

# LE7M-2

Operations Reference Manual MTO-LE7M2U1-V1.1-2306US

Thank you for purchasing an Autonics product.

This user manual contains information about the product and its proper use, and should be kept in a place where it will be easy to access.

**Autonics**



# Contents

<b>Preface</b> .....	<b>5</b>
<b>Manual Guide</b> .....	<b>7</b>
<b>Common Symbols in the Manual</b> .....	<b>9</b>
<b>1. Getting Started</b> .....	<b>11</b>
1.1. Flow Chart of Parameter Group .....	12
1.1.1. Program Settings (group 1) .....	13
1.1.2. Function Settings (group 2) .....	14
1.1.3. Check/Edit/Clear Weekly Program .....	15
1.1.4. Check/Edit/Clear Yearly Program .....	15
<b>2. Program Settings (group 1)</b> .....	<b>17</b>
2.1. Output of the Program .....	18
2.2. Timing Chart of Operation .....	18
2.3. Operation Modes .....	19
2.4. Weekly Program .....	21
2.4.1. ON/OFF Operation .....	21
2.4.2. Pulse Operation .....	23
2.4.3. Cycle Operation .....	25
2.5. Yearly Program .....	27
2.5.1. ON/OFF Operation .....	27
2.5.2. Pulse Operation .....	31
2.6. Clear All Weekly Programs .....	33
2.7. Clear All Yearly Programs .....	34
2.8. Change Weekly Day .....	35
2.9. Yearly Holiday Operation .....	37
<b>3. Function Settings (group 2)</b> .....	<b>41</b>
3.1. Current Time .....	42
3.2. Season Switching .....	43
3.3. Seasonal Period .....	44
3.4. Summer Time (DST) Operation .....	46
3.5. Automatic Summer Time (DST) Period .....	47
3.6. External Input Modes .....	49

3.6.1. Total Time and Count .....	49
3.6.2. Bank .....	51
3.6.3. Retention (return) Input .....	53
3.6.4. Time Synchronization .....	54
<b>4. Check/Edit/Clear Weekly Program Settings .....</b>	<b>55</b>
4.1. Check the Settings .....	56
4.2. Edit the Record .....	57
4.3. Clear the Record .....	59
<b>5. Check/Edit/Clear Yearly Program Settings .....</b>	<b>61</b>
5.1. Check the Settings .....	62
5.2. Edit the Record .....	63
5.3. Clear the Record .....	65
<b>6. Convenient Functions .....</b>	<b>67</b>
6.1. Program Test .....	67
6.2. Switching 12/24h Display .....	68
6.3. Initialization .....	68
6.4. Forced Outputs .....	69
6.5. Semi-automatic Forced Outputs .....	69

# Preface

Thank you for purchasing Autonics products.

Be sure to read and follow the **Safety Precautions** thoroughly before use.

This manual contains information about the product and how to use it properly, so keep it in a place where users can easily find it.



# Manual Guide

- Use the product after fully reading the contents of the manual.
- The manual explains the product functions in detail and does not guarantee the contents other than the manual.
- Any or all of the manual may not be edited or copied without permission.
- The manual is not provided with the product.
- Download and use from our website ([www.autonics.com](http://www.autonics.com)).
- The contents of the manual are subject to change without prior notice according to the improvement of the product's performance, and upgrade notices are provided through our website.
- We put a lot of effort to make the contents of the manual a little easier and more accurate. Nevertheless, if you have any corrections or questions, please feel free to comment through our website.





# Common Symbols in the Manual



Failure to follow instructions may result in serious injury or death.



Failure to follow instructions may result in injury or product damage.



Supplementary explanation of the function



Example of that function



Important information about the feature



# 1. Getting Started



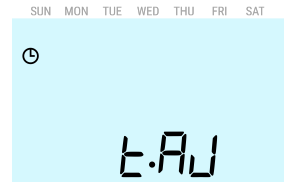
This document describes how to set the program and parameters of the LE7M-2. For detailed information about the installation and wirings of the product, refer to the instruction manual.

When using this product for the first time, be sure to set the current time.

See the setting method below for the current time and check the following chapters for the detailed settings method of the LE7M-2.

## STEP 1. Power on

1. When the product is turned on, the current time setting indicator flashes and *t.AU* is displayed.
2. Press **SET** key to proceed to the next step.



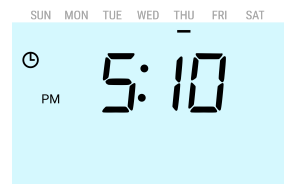
## STEP 2. Setting the current year/month/day

1. Press **▼**, **▲** keys to set the current year and then press **▶** to move to the month in digits.
2. Press **▼**, **▲** keys to set the current month and then press **▶** to move to the day in digits.
3. Press **▼**, **▲** keys to set the current day.
4. Press **SET** key to complete the setting.



## STEP 3. Setting the current time

1. Press **▼**, **▲** keys to set the AM/PM and then press **▶** to move to the hour in digits.
2. Press **▼**, **▲** keys to set the current hour and then press **▶** to move to the minute in digits.
3. Press **▼**, **▲** keys to set the current minute.
4. Press **SET** key to complete the setting.
5. The product returns to the RUN mode.



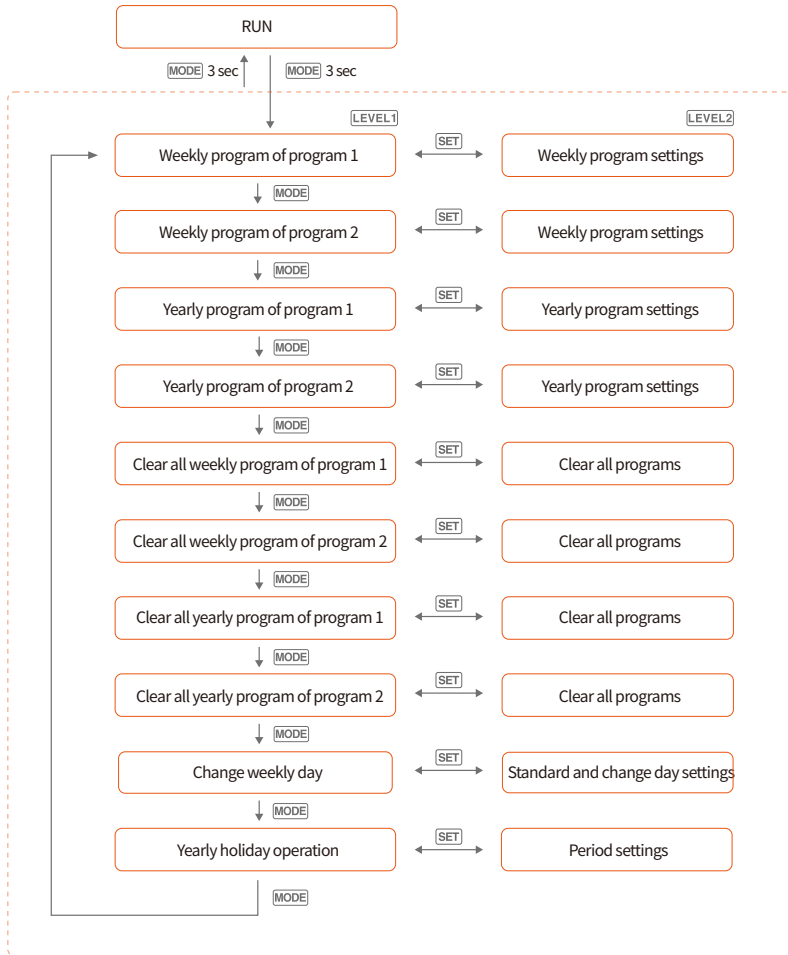
## 1.1. Flow Chart of Parameter Group

The LE7M-2 supports for you to set the operations and functions of the product or modify the program through the following 4 parameter groups. Before using the product, be sure to check the setting sequence of each parameter group.

- Program settings (group 1)
- Function settings (group 2)
- Check/edit/clear the weekly program
- Check/edit/clear the yearly program

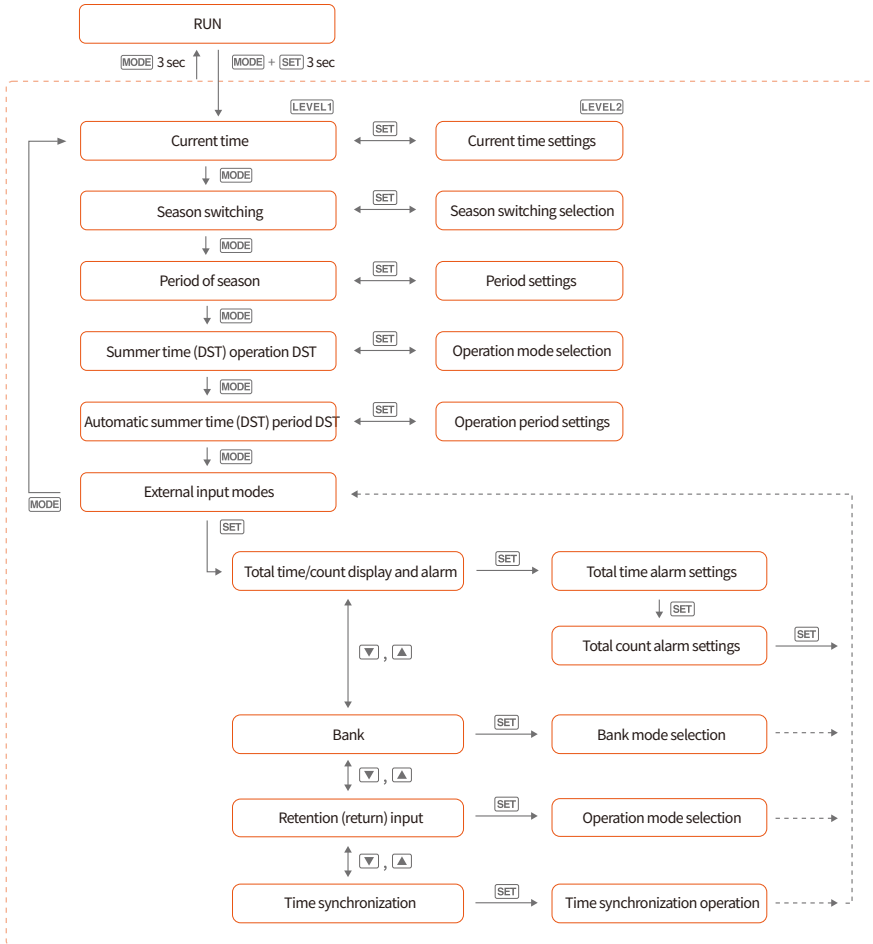
### 1.1.1. Program Settings (group 1)

- For detailed information on the setting methods, refer to 2, Program Settings (group 1).



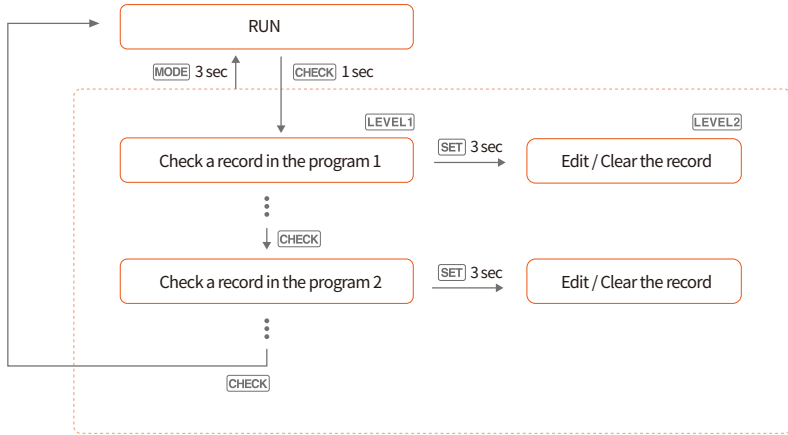
## 1.1.2. Function Settings (group 2)

- For detailed information on the setting methods, refer to 3, Function Settings (group 2).



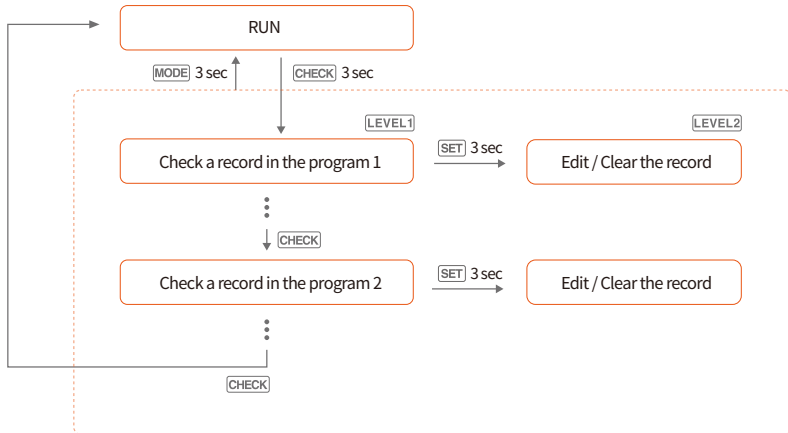
### 1.1.3. Check/Edit/Clear Weekly Program

- For detailed information on the setting methods, refer to 4, Check/Edit/Clear Weekly Program Settings.



### 1.1.4. Check/Edit/Clear Yearly Program

- For detailed information on the setting methods, refer to 5, Check/Edit/Clear Yearly Program Settings.







## 2. Program Settings (group 1)



- Be sure not to set the weekly/yearly program over the maximum number of steps.
- The outputs (OUT1, OUT2) are switched to OFF when entering the program settings (group 1) in the RUN mode.
- If **MODE** key is pressed while setting is in progress, the current setting is canceled and returns to the entry mode of the current setting.
- If you restart the product while the setting is in progress, displaying the state of the previous setting.

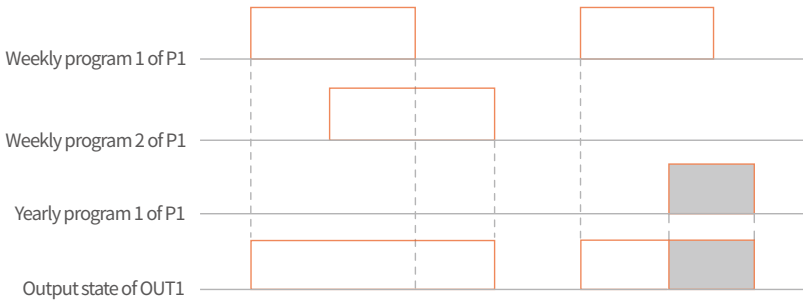
Step	Setting mode	Segment	Setting method
1	Weekly program of program 1	54 STEP	→ 2.4, “Weekly Program”
2	Weekly program of program 2	54 STEP	→ 2.4, “Weekly Program”
3	Yearly program of program 1	32 STEP	→ 2.5, “Yearly Program”
4	Yearly program of program 2	32 STEP	→ 2.5, “Yearly Program”
5	Clear all weekly programs in program 1	CLR	→ 2.6, “Clear All Weekly Programs”
6	Clear all weekly programs in program 2	CLR	→ 2.6, “Clear All Weekly Programs”
7	Clear all yearly programs in program 1	CLR	→ 2.7, “Clear All Yearly Programs”
8	Clear all Yearly programs in program 2	CLR	→ 2.7, “Clear All Yearly Programs”
9	Change weekly day	CDY	→ 2.8, “Change Weekly Day”
10	Yearly holiday operation	HdY	→ 2.9, “Yearly Holiday Operation”

## 2.1. Output of the Program

- The output 1 (OUT1) operates depending on the settings of program 1 (P1).
- The output 2 (OUT2) operates depending on the settings of program 2 (P2).

## 2.2. Timing Chart of Operation

When multiple programs are overlapped, the LE7M-2 automatically performs the non-overlapping operations as shown below. When the weekly program and the yearly program are overlapped, the yearly program is operated as a priority.



## 2.3. Operation Modes

The operation modes of the weekly/yearly program are influenced by each other. Be sure to see the following information before setting the program.

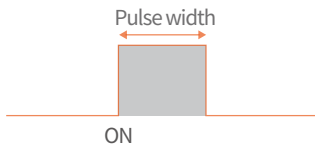
- The operation mode of weekly program: ON/OFF or Cycle  
↔ The operation mode of yearly program: ON/OFF
- The operation mode of weekly program: Pulse  
↔ The operation mode of yearly program: Pulse

### ON/OFF operation



- The output is ON at the ON time and the output is OFF at the OFF time.
- The range of the time:  $\geq 1$  minute
- Record composition of the weekly program: ON day and ON time, OFF day OFF and time (2-step)
- Record composition of the yearly program: start year/month/day and stop year/month/day, ON time, and OFF time (3-step)

### Pulse operation



- The output is ON during a certain period of the time at ON time.
- Pulse width: 1 to 59 seconds, 1 to 60 minutes
- The range of the year:  $\leq 3$  years
- Record composition of the weekly program: ON day and ON time, pulse time width (2-step)
- Record composition of the Yearly program: start year/month/day and end year/month/day, ON time, and pulse width (3-step)

## Cycle operation



- Repeats ON/OFF output from the start date to the stop date.
- The range of the ON/OFF time width: 1 minute to 12 hours 59 minutes
- Record composition of the weekly program: start date and ON time, stop date and OFF time, and ON/OFF time width (3-step)

## 2.4. Weekly Program

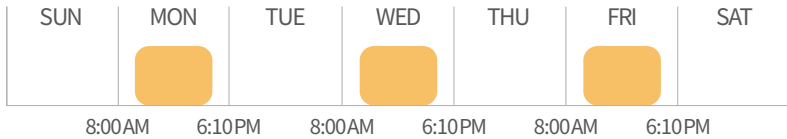
### Setting range

- Number of steps:  $\leq 64$
- Program: program 1 and 2
- Operation mode: ON/OFF, pulse, and cycle operation

### 2.4.1. ON/OFF Operation

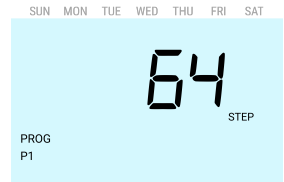
#### Usage example

- Program and output: program 1  $\rightarrow$  output 1 (OUT1)
- Setting days: Mon, Wed, Fri
- ON time: 8:00 AM
- OFF time: 6:10 PM



#### STEP 1. Entering the setting mode for the weekly program

1. In the RUN mode, press **MODE** key over 3 seconds.
2. PROG, P1 flashes and the number of steps is displayed.
3. Press **SET** key to proceed to the next step.



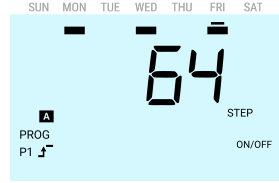
#### STEP 2. Setting the ON/OFF operation mode

1. Select the ON/OFF with **▲** key and press **SET** key.



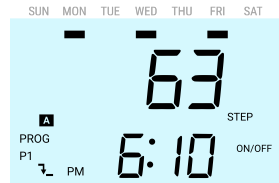
### STEP 3. Setting the ON day and ON time

1. Press **▶** key to move the Day indicator to Mon, Wed, and Fri and then press **▲** key to select the ON days. Press **▼** key to cancel the selected day.
2. Press **SET** key.
3. Select the AM with **▲**, **▼** keys and then press **▶** to move to the hour in digits.
4. Set the 8 with **▲**, **▼** keys and then press **▶** to move to the minute in digits.
5. Set the 00 with **▲**, **▼** keys and then press **SET** key.



### STEP 4. Setting the OFF Day and OFF time

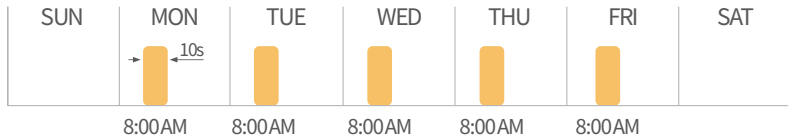
1. Set the OFF day and OFF time in the same way as in the STEP 3. When pressing **SET** key after the setting is completed, entering to the setting mode for the program 2.
2. Press **MODE** key over 3 seconds to return to the RUN mode.



## 2.4.2. Pulse Operation

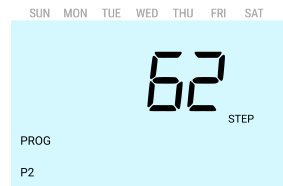
### Usage example

- Program and output: program 2 → output 2 (OUT2)
- Setting days: Mon to Fri
- ON time: 8:00 AM
- Pulse width: 10 seconds



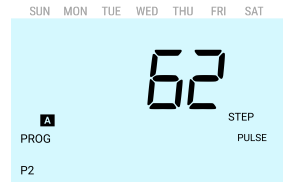
#### STEP 1. Entering the setting mode for the weekly program

1. In the RUN mode, press **MODE** key over 3 seconds.
2. PROG, P1 flashes and the number of steps is displayed.
3. Press the **MODE** key. PROG, P2 flashes.
4. Press the **SET** key to proceed to the next step.



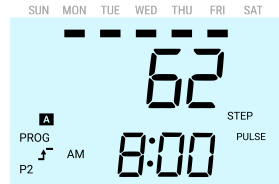
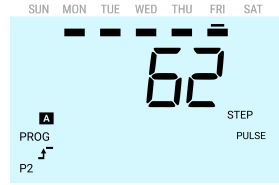
#### STEP 2. Setting the PULSE operation mode

1. Select the PULSE with **▲** key and press **SET** key.



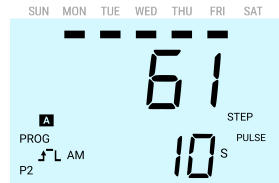
### STEP 3. Setting the ON day and ON time

1. Press **▶** key to move the Day indicator from Monday to Friday and then press **▲** key to select the ON days. Press **▼** key to cancel the selected day.
2. Press **SET** key.
3. Select the AM with **▲**, **▼** keys and then press **▶** to move to the hour in digits.
4. Set the 8 with **▲**, **▼** keys and then press **▶** to move to the minute in digits.
5. Set the 00 with **▲**, **▼** keys and then press **SET** key.



### STEP 4. Setting the pulse width

1. Set the 10 with **▲**, **▼** keys and then press **SET** key.
2. Press **MODE** key over 3 seconds to return to the RUN mode.

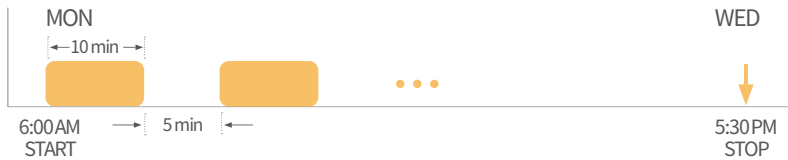




## 2.4.3. Cycle Operation

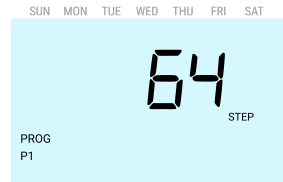
### Usage example

- Program and output: program 1 → output 1 (OUT1)
- Setting days: Mon to Wed
- Start date and time: Monday 6:00 AM
- Stop date and time: Wednesday 5:30 PM
- ON time width: 10 minutes
- OFF time width: 5 minutes



#### STEP 1. Entering the setting mode for the weekly program

1. In the RUN mode, press **MODE** key over 3 seconds.
2. PROG, P1 flashes and the number of steps is displayed.
3. Press **SET** key to proceed to the next step.



#### STEP 2. Setting the CYCLE operation mode

1. Select the CYCLE with **▲** key and press **SET**.



### STEP 3. Setting the start date and time

1. Press **▶** key to move the Day indicator to Monday and then press **▲** key to select the day. Press **▼** key to cancel the selected day.
2. Press **SET** key.
3. Select the AM with **▲**, **▼** keys and then press **▶** to move to the hour in digits.
4. Set the 6 with **▲**, **▼** keys and then press **▶** to move to the minute in digits.
5. Set the 00 with **▲**, **▼** keys and then press **SET** key.



### STEP 4. Setting the stop date and time

1. Set the stop date and time in the same way as in the STEP 3.
2. Press **SET** key.



### STEP 5. Setting the ON time width

1. Press **▶** key to move to the minute in digits and set the 10.
2. Press **SET** key.



### STEP 6. Setting the OFF time width

1. Press **▶** to move to the minute in digits and set the 5.
2. Press **SET** key.
3. Press **MODE** key over 3 seconds to return to the RUN mode.



## 2.5. Yearly Program

### Setting range

- Number of steps:  $\leq 32$
- Program: program 1 and 2
- Operation mode: ON/OFF and pulse operation
- The range of the year: Current year + 2 years

### 2.5.1. ON/OFF Operation

#### Usage example: 1

- Program and output: program 1 → output 1 (OUT1)
- Start date: May 5th of every year
- Stop date: May 8th of every year
- ON time: 9:00 AM
- OFF time: 6:10 PM

#### STEP 1. Entering the setting mode for the yearly program

1. In the RUN mode, press **MODE** key over 3 seconds.
2. PROG, P1 flashes and the number of steps is displayed.
3. Press **MODE** key twice.
4. PROG, P1 and YEAR flashes and the number of steps is displayed.
5. Press **SET** key to proceed to the next step.



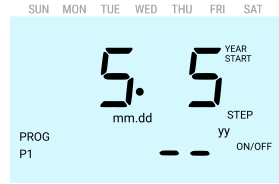
#### STEP 2. Setting the ON/OFF operation mode

1. Select the ON/OFF with **▲** key and press **SET** key.



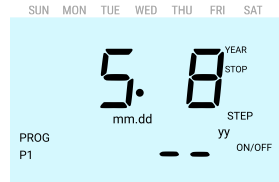
### STEP 3. Setting the start date

1. Since it operates every year ( - - ), press **▶** key to move to the month in digits.
2. Set the 5 with **▲**, **▼** keys and then press **▶** key to move to the day in digits.
3. Set the 5 with **▲**, **▼** keys and then press **SET** key.



### STEP 4. Setting the stop date

1. Set the stop date in the same way as in the STEP 3.
2. Press **SET** key to proceed to the next step.



### STEP 5. Setting the ON time

1. Select the AM with **▲**, **▼** keys and then press **▶** key to move to the hour in digits.
2. Set the 9 with **▲**, **▼** keys and then press **▶** key to move to the minute in digits.
3. Set the 00 with **▲**, **▼** keys and then press **SET** key.



### STEP 6. Setting the OFF time

1. Set the OFF time in the same way as in the STEP 5 and then press the **SET** key.  
To add an yearly program, press **SET** key once more.
2. Press **MODE** key over 3 seconds to return to the RUN mode.



## Usage example: 2

Set the operating plan to turn on the output for two or more consecutive days in the setting mode for the yearly program. You need to set up three yearly programs through the procedure below. For the information on the setting method of the yearly program, refer to 2.5.1, “ON/OFF Operation”.

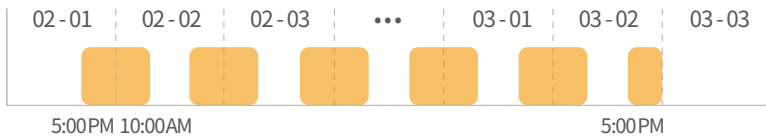
- Start date: February 1st, 2022 at 05:00 PM
- Stop date: March 3rd, 2022 at 10:00 AM



**STEP 1. Enter to the setting mode for the yearly program.**

**STEP 2. Set the yearly program 1 with reference below and then press **SET** key to add the program.**


### Yearly program 1



- Start date: February 1st, 2022
- Stop date: March 2nd, 2022
- ON time: 5:00 PM
- OFF time: 10:00 AM

**STEP 3. Set the yearly program 2 with reference below and then press **SET** key to add the program.**

**Yearly program 2**




The diagram shows a timeline from 02-01 to 03-03. Vertical dashed lines mark the start of each day. Orange bars represent active periods. The first bar is between 02-02 and 02-03, with '8:00AM 7:00PM' written below it. The second bar is between 02-03 and 02-04. The third bar is between 02-04 and 02-05. The fourth bar is between 02-05 and 02-06. The fifth bar is between 02-06 and 02-07. The sixth bar is between 02-07 and 02-08. The seventh bar is between 02-08 and 02-09. The eighth bar is between 02-09 and 02-10. The ninth bar is between 02-10 and 02-11. The tenth bar is between 02-11 and 02-12. The eleventh bar is between 02-12 and 02-13. The twelfth bar is between 02-13 and 02-14. The thirteenth bar is between 02-14 and 02-15. The fourteenth bar is between 02-15 and 02-16. The fifteenth bar is between 02-16 and 02-17. The sixteenth bar is between 02-17 and 02-18. The seventeenth bar is between 02-18 and 02-19. The eighteenth bar is between 02-19 and 02-20. The nineteenth bar is between 02-20 and 02-21. The twentieth bar is between 02-21 and 02-22. The twenty-first bar is between 02-22 and 02-23. The twenty-second bar is between 02-23 and 02-24. The twenty-third bar is between 02-24 and 02-25. The twenty-fourth bar is between 02-25 and 02-26. The twenty-fifth bar is between 02-26 and 02-27. The twenty-sixth bar is between 02-27 and 02-28. The twenty-seventh bar is between 02-28 and 02-29. The twenty-eighth bar is between 02-29 and 03-01. The twenty-ninth bar is between 03-01 and 03-02, with '8:00AM 7:00PM' written below it. The thirtieth bar is between 03-02 and 03-03.

- Start date: February 2nd, 2022
- Stop date: March 2nd, 2022
- ON time: 8:00 AM
- OFF time: 7:00 PM

**STEP 4. Set the yearly program 3 with reference below.**

**Yearly program 3**



The diagram shows a timeline from 02-01 to 03-03. Vertical dashed lines mark the start of each day. A single orange bar is shown between 03-03 and 03-04, with '12:00AM 10:00AM' written below it.

- Start date: March 3rd, 2022
- Stop date: March 3rd, 2022
- ON time: 12:00 AM
- OFF time: 10:00 AM

## 2.5.2. Pulse Operation

### Usage example

- Program and output: program 2 → output 2 (OUT2)
- Start date: October 16th, 2023 (current year: 2022)
- End date: October 18th, 2023
- ON time: 10:00 AM
- Pulse width: 5 seconds

#### STEP 1. Entering the setting mode for the yearly program

1. In the RUN mode, press **MODE** key over 3 seconds.
2. PROG, P1 flashes and the number of steps is displayed.
3. Press **MODE** key 3 times.
4. PROG, P2, YEAR flashes and the number of steps is displayed.
5. Press **SET** key to proceed to the next step.



#### STEP 2. Setting the Pulse operation mode

1. Select the PULSE with **▲** key and press **SET** key.



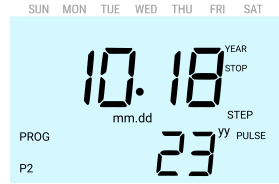
#### STEP 3. Setting the start date

1. Set the 23 with **▲** key and then press **▶** key to move to the month in digits.
2. Set the 10 with **▲**, **▼** keys and then press **▶** to move to the day in digits.
3. Set the 16 with **▲**, **▼** keys and then press **SET** key.



#### STEP 4. Setting the stop date

1. Set the stop date in the same way as in the STEP 3.
2. Press **SET** key to proceed to the next step.



#### STEP 5. Setting the ON time

1. Select the AM with ▲, ▼ keys and then press ► to move to the hour in digits.
2. Set the 10 with ▲, ▼ keys and then press ► to move to the minute in digits.
3. Set the 00 with ▲, ▼ keys and then press **SET** key.



#### STEP 6. Setting the pulse width

1. Set the 5 with ▲, ▼ keys and then press **SET** key.
2. Press **MODE** key over 3 seconds to return to the RUN mode.





## 2.6. Clear All Weekly Programs

Clears/Deletes the weekly program of the program 1 and 2.

### Usage example

- Clear all weekly programs of the program 1

#### STEP 1. Entering the mode for clearing all weekly programs

1. In the RUN mode, press **MODE** key over 3 seconds.
2. PROG, P1 flashes and the number of steps is displayed.
3. Press **MODE** key 4 times.
4. PROG, P1,  $\llcorner$   $\llcorner$   $\llcorner$  flashes.



#### STEP 2. Clearing all weekly programs

1. Press **SET** key once.  
The screen freezes and the product goes into the standby mode.
2. When pressing **SET** key over 3 seconds, flashing  $\llcorner$   $\llcorner$   $\llcorner$  and clearing the program is proceeded.
3. When it is completed,  $\text{ALL } \llcorner$   $\llcorner$   $\llcorner$  is displayed.
4. Press **MODE** key over 3 seconds to return to the RUN mode.



## 2.7. Clear All Yearly Programs

Clears/Deletes all yearly programs of the program 1 and 2.

### Usage example

- Clear all yearly programs of the program 1

#### STEP 1. Entering the mode for clearing all yearly programs

1. In the RUN mode, press **MODE** key over 3 seconds.
2. PROG, P1 flashes and the number of steps is displayed.
3. Press **MODE** key 6 times.
4. PROG, P1, YEAR,  $\llcorner \llcorner \llcorner$  flashes.



#### STEP 2. Clearing all yearly programs

1. Press **SET** key once.  
The screen freezes and the product goes into the standby mode.
2. When pressing **SET** key over 3 seconds, flashing  $\llcorner \llcorner \llcorner$  and clearing the program is proceeded.
3. When it is completed,  $ALL \llcorner \llcorner \llcorner$  is displayed.
4. Press **MODE** key over 3 seconds to return to the RUN mode.



## 2.8. Change Weekly Day

This function is used when you want to apply the operating plan of a specific day to the others of the week. Select one day of the week as the standard day and select a change day among the others. The product only performs once the plan of the standard day. It returns to the original status when this function is completed.

This function applies to both program 1 and 2.



- If you change the standard day, the selected change day is also automatically canceled. You need to set the change day again.
- To edit the change day, refer to 2.6, “Clear All Weekly Programs”.
- **Be sure that the operation of Change Weekly Day will be canceled under the conditions below.**
  - When changing the current year, month, and day in the current time setting mode
  - When changing the standard day in the change weekly day mode
  - When deleting all program 1 and 2
  - When changing seasons in the season switching mode

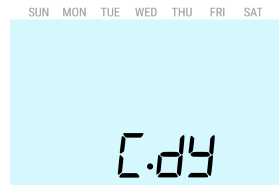
## Usage example

- Application range: program 1, 2 → output 1, 2 (OUT1, OUT2)
- Standard day: Saturday
- Change day: Monday, Tuesday



### STEP 1. Entering the Change Weekly Day mode

1. In the RUN mode, press **MODE** key over 3 seconds.
2. PROG, P1 flashes and the number of steps is displayed.
3. Press **MODE** key 8 times.
4. *C.dY* flashes.
5. Press **SET** key to proceed to the next step.



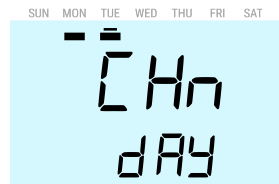
### STEP 2. Selecting the standard day

1. Press **▶** key to move the Day indicator to Saturday and then press **▲** key to select the day. Press **▼** key to cancel the selected day.
2. Press **SET** key to proceed to the next step.



### STEP 3. Selecting the change day

1. Press **▶** key to move the Day indicator to Mon and Tue and then press **▲** key to select the day. Press **▼** key to cancel the selected day.
2. Press **SET** key.
3. Press **MODE** key over 3 seconds to return to the RUN mode.



## 2.9. Yearly Holiday Operation

You can set specific days or specific periods of time to temporarily perform the holiday plan without program modification. It returns to the original status after passing the selected holiday, but you can set it to repeat the holiday plan every year.

This function applies to both program 1 and 2.

### Setting range

- The range of the year: current year + 1 year (to December 31st)
- The number of setting holidays:  $\leq 12$



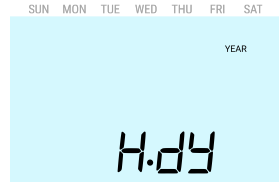
- To repeat the holiday plan every year, set - - as the both start year and stop year.
- To set the yearly holiday operation, be sure to set the both start year/month/day and stop year/month/day.
- If the change weekly day and the yearly holiday operation are overlapped, the product performs the plan of yearly holiday operation.
- If the current date is the day of yearly holiday operation, *H.D.Y* is displayed in the RUN mode.

## Usage example

- Application range: program 1, 2 → output 1, 2 (OUT1, OUT2)
- Year of holiday: Every year
- Date of holiday: May 5th

### STEP 1. Entering the Yearly Holiday Operation mode

1. In the RUN mode, press **MODE** key over 3 seconds.
2. PROG, P1 flashes and the number of steps is displayed.
3. Press **MODE** key 9 times.
4. YEAR, *H.dy* flashes.
5. Press **SET** key to proceed to the next step.



### STEP 2. Check the Yearly holiday number

1. Check the number of yearly holiday.
2. Press **SET** key to proceed to the next step.



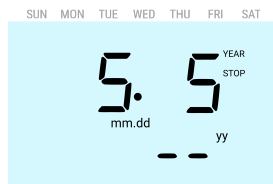
### STEP 3. Setting the start date

1. Since it operates every year (- -), press **▶** to move to the month in digits.
2. Set the 5 with **▲**, **▼** keys and then press **▶** to move to the day in digits.
3. Set the 5 with **▲**, **▼** keys and then press **SET** key.



#### STEP 4. Setting the stop date

1. Set the stop date in the same way as in the STEP 3.
2. Press **SET** key. The setting for the yearly holiday is completed.  
To add an yearly holiday operation, press **SET** key.
3. Press **MODE** key over 3 seconds to return to the RUN mode.







### 3. Function Settings (group 2)



- The outputs (OUT1, OUT2) are switched to OFF when entering the function settings (group 2) in the RUN mode.
- If **MODE** key is pressed while setting is in progress, the current setting is canceled and returns to the entry mode of the current setting.
- If you restart the product while the setting is in progress, displaying the state of the previous setting.

Step	Setting mode	Segment	Setting method
1	Current time	t.R.U	→ 3.1, “Current Time”
2	Season switching	S.E.n	→ 3.2, “Season Switching”
3	Period of season	S.E.n	→ 3.3, “Seasonal Period”
4	Summer time operation	d.S.t	→ 3.4, “Summer Time (DST) Operation”
5	Automatic Summer time period	d.S.t	→ 3.5, “Automatic Summer Time (DST) Period”
6	External input modes	E.I.n	→ 3.6, “External Input Modes”
6-1	Total time/count display and alarm	t.o.t.L	→ 3.6.1, “Total Time and Count”
6-2	Bank function	b.R.n.t	→ 3.6.2, “Bank”
6-3	Retention (return) input	r.E.t	→ 3.6.3, “Retention (return) Input”
6-4	Time synchronization	S.Y.n.C	→ 3.6.4, “Time Synchronization”

# 3.1. Current Time

Sets the current time.

### Factory settings

- January 1st, 01
- 12:00 AM

### Setting range

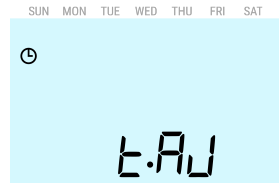
- Year: 01 to 99 years
- Month: January to December
- Time: 00:00 AM to 11:59 PM

## Usage example

- Settings March 10th, 2022 at 5:10 PM

### STEP 1. Entering to the function settings mode

1. In the RUN mode, press **MODE** + **SET** keys over 3 seconds.
2. The Current time setting indicator flashes and *t.AJ* is displayed.
3. Press **SET** key to proceed to the next step.



### STEP 2. Setting the current year/month/day

1. Set the 22 with **▼**, **▲** keys and then press **▶** key to move to the month in digits.
2. Set the 3 with **▼**, **▲** keys and then press **▶** key to move to the day in digits.
3. Set 10 with **▼**, **▲** keys.
4. Press **SET** key to complete the setting.



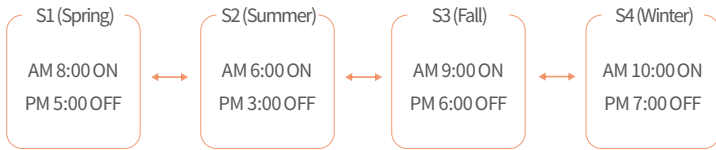
### STEP 3. Setting the current time

1. Select the PM with **▼**, **▲** keys and then press **▶** key to move to the hour in digits.
2. Set the 5 with **▼**, **▲** keys and then press **▶** key to move to the minute in digits.
3. Set the 10 with **▼**, **▲** keys.
4. Press **SET** key to complete the setting.
5. Press **MODE** key over 3 seconds to return to the RUN mode.



## 3.2. Season Switching

This function automatically switches the weekly program based on the period of each season.



### Factory settings

- Inactivated

### Setting range

- Program: program 1, 2
- Season switching: Activated or inactivated
- Seasons: S1, S2, S3, S4



- This function only applies to the weekly program.
- Be sure that changing the season switching deletes all saved weekly program.
- When the periods of seasons are overlapped, the periods are arranged in the following order: S4 > S3 > S2 > S1.
- If you set a leap day as the start or stop date of a seasonal period, February 28th is applied in a normal year.

## Usage example

### STEP 1. Entering to the season switching mode and activation

1. In the RUN mode, press **MODE** + **SET** keys over 3 seconds.
2. Press **MODE** key. **SEn** flashes.
3. Press **SET** key.
4. Select the ON with **▲** key and then press **SET** key.
5. Press **MODE** key over 3 seconds to return to the RUN mode.



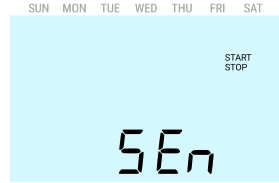
### 3.3. Seasonal Period

#### Usage example

- Selected season: S2
- Start date: February 20th
- Stop date: May 1st

#### STEP 1. Selecting the period of season

1. After activating the season switching, press **MODE** key. START, STOP are displayed and 5 E n flashes.
2. Press **SET** key.
3. When flashing the S2 with ▼ key, press **SET** key.



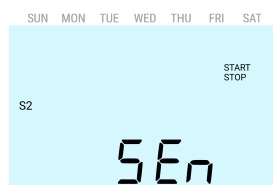
#### STEP 2. Setting the start date of season

1. Set the 2 with ▲ key and then press ► key to move to the day in digits.
2. Set the 20 with ▲ key and then press **SET** key.



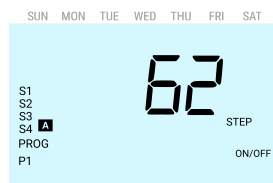
### STEP 3. Setting the stop date of season

1. Set the 5 with **▲** key  
and then press **▶** key to move to the day in digits.
2. Set the 1 with the **▲** key and then press **SET** key.
3. S2, START, STOP are displayed and 5 E n flashes.  
To add a seasonal period, press **SET** key.
4. Press **MODE** key over 3 seconds to return to the RUN mode.



### STEP 4. Setting the operating day and time of the season

1. In the RUN mode, press **MODE** key over 3 seconds to enter the program settings (group 1) mode.  
For more information on the program settings, refer to 2.4.1, "ON/OFF Operation".
2. Set the operation mode.
3. The season you have set (S1, S2, S3, S4) flashes.  
If there are multiple season periods, select the desired period with **▲**, **▼** keys and then press **SET** key.
4. Set the ON day and ON time.
5. Set the OFF day and OFF time.



## 3.4. Summer Time (DST) Operation

### Factory settings

- Normal mode

### Setting range

- Normal mode: Press ▲ (+1h) key on the button layout to increase the current time by 1 hour.
- Auto mode: Summer time (DST) is applied depending on operation period you have set.
- Month: January to December
- Time: 00:00 AM to 11:59 PM

### Usage example

#### STEP 1. Entering to the summer time selection and settings

1. In the RUN mode, press **MODE** + **SET** keys over 3 seconds.
2. Press **MODE** key. *dSt* flashes.
3. Press **SET** key.
4. Select the nor (Normal) mode or At (Auto) mode with ▲ key and then press **SET** key.
5. Press **MODE** key over 3 seconds to return to the RUN mode.



#### STEP 2. Normal mode

1. In the RUN mode, press ▲ (+1h) key over 3 seconds.
2. +1h is displayed and the current time is increased by 1 hour.
3. Press ▲ (+1h) key again over 3 seconds to cancel the summer time (DST).



## 3.5. Automatic Summer Time (DST) Period

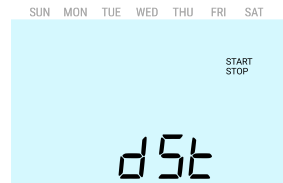
It increases the current time by 1 hour during the operating period of the summer time.  
In Auto mode, the start and stop time of the summer time are fixed at 00 minutes.

### Usage example

- Operation mode of the summer time: Auto
- Start date and time: April 2nd, 11:00 PM
- Stop date and time: October 29th, 2:00 AM

#### STEP 1. Entering to the function settings mode

1. Set the summer time to Auto mode and then press **MODE** key. START, STOP are displayed and `d5t` flashes.
2. Press **SET** key to set the start date.



#### STEP 2. Setting the start date

1. Set the 4 with the **▲** key and then press **▶** key to move to the day in digits.
2. Set the 2 with the **▲** key and then press **SET** key.



#### STEP 3. Setting the start time

1. Select the PM with **▲**, **▼** keys and then press **▶** to move to the hour in digits.
2. Set the 11 with **▲**, **▼** keys and then press **SET** key.



#### STEP 4. Setting the stop date

1. Set the 10 with **▲** key and then press **▶** key to move to the day in digits.
2. Set the 29 with **▲** key and then press **SET** key.



### STEP 5. Setting the stop time

1. Select the AM with ▲, ▼ keys and then press ▶ to move to the hour in digits.
2. Set 2 with ▲, ▼ keys and then press **SET** key.
3. Press **MODE** key over 3 seconds to return to the RUN mode.





## 3.6. External Input Modes



Be sure to see the connections in the instruction manual for the LE7M-2.  
The Factory setting of external input modes is set as the total time/count.

### 3.6.1. Total Time and Count

This function displays the total elapsed time and the total count that is calculated through the external input terminals and displays. You can also set the alarm to be displayed when the elapsed time or the count reaches the desired limit. It can be used for maintenance purposes such as checking the replacement schedule of the product.

#### Factory settings

- Total time: 99990.0 hours
- Total count: 999900

#### Setting range

- Total time: 10.0 to 99990.0 hours (4-digit, 0.1 = 6 minutes)
- Total count: 100 to 999900 times (4-digit, set in unit of 100 times)

### Example of usage

#### STEP 1. Entering to the external input modes

1. In the RUN mode, press **MODE** + **SET** keys over 3 seconds.
2. Press **MODE** key 3 times to enter the external input modes.  
*E.I n* flashes.



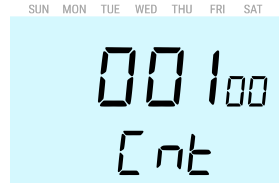
#### STEP 2. Setting the total time

1. Press **SET** key. *t o t L* flashes.
2. Press **SET** key.
3. Press **▶**, **▼**, **▲** keys to set the time.
  - Available digits: 4-digit



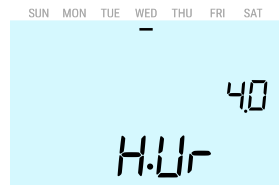
### STEP 3. Setting the total count and return

1. Set the total time and then press **SET** key.
2. Press **▶**, **▼**, **▲** keys to set the total count.
  - Available digits: 4-digit
3. Press **SET** key.
4. Press **MODE** key over 3 seconds to return to the RUN mode.



### STEP 4. Checking the elapsed time

1. In the RUN mode, press **CHECK** + **▲** keys over 1 second.
2. The total time of the short occurred at the external input terminals is displayed.
  - The elapsed time of this figure: 4 hours



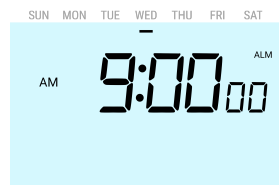
### STEP 5. Checking the total count and return

1. After checking the elapsed time, press **CHECK** + **▲** keys over 1 second.
2. The total number of the short occurred at the external input terminals is displayed.
3. Press **CHECK** + **▲** keys to return to the RUN mode.
  - The total count of this figure: 25 times of the input signals



### STEP 6. Total time/count alarm

1. When the total time or total count reaches the limit, ALM is displayed on the screen.
2. To turn off the alarm indicator, set a greater total time/count limit than the previous one.



### 3.6.2. Bank

The two groups (banks) are available to set in the program settings (group 1) mode with this bank function.



**Factory settings:** Inactivated

#### Usage example

##### STEP 1. Entering to the bank mode and activation

1. In the RUN mode, press **MODE** + **SET** keys over 3 seconds.
2. Press **MODE** key 3 times to enter the external input modes.
3. Press **SET** key and then press **▲** key. *bAnE* flashes.
4. Press **SET** key to activate the bank function.
5. Press **MODE** key over 3 seconds to return to the RUN mode.



##### STEP 2. Setting the bank group

1. In the RUN mode, press **MODE** key over 3 seconds to enter the program settings (group 1) mode.  
For more information on the program settings, refer to 2.4.1, “ON/OFF Operation”.
2. After setting the program in the bank A, press **SET** key.
3. Set the program for the bank B.
4. Press **MODE** key over 3 seconds to return to the RUN mode.



### **STEP 3. Selecting the bank group**

1. Select a bank group via the input terminals.
  - Open: Bank A
  - Short: Bank B

### 3.6.3. Retention (return) Input

This function prevents the outputs(OUT1, OUT2) from automatically switching ON when supplying the power again after the power failure.

#### Factory settings

- Auto mode

#### Setting range

- Manual mode: It manually activates the output operation that is in the OFF state after the power loss recovery.
- Auto mode: The output operation is automatically activated after the power loss recovery.

### Usage example

#### STEP 1. Entering to the retention (return) input mode and Manual mode

1. In the RUN mode, press **MODE** + **SET** keys over 3 seconds.
2. Press **MODE** key 3 times to enter the external input modes.
3. Press **SET** key and then press **▲** key. **rEt** flashes.
4. Press **SET** key to set the Manual mode.
5. Press **MODE** key over 3 seconds to return to the RUN mode.



#### STEP 2. Activating the output operation

1. RET.IN flashes on the screen after the power loss recovery.
2. Activate the output through the method below.
  - Return via the external input: Short the input terminals.
  - Return via the button layout: Press **SET** key over 3 seconds in the RUN mode.
3. RET.IN indicator turns off and the output operation (OUT1, OUT2) is activated.



### 3.6.4. Time Synchronization

This function sets the seconds of the current time to 00 seconds via the external input. It helps to reduce errors in the value of seconds if multiple timers are installed.

**Factory settings:** Inactivated

#### Usage example

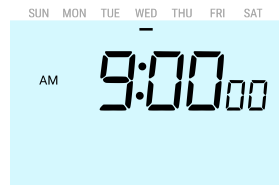
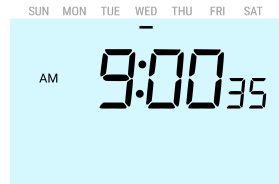
##### STEP 1. Entering to the time synchronization mode and activation

1. In the RUN mode, press **MODE** + **SET** keys over 3 seconds.
2. Press **MODE** key 3 times to enter the external input modes.
3. Press **SET** key and then press **▲** key. **54nL** flashes.
4. Press **SET** key to activate the time synchronization function.
5. Press **MODE** key over 3 seconds to return to the RUN mode.



##### STEP 2. Time synchronization

1. Short the input terminals.
2. In the RUN mode, the second of the current time is set to 00 seconds.



## 4. Check/Edit/Clear Weekly Program Settings

Step	Setting mode	Segment	Setting method
1	Check a record in the program 1	<i>r.D l</i>	→ 4.1, "Check the Settings"
1-1	Edit the record	<i>E d t</i>	→ 4.2, "Edit the Record"
1-2	Clear the record	<i>C L r</i>	→ 4.3, "Clear the Record"
2	Check a record in the program 2	<i>r.D l</i>	→ 4.1, "Check the Settings"
2-1	Edit the record	<i>E d t</i>	→ 4.2, "Edit the Record"
2-2	Clear the record	<i>C L r</i>	→ 4.3, "Clear the Record"

# 4.1. Check the Settings

## Setting range

- The range of the record: 01 to 32



- The product returns to the RUN mode when pressing **MODE** key over 3 seconds or there is no key input for 60 seconds.
- The output is controlled depending on the setting status of the internal program.

### STEP 1. Checking the settings in the weekly program

1. In the RUN mode, press **CHECK** key over 1 second.
2. Press **CHECK** key to check the settings for each record.





## 4.2. Edit the Record



- The outputs are switched to OFF state while changing/editing the record.
- Pressing **MODE** key in this mode clears the content being edited and returns to check the settings in the weekly program.
- **Editing of the weekly program using the season switching function:**  
When pressing **SET** key after checking the record, entering to the season selection mode in the function settings (group 2).  
If you press **SET** key after changing the selected season, the product enters to change the ON day mode of the corresponding record.

### Usage example

- Operation mode: ON/OFF
- Setting day: Mon to Fri → Changed day: Tue to Fri
- ON time: 8:00 AM → Changed ON time: 7:00 AM
- OFF time: 6:10 PM → Changed OFF time: No change

#### STEP 1. Entering to the edit mode for the record

1. Enters the check mode for the weekly program settings.
2. Press **CHECK** key to check the record you want to edit and then press **SET** key over 3 seconds.
3. When *E dt* flashes, press **SET** key to edit the record.



#### STEP 2. Editing the record: ON day

1. Press **▶** key to move the Day indicator to Monday and then press **▼** key to cancel the selected day.
2. Press **SET** key.



#### STEP 3. Editing the record: ON time

1. Press **▶** key to move to the hour in digits.
2. Set the 7 with **▼** key and then press **SET** key.



#### STEP 4. Editing the record: OFF day

1. Press **▶** key to move the Day indicator to Monday and then press **▼** key to cancel the selected day.
2. Press **SET** key.



#### STEP 5. Editing the record: OFF time

1. Since the OFF time does not change, so press **SET** key.



#### STEP 6. Completing the edit mode

1. The product returns to the check mode for the edited record.
2. Press **CHECK** key to return to the RUN mode.



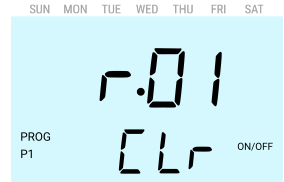
## 4.3. Clear the Record



- The outputs are switched to OFF state while clearing/deleting the record.
- Pressing **MODE** key in the standby or in progress mode cancels this mode and returns to check the settings in the weekly program.

### STEP 1. Entering to the clear mode for the record

1. Enters the check mode for the weekly program settings.
2. Press **CHECK** key to confirm the record you want to delete and then press **SET** key over 3 seconds.
3. When *E d t* flashes, select *C L r* with **▲**, **▼** keys.
4. Press **SET** key to clear the record.



### STEP 2. Completing the clear mode

1. *r.01* and *CLr* are flashing 3 times when **SET** key is pressed over 3 seconds.
2. After clearing the record, the product returns to the RUN mode.





## 5. Check/Edit/Clear Yearly Program Settings

Step	Setting mode	Segment	Setting method
1	Check a record in the program 1	<i>r.D I ,C H E</i>	→ 5.1, “Check the Settings”
1-1	Edit the record	<i>E d t</i>	→ 5.2, “Edit the Record”
1-2	Clear the record	<i>C L r</i>	→ 5.3, “Clear the Record”
2	Check a record in the program 2	<i>r.D I ,C H E</i>	→ 5.1, “Check the Settings”
2-1	Edit the record	<i>E d t</i>	→ 5.2, “Edit the Record”
2-2	Clear the record	<i>C L r</i>	→ 5.3, “Clear the Record”

# 5.1. Check the Settings

## Setting range

- The range of the record: 01 to 32



- The product returns to the RUN mode when pressing **MODE** key over 3 seconds or there is no key input for 60 seconds.
- The output is controlled depending on the setting status of the internal program.

### STEP 1. Checking the settings in the yearly program

1. In the RUN mode, press **CHECK** key over 3 seconds.
2. [HE] is displayed.
3. Press **CHECK** key to check the settings for each record.



## 5.2. Edit the Record



- The outputs are switched to OFF state while changing/editing the record.
- Pressing **MODE** key in this mode clears the content being edited and returns to check the settings in the yearly program.

### Usage example

- Operation mode: pulse
- Start date: October 16th, 2023 → Changed start date: October 18th, 2023
- Stop date: October 18th, 2023 → Changed stop date: October 20th, 2023
- ON time: 10:00 AM → Changed ON time: No change
- Pulse width: 5 seconds → Changed pulse width: 10 seconds

#### STEP 1. Entering to the edit mode for the record

1. Enter the check mode for the yearly program settings.
2. Press **CHECK** key to check the record you want to edit and then press **SET** key over 3 seconds.
3. When *E d t* flashes, press **SET** key to edit the record.



#### STEP 2. Editing the record: start date

1. Press **▶** key to move to the day in digits.
2. Set the 18 with **▲** key and then press **SET** key.



#### STEP 3. Editing the record: stop date

1. Press **▶** to move to the day in digits.
2. Set the 20 with **▲** key and then press **SET** key.



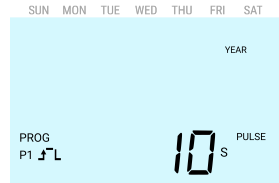
#### STEP 4. Editing the record: ON time

1. Since the ON time does not change, so press **SET** key.



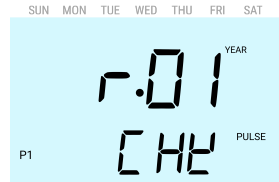
#### STEP 5. Editing the record: pulse width

1. Set the 10 with **▲** key and then press **SET** key.



#### STEP 6. Completing the edit mode

1. The product returns to the check mode for the edited record.
2. Press **CHECK** key to return to the RUN mode.





## 5.3. Clear the Record



- The outputs are switched to OFF state while clearing/deleting the record.
- Pressing **MODE** key in the standby or in progress mode cancels this mode and returns to check the settings in the yearly program.

### STEP 1. Entering to the clear mode for the record

1. Enters the check mode for the yearly program settings.
2. Press **CHECK** key to confirm the record you want to delete and then press **SET** key over 3 seconds.
3. When *E d t* flashes, select *C L r* with **▲**, **▼** keys.
4. Press **SET** key to clear the record.



### STEP 2. Completing the clear mode

1. *r.01* and *CLr* are flashing 3 times when **SET** key is pressed over 3 seconds.
2. After clearing the record, the product returns to the RUN mode.





## 6. Convenient Functions

### 6.1. Program Test

You can check the ON/OFF day and ON/OFF time of the output in the weekly program that is currently operating. The Program indicator (P1, P2) shows the current operating program in the RUN mode.

#### STEP 1. Entering to the test mode

1. In the RUN mode, press **MODE** + **CHECK** keys over 3 seconds.
2. `EESt` and the first output time from the current time are displayed.
3. When pressing **CHECK** key each time, the next output time is displayed.



#### STEP 2. Completing the test

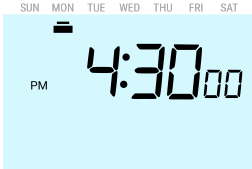
1. `End` flashes after the last output time is displayed.
2. The product automatically returns to the RUN mode.



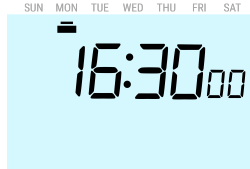
## 6.2. Switching 12/24h Display

In the RUN mode, you can change the display format of the current time by pressing **▼** key over 3 seconds.

### AM/PM 12 hours display



### 24 hours display

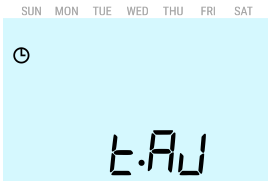


## 6.3. Initialization

It restores all settings of the LE7M-2 to the factory settings.

In the RUN mode, press **▲** + **▼** keys over 5 seconds to initialize the product.

### Initialization completed screen



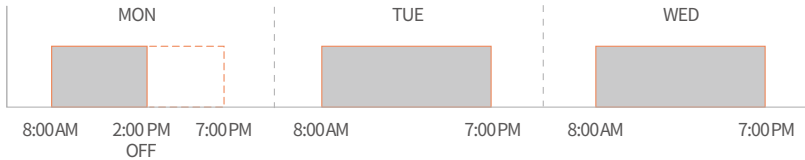
## 6.4. Forced Outputs

The output can be forcibly turned ON/OFF regardless of the program settings by using the Switch for the output settings on the button layout. To return to the output status based on the program settings, set the switch for the output settings to the AUTO.

- The switch for the output settings ON: The state of the output keeps ON.
- The switch for the output settings OFF: The state of the output keeps OFF.

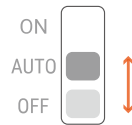
## 6.5. Semi-automatic Forced Outputs

This function forcibly and temporarily turns on/off the output using the Switch for the output settings on the button layout. The forced output is maintained until the next ON/OFF time, and after passing the time, it operates based on the program setting. You can deal with unexpected situations without changing the program.



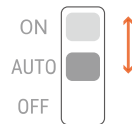
### Forced output OFF

1. Set the switch for the output settings from AUTO to OFF.
2. Set the switch for the output settings from OFF to AUTO with pressing **SET** key.
3. The output operates based on the program settings from the next ON time.



### Forced output ON

1. Set the switch for the output settings from AUTO to ON.
2. Set the switch for the output settings from ON to AUTO with pressing **SET** key.
3. The output operates based on the program settings from the next OFF time.





Editing the settings of programs 1 and 2 is unavailable when using the semi-automatic forced outputs function.

# **Autonics**

Dimensions or specifications on this manual are subject to change and some models may be discontinued without notice.

[www.autonics.com](http://www.autonics.com)