

L-7N SERIES

M A N U A L



●COUNTER



●HOUR METER



●TACHOMETER



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

Caution for your safety

※Please keep these instructions and review them before using this unit.

※Please observe the cautions that follow:

Warning Serious injury may result if instructions are not followed.

Caution Product may be damaged, or injury may result if instructions are not followed.

※The following is an explanation of the symbols used in the operation manual.

Caution: Injury or danger may occur under special conditions.

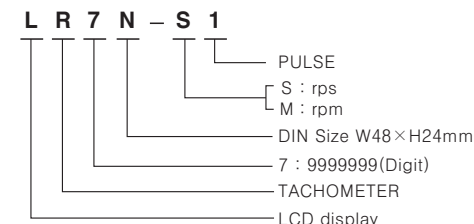
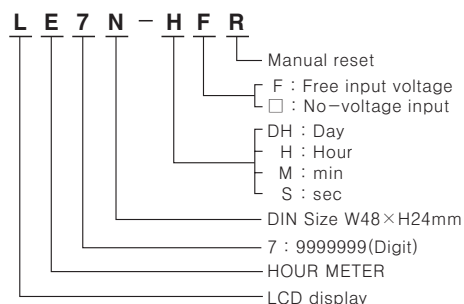
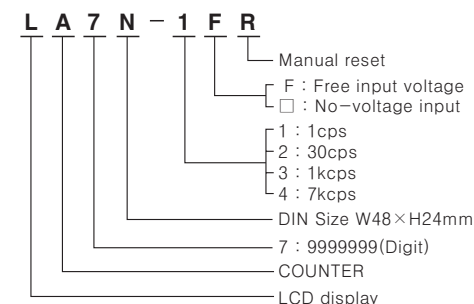
Warning

- In case of using this unit with machineries(Nuclear power control, medical equipment vehicle, train, airplane, combustion apparatus, entertainment or safety device etc), it requires installing fail-safe device, or contact us for information required.**
It may result in serious damage, fire or human injury.
- Do not disassemble and modify this unit, when it requires. If needs, please contact us.**
It may give an electric shock and cause a fire.
- Lithium battery is used for memory retention in this product, therefore do not disassemble or burn up.**
It may cause a fire.

Caution

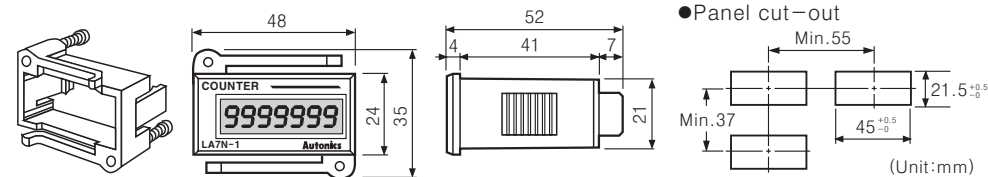
- This unit shall not be used outdoors.**
It might shorten the life cycle of the product or give an electric shock.
- Please observe specification rating.**
It might shorten the life cycle of the product and cause a fire.
- In cleaning the unit, do not use water or an organic solvents.**
It might cause an electric shock or fire that will result in damage to the product.
- Do not use this unit at place where there are flammable or explosive gas, humidity, direct ray of the sun, radiant heat, vibration, impact etc.**
It may cause explosion.
- Do not inflow dust or wire dregs into inside of this unit.**
It may cause a fire or mechanical trouble.

Ordering information

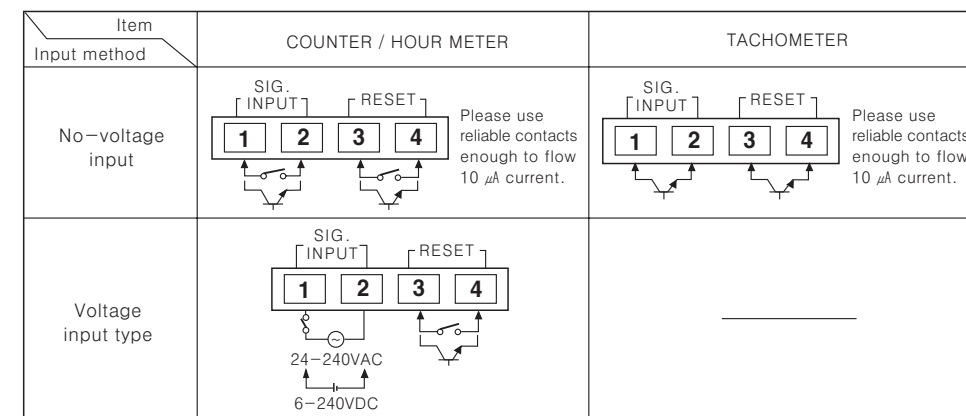


※The above specification are changeable without notice anytime.

Dimensions



Input connection



Specifications

●LA7N Series(COUNTER)

Model	LA7N-1	LA7N-2	LA7N-3	LA7N-4	LA7N-1R	LA7N-2R	LA7N-3R	LA7N-4R	LA7N-F	LA7N-FR
Model	No-voltage input								Free-voltage input	
Digit	7 Digit									
Operation method	Up mode only									
Power supply	3VDC(Battery built-in)									
Display	LCD Zero Blanking method(Display Size : H7mm × W3mm)									
Counting speed	1cps	30cps	1kcps	7kcps	1cps	30cps	1kcps	7kcps	20cps	
Reset	Manual(Front)				External(Terminal)					
	Non				Have				Non Have	
INHIBIT input	• No-voltage input Impedance at short-circuit : Max. 10kΩ(ON) Impedance at open : Min. 500kΩ(OFF)									
Reset input	• INHIBIT input: Free-voltage input "H" level: AC type 24-240VAC, DC type 6-240VDC "L" level: AC type 0-1.5VAC, DC type 0-2VDC									
Insulation resistance	Min. 100MΩ(at 500VDC)									
Dielectric strength	1000VAC 50/60Hz for 1 minute									
Vibration	Mechanical: 0.75mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 1 hour Malfunction: 0.3mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 10 minutes									
Shock	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									
Ambient temperature	-10 to 55°C(at non-freezing status)									
Storage temperature	-25 to 65°C(at non-freezing status)									
Ambient humidity	35 to 85%RH									
Battery life cycle	Approx. 7 years at 25°C									
Weight	Approx. 55g									
Approval	CE									

●LE7N Series(HOUR METER)

Model	LE7N-H	LE7N-S	LE7N-M	LE7N-HR	LE7N-HF	LE7N-SF	LE7N-MF	LE7N-HFR
Model	No-voltage input				Free-voltage input			
Digit	7 Digit							
Operation method	Up mode only							
Power supply	3VDC(Battery built-in)							
Display	LCD Zero Blanking method(Display Size : H7mm × W3mm)							
Time range	0.0h to 999999.9h	0.0h to 99h59m 59.9s	0.0h to 9999h 59.9m	0.0h to 999999.9h	0.0h to 999999.9h	0.0h to 99h59m 59.9s	0.0h to 9999h 59.9m	0.0h to 9999h 59.9m
Reset	Manual(Front)				External(Terminal)			
	Non				Have			
INHIBIT input	• No-voltage input Impedance at short-circuit : Max. 10kΩ(ON) Impedance at open : Min. 500kΩ(OFF)							
Reset input	• INHIBIT input : 24-240VAC, 6-240VDC							
Insulation resistance	Min. 100MΩ(at 500VDC)							
Dielectric strength	1000VAC 50/60Hz for 1 minute							
Vibration	Mechanical: 0.75mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 1 hour Malfunction: 0.3mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 10 minutes							
Shock	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							
Ambient temperature	-10 to 55°C(at non-freezing status)							
Storage temperature	-25 to 65°C(at non-freezing status)							
Ambient humidity	35 to 85%RH							
Battery life cycle	Approx. 7 years at 25°C							
Weight	Approx. 55g							
Approval	CE							

●LR7N Series(TACHOMETER)

Model	LR7N-S1	LR7N-M60
Model	No-voltage input	Free-voltage input
Digit	7 Digit	
Operation method	Up mode only	
Power supply	3VDC(Battery built-in)	
Display	LCD Zero Blanking method(Display Size : H7mm × W3mm)	
Counting speed	7kcps	
Max. revolution display	7000rps	7000rpm
Encoder specification	1 Pulse / 1 Revolution	60 Pulse / 1 Revolution
INHIBIT input	• No-voltage input Impedance at short-circuit : Max. 10kΩ(ON) Impedance at open : Min. 500kΩ(OFF)	
Insulation resistance	Min. 100MΩ(at 500VDC)	
Dielectric strength	1000VAC 50/60Hz for 1 minute	
Vibration	Mechanical: 0.75mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 1 hour Malfunction: 0.3mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 10 minutes	
Shock	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	
Ambient temperature	-10 to 55°C(at non-freezing status)	
Storage temperature	-25 to 65°C(at non-freezing status)	
Ambient humidity	35 to 85%RH	
Battery life cycle	Approx. 7 years at 25°C	
Weight	Approx. 55g	
Approval	CE	

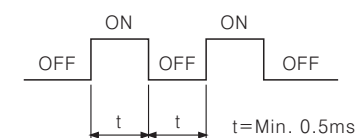
Input signal

- In case of applying contact input as counter input, please use the counter which has under 30cps.
- When any one signal width of ON & OFF is less than Max. signal width, the counter may not be working.

Ex)If Max. counting speed is 1kcps, Min. signal width of input signal as follow :

$$\text{Cycle} = \frac{1}{1\text{kHz}} = 1\text{ms}$$

Signal width of ON & OFF must be Min. 0.5ms



Caution for using

- Free-voltage input
 - AC type proximity sensor cannot be used as the source of counting input signals.
 - It is not possible to reset with AC power or DC power.
- Input signal line
 - Shorten the cable distance between the sensor and this product.
 - Please shielded wire for input signal needed to be long.
 - Please wire input signal line separated from power line.
- When test dielectric voltage and insulation resistance of the control panel with this unit installed.
 - Please isolate this unit from the circuit of control panel.
 - Please make all terminals of this unit short-circuited.
- Do not use this unit at below places.
 - Place where there are severe vibration or impact.
 - Place where strong alkalis or acids are used.
 - Place where there are direct ray of the sun
 - Place where strong magnetic field or electric noise are generated.
- Installation environment
 - It shall be used indoor.
 - Altitude Max. 2000m.
 - Pollution Degree 2.
 - Installation Category II.

※It may cause malfunction if above instructions are not followed.

Main products

- COUNTER
- TIMER
- TEMPERATURE CONTROLLER
- PANEL METER
- TACHO/LINE SPEED/PULSE METER
- DISPLAY UNIT
- PROXIMITY SENSOR
- PHOTOELECTRIC SENSOR
- FIBER OPTIC SENSOR
- PRESSURE SENSOR
- ROTARY ENCODER
- SENSOR CONTROLLER
- POWER CONTROLLER
- STEPPING MOTOR & DRIVER & CONTROLLER
- LASER MARKING SYSTEM(CO₂, Nd:YAG)

Autonics Corporation
http://www.autonics.com

Satisfiable Partner For Factory Automation

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