

TIMER LE4S

M A N U A L



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

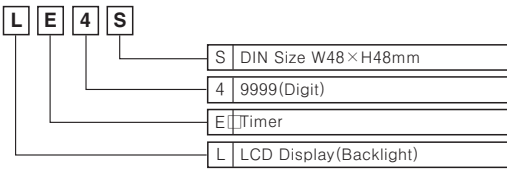
Caution for your safety

- Please keep these instructions and review them before using this unit.
- Please observe the cautions that follow:
 - Warning** Serious injury may result if instructions are not followed.
 - Caution** Product may be damaged, or injury may result if instructions are not followed.
- The following is an explanation of the symbols used in the operation manual.
 - Warning**: Injury or danger may occur under special conditions.

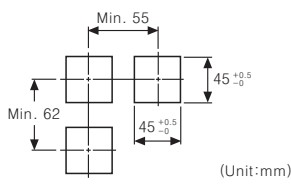
- In case of using this unit with machineries(Nuclear power control, medical equipment, vehicle, train, airplane, combustion apparatus, entertainment or safety device etc), it requires installing fail-safe device or contact us for information on type required.**
It may result in serious damage, fire or human injury.
- This unit must be mounted on panel.**
It may give an electric shock.
- Do not repair or checkup when power on.**
It may give an electric shock.
- Do not disassemble and modify this unit, when it requires. If needs, please contact us.**
It may give an electric shock and cause a fire.
- Lithium battery is used for memory retention in this product, therefore do not disassemble or burn up. Please contact Autonics to replace battery.**
It may cause explosion.

- Caution**
- This unit shall not be used outdoors.**
It might shorten the life cycle of the product or give an electric shock.
 - When wire connection, No.20AWG(0.50mm²) should be used and screw bolt on terminal block with 0.74N·m to 0.90N·m strength.**
It may result in malfunction or fire due to contact failure.
 - Please observe specification rating.**
It might shorten the life cycle of the product and cause a fire.
 - Do not use the load beyond rated switching capacity of Relay contact.**
It may cause insulation failure, contact melt, contact failure, relay broken, fire etc.
 - In cleaning the unit, do not use water or an oil-based detergent.**
It might cause an electric shock or a fire.
 - Do not use this unit at place where there are flammable or explosive gas, humidity, direct ray of the sun, radiant heat, vibration, impact etc.**
It may cause explosion or a fire.
 - Do not inflow dust or wire dregs into inside of this unit.**
It may cause a fire or mechanical trouble.

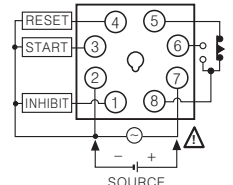
Ordering information



Panel cut-out

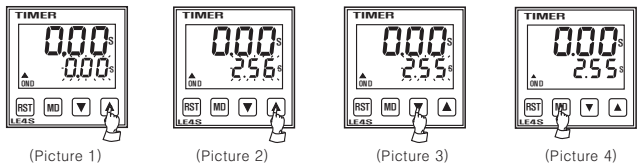


Connection



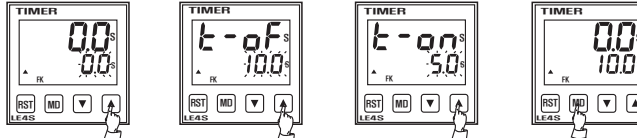
The time setting

- Output operation mode : [ON D], [ON D I], [ON D II], [INT], [INT I], [ON OFF D], [ON OFF D I], [OFF D]



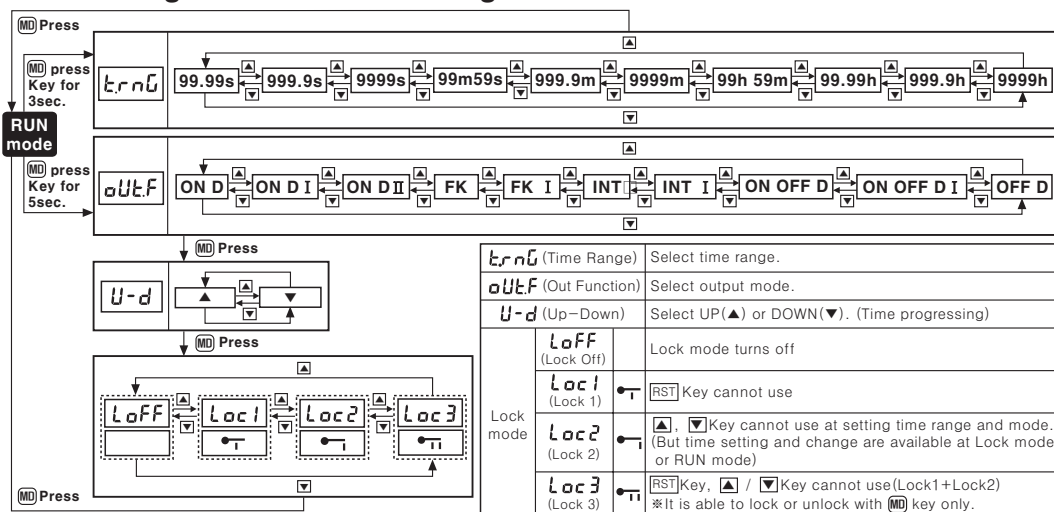
- Display of setting time will be flickering when press \downarrow or \uparrow Key at RUN mode. (Picture 1)
 - And then set the setting time with \downarrow or \uparrow Key. If press \downarrow Key once, it will increase as number of pressing, but if keep pressing more than 2sec., it will increase faster. (Picture 2)
If press \uparrow Key once, it will decrease as number of pressing, but if keep pressing more than 2sec., it will decrease faster. (Picture 3)
 - When complete the setting, it will be saved and return by pressing \downarrow key. (Picture 4)
- *It is able to change the setting time during the time progressing, but be sure about the time progressing while changing of the time.
- *If set the value is 0, "Err" will be displayed. ("Err" will be removed by pressing \downarrow / \uparrow key)
- *If no key touched for 30sec., it will return to RUN mode.

- Output operation mode : [FK], [FK I]



- (RUN mode) \downarrow (T-OFF Time setting) \downarrow (T-ON Time setting) \downarrow (RUN mode)
- Set by \downarrow / \uparrow Key Set by \downarrow / \uparrow Key
- *It is able to change the setting time during the time progressing, but be sure about the time progressing while changing of the time.

Time range and function setting

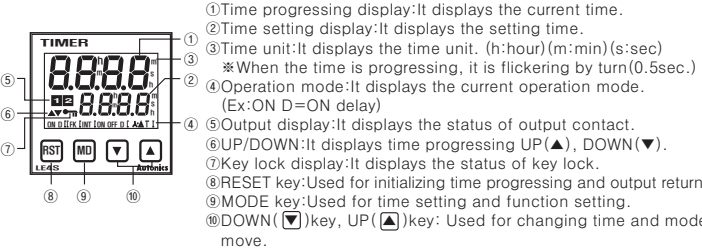


*The above specifications are changeable without notice anytime.

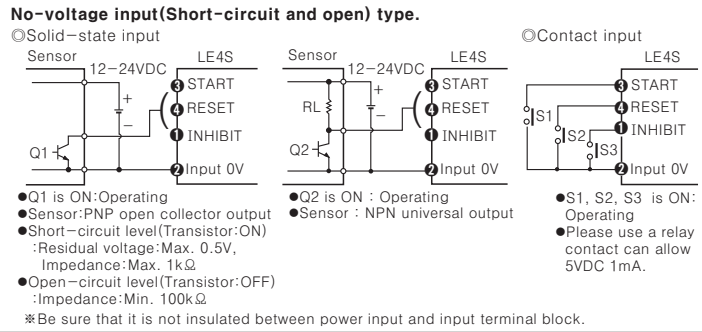
Specifications

Model	LE4S	
Power supply	24-240VAC 50/60Hz, 24-240VDC	
Display method	LCD Display(Backlight)	
Allowable voltage range	90 to 110% of rated voltage	
Power consumption	Max. 2.8VA(240VAC 50/60Hz), Max. 1.2W(240VDC)	
Return time	Max. 300ms	
Min. input signal	START input	Min. 20ms
	RESET input	
	INHIBIT input	
Input	START input	• No-voltage input Short-circuit impedance: Max. 1k Ω , Residual voltage: Max. 0.5V Open-circuit impedance: Min. 100k Ω
	RESET input	
	INHIBIT input	
Control output	Con-tact	Type Capacity
		Time limit SPDT(1c)
Output mode	250VAC 3A resistive load	
Ambient temperature	-10 to 55 $^{\circ}$ C (at non-freezing status)	
Storage temperature	-25 to 65 $^{\circ}$ C (at non-freezing status)	
Ambient humidity	35 to 85%RH	
Repeat error	Signal Start : Max. $\pm 0.005\%$ ± 0.03 sec	
Setting error	Power Start : Max. $\pm 0.01\%$ ± 0.08 sec	
Voltage error		
Temperature error		
Memory retention	10 years at 25 $^{\circ}$ C and when LCD and input key turns OFF, 40 days at 25 $^{\circ}$ C and when LCD and input key turns ON continually	
Insulation resistance	Min. 100M Ω (at 500VDC)	
Dielectric strength	2000VAC 50/60Hz for 1 minute	
Noise strength	± 2 kV the square wave noise (pulse width: 1 μ s) by the noise simulator	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 1hour
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 10 minutes
Shock	Mechanical	300m/s ² (30G) in X, Y, Z directions for 3 times
	Malfunction	100m/s ² (10G) in X, Y, Z directions for 3 times
Relay life cycle	Mechanical	Min. 10,000,000 times
	Electrical	Min. 100,000 times(250VAC 3A resistive load)
Weight	Approx. 126g	

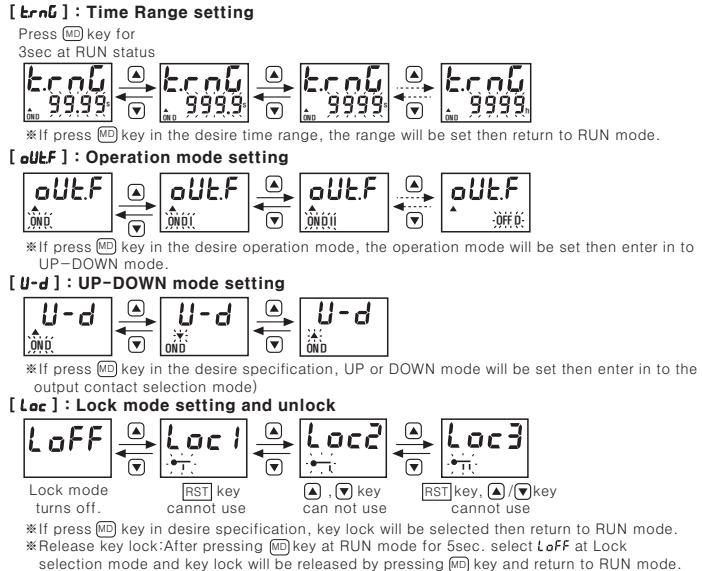
Front panel identification



Input connection



Mode setting



Time Range

○ If press \downarrow key for 3sec, it is moved to the time range mode.

Time range specification	Time range specification
99.99s	0.01sec ~ 99.99sec
999.9s	0.1sec ~ 999.9sec
9999s	1sec ~ 9999sec
99m59s	0min01sec ~ 99min 59sec
999.9m	0.1min ~ 999.9min
9999m	1min ~ 9999min
99h59m	0hour01min ~ 99hour 59min
99.99h	0.01hour ~ 99.99hour
999.9h	0.1hour ~ 999.9hour
9999h	1hour ~ 9999hour

Operation mode

○ If press \downarrow key for 5sec, it is moved to output mode.

NO	Indication	LE4S
1	ON D	ON DELAY
2	ON D I	ON DELAY1
3	ON D II (+1)	ON DELAY2(One-shot out)
4	FK (+2)	FLICKER
5	FK I (+2)	FLICKER1
6	INT	INTERVAL-DELAY
7	INT I	INTERVAL-DELAY1
8	ON OFF D	ON-OFF DELAY
9	ON OFF D I	ON-OFF DELAY1
10	OFF D	OFF DELAY

(*) One-shot output is fixed as 0.5sec. (ON D II mode)
(*) When selected [FK] [FK I], T-ON and T-OFF time can be set separately.

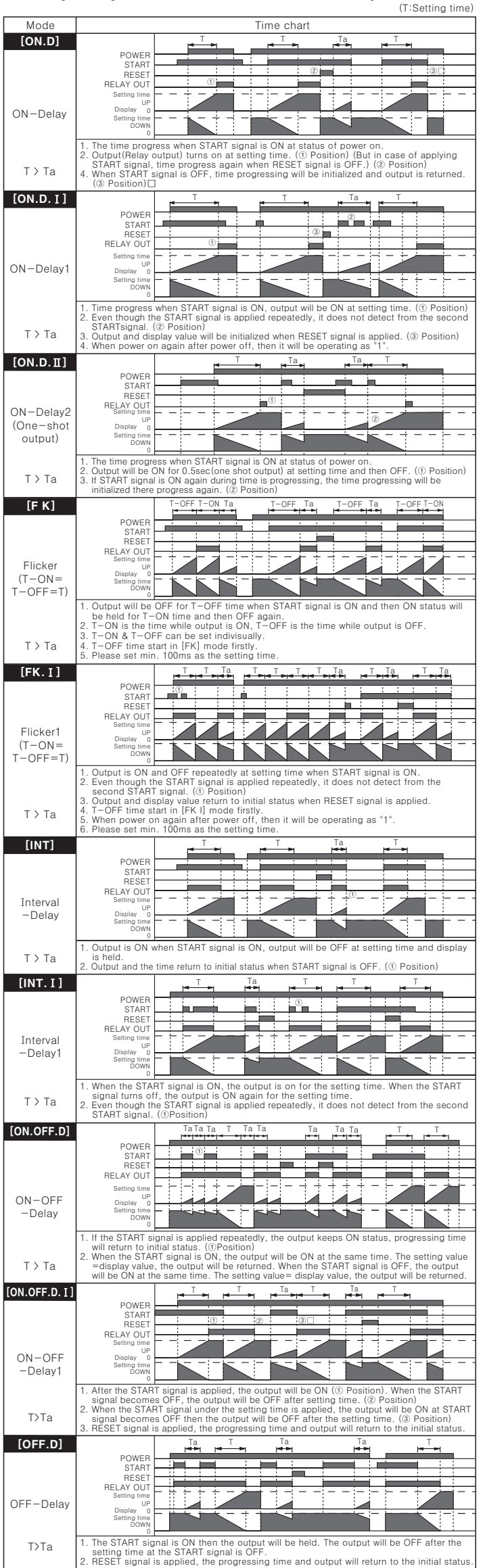
Factory specification

- OUT MODE : ON delay
- UP/DOWN mode : UP
- Output contact : Time limit 1c
- Timer Range : 99.99sec
- Lock key : LoFF(Lock mode turns off)

The setting and status when cut power off

- LCD display and output will be OFF when power off.
- If press any keys in front, previous setting mode and setting time will be displayed.
*After LCD is ON, if no key touched for 30sec., then LCD will be OFF.
- Enable to set each mode and setting time of each mode in above status.
(But LCD backlight and external signal input, relay output are disable)
- When supply power again, the mode and setting value changed in above status will be saved, the time progressing value will be initialized.

Output operation in each mode(Output mode)



Caution for using

- Power connection
 - AC Power : It is able to connect power to the terminals(2 to 7) without distinguish the polarity.
 - DC Power : Be sure the polarity of \ominus - \ominus , \ominus - \oplus
 - It can be operating stably due to free power voltage type. (Please connect the power line separate from high voltage line in order to avoid inductive noise)
 - Input signal line
 - Shorten the cable distance between the sensor and this product.
 - Please shielded wire for input signal needed to be long.
 - Please wire input signal line separated from power line.
 - When test dielectric voltage and insulation resistance of the control panel with this unit installed.
 - Please isolate this unit from the circuit of control panel.
 - Please make all terminals of this unit short-circuited.
 - Do not use this unit at below places because of product damage
 - Place where there are severe vibration or impact.
 - Place where strong alkalis or acids are used.
 - Place where there are direct ray of the sun
 - Place where strong magnetic field or electric noise are generated.
 - Installation environment
 - It shall be used indoor
 - Altitude Max. 2000m
 - Pollution Degree 2
 - Installation Category II.
- *It may cause malfunction if above instructions are not followed.

Main products

- COUNTER
- TIMER
- TEMPERATURE CONTROLLER
- PANEL METER
- TACHO/LINE SPEED/PULSE METER
- DISPLAY UNIT
- PROXIMITY SENSOR
- PHOTOELECTRIC SENSOR
- FIBER OPTIC SENSOR
- PRESSURE SENSOR
- ROTARY ENCODER
- SENSOR CONTROLLER
- POWER CONTROLLER
- STEPPING MOTOR & DRIVER & CONTROLLER
- LASER MARKING SYSTEM(CO₂, Nd:YAG)

Autonics Corporation
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Satisfiable Partner For Factory Automation

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