

Operation Manual

PRODUCT NAME

Data Transfer Procedure

MODEL / Series



It will be necessary for the user to refer to the operation manual for the controller. (LECP6, LECPMJ, JXC51/61, JXCM1) and controller configuration software (ACT Controller).

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Controller 1. Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "**Caution**," "**Warning**" or "**Danger**." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)^{*}), and other safety regulations.

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1:Robots etc.

Danger
Marning
Caution

Danger indicates a hazard with a high level of risk which, if not avoided, will resultin death or serious injury.

Warning indicates a hazard with a medium level of risk which, if not avoided,couldresult in death or serious injury.

Caution indicates a hazard with a low level of risk which, if not avoided, could resultin minor or moderate injury.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

- 2. Only personnel with appropriate training should operate machinery and equipment. The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.
- 3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.
 - 1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
 - 2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
 - 3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- 4. Our products cannot be used beyond their specifications. Our products are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not covered.
 - 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
 - 2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, fuel equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
 - 3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.



Controller 1. Safety Instructions

Caution

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing business. Use in non-manufacturing business is not covered.

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".

Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)

Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

- For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
- 3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) Vacuum pads are excluded from this 1 year warranty.

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty

Compliance Requirements

- 1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
- 2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

2. Data Transfer Procedure

2. 1 Outline

This manual provides the data transfer procedure from LECP6 (hereafter named LECP) to JXC51/61 (hereafter named JXC) and from LECPMJ series to JXCM1 series.

There are 2 types of data, Step data and Parameter data. The data can be stored on a PC using the controller configuration software (ACT Controller).

The data then becomes transferable by writing the data stored from the PC to the JXC.

- Data Transfer Procedure
- Step1 How to store the LECP data
- Step2 Writing Parameter data to the JXC
- Step3 Writing Step data to the JXC

2. 2 Transfer of the extended parameters

Parameters which can be transferred using this procedure are the Base and ORG parameters which can be edited with the parameter protect "1" or "2".

For extended parameters which become editable with the parameter protect "3" (Drive, Motor, Default, ALM), refer to the procedure used for the LECP.

Parameter protect is "1"(initial value) or "2"	Parameter protect is "3"
Basic parameter, Return to origin parameter	Basic parameter, Return to origin parameter,
	Extended parameter (Drive, Motor, Default, ALM)
[Parameter] 01 - LEPS6K-50	[Parameter] 01 - LEPS6K-50
Item Value Controller ID 1 IO patem 1 ACC/DEC pattern 1 Smotion rate 0 Stroke(+) 1000.00 Stroke(-) -1000.00 Max speed 150 Max ACC/DEC 3000 Def In position 0.50 ORIG offset 0.00 Max force 100 Para protect 1:Common+StepData Enable SW 2 Unit name LEPS6K-50 Wu-AREA1 0.00	Item Value Up I oad Controller ID 1 1 IO patem 1 1 ACC/DEC pattern 1 1 Smothon rate 0 0 Stroke(+) 1000.00 0 Stroke(-) -1000.00 0 Max ACC/DEC 3000 0 Def in position 0.50 0 ORIS offset 0.00 0 Max force 100 PC->LE Enable SW 2 Lond W-AREA1 0.00 0
UNACCA 0.00 ORG Corect 0.00 Sensor type 1 Option set1 2 Undefined parameter 11 0 Undefined parameter 12 0	University 0.00 Sensor type 1 Option set 1 0 Undefined parameter 11 0 Undefined parameter 12 0

3. Step1 How to store the LECP data

3.1 Preparation

The data can be stored using the controller configuration software (ACT Controller). Please refer to the Installation Manual for the controller configuration kit.

Refer to the drawing below for the connection set up. Refer to the operation manual for the controller (LECP6 or LECPMJ) and the controller configuration software.



Supply power to the controller and start the controller configuration software (ACT Controller). Select the "Normal Mode" in the menu shown below.



Confirm that the correct electric actuator model is shown in the upper part of the "Normal Mode" screen.

LE ACTController			×	×
File(F) View(V) Action(A) Window(W) Help(H) Extend(E)				
Alarm 01 - LEPS6K-50 🔽 0 🔆 Go	Step Stop Hold Safe Speed	Lock Monitor Mode	Reset	

When "Offline" appears, the communication is not established.

Restart the controller configuration software after checking the points below.

- The controller configuration software and the USB driver for the communication cable are installed in the computer.
- The PC and controller are connected by using the communication cable for controller configuration.
- The controller is supplied with power.

ACaution

The controller's data cannot be set unless the PC can communicate with the controller. If the following window is shown, the COM port setting may be wrong.

Select "Action", "System" and "Setting" from the menu in order, and check the communication settings.

<How to perform communication setting>

Maximum axis

The maximum ID number for checking the connected equipment is set.

(Ex.) 4: the ID numbers 1 to 4 are checked.

COM port

The COM port number of the connected PC is set. (Check the COM port number by starting the device manager on the PC while the communication cable for controller configuration is connected to the PC).

Speed

The communication speed for searching when the connection is checked is set (the initial value of the controller is 38400 bps).



3. 2 How to store parameter files

When the parameter window is not displayed, select "View(V)" from the menu bar in the Normal mode screen and select "Parameter".

Ele(E)	TController	Window(M)						
A	Status Teaching	(-50	■ 0	<u>×</u> ×	Go	Step	Stop	н
	Alarm Step Data							
	Parameter							
	Drive Test							
	Status Bar							

Select "Upload All" in the parameter window (shown below) and read the parameter from the controller. Select "Save" to save the parameter file to the PC.

Basic ORIG		Upload	1	Save in: 🔰	TEST	• 🗧 🖆 📰 •			
Item	Value	LE->PC	!	Name	<u>^</u>	Date modified	Туре	S	
Controller ID	1		!						
IO patem	1	Download PC-NE	1						
ACC/DEC pattern	1	FC-7LE	1						
S-motion rate	0		i						
Stroke(+)	1000.00	Upload All	i						
Stroke(-)	-1000.00	LE->PC	1						
Max speed	150	D	1						
Max ACC/DEC	3000	PC-XIF	1						
Def In position	0.50	TOYLE	1						
ORIG offset	0.00		1						
Max force	100	Load	!						
Para protect	1:Common+StepData	Load	!						
Enable SW	2		1						
Unit name	LEPS6K-50	Save	1	<				>	
W-AREA1	0.00		1						
W-AREA2	0.00		i	File name:	LEPS6K-50.pm		Save		
ORG Correct	0.00		i	· ·			Canad		
Sensor type	1		1	Save as type:	: Parameter Hile(".pm)		- Cancer		
Option set1	2		1						
Undefined parameter 11	0		1						
Undefined parameter 12	0		' \//hon "	ດ າທດ"	is solocted th	no coroor	for cov	ina tha fi'	lo ic
			i wilen i	Jave	is selected, ti		i iui sav	ing the li	10 12
		_	!						
32		1	diaplay	d En	tor the norom	stor filo no	ma and	aliak "Sa	
			; uisplaye	;u. ⊏⊓	ter the parame	eter me na	ame and	CIICK 30	we.

3.3 Step Data storage

When the step data window is not displayed, select "View(V)" from the menu bar in the Normal mode screen and select "Step Data".



Select "Upload" from the step data window (shown below) and read the data from the controller. Select "Save" to save the step data file to the PC.

Сору	Cut	Paste	Clear	Undo	Get Posn	La	ad	Save		Upload LE->PC	Down1 PC->	oad LE
lo.	Move M	Speed	Position	Accel	Decel	PushingF	TriggerLV	PushingSp	MovingF	Area 1	Area2	In F 🔺
		mm/s	mm	mm/s^2	mm/s^2	%	%	mm/s	%	mm	mm	п
0 Ab:	solute	10	0.00	3000	3000	0	0		150	0.00	0.00	- 1
2 ADS	solute	10	0.00	3000	3000	U	U		J 150	0.00	0.00	
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000 Vhe		ve" is se	lected					Sav Nat	ın: ₩ TEST ne	Save As	CŤ ☷- odified Type	>
 Vhe		ve" is se	lected,					Sav Nat	in. jj TEST e ^	Save As y 🗢 🖻 Date mo	약 로~ ddfied Type	>
 Vhe ne s	n "Sav	ve" is se for savi	lected,	le is di	splayed	 d.		Sav Nar	in. <mark>∭</mark> TEST ne ^	Save As	ć* 태~ odified Type	> ×
Vhe	n "Sav	ve" is se for savi	lected, ng the fi	le is di	splayed	 d.		Sav Nar	in. 👔 TEST ne 🍂	Save As	cir II - odified Type	>
Vhe ne s	n "Sav screen r the p	ve" is se for savi aramete	lected, ng the fi er file na	le is di Ime an	splayed d click	d. "Save'	 ,	Nar Nar	in. 👔 TEST ne 🏠	Save As Date mo	cir ⊡ - odified Type	× ×
Vhe ne s Inte	n "Sav screen r the p	ve" is se for savi aramete	lected, ng the fi er file na	le is di ime an	splayed d click	d. "Save'	 ,	Sav Nar	in. <mark>∦</mark> TEST ne ^	Save As	cir ⊡ • odffied Type	>
Vhe ne s Inte	n "Sav screen r the p	ve" is se for savi aramete	lected, ng the fi er file na	le is di ime an	splayed d click	d. "Save'		Sav Nar	in. jij TEST e ^	Save As	cir ⊡ • odfied Type	× ×
Whe ne s inte	n "Sav screen r the p	ve" is se for savi aramete	lected, ng the fi er file na	le is di ime an	splayed d click	d. "Save'		Sav Nar	vin:∫∦ TEST re ^	Save As	cified Type	>
Vhe ne s nte	n "Sav screen r the p	ve" is se for savi aramete	lected, ng the fi er file na	le is di ime an	splayed d click	d. "Save'		Sav Nar File	in: TEST te *	Save As	c¥ ⊡▼ ddfied Type	> Save_

3.4 End

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After storing the parameters and step data, close the controller configuration software and turn off the power to the controller. Then, disconnect the communication cable from the PC to the controller.

4. Step2 Writing parameter data to the JXC

4.1 Preparation

The data can be stored using the controller configuration software (ACT Controller). Please refer to the Installation Manual for the controller configuration kit.

Refer to the drawing below for the connection set up. Refer to the operation manual for the controller (JXC51/61 or JXCM1) and controller configuration software.



Supply power to the controller and start the controller configuration software (ACT Controller). Select "Normal Mode" in the menu (shown below).



When communication is established between the controller and the controller configuration software, the electric actuator model is shown in the Normal Mode screen.

LE ACTO	Controlle	er											—		×
File(F)	View(V)	Action(A)	Window(W)	Help(H)	Extend(E)									
Alar	rm [01 - LEPS	S6K-50	• 0	•	Go	Step	Stop	Hold	Safe Speed	Lock	Monitor Mode	R	eset	

* When "Offline" appears, the communication is not established. Check the "3.1 Preparation".

4. 2 How to Store parameter files

When the parameter window is not displayed, select "View(V)" from the menu bar in the Normal mode screen and select "Parameter".

	TController							
File(F)	View(V) Action(A)	Window(W)	Help(H)					
Ala	Status Teaching	(-50	• 0	* *	Go	Step	Stop	H
	Alarm							
	Step Data							
	Parameter							
	Drive Test							
	Status Bar							

Select "upload" from the parameter window (shown below) and read the saved parameter file which was stored from the controller.

S File
File
Open
Cancel
or reading
si i caaling
file and c
and o
- - f(

Confirm that the parameter protect in the basic parameter is set to "1:Basic + Step ". If the setting value is other than "1: Basic + Step," change it to "1: Basic + Step.

kam	Value	Upload
Controllor ID	1	LE-7F6
		Download
ACC /DEC asttem	1	PC->LE
Smotion rate		
Strake()	1000.00	
Stroke(+)	1000.00	Upload All
Max append	150	
Max speed	2000	Download Al
Def la pesition	0.50	PC->LE
OPIC effect	0.00	
May farme	100	
Max force	1.Commun Dava Data	Load
Fara protect	T:Common+StepData	
Enable SVV		Sava
Unit name	LEPS6K-50	Save
W-AREAT	0.00	
W-AREAZ	0.00	
ORG Correct	0.00	
Sensor type		
Uption set I	2	
Underined parameter 11	0	
Undefined parameter 12	0	

Select the "Download All" button to write the parameter protect to the controller.

Item	Value	
Controller ID	1	
IO patem	1	Download
ACC/DEC pattern	1	PC->LE
S-motion rate	0	
Stroke(+)	1000.00	Upload All
Stroke(-)	-1000.00	LE->PC
Max speed	150	
Max ACC/DEC	3000	Download All
Def In position	0.50	PU-7LE
ORIG offset	0.00	
Max force	100	Laud
Para protect	1:Common+StepData	LUAU
Enable SW	2	
Unit name	LEPS6K-50	Save
W-AREA1	0.00	
W-AREA2	0.00	
ORG Correct	0.00	
Sensor type	1	
Option set1	2	
Undefined parameter 11	0	
Undefined parameter 12	0	

The PWR light of the controller (JXC51/61, JXCM1) flashes during writing. When the writing is complete, the PWR light will change from flashing to a steady light.

Next, the step data is written. Go to "5. Step 3 Writing step data to the JXC".

5. Step3 Writing step data to the JXC

5.1 Writing Step Data

This step follows "Step 2. Data Writing parameters to the JXC".

Before performing this step, check "4.1 Preparation".

When the step data window is not displayed, select "View(V)" from the menu bar in the Normal mode screen and select "Step Data".



Select "Load" from the step data window (shown below) and read the Step data file. Select "Download" and write the step data to the controller.

	Ste	p Data] 01 - LEF	9S6K-50										
Copy Cut		y Cut	Paste	Clear	Undo	Get Posn	Lo	ad S	ave		Uploa LE->P	d Downlo C PC->L	ad E
N	o .	Move M	Speed	Position	Accel	Decel	PushingF	InggerLV	PushingSp	MovingF	Area1	Areaz	into
			mm/s	mm	mm/s^2	mm/s^2	%	%	mm/s	%	mm	mm	n
	0	Absolute	10	0.00	3000	3000	0	0	0	150	0.00	0.00	
	1	Absolute	10	0.00	3000	3000	0	0	0	150	0.00	0.00	
	2												
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	Оре	n		×
	Look in: 🌗 TEST 🔹	+ 🗈 💣 📰 -		
	Name	Date modified	Туре	s
	LECPA6K-50.dat	12/17/2020 2:13 PM	DAT File	
	<			
	File name: LECPA6K-50.dat		Open	1
	Files of type: Step Data File(*.dat)		✓ Cancel	
oon "Lood"	"is calcoted the cor	oon for r	aadina tk	a filo anno
ien Load	is selected, the scr	een for r	eading tr	ie nie appea
		"~ "		
ect the ste	ep data file and click	< "Open"		

5. 2 End

The PWR light of the controller (JXC51/61, JXCM1) flashes during writing. When the writing is complete, the PWR light will change from flashing to a steady light.

Close the controller configuration software and turn off the power to the controller. Then, disconnect the communication cable from the PC to the controller.

6. Data transfer to a blank controller

Data cannot be transferred using the "back-up" function or "writing after specifying files" function from the blank controller data tool (LEC-BCW and JXC-BCW).

To transfer the LECP data to the blank controller (JXC-BC):

After writing the electric actuator data to be used for the blank controller using the "Writing by selecting actuator" from the blank controller data tool (JXC-BCW), transfer the data according to the procedure described in this manual.

* Please download the blank controller data tool from the SMC website. SMC website https://www.smcworld.com

Revision history

A: "Safety Instrutions" revised [Feb 2025]

SMC Corporation

URL https://www.smcworld.com

Note: Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.

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