

LCD Digital Thumb wheel Switch Timers

LE3S Series  
INSTRUCTION MANUAL

DRW171145AC Autonics

Thank you for choosing our Autonics product.  
**Read and understand the instruction manual and manual thoroughly before using the product.**  
**For your safety, read and follow the below safety considerations before using.**  
**For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.**  
Keep this instruction manual in a place where you can find easily.  
The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.  
Follow Autonics website for the latest information.

Safety Considerations

- Observe all 'Safety Considerations' for safe and proper operation to avoid hazards.
- ⚠ symbol indicates caution due to special circumstances in which hazards may occur.

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

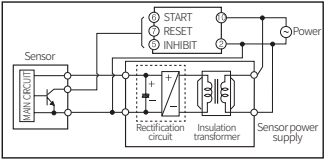
- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.** (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)  
Failure to follow this instruction may result in personal injury, economic loss or fire.
- Do not use the unit in the place where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.**  
Failure to follow this instruction may result in explosion or fire.
- Install on a device panel to use.**  
Failure to follow this instruction may result in fire or electric shock.
- Do not connect, repair, or inspect the unit while connected to a power source.**  
Failure to follow this instruction may result in fire or electric shock.
- Check 'Connections' before wiring.**  
Failure to follow this instruction may result in fire.
- Do not disassemble or modify the unit.**  
Failure to follow this instruction may result in fire or electric shock.

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

- Use the unit within the rated specifications.**  
Failure to follow this instruction may result in fire or product damage.
- Use a dry cloth to clean the unit, and do not use water or organic solvent.**  
Failure to follow this instruction may result in fire or electric shock.
- Keep the product away from metal chip, dust, and wire residue which flow into the unit.**  
Failure to follow this instruction may result in fire or product damage.

Cautions during Use

- Follow instructions in 'Cautions during Use'.  
Otherwise, it may cause unexpected accidents.
- When supplying or turning off the power, use a switch or etc. to avoid chattering.
- Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
- In order to block peripheral current, use isolation transformer which of secondary part is not grounded to supply power to the external input device.



- After turning off the power, change the time range, etc.
- Do not connect two or more timers with only one input contact or transistor simultaneously.
- Keep away from high voltage lines or power lines to prevent inductive noise. In case installing power line and input signal line closely, use line filter or varistor at power line and shielded wire at input signal line.  
Do not use near the equipment which generates strong magnetic force or high frequency noise.
- This unit may be used in the following environments.
  - Indoors (in the environment condition rated in 'Specifications')
  - Altitude max. 2,000 m
  - Pollution degree 2
  - Installation category II

Ordering Information

This is only for reference, the actual product does not support all combinations.  
For selecting the specified model, follow the Autonics website.

LE3S ❶

- ❶ Output**  
No mark: Time limit SPDT (1c)  
A: Time limit DPDT (2c)  
B: Time limit SPDT (1c), Instantaneous SPDT (1c)

Product Components

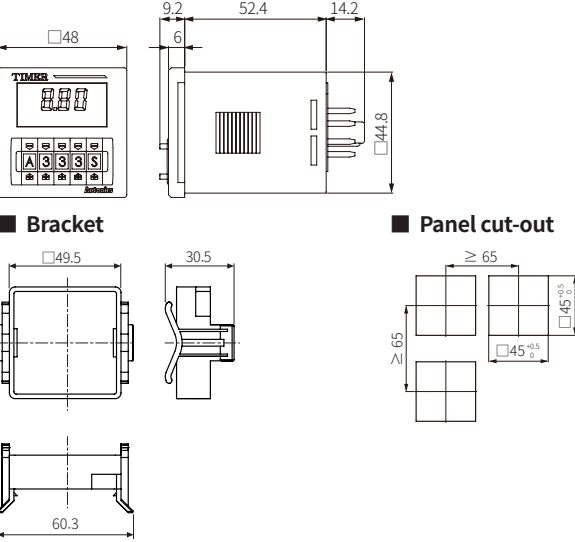
- Product (+ bracket)
- Instruction manual

Sold Separately

- 8-pin socket: PG-08, PS-08(N)

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.



Unit Descriptions

| No. | Name                                 |
|-----|--------------------------------------|
|     | Output status                        |
| 1   | ON: OFF:                             |
| 2   | Time progressing display part        |
| 3   | Time unit                            |
| 4   | Time progress bar (%)                |
| 5   | Output operation mode setting switch |
| 6   | Time range setting switch            |

Output Operation Mode

For the detailed timing chart for operation output mode, refer to the manual.

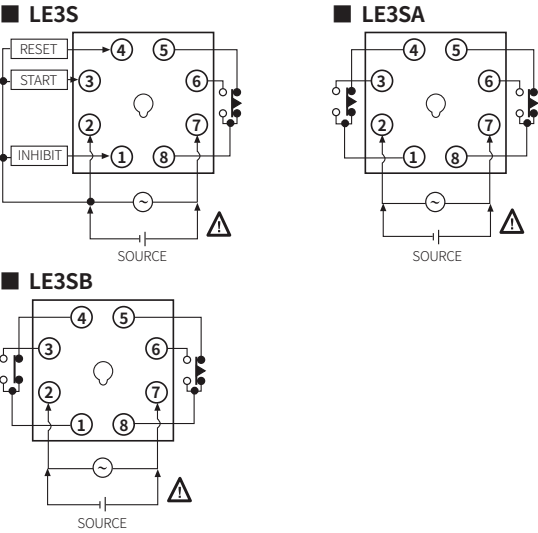
|   |                                            |
|---|--------------------------------------------|
| A | ON Delay Ⓐ<br>• LE3SA, LE3SB: A mode fixed |
| B | Interval Delay Ⓐ                           |
| C | ON Delay Ⓑ                                 |
| D | Flicker Ⓐ                                  |
| E | Flicker Ⓑ                                  |
| F | One-shot Out Flicker                       |
| H | OFF Delay                                  |
| K | ON / OFF Delay                             |
| L | Interval Delay Ⓑ                           |
| N | Integration Time                           |

Time Range

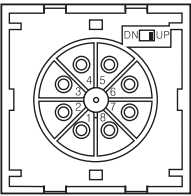
| Setting | Unit       | Range                |
|---------|------------|----------------------|
| 0.01s   | SEC        | 0.01 s to 9.99 s     |
| 0.1s    |            | 0.1 s to 99.9 s      |
| s       |            | 1 s to 999 s         |
| 0.1m    | MIN        | 0.1 m to 99.9 m      |
| m       |            | 1 m to 999 m         |
| 0.1h    | HOUR       | 0.1 h to 99.9 h      |
| h       |            | 1 h to 999 h         |
| 10h     |            | 10 h to 9990 h       |
| S       | MIN / SEC  | 0 m 01 s to 9 m 59 s |
| M       | HOUR / MIN | 0 h 01 m to 9 h 59 m |

Connections

**⚠ Caution**  
: Refer to the 'specifications' for checking the power supply and control output.



UP / DOWN Mode



- ⚠ Caution: Be sure to turn OFF the power.**
- Set the UP mode or DOWN mode via the switch.
- UP mode: DN ☒ UP
- DOWN mode: DN ☐ UP

| Model | Defaults              |
|-------|-----------------------|
| LE3S  | UP mode               |
| LE3SA | UP mode               |
| LE3SB | (DOWN mode: optional) |

Specifications

| Model             | LE3S                                                                                                                          | LE3SA                                                                                      | LE3SB                                          |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------|
| Function          | MULTI time, MULTI operation                                                                                                   | MULTI time, Power ON Delay                                                                 |                                                |
| Display method    | LCD (Character size: W 4 × H 8 mm)                                                                                            |                                                                                            |                                                |
| Return time       | ≤ 200 ms                                                                                                                      | ≤ 100 ms                                                                                   |                                                |
| Time operation    | Signal ON Start                                                                                                               | Power ON Start                                                                             |                                                |
| Input signal      | START, INHIBIT, RESET                                                                                                         | -                                                                                          |                                                |
| Min. signal width | ≈ 20 ms                                                                                                                       | -                                                                                          |                                                |
| No-voltage input  | Short-circuit impedance<br>: ≤ 1 kΩ<br>Short-circuit residual voltage<br>: ≤ 0.5 VDC≡<br>Open-circuit impedance<br>: ≥ 100 kΩ | -                                                                                          |                                                |
| Control output    | Relay                                                                                                                         |                                                                                            |                                                |
| Contact type      | Time limit SPDT (1c)                                                                                                          | Time limit DPDT (2c)                                                                       | Time limit SPDT (1c) + Instantaneous SPDT (1c) |
| Contact capacity  | 250 VAC ~ 5 A, 30 VDC ≡ 5 A resistive load                                                                                    | 250 VAC ~ 3 A, 30 VDC ≡ 3 A resistive load                                                 |                                                |
| Error             | Repeat                                                                                                                        | - Power ON Start<br>: ≤ ± 0.01% ± 0.05 sec<br>- Signal ON Start<br>: ≤ ± 0.005% ± 0.03 sec | ≤ ± 0.01% ± 0.05 sec                           |
|                   | SET                                                                                                                           |                                                                                            |                                                |
|                   | Voltage                                                                                                                       |                                                                                            |                                                |
|                   | Temp.                                                                                                                         |                                                                                            |                                                |
| Approval          | CE  ENEC                                   |                                                                                            |                                                |
| Weight            | ≈ 100 g                                                                                                                       | ≈ 105 g                                                                                    |                                                |

| Model                   | LE3S                                                                                                  | LE3SA                                                                        | LE3SB |
|-------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------|
| Power supply            | 24 - 240 VAC $\pm$ $\pm$ 10% 50 / 60 Hz, 24 - 240 VDC $\pm$ $\pm$ 10%                                 |                                                                              |       |
| Power consumption       | AC: $\leq$ 2.5 VA, DC: $\leq$ 1 W                                                                     | AC: 3.3 VA, DC: $\leq$ 1.5 W                                                 |       |
| Insulation resistive    | 100 M $\Omega$ (500 VDC $\Rightarrow$ megger)                                                         |                                                                              |       |
| Dielectric strength     | 2000 VAC $\sim$ 50 / 60 Hz for 1 min                                                                  |                                                                              |       |
| Noise immunity          | $\pm$ 2 kV square-wave noise by noise simulator (pulse width 1 $\mu$ s)                               |                                                                              |       |
| Vibration               | 0.75 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 1 hour |                                                                              |       |
| Vibration (malfunction) | 0.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 min  |                                                                              |       |
| Shock                   | 300 m/s <sup>2</sup> ( $\approx$ 30 G) in each X, Y, Z direction for 3 times                          |                                                                              |       |
| Shock (malfunction)     | 100 m/s <sup>2</sup> ( $\approx$ 10 G) In each X, Y, Z direction for 3 times                          |                                                                              |       |
| Relay life cycle        | Mechanical: $\geq$ 10,000,000 operations                                                              |                                                                              |       |
|                         | Electrical: $\geq$ 100,000 operations<br>(250 VAC $\sim$ 5 A resistive load)                          | Electrical: $\geq$ 100,000 operations<br>(250 VAC $\sim$ 3 A resistive load) |       |
| Ambient temperature     | -10 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)                                     |                                                                              |       |
| Ambient humidity        | 35 to 85%RH, storage: 35 to 85%RH (no freezing or condensation)                                       |                                                                              |       |