

LA8N/LE8N SERIES

M A N U A L



■ Caution for your safety

*The following is an explanation of the symbols used in the operation manual.
⚠ Caution: Injury or danger may occurred under special conditions.

- 1. In case of using this unit with machinery (Nuclear power control, medical equipment vehicle, train, airplane, combustion apparatus, entertainment or safety device etc), it is required to install fail-safe device.**
It may cause a fire, human injury or damage to property.
- 2. Do not disassemble or modify this unit. Please contact us if it is required.**
It may give an electric shock and cause a fire.
- 3. Do not disassemble or burn up because lithium battery is used for memory protection.**
It may cause an explosion.

- 1. This unit shall not be used outdoors.**
It might shorten the life cycle of the product or give an electric shock.
- 2. Please observe the rated specifications.**
It might shorten the life cycle of the product and cause a fire.
- 3. In cleaning the unit, do not use water or an organic solvents.**
It might cause a fire.
- 4. Do not use this unit in place where there are flammable or explosive gas humidity, direct ray of the sun, radiant heat, vibration and impact etc.**
It may cause a fire or explosion.
- 5. Do not inflow dust or wire dregs into the unit.**
It may cause a fire or malfunction.

L	A	8	N	-	B	N	
						Input type	N No-voltage input
						Power supply	F Universal voltage input
						Size	B Internal lithium battery
						Digit	N DIN Size W48×H24mm
						Item	8 99999999 (8 Digit)
						Display	A Counter
							E Hour Meter
							L LCD Display

Technical drawings of the LA-8N Automatic device:

- Front View:** Dimensions include a width of 48, a display height of 24, and a total height of 36. The device features a digital display showing "88888888", a "RESET" button, and the text "LA-8N Automatic".
- Side View:** Dimensions include a depth of 4, a total width of 58, a distance from the back to the display of 10.5, and a height of 22 ± 0.2 . A switch labeled "SW1" is indicated.
- Bracket:** A perspective view of the mounting bracket.
- Panel cut-out:** Dimensions for the mounting panel cut-out include a total width of Min. 55, a total height of Min. 37, and individual cut-out dimensions of 22.2 ± 0.3 and $45 \begin{smallmatrix} +0.6 \\ 0 \end{smallmatrix}$.

Model	LA8N Series(COUNTER)		LE8N Series(HOUR METER)	
	LA8N-BN	LA8N-BF	LE8N-BN	LE8N-BF
Digit	8 Digit			
Display	LCD Zero Blanking method(Character height size: 8.7mm)			
Operation method	Count up mode			
Power supply	Built-in battery(Replaceable)			
Input method	No-voltage input	Universal voltage input	No-voltage input	Universal voltage input
Counting speed	1cps / 30cps / 1kcps	20cps		
Count input (Counter)	· Residual voltage: Max. 0.5VDC · Short-circuit impedance: Max. 10kΩ · Open-circuit impedance: Min. 750kΩ	High: 24-240VAC / 6-240VDC Low: 0-2VAC / 0-2.4VDC	· Residual voltage: Max. 0.5VDC · Short-circuit impedance: Max. 10kΩ · Open-circuit impedance: Min. 750kΩ	High: 24-240VAC / 6-240VDC Low: 0-2VAC / 0-2.4VDC
Start input (Hour meter)				
RESET signal	No-voltage input			
Min. Reset signal width	Min. 20ms			
Battery life cycle	Approx. 7 years at 20℃		Approx. 10 years at 20℃	
Setting time (TS1)	_____		(*1)9999.59.59(h.m.s) / 99999.59.9(h.m) / 999999.59(h.m)	
Setting time (TS2)	_____		(*1)9999H59.9(h.m) / 99999H59(h.m) / 999999H.9(h)	
Time / Temperature error	_____		±0.01% ±50ms	
External switch	SW1(*2), SW2(*3)	SW1(*2)	SW1(*2), SW2(*4)	
Dielectric strength	2000VAC 60Hz for 1minute			
	Between all terminals and case	· Between all universal voltage and signal input · Between all terminals and case	Between all terminals and case	· Between all universal voltage and signal input · Between all terminals and case
Shock 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 Vibration	Mechanical	300m/s ² (Approx. 30G) 3 times at X, Y, Z direction		
	Malfunction	100m/s ² (Approx. 10G) 3 times at X, Y, Z direction		
Environment	Ambient temperature	-10 ~ 55℃, Storage: -25 ~ 65℃		
	Ambient humidity	35 ~ 85%RH, Storage: 35 ~ 85%RH		
Protection	IP66(When using waterproof rubber for front panel)			
Accessories	_____	Terminal protection cover (Finger Protector)	_____	Terminal protection cover (Finger Protector)
Approval				
Unit weight	Approx. 58g			

Series Item	LA8N	LE8N
SW1	Disable the front panel RESET key (Terminal block direction)	Disable the front panel RESET key (Terminal block direction)
SW2	Configure 1kcps (Terminal block direction)	999999.59(h.m) (Terminal block direction)
JP1	—	Configure TS1

Item	COUNTER / HOUR METER
No-voltage input type	SIGNAL INPUT RESET
Universal voltage input type	24-240VAC 50/60Hz RESET 6-240VDC SIGNAL INPUT

Front panel ↔ Terminal block

Enable (Front RESET lock off) Disable (Front RESET lock on)

●Select TS1 ●Select TS2

TS1 TS2 TS1 TS2 → Battery holder

	TS1	TS2
①	9999.59.59(h.m.s)	9999H59.9(h.m)
②	999999.59.9(h.m)	999999H59(h.m)
③	9999999.59(h.m)	9999999H.9(h)

The timing diagram illustrates the operation of the 74VHC90 counter. It shows the relationship between the RESET signal, the Count input, the Counting display value, and the Time display value. The counter is shown in two states: counting and time display. In the counting state, the counter counts from 0 to Max.display value-1, then wraps back to 0. In the time display state, the counter counts from 0 to Max.display value, then wraps back to 0. The signal input is ON during the counting mode and OFF during the time display mode.

 Please be careful of the injury caused by tools.

1. Do not dispose the unit where flammables or danger of explosion exists.
2. Please observe the instruction below when changing counting speed and time range.

Supply RESET input signals (via Front or Terminal Block) after changing counting speed or time range in the middle of operation. It may cause malfunction if not following the instruction.
3. Proper application environment (Avoid following environments to use.)
 - ① A place where ambient temperature is less than -10°C or over 55°C .
 - ② A place where ambient humidity is less than 35%RH or over 85%RH.
 - ③ A place where there is flammable or corrosive gas, dust, oil, vibration and impact.
 - ④ A place where there are organic solvents including methyl alcohol, benzene, thinner or strong alkalis including ammonia, caustic soda.
4. The battery includes combustible materials including lithium organic solvent. Please observe the instruction below for safe battery handling. It may cause a fire, heat generation, leakage or explosion if not following the instruction.
 - ① Do not charge, short, disassemble, shock, heating and throw in a fire.
 - ② Do not put a battery as reverse.
 - ③ Do not use other type of battery together.
 - ④ Do not solder on a battery directly.
 - ⑤ Insulate a battery to dispose with tape.
 - ⑥ Do not store where there is direct ray of sun, high temperature and humidity.
5. In case of universal voltage signal type model, do not connect AC proximity sensors instead of a switch as shown in the figure 1. It may cause malfunction due to sensor's leakage current. Connect a relay as shown in the figure 2.

sensor, please connect relay as (Fig. 2) and use it.

AC type proximity

100-240VAC

〈Example of wrong connection〉

①It shall be used indoor ②Altitude Max. 2,000m
③Pollution Degree 2 ④Installation Category II

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

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