37 s ◁ 0.61 s) **compared with the existing model**[1] *1 When LESYH25DGA-150 is operated from 0 to 150 mm
Acceleration/ Deceleration	**10000 mm/s²** (**200**% increase compared with the existing model)
Max. speed	**800 mm/s** (Improved by **200**% compared with the existing model)

New JXC5H/6H Series

Speed [V] / Time [T] — Existing model

Improved positioning repeatability due to the adoption of a ball screw drive.

Positioning repeatability ±0.01 mm

Lost motion 0.1 mm or less

Battery-less absolute encoder compatible

High Performance Step Motor Controller

Higher acceleration and maximum speed can be set with the special controller.

Parallel I/O
JXC5H/6H Series p. 33

EtherCAT/EtherNet/IP™/PROFINET
JXCEH/9H/PH Series p. 40

LESYH□G Series

NB100-149A

Battery-less Absolute Encoder Type
Restart from the last stop position is possible after recovery of the power supply.

The position information is held by the encoder even when the power supply is turned off. A return to origin operation is not necessary when the power supply is recovered.
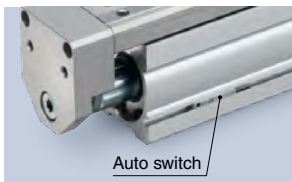
■ Auto switches are mountable.

(Mounting groove for auto switches)

For checking the limit and the intermediate signal
Applicable to the D-M9□, D-M9□E, and D-M9□W (2-color indicator)
∗ The auto switches should be ordered separately. For details, refer to pages 25 to 27.

Auto switch

2-color indicator solid state auto switch
Accurate setting of the mounting position can be performed without mistakes.

A   light lights up when within the optimum operating range.

ON
Operating range   OFF
Red Green Red
Optimum operating range
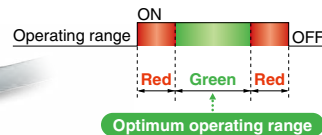
■ Maintenance labor can be reduced as the product does not require the use of batteries.

Batteries are not required to store the position information.
Therefore, there is no need to store spare batteries or to recycle and replace dead batteries.

Does not contain a battery

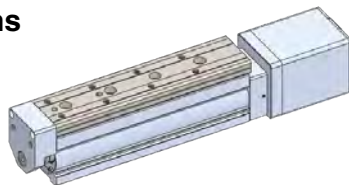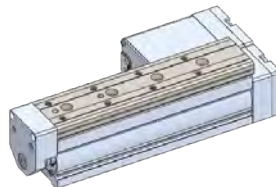AC servo motor driver

Contains a battery

Motor mounting position
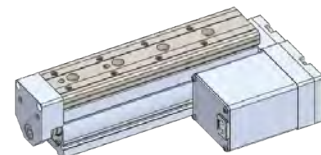
Select from 3 directions
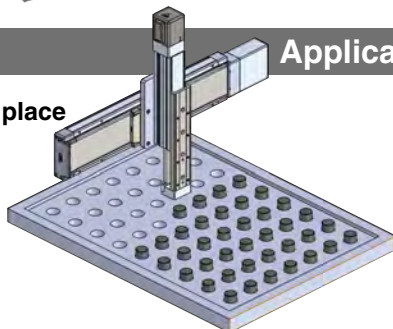
In-line

Right side parallel

Left side parallel

Application examples

● **For pick and place operations**

● **For vertical transfer (Z axis)**
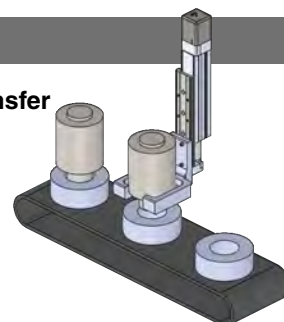
SMC

Step Data Input Type JXC5H/6H Series p. 33

ACT 2

Controller Setting Software ACT Controller 2

Easy-to-use setting software ACT Controller 2 (For PC)

Various functions available in normal mode (Compared with the existing ACT Controller)

● Parameter and step data setting
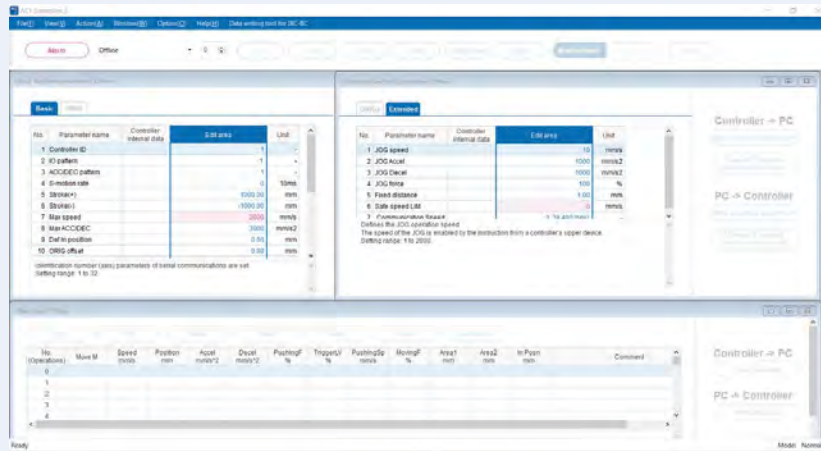
∗ Customers operating computers with specifications other than Windows 10/64 bit should use the existing ACT Controller.

● Alarm confirmation
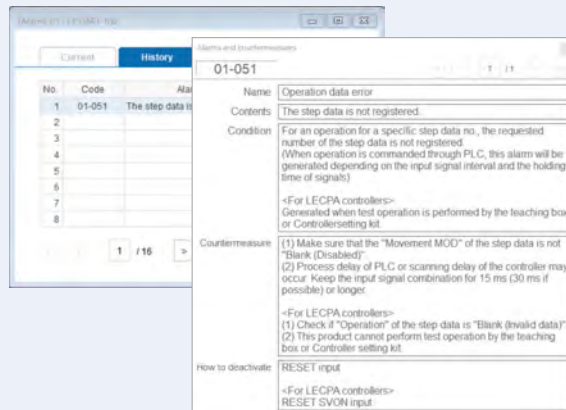
When an alarm is generated, the alarm details and countermeasures can be confirmed.
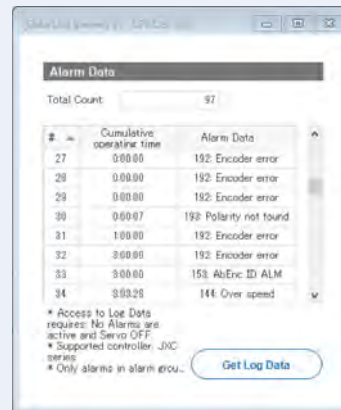
When an alarm is generated, the cumulative startup time of the controller can be confirmed.

● Waveform monitoring
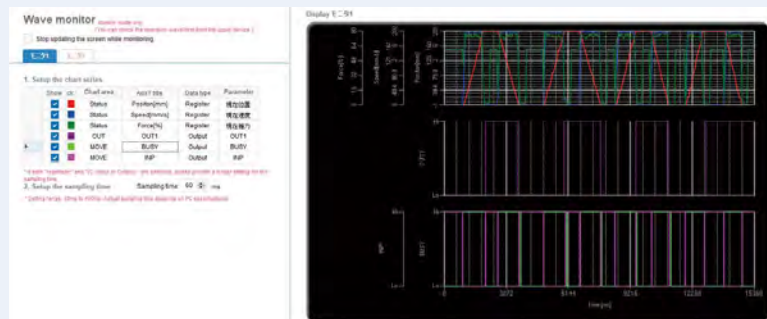
The position, speed, force, and input/output signals' waveform data during operation can be measured.

∗ When using the ACT Controller 2 test operation function, waveform monitoring is not available.

SMC

Step Data Input Type JXC5H/6H Series `p. 33`

ACT 2 **Controller Setting Software ACT Controller 2**

● The JXC-BC writing tool
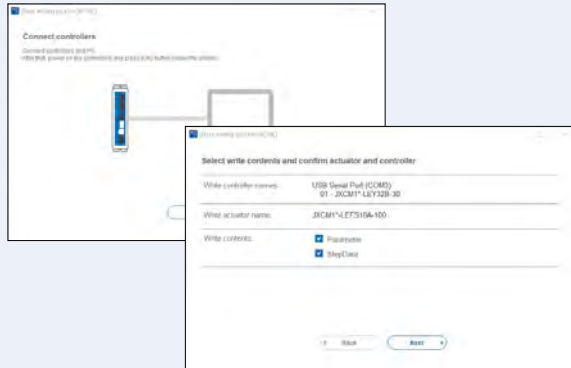
The writing tool can be used to write the connected actuator's parameters and step data to a JXC series blank controller.

● Customizable plug-in functions
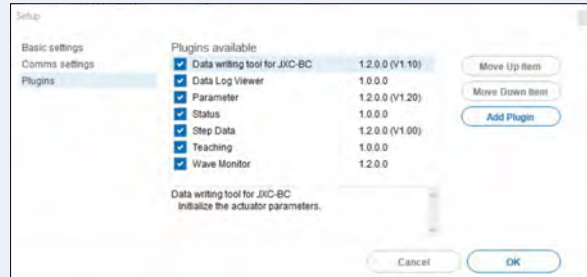
Which plug-in functions are displayed as well as the display order are customizable. Customers can add the functions they require.

In normal mode, various other test operation methods (program operation, jogging, moving of the constant rate, etc.), signal status monitoring, one-touch switching between Japanese and English, and other functions are available.

For immediate use, operate in easy mode.
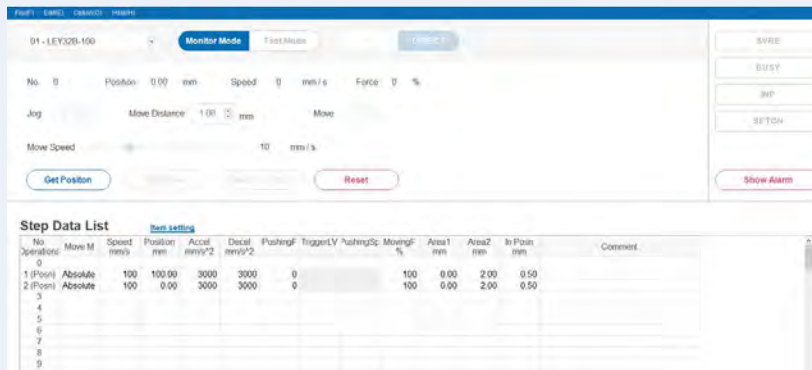
Step data setting, various test operations, and status confirmation can be done on a single screen.

How to download the setting software

Click here for details.

Setting software ACT Controller 2

From the SMC website

Documents/Download

⬇

Operation Manuals

⬇

Electric Actuators

⬇

Setting tool (Setting Software)

Setting software ACT Controller 2

SMC

Step Data Input Type JXC5H/6H Series

Teaching Box

◎ Normal Mode

- Multiple step data can be stored in the teaching box and transferred to the controller.
- Continuous test drive by up to 5 step data

Teaching box screen

- Each function (step data setting, test drive, monitoring, etc.) can be selected from the main menu.

Menu   Axis 1
Step data
Parameter
Test

Main menu screen

Step   Axis 1
Step No.   ▲
0
Movement MOD   ▼

Step data setting screen

Test DRV   Axis 1
Step No.   1
Posn   123.45 mm
Stop

Test screen

Out mon   Axis 1
BUSY[ ]   ▲
SVRE[●]
SETON[ ]   ▼

Monitoring screen
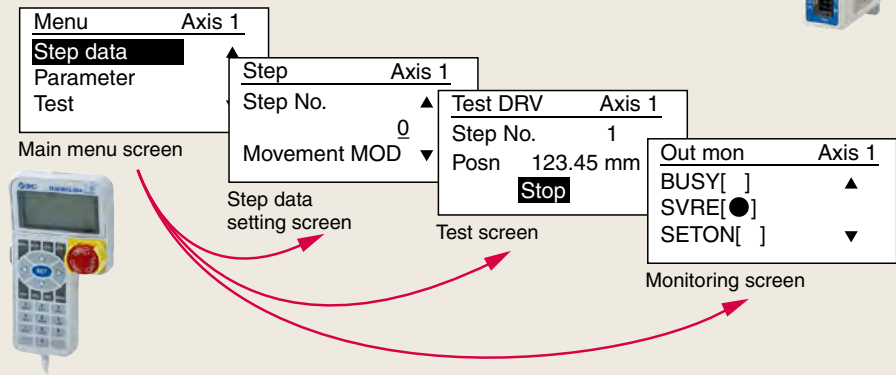
◎ Easy Mode

- The simple screen without scrolling promotes ease of setting and operation.
- Choose an icon from the first screen to select a function.
- Set the step data and check the monitor on the second screen.

Example of setting the step data

1st screen

| データ DATA | モニタ MONITOR | テスト TEST |
| アラーム ALARM | ジョグ JOG | 設定 SETTIN |

2nd screen

Step   Axis 1
Step No.   0
Posn   123.45 mm
Speed   100 mm/s

After entering the values, they can be registered by pressing "SET."
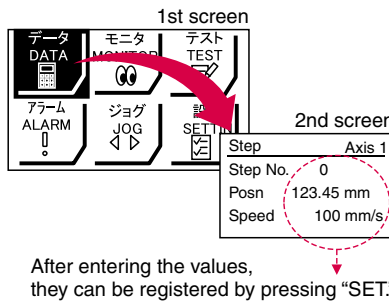
Example of checking the operation status

1st screen

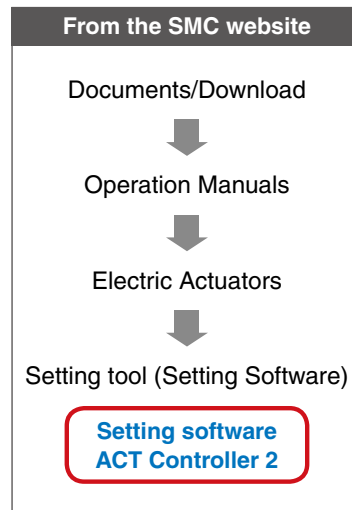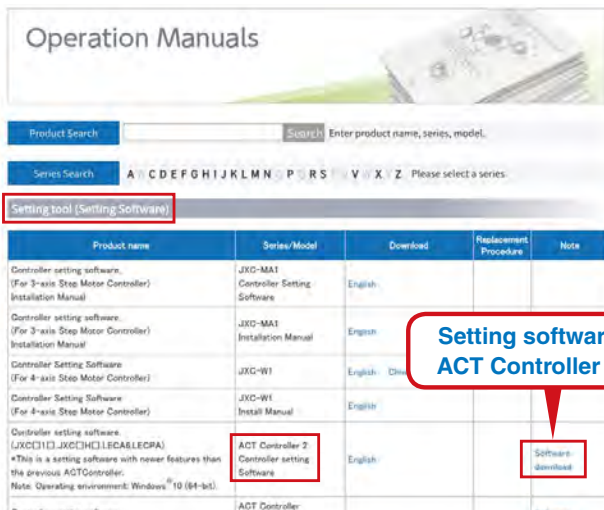| データ DATA | モニタ MONITOR | テスト TEST |
| アラーム ALARM | ジョグ JOG | 設定 SETTIN |

2nd screen

Monitor   Axis 1
Step No.   1
Posn   12.34 mm
Speed   10 mm/s

The operation status can be checked.
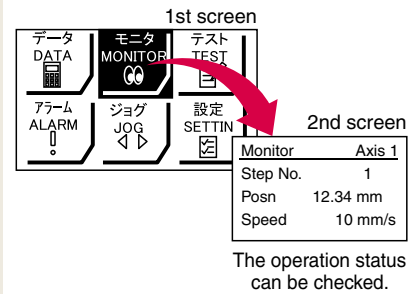
Teaching box screen

- **Data can be set by inputting only the position and speed.** (Other conditions are preset.)

Step   Axis 1
Step No.   0
Posn   50.00 mm
Speed   200 mm/s

➡

Step   Axis 1
Step No.   1
Posn   80.00 mm
Speed   100 mm/s

The actuator and controller are provided as a set. (They can be ordered separately as well.)

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

<Check the following before use.>

① Check the actuator label for the model number. This number should match that of the controller.

② Check that the Parallel I/O configuration matches (NPN or PNP).

Actuator

Controller

LESYH16RGA-50C

① SMC JAPAN MX

LESYH16RGA-50C NPN
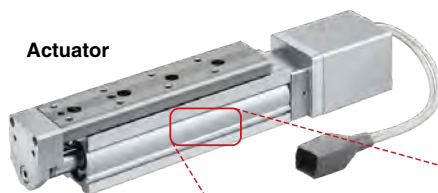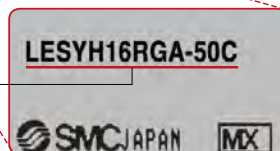
① ②

Function

Item	Step data input type JXC5H/6H
Step data and parameter setting	• Input from controller setting software (PC) • Input from teaching box
Step data "position" setting	• Numerical value input from controller setting software (PC) or teaching box • Input numerical value • Direct teaching • JOG teaching
Number of step data	64 points
Operation command (I/O signal)	Step No. [IN*] input ⇒ [DRIVE] input
Completion signal	[INP] output

Setting Items

TB: Teaching box PC: Controller setting software

| Item		Contents	Easy Mode		Normal Mode	Step data input type JXC5H/6H
			TB	PC	TB/PC	
Step data setting (Excerpt)	Movement MOD	Selection of "absolute position" and "relative position"	△	●	●	Set at ABS/INC
	Speed	Transfer speed	●	●	●	Set in units of 1 mm/s
	Position	[Position]: Target position [Pushing]: Pushing start position	●	●	●	Set in units of 0.01 mm
	Acceleration/Deceleration	Acceleration/deceleration during movement	●	●	●	Set in units of 1 mm/s²
	Pushing force	Rate of force during pushing operation	●	●	●	Set in units of 1%
	Trigger LV	Target force during pushing operation	△	●	●	Set in units of 1%
	Pushing speed	Speed during pushing operation	△	●	●	Set in units of 1 mm/s
	Moving force	Force during positioning operation	△	●	●	Set to 100%
	Area output	Conditions for area output signal to turn ON	△	●	●	Set in units of 0.01 mm
	In position	[Position]: Width to the target position [Pushing]: How much it moves during pushing	△	●	●	Set to 0.5 mm or more (Units: 0.01 mm)
Parameter setting (Excerpt)	Stroke (+)	+ side position limit	×	×	●	Set in units of 0.01 mm
	Stroke (−)	− side position limit	×	×	●	Set in units of 0.01 mm
	ORIG direction	Direction of the return to origin can be set.	×	×	●	Compatible
	ORIG speed	Speed during return to origin	×	×	●	Set in units of 1 mm/s
	ORIG ACC	Acceleration during return to origin	×	×	●	Set in units of 1 mm/s²
Test	JOG		●	●	●	Continuous operation at the set speed can be tested while the switch is being pressed.
	MOVE		×	●	●	Operation at the set distance and speed from the current position can be tested.
	Return to ORIG		●	●	●	Compatible
	Test drive	Operation of the specified step data	●	●	● (Continuous operation)	Compatible
	Forced output	ON/OFF of the output terminal can be tested.	×	×	●	Compatible
Monitor	DRV mon	Current position, speed, force, and the specified step data can be monitored.	●	●	●	Compatible
	In/Out mon	Current ON/OFF status of the input and output terminal can be monitored.	×	×	●	Compatible
ALM	Status	Alarm currently being generated can be confirmed.	●	●	●	Compatible
	ALM Log record	Alarms generated in the past can be confirmed.	×	×	●	Compatible
File	Save/Load	Step data and parameters can be saved, forwarded, and deleted.	×	×	●	Compatible
Other	Language	Can be changed to Japanese or English	●	●	●	Compatible

△: Can be set from TB Ver. 2.** (The version information is displayed on the initial screen.)

SMC

Fieldbus Network

EtherCAT/EtherNet/IP™/PROFINET
Direct Input Type
Step Motor Controller/JXC☐ Series p. 40

◎**Two types of operation command**

Step no. defined operation: Operate using the preset step data in the controller.

Numerical data defined operation: The actuator operates using values such as position and speed from the PLC.

◎**Numerical monitoring available**

Numerical information, such as the current speed, current position, and alarm codes, can be monitored on the PLC.

◎**Transition wiring of communication cables**

Two communication ports are provided.

PLC

Application	Communication protocols

Both air and electric systems can be established under the same protocol.

PLC

Electric Actuators	Air Cylinders

EX260

System Construction/General Purpose I/O

● **Electric actuator**

Provided by the customer

PLC

Power supply for I/O signal 24 VDC

● **Controller** *1

● **I/O cable** p. 39

Part no.
LEC-CN5-□

To CN5

● **Actuator cable** *1 p. 45

Robotic cable
LE-CE-□

*1 Can be included as an option. Refer to the "How to Order" page of the actuator.

To ENC

To SI

To SI

To CN2

Provided by the customer

Power supply for controller 24 VDC

To PWR

● **Power supply plug** p. 39
(Accessory)

Step data input type JXC5H/6H p. 33

● **Communication cable** p. 39
(3 m)

Options

● **Teaching box** p. 39
(With 3 m cable)
LEC-T1-3□G□

● **Communication cable for controller setting** p. 39
Communication cable: JXC-W2A-C
USB cable   : LEC-W2-U

<Controller setting software/USB driver>
· Controller setting software
· USB driver (For JXC-W2A-C)
* Download from SMC's website:
  https://www.smcworld.com

or

● **Conversion cable** *2 p. 39
P5062-5
(0.3 m)

The conversion cable can be used for connecting this controller to the optional teaching box [LEC-T1] offered with the LEC series.

● **USB cable**
(A-mini B type)
(0.8 m)

PC

● **Conversion cable** p. 39

*2 A conversion cable is also required to connect the JXC□H series controller and the LEC□ series communication cable (LEC-W2A-C).
   (A conversion cable is not required for the JXC-W2A-C.)

SMC

System Construction/Fieldbus Network
(EtherCAT/EtherNet/IP™/PROFINET Direct Input Type)

● **Electric actuator**

● **Actuator cable** p. 45

Robotic cable
LE-CE-□

Provided by
the customer

PLC

Provided by
the customer

PLC

Provided by
the customer

PLC

EtherCAT®

EtherNet/IP®

PROFINET®

To SI

To ENC

To SI

To MOT

Provided by
the customer

Power supply
for controller
24 VDC

To PWR

● **Power supply plug** p. 44
(Accessory)

JXCEH p. 40

JXC9H p. 40

JXCPH p. 40

● **Communication cable** p. 44 (3 m)

Options

● **Teaching box** p. 44
(With 3 m cable)
LEC-T1-3□G□

● **Communication cable for controller setting** p. 44
Communication cable : JXC-W2A-C
USB cable : LEC-W2-U
<Controller setting software/USB driver>
· Controller setting software
· USB driver (For JXC-W2A-C)
∗ Download from SMC's website:
https://www.smcworld.com

or

PC

● **USB cable**
(A-mini B type)
(0.8 m)

● **Conversion cable**∗1 p. 44
P5062-5
(0.3 m)

The conversion cable can
be used for connecting this
controller to the optional
teaching box [LEC-T1]
offered with the LEC series.

● **Conversion cable** p. 44

∗1 A conversion cable is also required to connect the JXC□H series controller and the LEC□ series communication cable (LEC-W2A-C).
(A conversion cable is not required for the JXC-W2A-C.)

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7

Electric Actuator

High Performance Slide Table/High Precision Type

Specific Product Precautions

JXCEH/9H/PH Series

JXC5H/6H Series

Auto Switch

LESYH□G Series

Model Selection

Slide Table/High Precision Type *LESYH□G Series*

Battery-less Absolute (Step Motor 24 VDC)

Pages refer to full catalog. Scan to view.

High Performance Slide Table/High Precision Type *LESYH□G Series* p. 8

Battery-less Absolute (Step Motor 24 VDC)

Controllers *JXC□ Series* p. 32

High Performance Controller (Step Data Input Type) *JXC5H/6H Series* Battery-less Absolute (Step Motor 24 VDC)

High Performance Step Motor Controller *JXCEH/9H/PH Series* Battery-less Absolute (Step Motor 24 VDC)

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High Performance Slide Table/
High Precision Type
LESYH☐G Series

C€ UK CA (RoHS)
∗ For details, refer to page 47 and onward.

Motor mounting position: Left side parallel

Motor mounting position: In-line

How to Order

LESYH **16** **D** **G** **A** – **50** **C** – **R1** **C5H73**

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

For details on controllers, refer to the next page.

❶ Size

8
16
25

❷ Motor mounting position/Motor cover direction (For size 8)

Symbol	Motor mounting position	Motor cover direction
D1	In-line	Left side
D2		Right side
D3		Top side
D4		Bottom side
R	Right side parallel	—
L	Left side parallel	—

❷ Motor mounting position (For sizes 16 and 25)

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

❸ Motor type

Symbol	Type	Compatible controllers
G	High performance (Battery-less absolute)	JXC5H JXC6H JXCEH JXC9H JXCPH

❹ Lead [mm]

	Size		
	8	16	25
A	10	12	16
B	5	6	8
C	2.5	—	—

❺ Stroke [mm]

	Size		
	8	16	25
50	●	●	●
75	●	—	—
100	—	●	●
150	—	—	●

❻ Motor option

C	Without lock
W	With lock

❼ Connector/Actuator cable type/length

Robotic cable [m]

Nil	Without cable	**R8**	8∗1
R1	1.5	**RA**	10∗1
R3	3	**RB**	15∗1
R5	5	**RC**	20∗1

❽ Controller

Nil	Without controller
C☐H☐☐	With controller

C ☐ **H** **7** **3**

Interface (Communication protocol/Input/Output)

5	Parallel input (NPN)
6	Parallel input (PNP)
E	EtherCAT
9	EtherNet/IP™
P	PROFINET

Mounting

7	Screw mounting
8∗2	DIN rail

Number of axes/Special specification

H	1 axis/High performance type

I/O cable

Symbol	Type	Applicable interface
Nil	Without accessory	—
1	I/O cable (1.5 m)	Parallel input (NPN) Parallel input (PNP)
3	I/O cable (3 m)	
5	I/O cable (5 m)	

∗1 Produced upon receipt of order
∗2 The DIN rail is not included. It must be ordered separately.

For details on auto switches, refer to pages 24 to 27.

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9

SMC
Automation - Controls - Process

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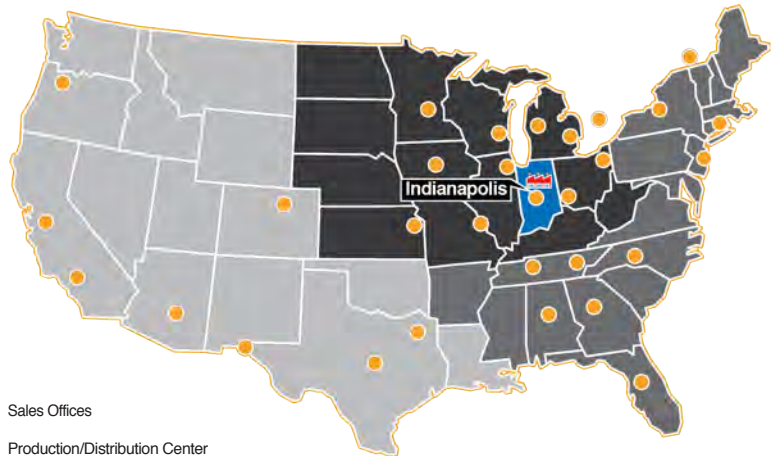
● Sales Offices

🏭 Production/Distribution Center

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