

Operation:

There are 10 "Battery State of Charge" LEDs and 3 "Battery care" LEDs.

State of charge is displayed by the arched, 10 LED percentage "Meter".

The 3 "Battery Care" LED's are on the left side and will indicate the following conditions:

- 1- The top GREEN LED will light up when the batteries have received a "Full Charge" . ☺
- 2- The center AMBER LED will come on if the batteries have not been fully charged for 1 week. ☹
- 3- The bottom RED LED shows that the batteries have not been charged for 2 weeks or more. ☹

Approximate battery voltages relative to percent State of Charge



12 Volt Battery	24 Volt Battery	36 Volt Battery	48 Volt Battery	State of Charge
11.65	23.30	34.95	46.60	10%
11.77	23.54	35.31	47.08	20%
11.89	23.79	35.67	47.58	30%
12.02	24.03	36.06	48.06	40%
12.14	24.28	36.42	48.56	50%
12.26	24.52	36.78	49.04	60%
12.38	24.77	37.14	49.54	70%
12.51	25.01	37.53	50.02	80%
12.63	25.25	37.89	50.50	90%
12.75	25.50	38.25	51.00	100%

The display above tells us that the batteries state of charge is 90% and that the battery, as indicated by the RED Battery Care LED has not been fully charged in 2 weeks or more.

The Green LED will be illuminated under the following conditions:

FOR BATTERY SYSTEM VOLTAGE:	12v	24v	36v	48v
For Gel batteries, the voltage must reach	13.8v	27.6v	41.4v	55.2v (for 1 hour)
For AGM batteries, the voltage must reach	14.2v	28.4v	42.6v	56.8v (for 1 hour)
For Flooded batteries, the voltage must reach	14.7v	29.4v	44.1v	58.8v (for 2 hours)

Key switched version instructions:

The "S" version (MNBCMS) of the meter has an additional short wire attached. This wire is the "Switched lead" This feature allows the LEDS to be turned off while retaining the Battery Care memories. This wire should be connected through a switch to Battery positive. This is usually the ignition switch of a vehicle, but can also be any type of push button, or toggle switch.

If you do not have this extra wire and would like to use this feature, please go to :

<http://www.midnitesolar.com/pdfs/batCapMeterMod.pdf>

Specifications:

Battery voltage (Automatic select)	12V, 24V, 36V, 48V
Battery types supported	Gel, AGM, Flooded Lead Acid
Maximum Input voltage (Reverse polarity protected)	70V
Average Power draw	12.5 mA
Switched version when "Off"	6mA or .07watts@12v
Physical Size	4.75" x 3.76" x 0.85"

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