

# GR1 Series Manual

Thank you for purchasing this Line Seiki product. Please read this instruction manual carefully before using to ensure correct usage of this product.  
Please keep this instruction manual for future reference.

## ● Main Features

- Panel mount (Panel Cut-out 22.2x45mm)
- 7 digits LCD display
- Lithium battery installed inside
- Battery life 8 years
- Front Panel Protection NEMA4
- In conformance to CE (EMC)



## WARNING

Please note that misuse of this device may lead to injury to the user or damage to the device.

Customer Service

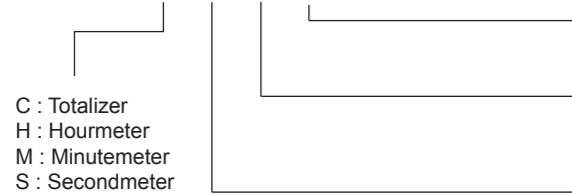


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## ■ Models

GR1 - □ □ □ □

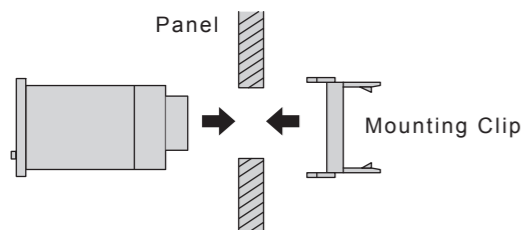


- Wiring** 0: Terminal Block
- Input** 0: Non-Voltage Input (Contact/Open Collector)  
1: Wide-Range Voltage Input  
2: DC Voltage Input
- Reset** 0: Remote  
1: Remote & Front

## ■ Specifications

TYPE	GR1-C□□□ Totalizer	GR1-H□□□ Hourmeter	GR1-M□□□ Minutemeter	GR1-S□□□ Secondmeter
DISPLAY	7 Digits, 7-Segment LCD, 8.0mm(H)			
NO. of DIGITS	0 ~ 9999999	0.0 ~ 999999.9		
INPUT	Non-Voltage Wide Range Voltage DC Voltage	L: DC/AC 0~10V H: DC/AC 30~250V L: DC 0~1V H: DC 3~30V	Sink Current 10μA Input Impedance: 330kΩ	Input Impedance: 390kΩ
COUNT SPEED	30Hz 20Hz (Wide Range Voltage Input only)	—	—	—
RESOLUTION	—	1 count per 1/10 hour	1 count per 1/10 minute	1 count per 1/10 second
RESET	Front Reset Remote Reset	Non-Voltage Wide Range Voltage DC Voltage	L: DC/AC 0~3V H: DC/AC 10~250V L: DC 0~1V H: DC 3~30V	Sink Current 10μA Input Impedance: 68kΩ Input Impedance: 390kΩ
RESET PULSE WIDTH	6ms minimum			
POWER	3.6v 1/2AA Lithium Battery (inside), 8 years (replaceable)			
NOISE IMMUNITY	□ □ □ □	Electrostatic Discharge: □ □ □ □ Electromagnetic Field : □ □ □ □ EFT/B I/O Leads : □ □ □ □	IEC-61000-4-2 8kV IEC-61000-4-3 10V/m IEC-61000-4-4 1.0kV	
EMC STANDARD	EMI: EN50081-2 □ □ □ □ EMS: EN50082-2			
OPERATING TEMPERATURE	-10 ~ +55°C (non-freezing)			
STORAGE TEMPERATURE	-20 ~ +65°C (non-freezing)			
OPERATING HUMIDITY	25 ~ 85% RH (non-condensing)			
VIBRATION/ SHOCK RESISTANCE	Operation: Double Amplitude 0.3mm, Frequency: 10-55Hz, X,Y,Z Axis (3 Axis) / 100m/s <sup>2</sup> Storage : Double Amplitude 0.75mm, Frequency: 10-55Hz, X,Y,Z Axis (3 Axis) / 300m/s <sup>2</sup>			
PROTECTION	NEMA4			
WEIGHT	50g			
WIRING	14-22 AWG leadwires by terminal screw			

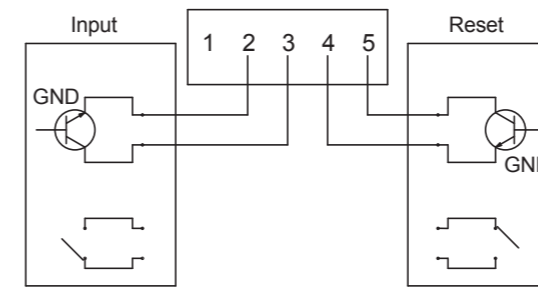
## ■ Mounting



1. Please install the unit in the correct panel cut-out size.
2. Insert the unit into the panel.
3. Insert the mounting clip to the back of the unit.
4. Push the mounting clip until it locks the unit tightly against the panel.

## ■ Wiring

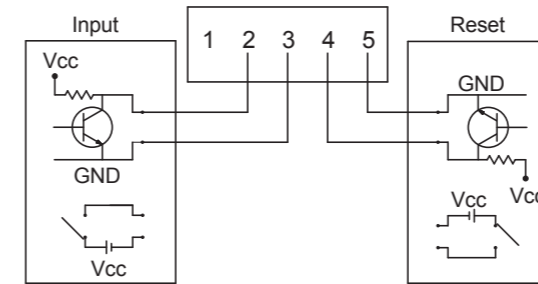
### ● Non-Voltage Input Type



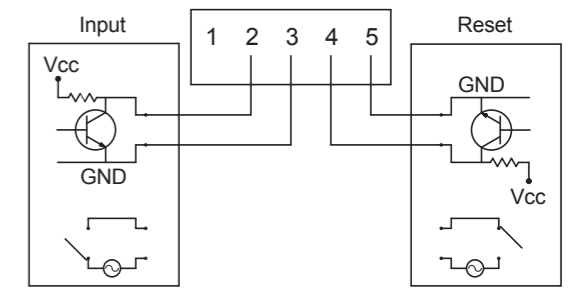
#### Note:

Connecting two(2) or more units of non-voltage input type to a common reset wiring is not possible. This will cause the simultaneous counting of all units even if an input signal is inputted only to a single unit. Please make separate wirings for each unit.

### ● DC Voltage Input Type



### ● Wide-Range Voltage Input Type



## Theory on GR1 Series Counter

Non-Voltage Input Type  
30Hz Input (Terminal No.2): Count : at Lo → Hi

Sensor/Contact\*On\* 0V

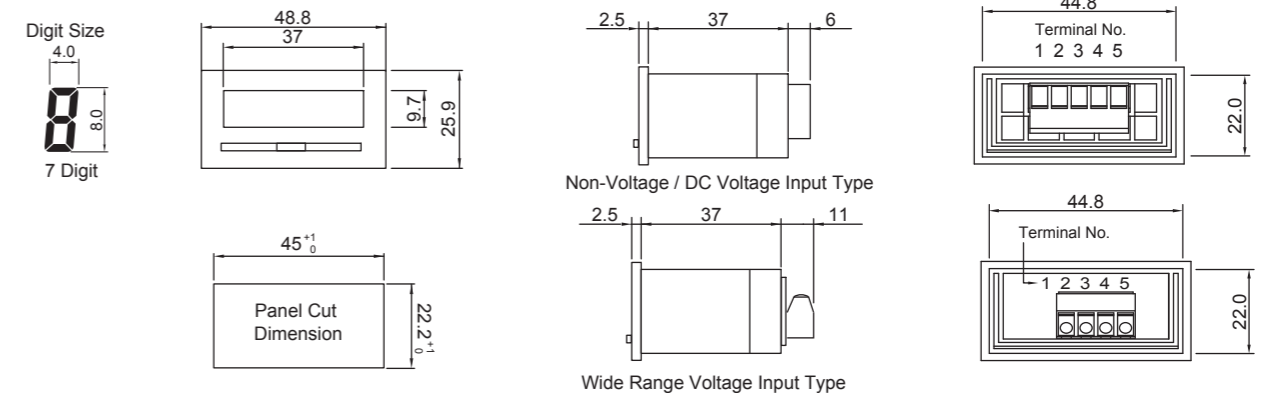
Wide-Range Voltage Input Type  
20Hz Input (Terminal No.2): Count : at Hi → Lo

Input Voltage Vc

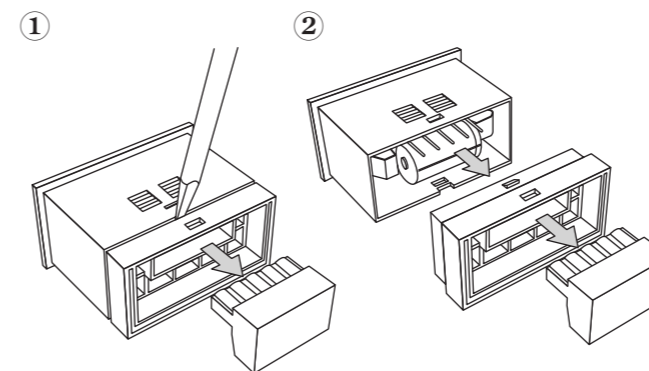
DC Voltage Input Type  
30Hz Input (Terminal No.2): Count : at Hi → Lo

Sensor "On" Vc

## ■ Dimensions



## ■ Battery Replacement



## ATTENTION!!!

### Precautions when replacing the battery:

- Disconnect the wiring before changing the battery. Do not touch areas subject to high voltages, this could result to an electric shock.
- Make sure that your body is free from static electricity before changing the battery.
- Make sure to follow carefully the procedures described below.

- 1) Remove the terminal block from the main unit. (except wide range voltage input type)
- 2) Use a flat screwdriver or any appropriate tool to lift the groove in order to disconnect the 'front and back' case hooks.
- 3) Pull out the back case from the main body.
- 4) Replace with a new battery making sure that the positive and negative terminals of the battery are positioned correctly.
- 5) Replace the back case to the main body.  
Make sure that the case hooks click properly in place.

\*Please use 3.6V 1/2AA Lithium Battery only for this unit.



## WARNING!



This unit uses Lithium battery, it must be disposed properly after use. Do not short the positive and negative terminals, recharge, disassemble, deform by the application of excessive pressure, or dispose the battery to fire as this may seriously damage it or may cause explosion.