



**0.56"  $3\frac{2}{3}$  Digital Red LED 30V Panel  
Meter(Auto brightness)  
User's Guide**

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## 0.56" $3\frac{2}{3}$ " Digital Red LED 30V Panel Meter(Auto Brightness)

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### NOTES:

Product Version : Ver 1.2

Document Version : Ver 1.0

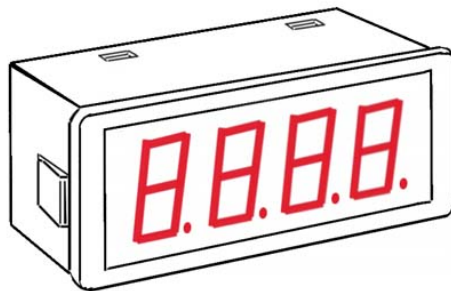
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## Chapter1.Overview

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Thanks for using the panel meter by Sure Electronics. Please read this manual carefully prior to the installation of panel meter.

ME-SP039 digital voltmeter is a high-efficient yet flexible digital instrument which is normally used to measure the voltage of power supply of the panel meter itself. The A/D conversion module integrated is of a successive approximation type featuring high conversion speed and high accuracy. It is especially suitable for voltage measuring application in 12V singular or double set lead acid storage battery-based vehicle, yacht, electric toy, tool or motorcycle. It is also extremely suitable for a certain type of power supply, whose output voltage is rated as DC 8.5-30V, such as single output switched power supply, linear supply and UPS.



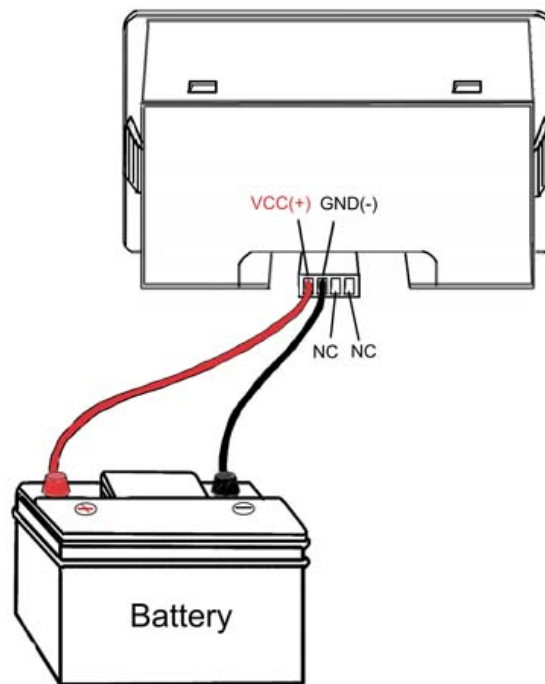
### Main Features

- ① Self adapted to ambient brightness, not dazzling in night time since the brightness can be adjusted automatically
- ② Large (0.56"/14.2mm) easy-to-read red LED display
- ③ Miniature housing
- ④ Ideal for automotive, industrial applications
- ⑤ -10 to +60 °C operating temperature range
- ⑥ Simple wiring with only two pieces of leads as power positive and negative to perform the task of powering and measuring
- ⑦ Over 90% components are SMT based, which are reliable and environment-friendly
- ⑧ High-efficient DC-DC converter for powering, low operation temp rise, which is far below the temp rise of other competitive products
- ⑨ UL and CE-certified compound AWG22 cables are used, low pressure drop

## Overview

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### Quick Start



Note :

- ① Connect VCC(+) and GND(-) to the positive and negative of power supply to be measured respectively with only two leads will make panel meter display its voltage. No additional power supply is required.
- ② Be very cautious when wiring, the panel meter will be burned if you mistakenly wire the two leads.
- ③ All diagrams and photos in this manual are for reference only.

## Chapter2.Performance Specification

Analog Input	Min.	Typ.	Max.	Units
<b>Scale Input Range:</b>				
ME-SP039	8.5	-	30	V
<b>Power Supply Requirements</b>				
<b>Supply Voltage:</b>				
ME-SP039	8.5	12	30	V
<b>Supply Current ( @ VCC = 12V )</b>				
Full Sunlight	-	30	-	mA
Total Darkness	-	13	-	mA
<b>Power consumption ( @ VCC = 12V )</b>				
Full Sunlight	-	0.36	-	W
Total Darkness	-	0.156	-	W
<b>Performance</b>				
<b>Responding Rate:</b>	-	1	-	s
<b>Accuracy ( @3 minute warm up )</b>				
ME-SP039	0.01	0.08	0.15	V
<b>Display</b>				
<b>Display Type and Size</b>				
ME-SP039	$3\frac{2}{3}$ digit, 0.56"/14.2mm high LED			
<b>Over-range Indication</b>	"1 _ _ _"			
<b>Physical/Environmental</b>				
<b>Operating Temperature</b>	-10	-	60	°C
<b>Storage Temperature</b>	-40	-	75	°C
<b>Humidity</b>	0	-	85	%RH

Notes :

- ① No over-range application is recommended, a voltage of over 30V may burn out the panel meter.
- ② Measuring accuracy cannot be guaranteed if the voltage to be measured is below 8.5V.

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## Chapter3.Product features

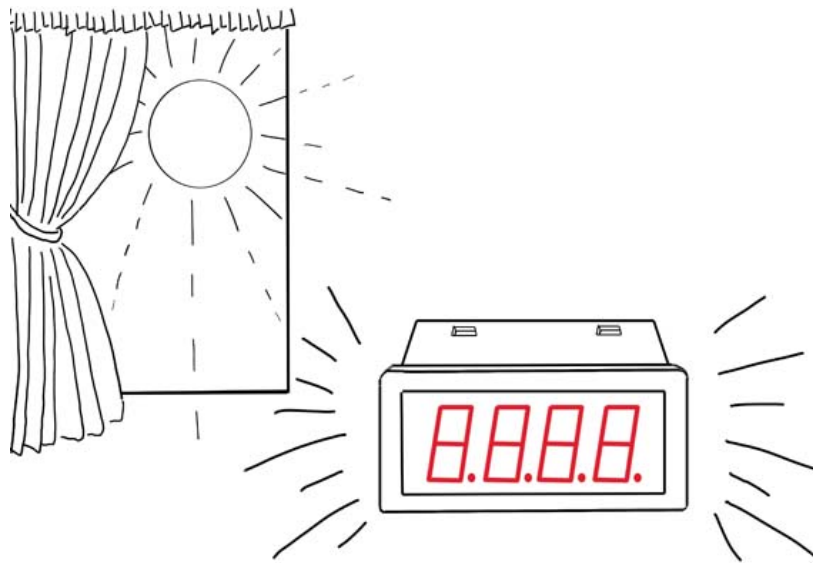
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The brightness of the diode varies with the change of ambient brightness and won't be too dazzling in night time.

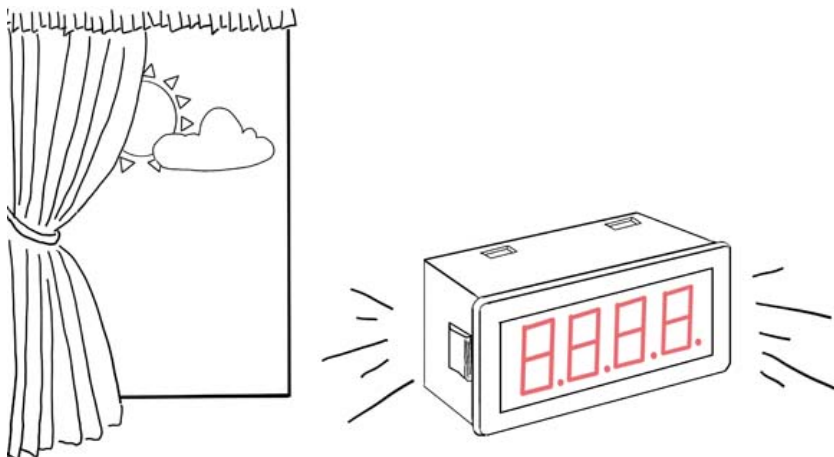
### PART A

Adapted to the ambient brightness

1. The brightness of diode will reach its topmost when the panel meter is in a room under direct sunlight exposure.

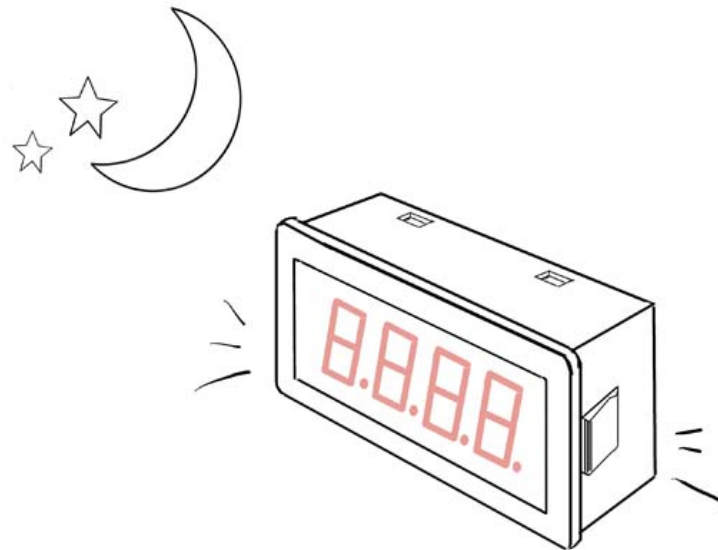


2. The brightness of the diode is comparatively high when the panel meter is placed in a room, around which the environment is similar to dawn, nightfall or cloudy weather.



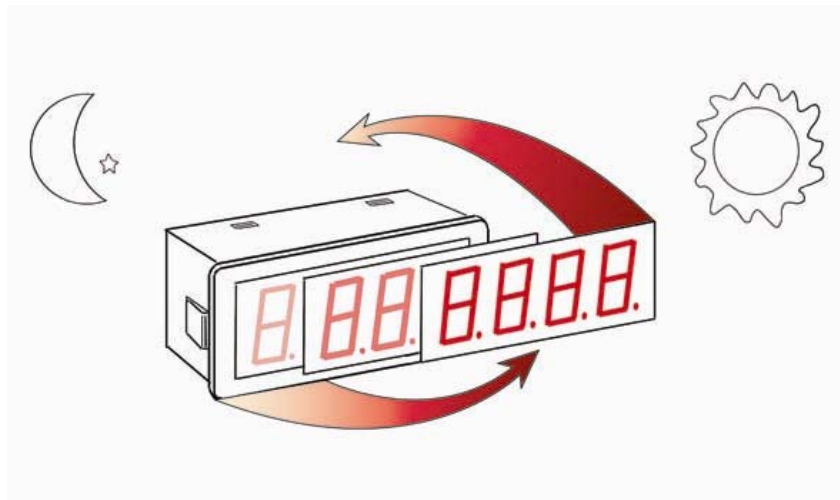
3. The brightness of the diode is the darkest when the panel meter is placed in an environment of

almost no light from outside.



**PART B**

Slowly adjust the brightness of diode



When the ambient environment of panel meter is shifted from light to dark or dark to light, the brightness of diode will be gradually changed and whole process will last for 4-6 seconds. The adjustment of brightness is smooth and it won't make people feel abrupt.



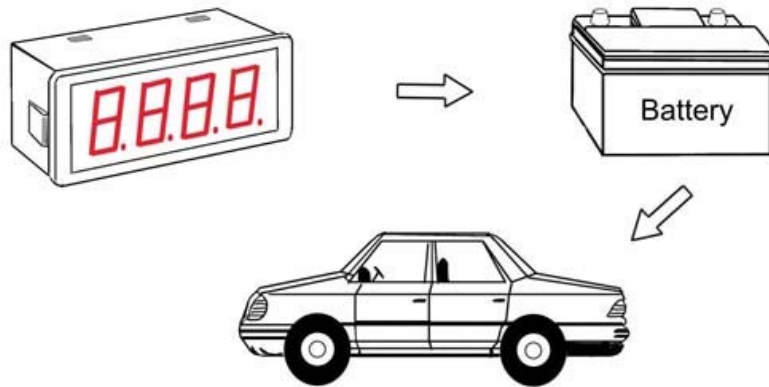
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## Chapter4.Applications

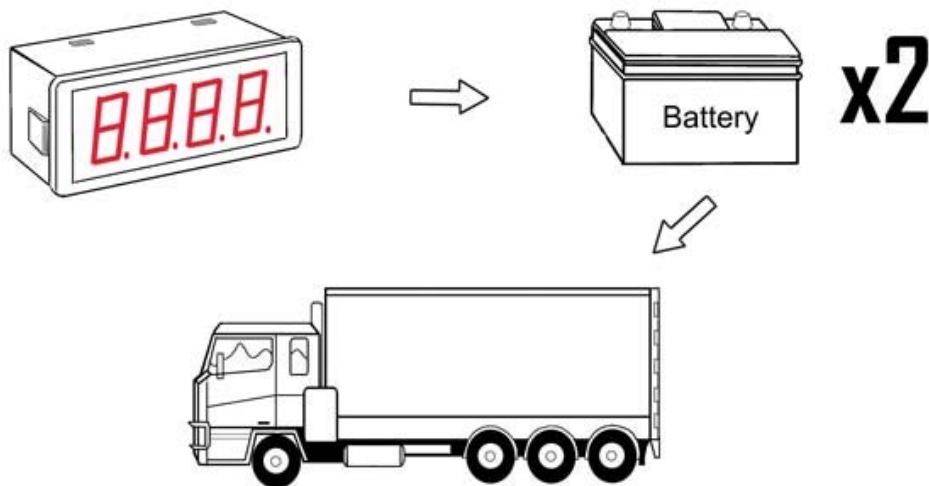
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ME-SP039 voltmeter can be used to measure the voltage of various batteries ranging from DC 8.5-30V.

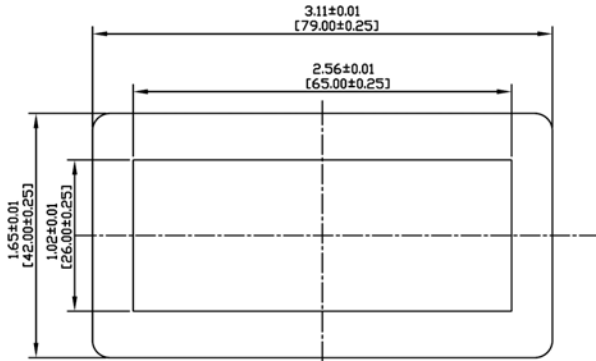
1. Suitable for sedan, bus or electric tools with single set of 12V lead acid storage battery.



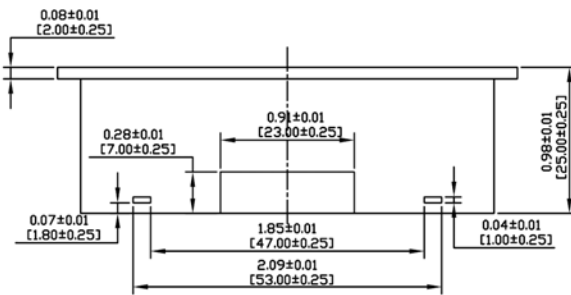
2. Suitable for applications(e.g. trucks) with two sets of 12V lead acid storage battery connected in series



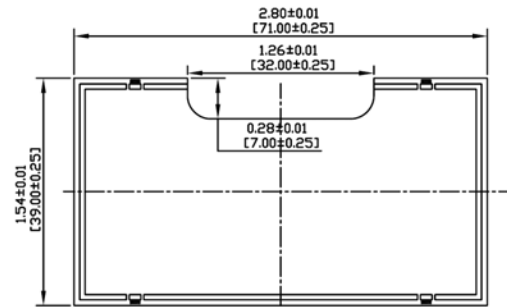
**Chapter5.Mechanical Drawing**



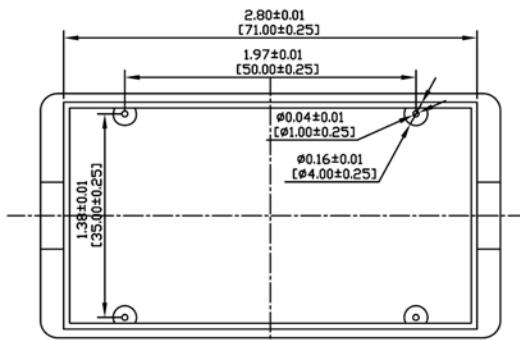
Top View



Side View



Back Cover



Bottom View

UNIT : INCH  
[MM]

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## **Chapter6.Contact Us**

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