No.DOC1140317
NN75688000

Operation Manual

PRODUCT NAME

Electric Gripper for Collaborative Robots
Parameter Setting Software for LEHR

MODEL / Series / Product Number

LEHR series

SMC Corporation

Parameter Setting Software for LEHR
Safety precautions

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Contents

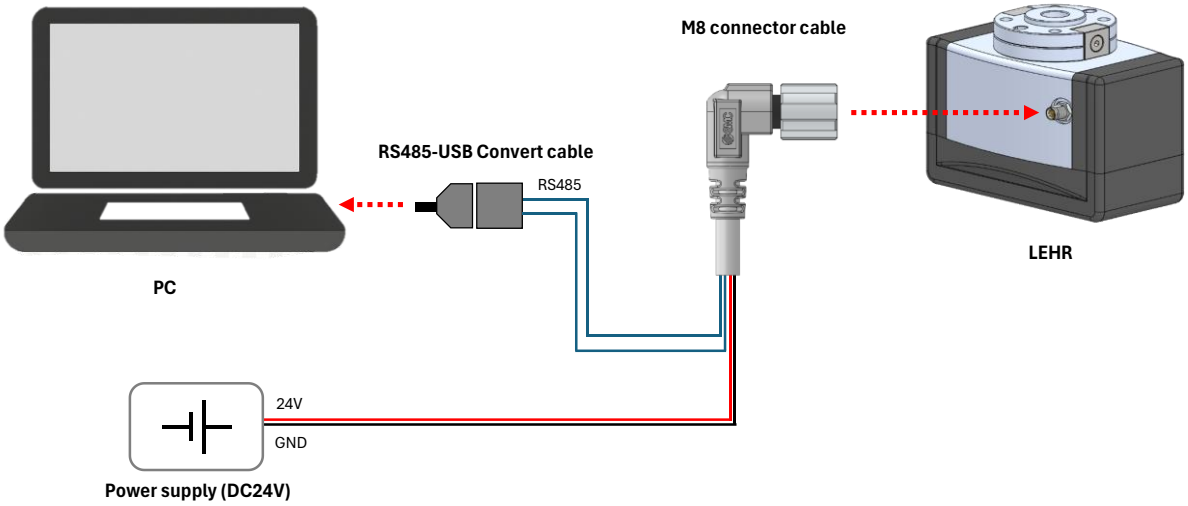
1. Wiring

1-1. Connection Method

Connect the LEHR to the PC using an M8 connector cable (loose wire type) and an RS485-USB conversion cable, as shown below.

Prepare an external power supply cable (24 VDC) separately for powering the LEHR.

After connecting the RS485-USB conversion cable to the PC, supply power to the LEHR.



Refer to the table below for the various part numbers.

Optional Part Numbers

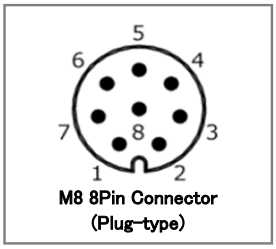
Cable	Part Number	Remarks
M8 Connector Cable (Loose Wire Type)	RMH-A00-18A	For Modbus RTU communication
RS485-USB Conversion Cable	ATEN Inc. Product No.: UC485	For Modbus RTU Communication

1-2. Pin Assignments

The functions of the LEHR M8 plug connector pins are shown below.

Connect Pin No.1 and No.2 to the communication cable for serial conversion.

No.	Color	Signal Name	Function
1	White	AI2 / RS485+	For Modbus RTU communication
2	Brown	AI3 / RS485−	For Modbus RTU communication
3	Green	TI1	I/O IN2
4	Yellow	TI0	I/O IN1
5	Gray	Vcc	24V
6	Pink	TO1 / GND	I/O OUT2
7	Blue	TO0 / PWR	I/O OUT1
8	Red	GND	0V



2. Software Overview

This software is a desktop application used to configure the position, speed, and gripping force of the LEHR-043N electric gripper for collaborative robots (compatible robot: Yaskawa Electric).

Product Specifications

- Supported PC OS for Configuration Software
  Windows® 10 (64-bit) (Version 1607 or later)
  Windows® 11 (64-bit)

  *Recommended display resolution: 1920×1080 dpi or higher
  Recommended text display scale: 100%

- Where to Download the Configuration Software
  Available for download from the SMC homepage (https://www.smcworld.com/).
  *Please always use the latest version of the software.

- Compatible LEHR models for the configuration software
  Part Number: LEHR32K2-50*-**043N**-** (Compatible Robot: Yaskawa Electric)

- Main Functions of the Configuration Software
  - Step Data Configuration (Position, Speed, Gripping Force Settings)
  - Step Data Test Run
  - Switching between I/O Mode and Modbus Mode
  - Alarm and Product Status Check

- Language Supported
  - Japanese
  - English

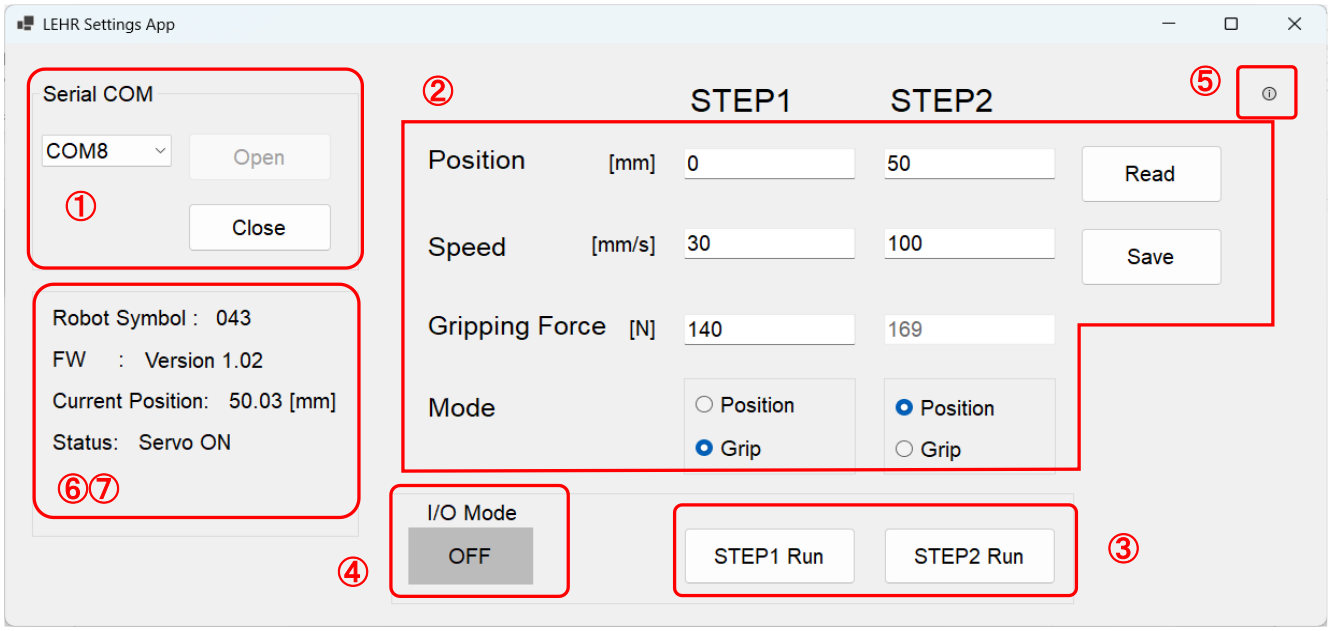
  ※Set the language according to the OS language setting of the PC being used.
  If it is not Japanese, it will be set to English.

3. Software Download

Download the software from the SMC website (http://www.smcworld.com). Search for the product model number (LEHR) on the TOP page and proceed to the details page to download the software.

This software is a desktop application that integrates the configuration files required for the application to run. There is no installer.

4. Operation Method



① Starting and Disconnecting Serial Communication [4-1]
② Step Data Configuration [4-2]
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4-1. Starting and Disconnecting Serial Communication

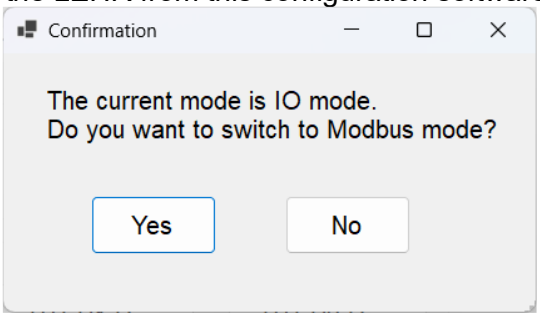
Select the COM port connected to the LEHR and press the Open button to establish communication with the LEHR.

After connection is established, the currently configured step data will be loaded automatically.

Press the Close button to terminate communication with the LEHR.

When connecting to the LEHR, if the LEHR is set to IO mode, a message box will appear asking whether to switch to Modbus mode.

When performing a test run of the LEHR from this configuration software, select "Yes".



The contents of Modbus mode and IO mode are as follows.

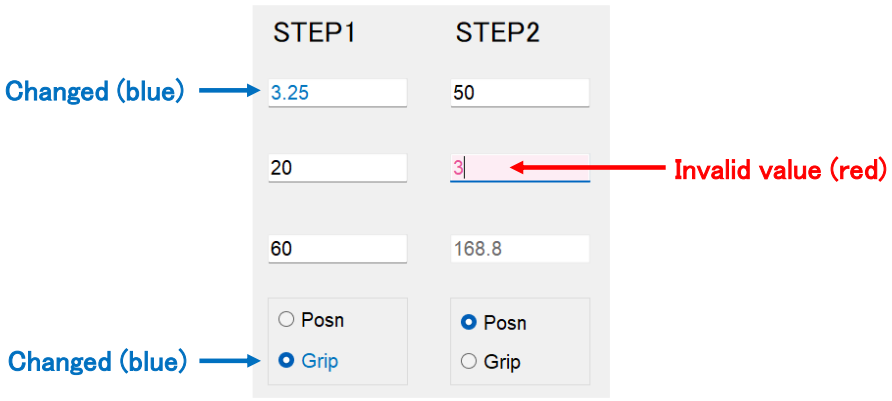
Display Name	Description
Modbus Mode	Allows operation of the LEHR using Modbus communication. Used when test-running the LEHR from this configuration software.
IO Mode	You can operate the LEHR using parallel I/O communication. Used when operating from a Yaskawa Electric collaborative robot.

4-2. Step Data Settings

Performs reading of step data from the LEHR and saving of step data to the LEHR.

Display Name	Description
Step 1 / Step 2	This is the operating data when a signal is input to the LEHR's M8 plug. ・Step 1: Operating data executed when pin number 7 of the M8 plug is turned on ・Step 2: Operating data executed when pin number 6 of the M8 plug is turned on
Position	[mm] unit, configurable to two decimal places Positioning: 1–50 mm, Grip: 0–50 mm
Speed	[mm/s] unit, settable to the two decimal places Positioning: 5 to 100 mm/s, Grip: 5 to 30 mm/s
Gripping force	[N] unit, settable to the two decimal places Grip: 60–140 N
Operation Mode	Select positioning or Grip operation
Read	Read currently set parameters from the LEHR
Save	Save entered parameters to the LEHR

Blue indicates changes; red indicates input outside the range or invalid input; black indicates no changes.



4-3. Execute Step Data (Perform Test Run)

Execute step data from the PC.

After execution, read the status. Various operations will be disabled until the in-position status turns ON.

Display Name	Description
Step 1 Execution	Execute Step Data 1
Step 2 Execution	Execute Step Data 2

※ In the initial state, Step 1 is a closed operation and Step 2 is an open operation.

4-4. Mode Switching

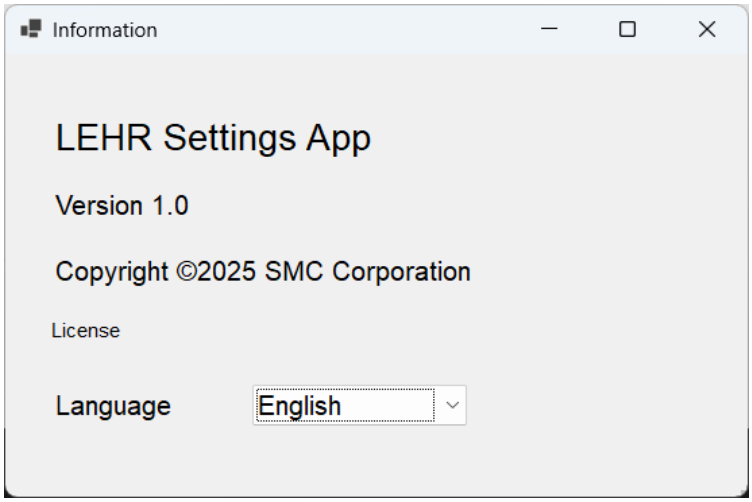
Switch between IO mode and Modbus mode.
Note that the LEHR always starts up in IO mode after a power reset.

The contents of Modbus mode and IO mode are as follows.

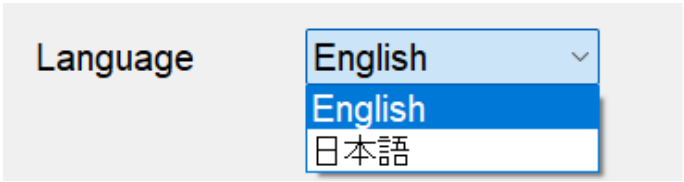
Display Name	Description
Modbus Mode	Operate the LEHR using Modbus communication. Used when performing a test operation of the LEHR from this configuration software.
IO Mode	You can operate the LEHR using parallel I/O communication. Used when operating from Yaskawa Electric collaborative robots.

4-5. Displaying Version Information and Switching Languages

Click the "i" button to display the version information.

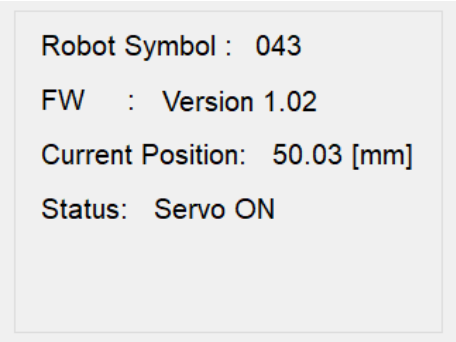


Selecting a language allows switching between Japanese and English.



4-6. Actuator Information Display

Displays information and status of the connected actuator.



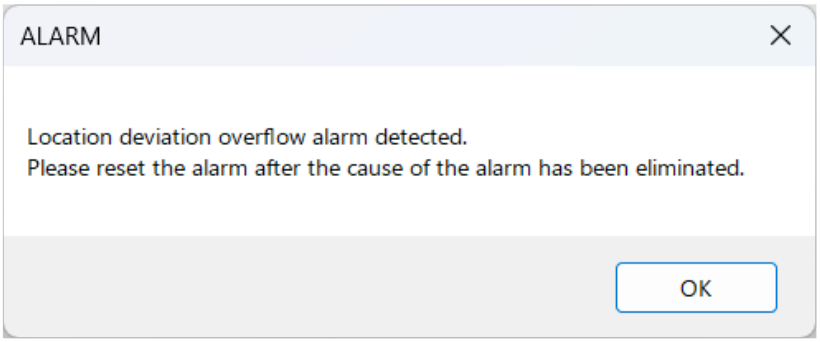
Item	Description
Robot Symbol	Displays the corresponding robot symbol for the connected LEHR. Refer to "② Compatible Robot" in the LEHR model display. LEHR 32 K 2 - 50 _ - _ - _ _ ① ② ③ ④
FW	Firmware version of the connected motor
Current Position	Displayed to two decimal places. Reads the current position after operation completion.
Status	Motor status display

Motor status displays the following 6 items.

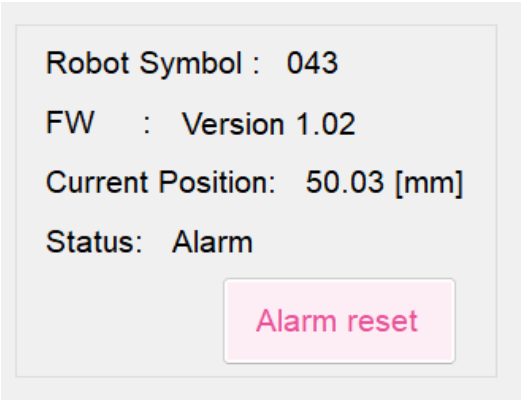
Item	Remarks
Servo ON	Servo ON and idle state (Includes completion of position operation)
Servo OFF	Servo Off and Idle State
Operation in progress	Operation in progress
Gripping completed	Grip operation completed state
Gripping warning	Missed grasping during operation or loss of grasped object
Alarm	Various alarm occurrence states (For alarm details, refer to the "LEHR Instruction Manual")

4-7. Alarm Display and Alarm Clearance

When an alarm occurs, the alarm details will be displayed in the message box.



After an alarm occurs, a reset button will appear.
After eliminating the cause of the alarm, click the "Alarm Reset" button to clear the alarm.



Revision history
May 2026 First edition

SMC Corporation

URL https://www.smcworld.com