DIN W48×H24mm, Indication Only, LCD Counter

▣ Features

- **Upgraded features**
  Voltage input and backlight model,
  subtraction and decimal point setting functions
- 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
- IP66 protection structure

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

▣ Ordering information

LA 8 N - B N - L

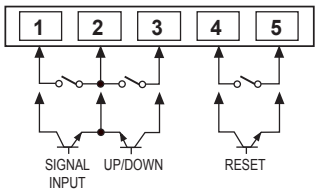
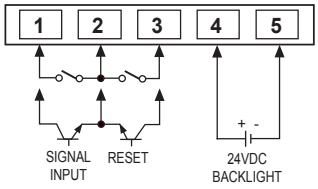
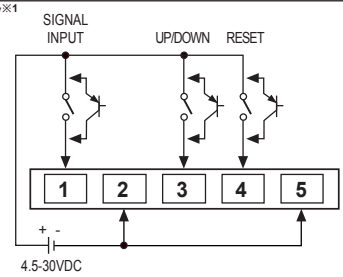
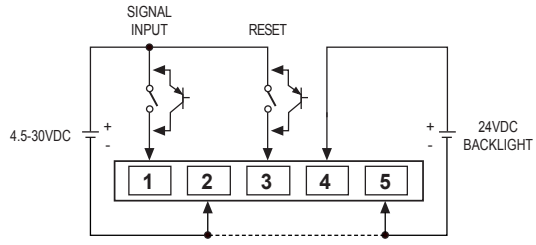
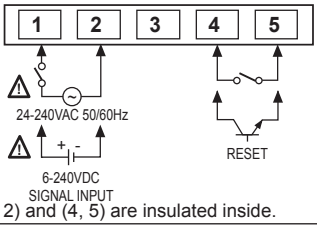
Backlight	No mark	None
	L	Backlight function
Input type	N	No-voltage (Small signal) input
	V	Voltage input
	F	Free voltage input
Power supply	B	Internal lithium battery
Size	N	DIN W48×H24mm
Digit	8	99999999 (8digit)
Item	LA	LCD Counter

▣ Specifications

Model		LA8N-BN	LA8N-BN-L	LA8N-BV	LA8N-BV-L	LA8N-BF
Digit		8digit (Count up, down: -9999999 to 99999999 / Count up mode: 0 to 99999999)				
Digit size		W3.4 × H8.7mm				
Display method		LCD Zero Blanking type (Character height size: 8.7mm)				
Operation method		Count up, down mode	Count up mode	Count up, down mode	Count up mode	Count up mode
Power supply		Built-in battery				
Battery life cycle		Approx. over 7 years at 20℃				
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" level voltage: 4.5-30VDC "L" level voltage: 0-2VDC		"H" level voltage: 24-240VAC /6-240VDC "L" level voltage:0-2VAC/0-2.4VDC
RESET input		No-voltage input		Voltage input		No-voltage input
Min. signal width		UP/DOWN, RESET input: Min. 20ms	RESET input: Min. 20ms	UP/DOWN, RESET input: Min. 20ms	RESET input: Min. 20ms	RESET input: Min. 20ms
Max. counting speed		1cps / 30cps / 1kcps				20cps
External setting switch		SW1※1, SW2※2, SW3※3				SW1※1, SW3※3
Insulation resistance		Min. 100MΩ (at 500VDC megger)				
Dielectric strength※4		2,000VAC 60Hz for 1minute				
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 min.) in each X, Y, Z direction for 1 hour				
	Malfunction	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				
	Malfunction	100m/s^2 (approx. 10G) in each X, Y, Z direction for 3 times				
Environment	Ambient temperature	-10 to 55℃, storage: -25 to 65℃				
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH				
Protection structure		IP66 (When using waterproof rubber for front panel)				
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 parentheses is for unit only.
※Environment resistance is rated at no freezing or condensation.

▣ Connections

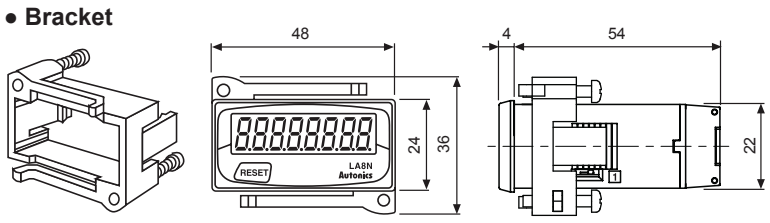
Input type	No-backlight	Backlight
No-voltage input type	●**LA8N-BN**※1 	●**LA8N-BN-L**  ※Terminal (1, 2, 3) and (4, 5) are insulated inside.
Voltage input type	●**LA8N-BV**※1 	●**LA8N-BV-L** 
Free voltage input type	●**LA8N-BF**  ※Terminal (1, 2) and (4, 5) are insulated inside.	—

※1: Terminal 2 and 5 are connected inside. (Non-isolated)
※Use reliable contacts enough to flow 5μA current.

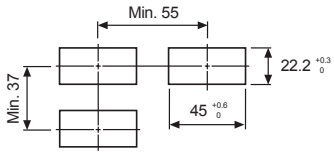
▣ Dimensions

(unit: mm)

● **Bracket**



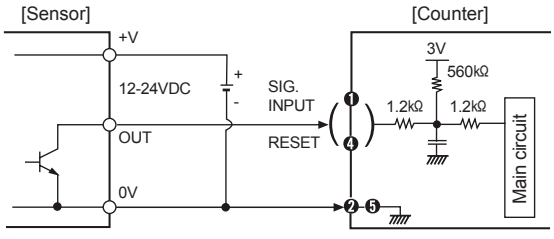
● **Panel cut-out**



▣ Input Connections

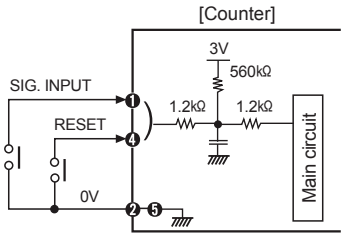
◎ No-voltage input (Standard sensor: NPN open collector output type sensor)

● **Solid-state input**



※When power is applied to terminal No ❶ and ❹, input terminal circuit can be broken and a malfunction can occur.
(NPN output, PNP output, PNP open collector output type sensor cannot be used.)
※❷ and ❺ are connected inside.

● **Contact input**

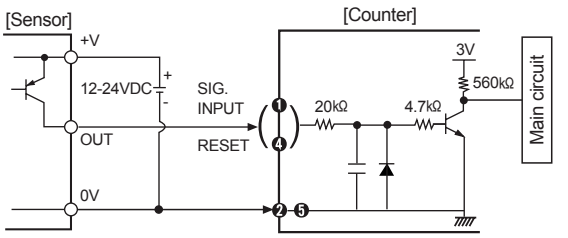


※Please use reliable contacts enough to flow 3VDC 5μA of current.

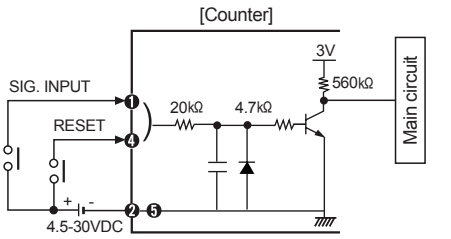
※For backlight function model, the input terminals are no. ❶, ❸ and the GND terminal is no. ❷ .

◎ Voltage input (Standard sensor: PNP open collector output type sensor)

● Solid-state input



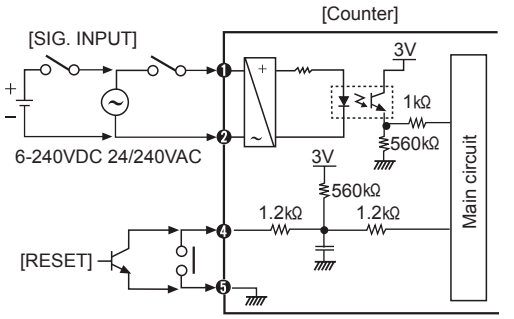
● Contact input



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

※For backlight function model, the input terminals are no. ❶, ❸ and the GND terminal is no. ❷ .

◎ Free voltage input

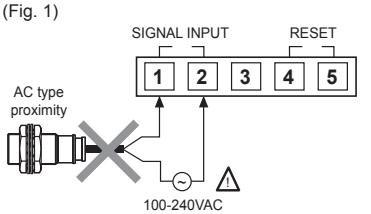


※AC type proximity sensor cannot be used as the source of count input signals.
※Input terminal (❶, ❷)and reset terminal (❹, ❺)are insulated inside.
※It is not possible to reset with AC power or DC power.
※When relay contact is used as the source of RESET signal, please use reliable contacts enough to flow 3VDC 5μA of current.

◎ Input from AC type proximity sensor

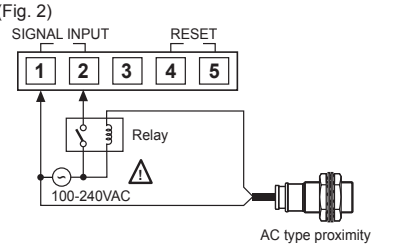
In case of free voltage input type, do not connect AC proximity sensors instead of a switch as shown in the figure 1.
It may cause malfunction due to sensor's leakage current. Connect a relay as shown in the figure 2.

(Fig. 1)



<Example of wrong connection>

(Fig. 2)

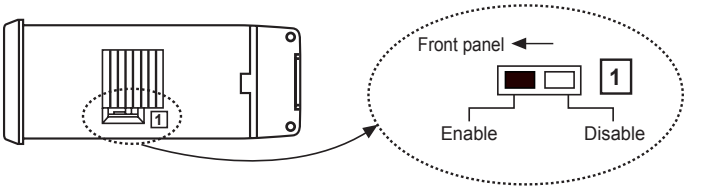


<Example of correct connection>

▣ Setting switch

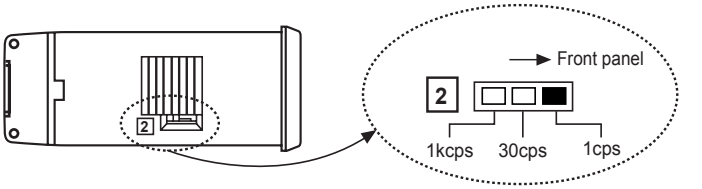
◎ SW1 (1 Switch)

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



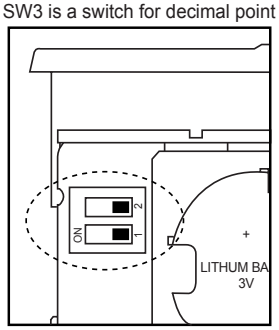
◎ SW2 (2 Switch)

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)

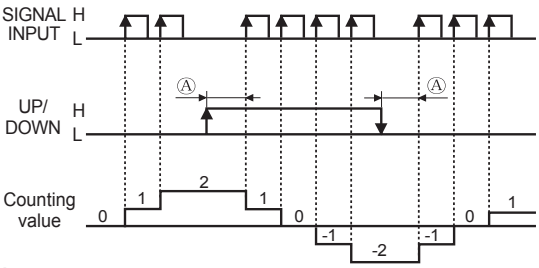


SW3	Decimal point
	Not use decimal point
	0.0
	0.00
	0.000

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

■ Counter Operation Mode

● LA8N-BN/LA8N-BV model

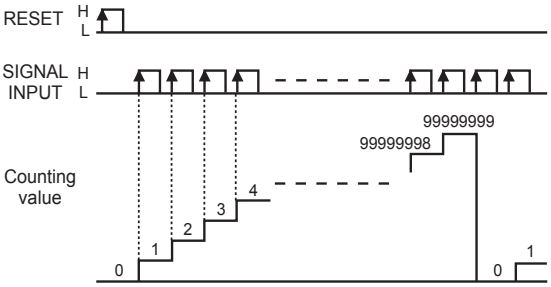


※SIGNAL INPUT: Counting input,
UP/DOWN: Counting instruction input
※UP/DOWN as "L" is count up (UP)
UP/DOWN as "H" is count down (DOWN)
※The meaning of "H" and "L"

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

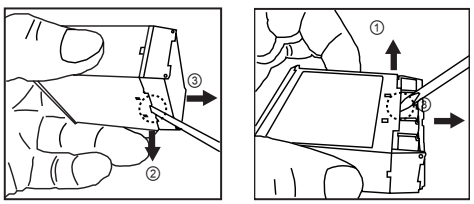
※Ⓐ should be over 20ms of min. signal width. If it is below 20ms, it may cause counting error.

● LA8N-BN-L/LA8N-BV-L/LA8N-BF model



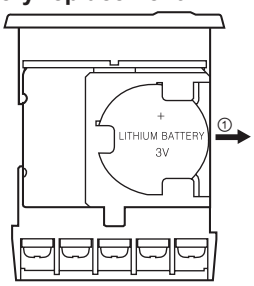
■ Case Detachment And Battery Replacement

● 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.

※The battery is sold separately. Please replace a battery by yourself.
※Do not burn up or disassemble the lithium battery.