

TECHNICAL SPECIFICATIONS			MAIN SCREEN DATA READINGS	
CATEGORY	MINIMUM	MAXIMUM	%	Shows state of charge (SOC) as a percentage of the Amp hour capacity. 0% empty to 100% full.
VOLTAGE RANGE	8VDC	80VDC	Ah	Show state of charge (SOC) in Amp hours. Amp hour capacity will need to be entered into the settings menu next to "CAP" to read Amp hours, percentage and time counter accurately.
WORKING POWER CONSUMPTION	8mA	10mA		
STANDBY POWER CONSUMPTION	0.5mA	0.8mA	BATTERY	Show state of charge (SOC) as a battery symbol. When the battery is being charged the battery symbol will cycle and when the battery is discharged it will remain solid.
BACKLIGHT ON CURRENT DRAW	40mA	50mA		
BACKLIGHT OFF CURRENT DRAW	30mA	40mA	COUNTER	Shows time remaining to full charge when the battery is charging and time remaining until empty when the battery is discharging. The time counter shows hours, minutes and seconds.
OPERATING TEMPERATURE RANGE	32°F	120°F		
OPERATING TEMPERATURE RANGE	0°C	48°F	V	Shows the current voltage the battery is at.
SHUNT CURRENT RANGE	0A	500A	A	Shows the amperage being supplied while the battery is charging and amperage being used while the battery is discharging, known as discharge current or discharge rate.
AMP HOUR SETTING RANGE	1Ah	999Ah		
AMP HOUR MONITORING RANGE	1mA	999A	W	Shows the watts being supplied while the battery is charging and watts being used while the battery is discharging.
CURRENT MONITORING RANGE	1mA	999.999A		
WATTAGE MONITORING RANGE	0W	999W	SETTINGS SCREEN MENU	
PERCENTAGE MONITORING RANGE	0%	100%	CAP	Amp hour capacity setting. This capacity value will be found on the battery being monitored. LiFePo4: Set to 100% of the Amp hour rating listed for the battery being monitored. Flooded / SLA: Set to 90% of the 20 hour rating listed for the battery being monitored. AGM / Gel: Set to 95% of the 20 hour rating listed for the battery being monitored.
DISPLAY BACKLIGHT ON-OFF CURRENT	10mA	99mA		
DISPLAY BACKLIGHT ON SECONDS	1sec	3secs		
DISPLAY BACKLIGHT OFF SECONDS	10secs	20secs		
ADDITIONAL SPECIFICATIONS			FULL	This is the top voltage the battery should reach while being charged. This is not the resting voltage the battery will be at while there is no charge or discharge occurring. This value will should be supplied by the battery manufacturer and is unique to different battery chemistries.
VOLTAGE ACCURACY	±1%			
CURRENT ACCURACY	±1%		ZERO	This is the bottom voltage the battery should reach while being discharged. This value should be supplied by the battery manufacturer and is unique to different battery chemistries.
MONITOR SCREEN WATER RESISTANCE	NONE			
MONITOR SCREEN UV PROTECTION	NONE		SETTINGS SCREEN FUNCTIONS	
DISPLAY BACKLIGHT PULSE	CHARGE MODE		<	Press and hold the left arrow key on the faceplate to enter the settings menu.
DISPLAY BACKLIGHT SOLID	DISCHARGE MODE		^v	Press the up or down arrow keys to select the value you want to change.
DISPLAY BATTERY SYMBOL CYCLING	CHARGE MODE		<	Press the left arrow key again to select that value and to toggle between the numbers.
DISPLAY BATTERY SYMBOL SOLID	DISCHARGE MODE		v^	Press the up or down arrow keys again to select a number.
MAIN SCREEN FUNCTIONS			<	Press and hold the left arrow key again to leave that value and save that setting.
^	Press and hold up arrow to begin monitoring the battery completely full at its highest voltage.		^v	Press and hold the up and down arrow keys at the same time to return to the main screen.
v	Press and hold the down arrow to begin monitoring the battery completely empty at its lowest voltage.			The monitor will automatically return to the main screen after approximately 60secs and save the settings entered on all three values if saved after entering each one.



TECHNICAL SUPPORT: support@expion360.com
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APPLICATION	
<p>The Expion 360 Battery Monitor is designed to show a batteries current state of charge (SOC) as a percentage, in Amp hours and as a battery symbol. The monitor also measures how long the battery will take to charge or discharge at the current power input or output level. The monitor also shows the current voltage level the battery is at and shows the amount of amperage as well as wattage going in or out of the battery. All of these values are displayed on the same screen of the monitor and there is no need to toggle between screens.</p>	

INSTALLATION INSTRUCTIONS	
Shunt:	<p>Attach the shunt B- side to the negative terminal (black -) on the battery being monitored. Attach the P- side of the shunt to the negative power load side. The shunt can be installed right side up with letters and numbers correctly oriented or upside down.</p>
Power:	<p>Attach the short red wire (monitor power supply) to either B+ green terminal. Attach the ring terminal side of the power wire to the battery positive terminal (red+).</p>
Data Cable:	<p>Plug one end of the 35' data cable into the port provided on the side of the shunt and the other end to the port provided on the back of the monitor display screen.</p>
Monitor:	<p>Install the monitor display screen in a convenient viewing location away from prolonged exposure to the sun or extreme cold. Do not install near sleeping area as the monitor screen will be lite during charging and discharging modes. The kit includes a mounting templete sticker to properly size the hole for a clean installation.</p>
Bracket:	<p>The kit includes a shunt mounting bracket to raise the shunt allowing it to be turned in different directions. The bracket also has a popular 5/16" hole on the battery side of the bracket and a 3/8" hole on the shunt side for ease of installation. If installing the EXPION360 MONITOR on a Viper battery dual or more configuration the negative battery parrell connecting bus bar included with a battery kit will have a 3/8" hole already drilled for the shunt installation.</p>

CAPACITY SETTINGS FOR DIFFERENT BATTERY CHEMISTRIES	
LiFePo4:	<p>Lithium Iron Phosphate batteries are nearly 100% efficient with very little power loss while charging and discharging at different rates. They still experience some lower efficiency rates while discharging closer to their maximum rated amount, however, we recommend setting "CAP" for a new LiFePo4 battery at 100% of its rated capacity to most accurately measure the battery and "FULL" voltage will be set at 14.4 to 14.6 according to manufacturers specifications. "ZERO" will be set at or near 10.5V according to manufacturers specifications. If monitoring the Viper "CAP" will be set at 120Ah for a single battery, "FULL" will be set to 14.6V and "ZERO" will be set to 10.5V. Make sure "FULL and "ZERO" voltages are correct or the battery may read full or empty prematurely when the battery reaches those voltage numbers.</p>
Lead Acid:	<p>Flooded and SLA will have "CAP" set to 90% of their 20 hour rated capacity or half way between the 20 hour and 5 hour rating to establish an average power capacity. "FULL" and "ZERO" Voltage will be set according to manufacturers specifications. As a battery ages the "CAP" will need to be reset to a lower value yearly.</p>
AGM/GEL:	<p>AGM and GEL "CAP" will be also set to 90% of the 20 hour rate or half way between the 20 hour and 5 hour rating to establish an average power capacity. "FULL" and "ZERO" Voltage will also be set according to manufacturers specifications. As a battery ages the "CAP" will need to be reset to a lower value yearly.</p>

