

LA8N Series

DIN W48×H24mm, Indication Only, LCD Counter

■ Features

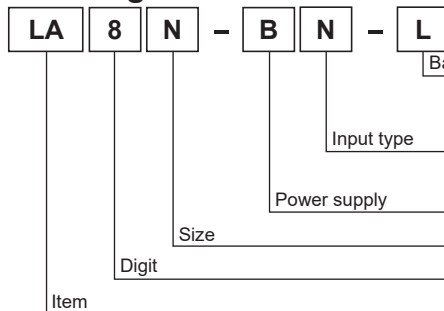
- No additional power due to internal battery
- Signal input method: No-voltage input, voltage input, free voltage input
- Screw terminal type (attaching terminal cover)
- LCD display, backlight model
- IP66 protection structure



⚠ Please read "Safety Considerations" in the instruction manual before using.



■ Ordering Information



| | |
|---------|---------------------------------|
| No mark | None |
| L | Backlight function |
| N | No-voltage (small signal) input |
| V | Voltage input |
| F | Free voltage input |
| B | Internal lithium battery |
| N | DIN W48×H24mm |
| 8 | 99999999 (8-digit) |
| LA | LCD Counter |

■ Specifications

| Model | LA8N-BN | LA8N-BN-L | LA8N-BV | LA8N-BV-L | LA8N-BF |
|-----------------------------------|--|--|---|------------------------|---|
| Digit | 8-digit (count up, count down, count up/down: -9999999 to 99999999 / count up: 0 to 99999999) | | | | |
| Digit size | W3.4×H8.7mm | | | | |
| Display method | LCD Zero Blanking type (character height size: 8.7mm) | | | | |
| Operation method | Count up, Count down, Count up/down | Count up | Count up, Count down, Count up/down | Count up | Count up |
| Power supply | Built-in battery | | | | |
| Battery life cycle | Approx. over 7 years at 20°C | | | | |
| Backlight power supply | — | 24VDC±10% | — | 24VDC±10% | — |
| Input method | No-voltage input | | Voltage input | | Free voltage input |
| Count input | Residual voltage: Max. 0.5VDC± Short-circuit impedance: Max. 10kΩ Open-circuit impedance: Min. 750kΩ | | [H]: 4.5-30VDC± [L]: 0-2VDC | | [H]: 24-240VAC~/6-240VDC± [L]: 0-2VAC/0-2.4VDC |
| RESET input | No-voltage input | | Voltage input | | No-voltage input |
| Min. input signal width | UP/DOWN, RESET: approx. 20ms | RESET: approx. 20ms | UP/DOWN, RESET: approx. 20ms | RESET: approx. 20ms | RESET: approx. 20ms |
| Max. counting speed | 1cps / 30cps / 1kcps | | | | 20cps |
| External setting switch | SW1 ^{※1} , SW2 ^{※2} , SW3 ^{※3} | | | | SW1 ^{※1} , SW3 ^{※3} |
| Insulation resistance | Over 100MΩ (at 500VDC megger) | | | | |
| Dielectric strength ^{※4} | 2,000VAC 60Hz for 1min | | | | |
| Vibration | Mechanical | 0.75mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 1 hour | | | |
| | Malfuction | 0.3mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 min | | | |
| Shock | Mechanical | 300m/s ² (approx. 30G) in each X, Y, Z direction for 3 times | | | |
| | Malfuction | 100m/s ² (approx. 10G) in each X, Y, Z direction for 3 times | | | |
| Environ- ment | Ambient temp. | -10 to 55°C, storage: -25 to 65°C | | | |
| | Ambient humi. | 35 to 85%RH, storage: 35 to 85%RH | | | |
| Protection structure | IP66 (when using waterproof rubber for front panel, IEC standard) | | | | |
| Accessory | Mounting bracket, Rubber waterproof ring | | | | |
| Approval | CE c UL US | | | | |
| Weight ^{※5} | Approx. 96g (approx. 50g) | | | | |

※1: SW1 is the front panel RESET key enable/disable setting switch.

※2: SW2 is the max. counting speed setting switch.

※3: SW3 is the decimal point setting switch.

※4: No-voltage input, voltage input: between terminals and the case / Free voltage input: between the free voltage input terminal and the RESET input terminal, between terminals and the case.

※5: The weight includes packaging. The weight in parenthesis is for unit only.

※Environment resistance is rated at no freezing or condensation.

Compact LCD Display Counter

■ Connections

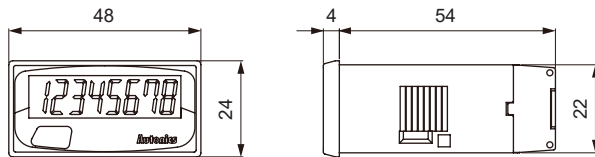
| Input type | No-backlight | Backlight |
|-------------------------|---|---|
| No-voltage input type | <p>●LA8N-BN^{※1}</p> <p>SIGNAL INPUT UP/DOWN RESET</p> | <p>●LA8N-BN-L</p> <p>SIGNAL INPUT RESET 24VDC BACKLIGHT</p> <p>※Terminal (1, 2, 3) and (4, 5) are insulated inside.</p> |
| Voltage input type | <p>●LA8N-BV^{※1}</p> <p>SIGNAL INPUT UP/DOWN RESET</p> <p>4.5-30VDC</p> | <p>●LA8N-BV-L</p> <p>SIGNAL INPUT RESET 24VDC BACKLIGHT</p> <p>4.5-30VDC</p> <p>※Terminal (1, 2, 3) and (4, 5) are insulated inside. ※Backlight power is available as signal input and reset.</p> |
| Free voltage input type | <p>●LA8N-BF</p> <p>24-240VAC 50/60Hz</p> <p>6-240VDC SIGNAL INPUT</p> <p>RESET</p> <p>※Terminal (1, 2) and (4, 5) are insulated inside.</p> | — |

※1: Terminal 2 and 5 are connected inside. (non-isolated)

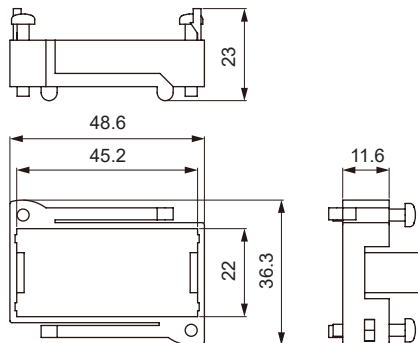
※Use reliable contacts enough to flow 3VDC 5 μ A current.

■ Dimensions

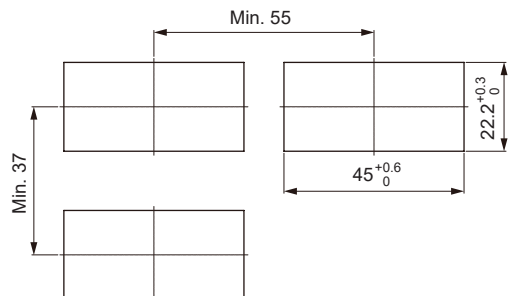
(unit: mm)



◎ Bracket



◎ Panel cut-out



SENSORS

CONTROLLERS

MOTION DEVICES

SOFTWARE

(J) Temperature Controllers

(K) SSRs

(L) Power Controllers

(M) Counters

(N) Timers

(O) Digital Panel Meters

(P) Indicators

(Q) Converters

(R) Digital Display Units

(S) Sensor Controllers

(T) Switching Mode Power Supplies

(U) Recorders

(V) HMIs

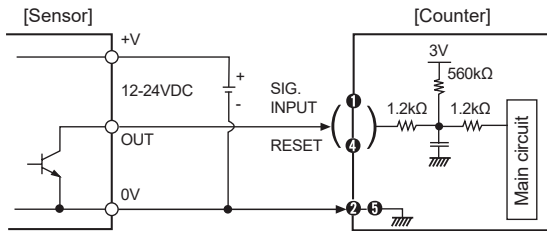
(W) Panel PC

(X) Field Network Devices

Input Connections

⊙ No-voltage input (standard sensor: NPN open collector output type sensor)

● Solid-state input



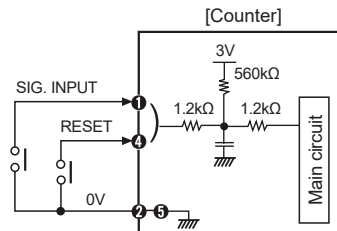
※When power is applied to terminal No ① and ④, input terminal circuit can be broken and a malfunction can occur.

(NPN output, PNP open collector output type sensor cannot be used.)

※② and ⑤ are connected inside.

※For backlight function model, the input terminals are no. ①, ③ and the GND terminal is no. ②.

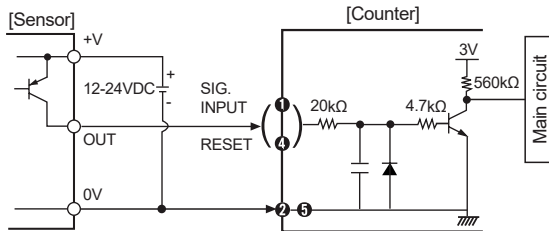
● Contact input



※Please use reliable contacts enough to flow 3VDC 5μA of current.

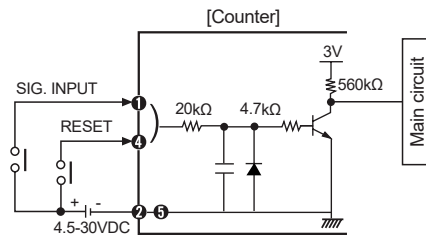
⊙ Voltage input (standard sensor: PNP open collector output type sensor)

● Solid-state input



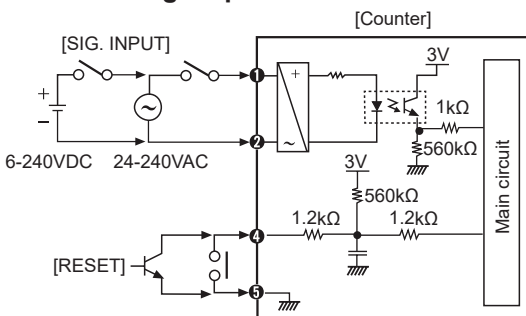
※For backlight function model, the input terminals are no. ①, ③ and the GND terminal is no. ②.

● Contact input



※Please use reliable contacts enough to flow 3VDC 5μA of current.

⊙ Free 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.

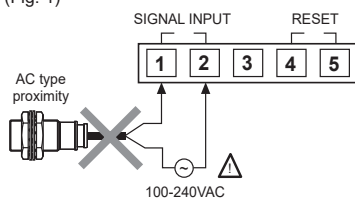
※It is not possible to reset with AC power or DC power.

※When relay contact is used as the source of RESET signal, please use reliable contacts enough to flow 3VDC 5μA of current.

⊙ Input from AC type proximity sensor

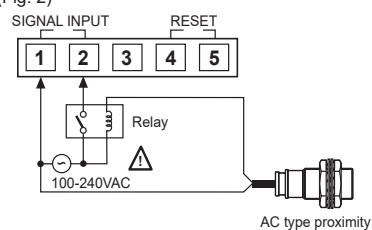
In case of free voltage input type, do not connect AC proximity sensors instead of a switch as shown in the figure 1. It may cause malfunction due to sensor's leakage current. Connect a relay as shown in the figure 2.

(Fig. 1)



<Example of wrong connection>

(Fig. 2)



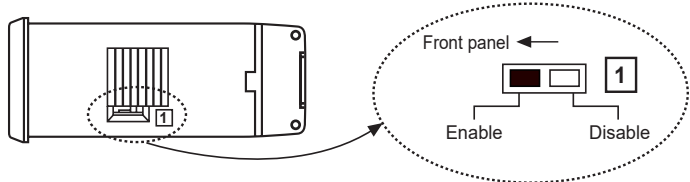
<Example of correct connection>

Compact LCD Display Counter

Setting Switch

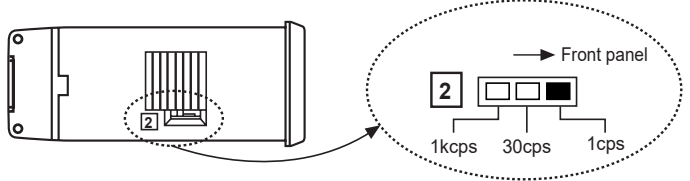
SW1 (1 switch)

SW1 is a switch to Enable/Disable the front panel RESET key.
 ※Factory default: Enable



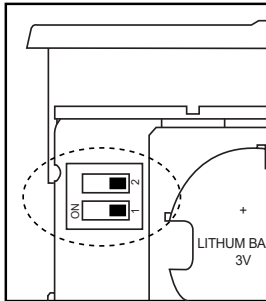
SW2 (2 switch)

SW2 is a switch for setting max. counting speed.
 ※Factory default: 1cps (Free voltage input type : 20cps is fixed)



SW3

SW3 is a switch for decimal point position. (※factory default: no decimal point)



| SW3 | Decimal point |
|-----|-----------------------|
| | Not use decimal point |
| | 0.0 |
| | 0.00 |
| | 0.000 |

※Change SW3 setting after removing the case.

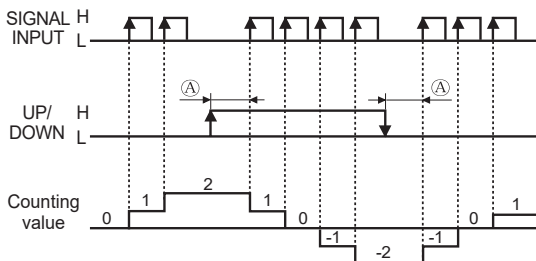
※Supply RESET signal (front panel or terminal RESET) after setting SW2, SW3 during operation.

※How to change settings

Power OFF → change settings → power ON → press RESET key or input signal (min. 20ms)

Counter Operation Mode

LA8N-BN/LA8N-BV model

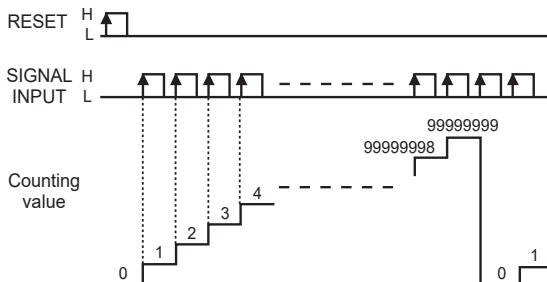


※SIGNAL INPUT: Counting input,
 UP/DOWN: Counting instruction input
 ※UP/DOWN as "L" is count up (UP)
 UP/DOWN as "H" is count down (DOWN)
 ※The meaning of "H" and "L"

| | Voltage input | No-voltage input | Free voltage input |
|---|---------------|------------------|---------------------|
| H | 4.5-30VDC | Short | 6-240VAC, 24-240VDC |
| L | 0-2VDC | Open | 0-2VAC, 0-2.4VDC |

※(A) should be over 20ms of min. signal width. If it is below 20ms, it may cause counting error.

LA8N-BN-L/LA8N-BV-L/LA8N-BF model

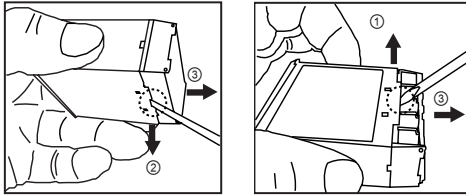


| |
|-----------------------------------|
| SENSORS |
| CONTROLLERS |
| MOTION DEVICES |
| SOFTWARE |
| (J) Temperature Controllers |
| (K) SSRs |
| (L) Power Controllers |
| (M) Counters |
| (N) Timers |
| (O) Digital Panel Meters |
| (P) Indicators |
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| (W) Panel PC |
| (X) Field Network Devices |

LA8N Series

■ Case Detachment and Battery Replacement

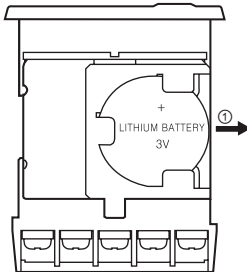
◎ Case detachment



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

⚠When using the tools, be careful not to be wounded.

◎ Battery replacement



1. Detach the case.
2. Push the battery and detach it toward ①.
3. Insert a new battery with correct alignment of polarity pushing it toward opposite of ①.

※Since lithium battery is embedded in the product, follow instructions below for safety.

- ①Do not charge, short, disassemble, subject it to shock, heat.
- ②Check the polarity.
- ③Use CR2477 battery.
- ④Do not solder on a battery directly.
- ⑤Insulate a battery with tape to dispose .
- ⑥Do not store this unit in the place with the direct sunlight, high temperature and humidity.

※The battery is sold separately.

Please replace a battery by yourself. (sold separately)

※Do not burn up or disassemble the lithium battery.