



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.

Warning

- 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 cause a fire or mechanical trouble.

Caution

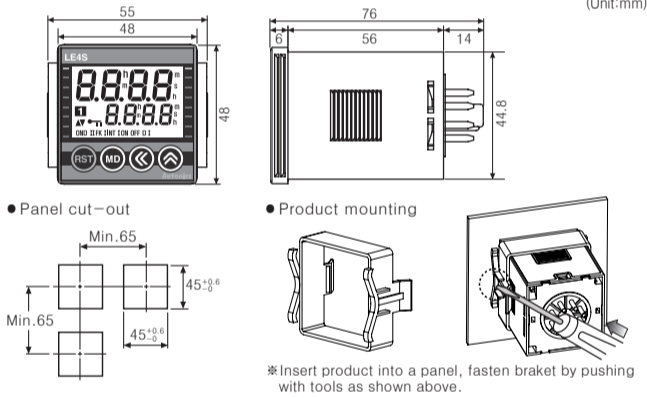
- This unit shall not be used outdoors. It may give an electric shock.
- When wire connection, No.20AWG(0.50mm²) should be used and screw bolt on terminal block with 0.74N·m to 0.90N·m strength. It may result in malfunction or fire due to contact failure.
- Please observe specification rating. It might 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 debris into inside of this unit. It may cause a fire or mechanical trouble.

Ordering information

| | | |
|------|---------|--|
| LE4S | Output | Time limit contact 1c |
| L | Size | A Time limit contact 2c, Instantaneous contact 1c + Time limit contact 1c (Selectable) |
| E | Digit | S DIN W48mm x H48mm |
| 4 | Item | 4 9999 (4 Digit type) |
| L | Display | E Timer |
| | | L LCD Display |

* 8 Pin socket (PG-08, PS-08): Sold separately

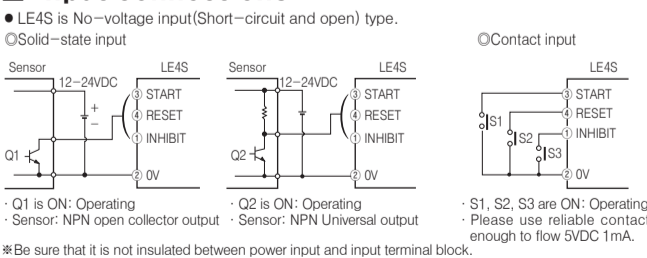
Dimensions



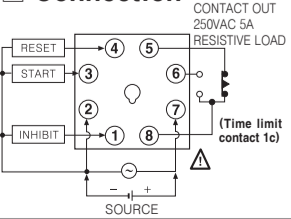
Specifications

| Model | | LE4S |
|--|-------------|--|
| Power supply | | 24-240VAC 50/60Hz, 24-240VDC |
| Display method | | LCD Display (Backlight) |
| Allowable voltage range | | 90 ~ 110% of rated voltage |
| Power consumption | | 24-240VAC: Max. 4.5VA, 24-240VDC: Max. 2W |
| Return time | | Max. 100ms |
| Min. input signal (START, INHIBIT, RESET) | | 1ms, 20ms (Selectable) |
| Input (START, INHIBIT, RESET) | | <No-voltage input> Impedance at short-circuit: Max. 1kΩ, Residual voltage: Max. 0.5V, Impedance at open-circuit: Min. 100kΩ |
| Control output | Con- Type | Time limit SPDT (1c) |
| Capacity | | 250VAC 5A resistive load |
| Repeat - Setting - Voltage - Temperature error | | Max. ±0.005% ±0.03sec (Signal Start) Max. ±0.01% ±0.05sec (Power ON Start) |
| Ambient temperature | | -10 ~ 55°C (at non-freezing status) |
| Storage temperature | | -25 ~ 65°C (at non-freezing status) |
| Ambient humidity | | 35 ~ 85%RH |
| Insulation resistance | | Min. 100MΩ (500VDC megger) |
| Dielectric strength | | 2,000VAC 50/60Hz for 1 minute |
| Vibration | Mechanical | 0.75mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 1hour |
| | Malfunction | 0.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 10 minutes |
| Shock | Mechanical | 300m/s ² (30G) X, Y, Z directions for 3 times |
| | Malfunction | 100m/s ² (10G) X, Y, Z directions for 3 times |
| Relay life cycle | Mechanical | Min. 10,000,000 times |
| | Electrical | Min. 100,000 times (250VAC 5A resistive load) |
| Approval | | CE, cULus |
| Weight | | Approx. 98g |

Input connections



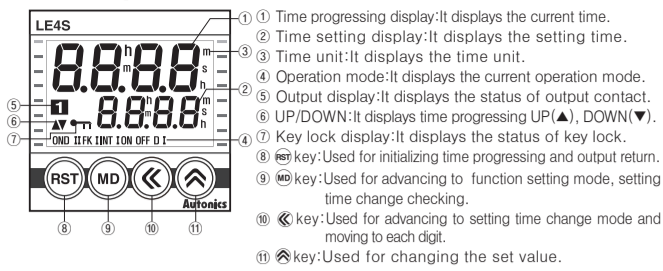
Connection



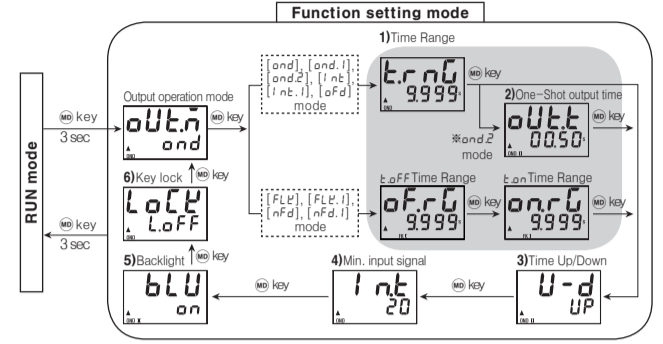
Factory Default

| NO. | Parameter | Default |
|-----|-----------------------|---------------|
| 1 | Output operation mode | oUe.n ond |
| 2 | Time Range | t.r.nG 99.99s |
| 3 | Time Up/Down | U-d UP |
| 4 | Min. input signal | l.n.t 20 |
| 5 | Backlight | bLU on |
| 6 | Key Lock | LoCK LoFF |
| 7 | Setting time | - 50.00s |

Front panel identification



Function Setting Mode Descriptions



1) Time Range

| Parameter | Time range specification |
|-----------------|--------------------------------|
| 9.999s (9.999s) | 0.010 sec ~ 9.999 sec |
| 99.99s (99.99s) | 0.01 sec ~ 99.99 sec |
| 999.9s (999.9s) | 0.1 sec ~ 999.9 sec |
| 9999s (9999s) | 1 sec ~ 9999 sec |
| 99.99m (99m59s) | 0 min 01 sec ~ 99 min 59 sec |
| 999.9m (999.9m) | 0.1 min ~ 999.9 min |
| 9999m (9999m) | 1 min ~ 9999 min |
| 99.99h (99h59m) | 0 hour 01 min ~ 99 hour 59 min |
| 999.9h (99.99h) | 0.01 hour ~ 99.99 hour |
| 9999h (9999h) | 1 hour ~ 9999 hour |

2) One-Shot output time setting

It will be activated when selecting ON Delay 2 [ond.2] output operation mode (One-Shot-output mode). (Time setting: 0.01 sec ~ 99.99 sec)

3) Time progress UP/DOWN setting

UP [UP]: Time progressed from 0 to setting time.
DOWN [dn]: Time progressed from setting time to 0.

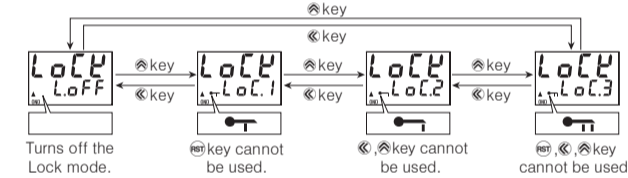
4) The minimum input signal setting

Set the minimum input signal of RESET, START and INHIBIT. Min. input signal: Choose 1ms and 20ms

5) Backlight setting

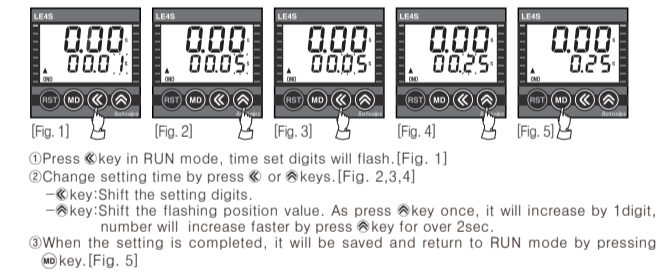
Set Backlight (ON [on], OFF [off]).

6) Key Lock selection

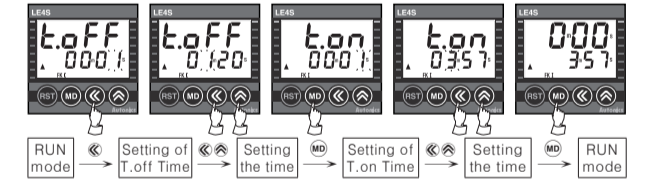


Time setting

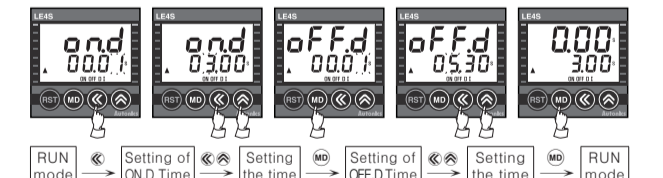
Output operation mode: OND, OND I, OND II, INT, INT I, OFF D



Output operation mode: FK, FK I



Output operation mode: ON OFF D, ON OFF D I



- 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 pressing key while setting time is shorter than min. setting time, setting value will be flickering three times and it will be returned to setting mode again, not to RUN mode.
- If there is no additional key operations after entering into setting mode, it will be return to RUN mode. (Setting value is not saved.)
- Min. Setting time: 0.01 sec. (In case of OND, OND I and OND II modes, it is able to set 0 since no min. setting time is applied.)

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 (+), (-).
 - 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 (2) Altitude Max. 2000m
 - Pollution Degree 2 (4) Installation Category II
- * It may cause malfunction if above instructions are not followed.

Output operation mode

| Mode | Time chart (T: Setting time, T > Ta) | Operation |
|---|--------------------------------------|-------------------------|
| [ond] | | POWER, START, RELAY OUT |
| OND | | POWER, START, RELAY OUT |
| ON Delay | | POWER, START, RELAY OUT |
| [ond.1] | | POWER, START, RELAY OUT |
| OND I | | POWER, START, RELAY OUT |
| ON Delay 1 | | POWER, START, RELAY OUT |
| [ond.2] | | POWER, START, RELAY OUT |
| OND II | | POWER, START, RELAY OUT |
| ON Delay 2 (One-Shot Output) | | POWER, START, RELAY OUT |
| [FL.e.1] | | POWER, START, RELAY OUT |
| FK | | POWER, START, RELAY OUT |
| Flicker (Ton operation precedes Toff operation) | | POWER, START, RELAY OUT |
| [FL.e.1] | | POWER, START, RELAY OUT |
| FK I | | POWER, START, RELAY OUT |
| Flicker (Toff operation precedes Ton operation) | | POWER, START, RELAY OUT |
| [l.n.t] | | POWER, START, RELAY OUT |
| INT | | POWER, START, RELAY OUT |
| Interval | | POWER, START, RELAY OUT |
| [l.n.t.1] | | POWER, START, RELAY OUT |
| INT I | | POWER, START, RELAY OUT |
| Interval 1 | | POWER, START, RELAY OUT |
| [n.f.d] | | POWER, START, RELAY OUT |
| ON OFF D | | POWER, START, RELAY OUT |
| ON OFF Delay | | POWER, START, RELAY OUT |
| [n.f.d.1] | | POWER, START, RELAY OUT |
| ON OFF D I | | POWER, START, RELAY OUT |
| ON OFF Delay 1 | | POWER, START, RELAY OUT |
| [o.f.d] | | POWER, START, RELAY OUT |
| OFF D | | POWER, START, RELAY OUT |
| OFF Delay | | POWER, START, RELAY OUT |

* Reset: Up mode → Display value is "0", Output is "OFF".
Down mode → Display value is "setting time", Output is "OFF".

Major products

- Proximity sensors
- Pressure sensors
- Rotary encoders
- Fiber optic sensors
- Photoelectric sensors
- Graphic/Logic panels
- Field network devices
- Door/Door side sensors
- Tachometer/Pulse(Rate) meters
- Laser welding/soldering system
- Temperature/Humidity transducers
- Stepping motors/drivers/motion controllers
- Laser marking system (CO₂, Nd:YAG)
- Counters
- Timers
- Area sensors
- Display units
- Panel meters
- Sensor controllers
- Power controllers
- Temperature controllers
- Switching power supplies

Autonics corporation
http://www.autonics.com

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