

# 38208-ME

## Battery Voltage Monitor

2 or 3 Wire Battery Monitor/Alarm Module with Adjustable Under & Over Voltage Alarm points.

2 Wire Common Power & Sense (Measurement) Input or 3 wire separate Power/Measurement Inputs.

**Note:** When using Two wires, the measurement range and power supply range are the same, DO NOT exceed 30V Power/Measurement Input. When you need to measure a voltage that exceeds 30V: Use Three wires!

**Supply Voltage:** 4-20V

**Measuring Range:** 0-100V

**Upper/Lower Limit Range:** 0.1-99.9V

**Upper/Lower Limit Alarm Output:** Level: 0--5VDC

Selectable High or Low level Output.

**Resolution:** 0.1V

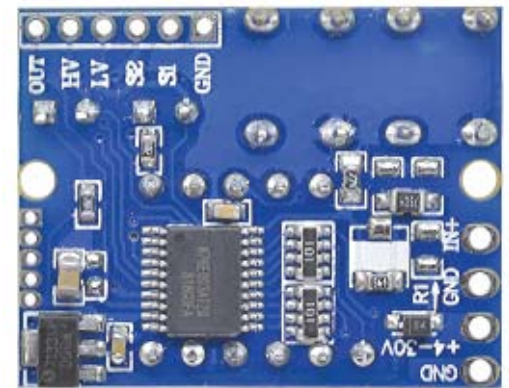
Refresh Rate: 300ms

Operating Temperature: -40°C to +85°C

Input reverse polarity protection: YES

**L:** 29mm (1-3/16") **W:** 23mm (15/16") **H:** 10mm (7/16")

**WT:** .02



### General:

**P1:** Low & High Voltage Limits

**P2:** Alarm Recovery (Reset) Offset voltage (Hysteresis) Auto Reset

**P3:** Reset ON/OFF (P-2): "OFF"=AUTO. "ON" requires you to press the **Left (+) Button** if you want to clear the alarm.

**P4:** Alarm Time Delay. Setting in seconds. (Prevents false Alarm Triggering due to Load Droop/Surge)

**P5:** Inverts the Alarm Output Voltages and LEDs.

Normal mode: No Alarm: No LEDs, "OUT", "LV", "HV": Output High~ 5VDC

Inverted mode: No Alarm: Both LEDs "ON"; "OUT", "LV", HV" Output Low: ~0V

**P6:** is the voltage reading rate. For example: 100 = Measured voltage. 50 = 1/2 of Measured voltage.

**P7:** Calibration (Voltage Correction). Set the Display voltage to match a trusted Voltmeter or Source

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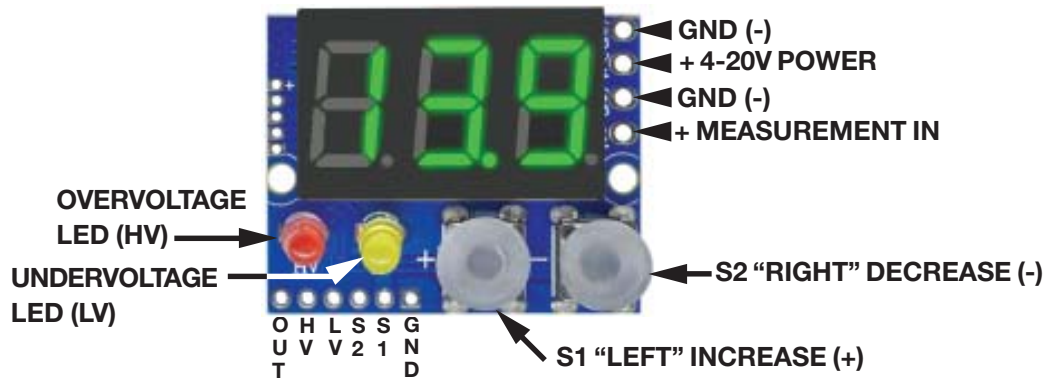
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- OUT:** Alarm output to external Circuit (Relay, Buzzer etc.)  
**HV:** Over Voltage Output for External LED (Same as HV LED on board)  
**LV:** Under Voltage Output for External LED (Same as LV LED on board)

**NOTE:**

- Normal mode: No Alarm: No LEDs Lighted: Terminals "OUT", "LV", "HV" = High ~ 5VDC  
Alarm: High Limit Red LED or Low Limit Yellow LED Lighted: Terminals "OUT", "LV" or "HV" = ~0V
- Inverted mode: No Alarm: Both LEDs Lighted: Terminals "OUT", "LV", HV" = Low: ~0VDC  
Alarm: High Limit Red LED or Low Limit Yellow LED Unlighted: Terminals "OUT", "LV" or "HV" = ~5VDC

- S1/S2:** SPST-NO Same as +/- Button Switches on Board  
**GND:** Common to all GND Connections

**2 Wire:** Common Power & Measurement Input:

Connect Input + and Power + Together. Connect Input - and Power - + Together. **(Max Input 20V)**

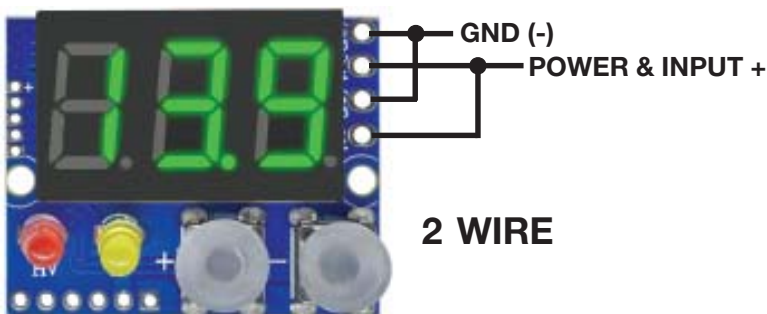
**3 Wire:** Separate Power & Measurement Inputs:

Connect the Power + & Power - to a separate Power Source

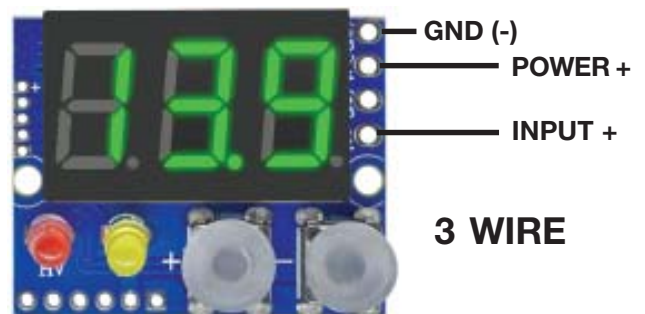
Connect Input + & Input - to Voltage to be Monitored (-/Grounds are common)

Max Power Input: 20VDC

Max Measurement Input: 100VDC



2 WIRE



3 WIRE



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**Alarm Setup: Note; For proper setup apply an appropriate Input for your Battery Range.**

**P1H: Set Upper Limit:** Long Press Left Button (+): Display shows “P1”, Red “HV” LED Lights.

Short Press Right Button (-): Display shows present setting.

Adjust Value by short Pressing Left (+) or Right (-) Buttons.

Long Press Left (+) Button to return to “P1”

Short Press **Left** (+) Button to Scroll to “P7”, Short Press Right (-) Button to return to Measurement Mode

**P1L: Set Lower Limit:** Long Press Left (+) Button: Display shows “P1”, Yellow “LV” LED Lights.

Short Press Left Button (+): Display shows present setting.

Adjust Value by Short Pressing Left (+) or Right (-) Buttons.

Long Press Right (-) Button to return to “P1”

Short Press Right (-) Button to Scroll to “P7”, Short Press Right Button to return to Measurement Mode

**P2: Alarm Recovery (Reset) Offset voltage** (Hysteresis). Applies to Both **LV & HV**

Long Press Right (-) Button Display shows “P1”

Short Press Right (-) Button to Scroll to “P2”

Short Press Left (+) Button to display present Value

Adjust Value by Short Pressing Left (+) or Right (-) Buttons.

EX: If you set **LV** to alarm at 12.0V, and want it to reset at 12.4V, You set “P2” to 0.4V. Alarm will

Reset at 12.4V, If you set **HV** to 13.0V, Reset will be at 12.6V

Long Press Right (-) Button to return to “P2”

Short Press Right (-) to scroll to “P7”

Short Press Right (-) Button to return to Measurement Mode

**P3: Auto or Manual Alarm Recovery (Reset)**

Set to “OFF” is Automatic Recovery at the P1 LV + P2 Value or the HV - P2 Value. When set to “ON” requires you to press the **Left (+)** Button to clear the alarm.

Long Press Right (-) Button Display shows “P1”

Short Press Right (-) Button to Scroll to “P3”

Short Press Left (+) Button: Either “ON” or “OFF” will appear. (Present Setting)

Pressing either Button will alternate “ON”-”OFF”

Long Press Right (-) Button to return to “P3”

Short Press Right (-) to scroll to “P7”

Short Press Left (+) Button to return to Measurement Mode

**P4:** Delayed Alarm On-Off setting for Surge/Droop Protection. Delay is in seconds.

Long Press Right (-) Button Display shows “P1”

Short Press Right (-) Button to Scroll to P4

Short Press Left (+) Button to display present Value

Adjust Value by Short Pressing Left (+) or Right (-) Buttons.

Long Press Right (-) Button to return to “P1”

Short Press Right (-) Button to Scroll to “P7”, Short Press Right Button to return to Measurement Mode

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**P4:** Delayed Alarm On-Off setting for Surge/Droop Protection. Delay is in seconds.

Long Press Right (-) Button Display shows "P1" "Yellow" LV LED Lights

Short Press Right (-) Button to Scroll to "P4"

Short Press Left (+) Button to display present Value

Adjust Value by Short Pressing Left (+) or Right (-) Buttons.

Long Press Right (-) Button to return to "P4"

Short Press Right (-) Button to Scroll to "P7",

Short Press Right Button (-) to return to Measurement Mode

**P5:** Inverts the Alarm Output Voltages.

Normal mode: No Alarm: No LEDs, Terminals "OUT", "LV", "HV": Output High~ 5VDC

Inverted mode: No Alarm: Both LEDs Lighted; Terminals "OUT", "LV", HV" Output Low: ~0V

Long Press Right (-) Button Display shows "P1"

Short Press Right (-) Button to Scroll to "P5". Both "Red & Yellow" LEDs Light.

Short Press BOTH Left & Right Buttons AT THE SAME TIME

Display Shows Either a "L" or "H" (Present Setting)

Short Press Right (-) Button For "L", Left (+) for "H" The Display will show an "H" or "L".

Long Press Right (-) Button to return to "P5"

Short Press Right (-) Button to scroll to "P7"

Short Press Right (-) Button again to return to Measurement Mode

**P6:** Voltage Reading Scale: 100%, 50%, 20% or 10% of Actual Measured Input

For example: 100 = Measured Voltage, 50 = 50% of Measured Voltage etc..

Long Press Right (-) Button Display shows "P1"

Short Press Right (-) Button to Scroll to "P6". Both "Red & Yellow" LEDs Light.

Short Press BOTH Left (+) & Right (-) Buttons AT THE SAME TIME

Display Shows % range: 100, 50, 20 or 10 (Present Setting)

Adjust % Value by Short Pressing Right (-) or Left (+) Button to Scroll through % Values.

Long Press Right (-) Button to return to "P6"

Short Press Right (-) Button to scroll to "P7"

Short Press Right (-) Button again to return to Measurement Mode

**P7:** Calibration (Voltage correction). This adjust the display to match a known Input Voltage Source or a Calibrated Voltmeter.

Long Press Right (-) Button Display shows "P1"

Short Press Right (-) Button to Scroll to "P7". Both "Red & Yellow" LEDs Light.

Short Press BOTH Left (+) & Right (-) Buttons AT THE SAME TIME

Display Shows a Value (Present value)

Adjust Value by Short Pressing Right (-) or Left (+) Button to Increase or Decrease Display Reading to match calibrating reference

Long Press Right (-) Button to return to "P7"

Short Press Right (-) Button again to return to Measurement Mode

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