

# LCD Miniature Timer

## DIN W48 × H24mm, Indication only, LCD Timer

### ■ Features

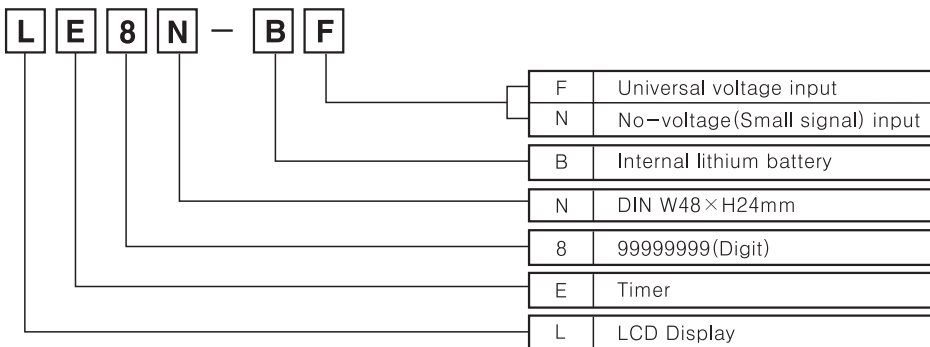
- Upgraded version of LE7N series
- Small size and count up mode only
- Internal lithium battery
- Screw Terminal type (Terminal protection cover)
- LCD Display
- Built-in Microprocessor
- Protection structure IP66



**⚠ Please read "Caution for your safety" in operation manual before using.**



### ■ Ordering information



### ■ Specifications

\*It is available from May, 2007.

Series	LE8N-BN	LE8N-BF
Digit	8digits	
Display	LCD Zero Blanking type (Height : 8.7mm)	
Operation method	Count up mode	
Power supply	Internal lithium battery	
Input type	No-voltage input	Universal voltage input
Start input	Residual voltage at short-circuit : Max. 0.5V	Start : 24-240VAC / 6-24VDC Hold : 0-2VAC / 0-2.4VDC
Reset input	No-voltage input	
Min. signal width of Reset	Min. 20ms	
Time range (TS1)	(★1) 9999.59.59 (h.m.s), 99999.59.9 (h.m), 999999.59 (h.m)	
Time range (TS2)	(★1) 9999H59.9 (h.m), 99999H59 (h.m), 999999H.9 (h)	
Time error	±0.01% (Repeat error, Time error, Temperature error)	
Battery life cycle	Over 10 years (at 20°C)	
External switch	SW1 (Front reset key for Lock), SW2 (Selectable time switch)	
Insulation resistance	Min. 100MΩ (at 500VDC)	
Dielectric strength	(★2) 2000VAC 60Hz for 1 minute	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 1 hour
	Malfunction	0.3mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 10 minutes
Shock	Mechanical	300m/s <sup>2</sup> (Approx. 30G) in X, Y, Z directions for 3 times
	Malfunction	100m/s <sup>2</sup> (Approx. 10G) in X, Y, Z directions for 3 times
Ambient Temperature	-10 ~ +55°C (at non-freezing status)	
Storage Temperature	-25 ~ +65°C (at non-freezing status)	
Ambient humidity	35 ~ 85%RH	
Approval	CE cRUUS	
Unit weight	Approx. 58g	

(★1) Select TS1, TS2 using inner jump pin (JP1).

(★2) No-voltage input: Between all terminals and case, Universal voltage input: Between input terminal and reset input terminal, all terminals and case

(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/Speed/Pulse meter

(G) Display unit

(H) Sensor controller

(I) Switching power supply

(J) Proximity sensor

(K) Photo electric sensor

(L) Pressure sensor

(M) Rotary encoder

(N) Stepping motor & Driver & Controller

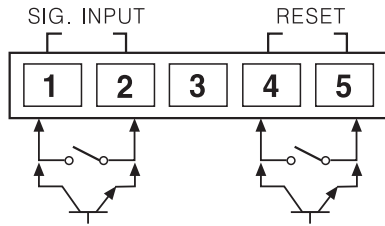
(O) Graphic panel

(P) Production stoppage models & replacement

# LE8N SERIES

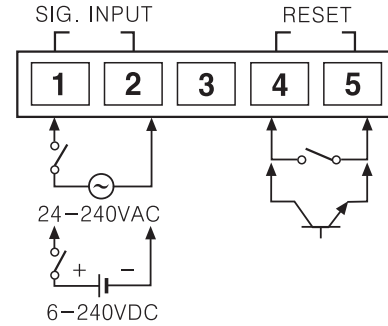
## Connections

### No-voltage input



- ※ Use reliable contacts enough to flow  $5\mu\text{A}$  of current.
- ※ Terminal 2 and 5 are connected inside. (Non-isolation)

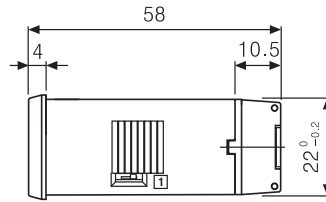
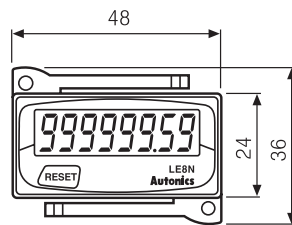
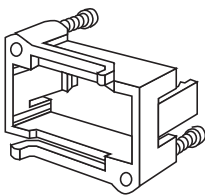
### Universal voltage input



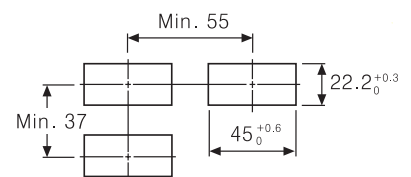
- ※ Terminal 1, 2 and 4, 5 are isolated.

## Dimensions

### Bracket



### Panel cut-out

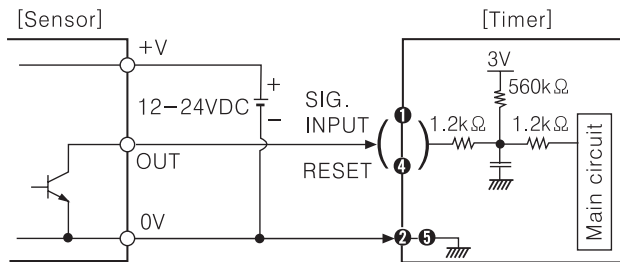


(Unit:mm)

## Input connections

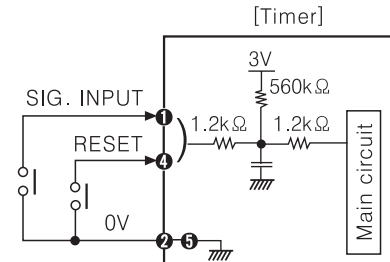
### No-voltage input (Standard sensor: NPN open type sensor)

#### Solid-state input



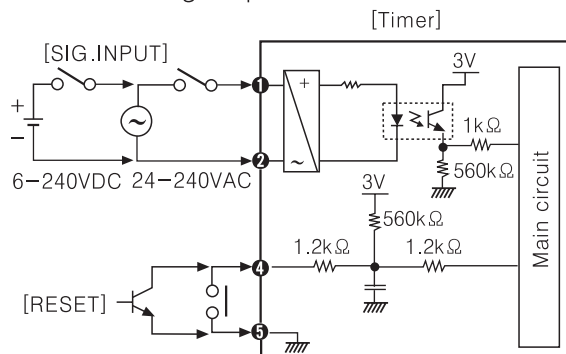
- ※ When applying power to terminal No ① and ④, input terminal circuit can be broken and a malfunction can occur. (NPN output, PNP output, PNP open collector output type sensor cannot be used.)
- ※ ② and ⑤ are connected at inside.

#### Contact input



- ※ Please use reliable contacts enough to follow 3VDC  $5\mu\text{A}$  of current.

### Universal voltage input

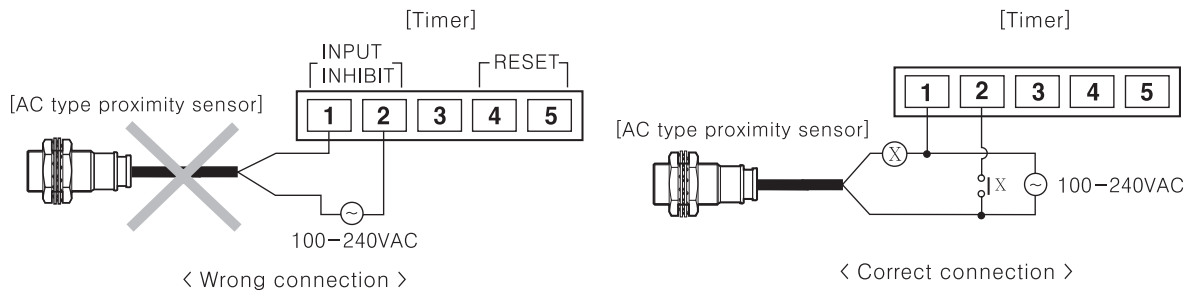


- ※ AC type proximity sensor cannot be used as the source of count input signals.
- ※ Input terminal ①, ② and Reset terminal ④, ⑤ are insulated inside.
- ※ It is not possible to reset with AC power or DC power.
- ※ When relay contact is used as the source of Reset signal, please use reliable contacts enough to flow 3VDC  $5\mu\text{A}$  of current.

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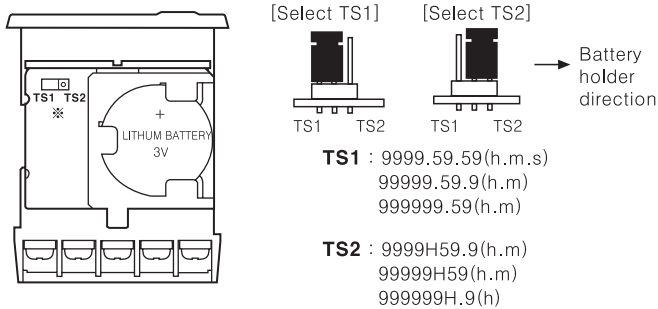
## Using of AC type proximity sensor

Please add input relay to prevent malfunction occurred by current leakage of the proximity sensor as below.



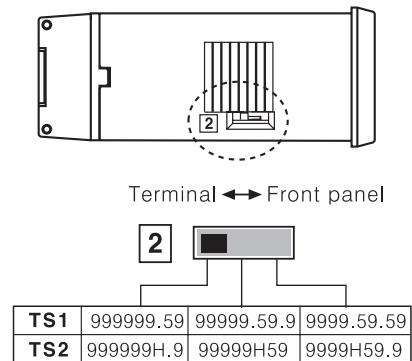
## Selection of time specification(TS1, TS2) and time range

### Selection of time specification(TS1, TS2)

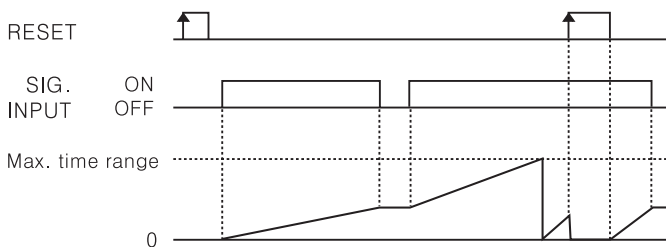


※Please supply Reset signal(Front or external reset terminal) after change time range during the operation.

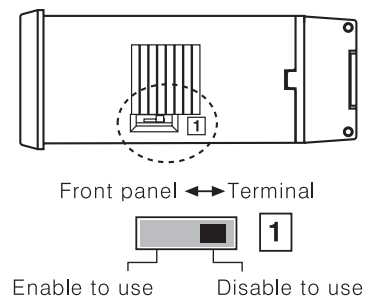
### Selection of time range



## Time operation

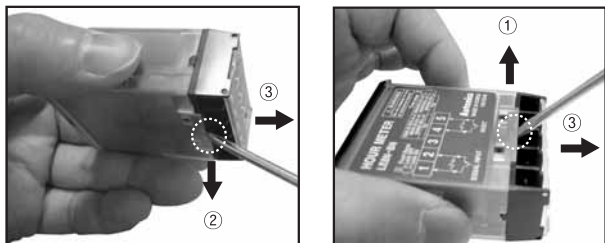


## Selection of using front reset key



## Case detachment and battery replacement

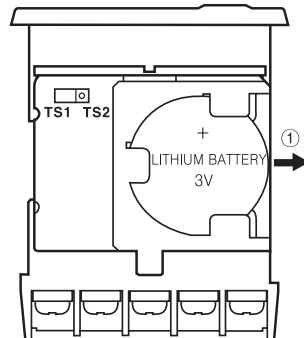
### Case detachment



※Hold up Lock part toward ①, ② of the product with the tool and pull toward ③, the case is detached.

⚠ Please be careful to use with tools, it may cause injury.

### Battery replacement



- 1) Detach the case.
  - 2) Push the battery and detach toward ①.
  - 3) Insert the battery with correct alignment of polarity pushing toward opposite of ①.
- ※Battery is optional.  
※Do not burn up or disassemble the lithium battery.

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