

Technical Bulletin

Overdischarge Prevention

This bulletin is to inform the user of Flux Power branded batteries of proper overdischarge prevention methods in order to maintain their batteries within warranty. A battery that has become overdischarged due to a component failure can be recovered and repaired within the battery's warranty date. A member of Product Support will troubleshoot the battery to determine if the battery's overdischarged state is due to a component failure. A battery that has become overdischarged due to customer use and or neglection will not be recovered and repaired under warranty; therefore, the user will be invoiced. If the battery is already past its warranty date, then it can still be recovered and repaired, but the user will be invoiced.

Overdischarge Prevention Overview

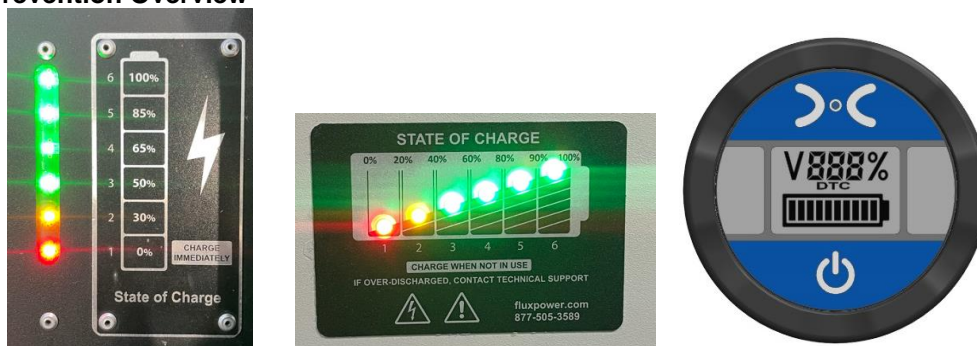


Figure 1: 6 LED State of Charge (SOC) gauge and Internal Battery Discharge Indicator (BDI)

Indicator	Overdischarge Indications	Actions	Pack Voltage
6 LED State of Charge (SOC) Gauge	<p>As the battery approaches an overdischarged state:</p> <ul style="list-style-type: none"> Red LED and top green LED will blink (DTC 1 and 6) Internal buzzer will alarm periodically (S-Series) External SOC gauge will alarm periodically <p>When the battery has reached an overdischarged state:</p> <ul style="list-style-type: none"> Red LED, first and top green LEDs will blink (DTC 1, 3, and 6) Internal buzzer will alarm periodically at a higher frequency External SOC gauge will alarm periodically at a higher frequency Truck will no longer operate 	<p>Actions to take before the battery has reached an overdischarged state:</p> <ol style="list-style-type: none"> Plug the battery into charge through its orange AC extension cord at least until the SOC gauge reaches 65% (S-Series). Disconnect the battery from the truck and connect a Flux Power approved external charger to the battery's charge port at least until the SOC gauge reaches 65% (M24s). Connect a Flux Power approved external charger to the battery's charge port at least until the SOC gauge reaches X%. Ensure that the battery is allowed to charge fully to 100% SOC at some point during the week. <p>Actions to take when the batter has already reached an overdischarged state:</p> <ol style="list-style-type: none"> Remove the battery from service. Contact a Product Support representative for further assistance. 	<p>20V – 22.4V (S-Series, M24s)</p> <p>30V – 33.6V (M36, X36)</p> <p>40V – 44.8V (L48, X48)</p> <p>60V – 67.2V (X80, GSE3)</p>
Internal Battery Discharge Indicator (BDI)	<p>As the battery approaches an overdischarged state:</p> <ul style="list-style-type: none"> Internal Battery Discharge Indicator (BDI) will display DTCs 1 and 9 External State of Charge Gauge (SOC) will alarm periodically <p>When the battery has reached an overdischarged state:</p> <ul style="list-style-type: none"> Internal BDI will display DTCs 1,6,9,11,12, and 24 External SOC gauge will alarm periodically at a higher frequency Truck will no longer operate 	<p>Actions to take before the battery has reached an overdischarged state:</p> <ol style="list-style-type: none"> Disconnect the battery from the truck and connect a Flux Power approved external charger to the battery's charge port at least until the SOC gauge reaches 65% (M24s). Connect a Flux Power approved external charger to the battery's charge port at least until the SOC gauge reaches 65%. Ensure that the battery is allowed to charge fully to 100% SOC at some point during the week. <p>Actions to take when the batter has already reached an overdischarged state:</p> <ol style="list-style-type: none"> Remove the battery from service. Contact a Product Support representative for further assistance. 	<p>20V – 22.4V (S-Series, M24s)</p> <p>30V – 33.6V (M36, X36)</p> <p>40V – 44.8V (L48, X48)</p> <p>60V – 67.2V (X80, GSE3)</p>

Batteries Affected

All Flux Power branded batteries are susceptible to an overdischarged state either due to component failure or customer induced actions. The methods for recovery varies between battery model type and Battery Management System (BMS) type. The model of the battery can be found on the battery's I.D. plate which will either be placed on the top face or the front face of the battery. Flux Power's current battery models are the following: S-Series (S8, S24), M-Series (M24, M36), L-Series (L48), X-Series (X36, X48, X80), and GSE 3. The figures below are examples of two different models which display the type of battery they belong too.

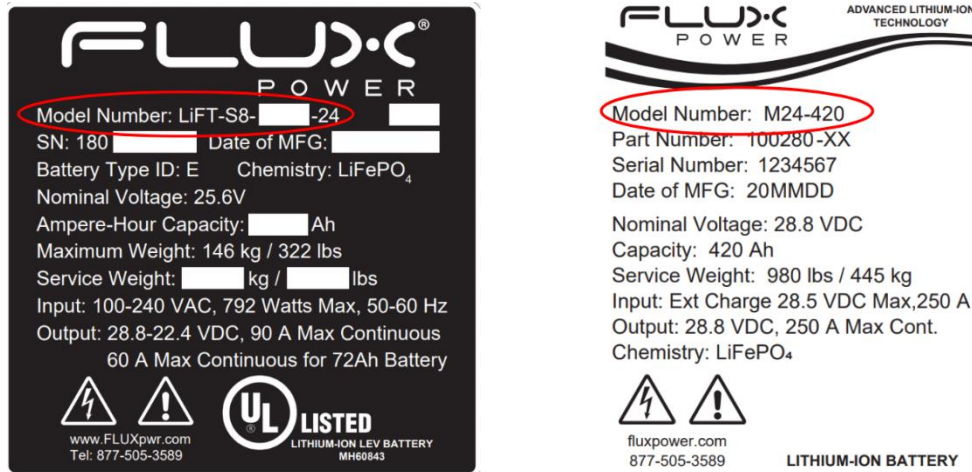


Figure 2: Battery plate I.D.

Overdischarge Prevention Details

We have identified that many users have not been well informed with what an overdischarged state of their battery may appear as. Therefore, the chart below provides voltage thresholds and proper actions to take in order to prevent the battery from reaching an overdischarged state.

Battery Model	Minimum Voltage	0% State of Charge (SOC) Requirements	Overdischarge Prevention Practices
S8 batteries with a serial number commencing with a 180- and 170-.	<p>$(8 \text{ cells}) \times (2.80\text{V}) = 22.4\text{V}$</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 22.4V. It is more common to see this occurrence on a pack voltage of 22.4V-23V.</p> <p>The battery is programmed to prevent discharging once at least one cell registers at 2.80V.</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> As the battery is discharged, overtime the LEDs on top will display a lower and lower SOC %. Eventually the LEDs will reach 0%. It is possible that all the cells are still well above 2.80V. This would mean that the cells are all performing well above their capacity. The red LED will flash. The battery is programmed to display a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash. 	<p>This battery is charged through its attached extension cable that connects to its AC inlet.</p> <p>The best practice is to plug the battery in to charge once the red and yellow LEDs are illuminated on the top SOC gauge. This ensures that the battery does not reach a 10% SOC which is when the warning buzzer is activated.</p> <p>If the buzzer is ever activated (SOC reached 0-10%), the user should immediately plug the battery in to charge.</p> <p>The battery will indicate charging by having the 6 LEDs light up one at a time (0% to 100%) until all 6 LEDs are illuminated. It will then flash the current state of charge of the battery, and then perform the cycle again.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does not indicate that it is charging, then contact Product Support for assistance.</p>

			<p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
<p>S8 batteries with a serial number commencing with a 200-.</p>	<p>(8 cells) x (2.80V) = 22.4V</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 22.4V. It is more common to see this occurrence on a pack voltage of 22.4V-23V.</p> <p>The battery is programmed to prevent discharging once at least one cell registers at 2.80V.</p> <p>If at least one cell reaches 2.50V, then the battery will "latch" itself which will prevent the battery from charging or discharging. Service assistance will be required.</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> As the battery is discharged, overtime the LEDs on top will display a lower and lower SOC %. Eventually the LEDs will reach 0%. It is possible that all the cells are still well above 2.80V. This would mean that the cells are all performing well above their capacity. The red LED will flash. The battery is programmed to diaply a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash. 	<p>This battery is charged through its attached extension cable that connects to its AC inlet.</p> <p>The best practice is to plug the battery in to charge once the red and yellow LEDs are illuminated on the top SOC gauge. This ensures that the battery does not reach a 10% SOC which is when the warning buzzer is activated.</p> <p>If the buzzer is ever activated (SOC reached 0-10%), the user should immediately plug the battery in to charge.</p> <p>The battery will indicate charging by having the 6 LEDs light up one at a time (0% to 100%) until all 6 LEDs are illuminated. It will then flash the current state of charge of the battery, and then perform the cycle again.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does not indicate that it is charging, then contact Product Support for assistance.</p> <p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
S24	<p>(8 cells) x (2.80V) = 22.4V</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 22.4V. It is more common to see this occurrence on a pack voltage of 22.4V-23V.</p> <p>The battery is programmed to prevent discharging once at least one cell registers at 2.80V.</p> <p>If at least one cell reaches 2.50V, then the battery will "latch" itself which will prevent the battery from charging or discharging.</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> As the battery is discharged, overtime the LEDs on top will display a lower and lower SOC %. Eventually the LEDs will reach 0%. It is possible that all the cells are still well above 2.80V. This would mean that the cells are all performing well above their capacity. The red LED will flash. The battery is programmed to diaply a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash. 	<p>This battery is charged through its attached extension cable that connect to its on board charger.</p> <p>The best practice is to plug the battery in to charge once the red and yellow LEDs are illuminated on the top SOC gauge. This ensures that the battery does not reach a 10% SOC which is when the warning buzzer is activated.</p> <p>If the buzzer is ever activated (SOC reached 0-10%), the user should immediately plug the battery in to charge.</p> <p>The battery will indicate charging by having the 6 LEDs light up one at a time (0% to 100%) until all 6 LEDs are illuminated. It will then flash the current state of charge of the battery, and then perform the cycle again.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does</p>

	Service assistance will be required.		<p>not indicate that it is charging, then contact Product Support for assistance.</p> <p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
M24 400Ah	<p>$(8 \text{ cells}) \times (2.80\text{V}) = 22.4\text{V}$</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 22.4V. It is more common to see this occurrence on a pack voltage of 22.4V-23V.</p> <p>The battery is programmed to prevent discharging once at least one cell registers at 2.80V.</p> <p>If at least one cell reaches 2.50V, then the battery will "latch" itself which will prevent the battery from charging or discharging. Service assistance will be required.</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> As the battery is discharged, overtime the LEDs on top will display a lower and lower SOC %. Eventually the LEDs will reach 0%. It is possible that all the cells are still well above 2.80V. This would mean that the cells are all performing well above their capacity. The red LED will flash. The battery is programmed to display a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash. 	<p>This battery is charged through it power cables that also connect to the truck. The battery will need to be disconnected from the truck to charge it.</p> <p>The best practice is to plug the battery in to charge once the red and yellow LEDs are illuminated on the top SOC gauge. This ensures that the battery does not reach a 10% SOC which is when the warning buzzer is activated.</p> <p>If the buzzer is ever activated (SOC reached 0-10%), the user should immediately plug the battery in to charge.</p> <p>The battery will indicate charging by having the 6 LEDs light up one at a time (0% to 100%) until all 6 LEDs are illuminated. It will then flash the current state of charge of the battery, and then perform the cycle again.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does not indicate that it is charging, then contact Product Support for assistance.</p> <p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
M24 420Ah	<p>$(8 \text{ cells}) \times (2.80\text{V}) = 22.4\text{V}$</p> <p>This battery is equipped with an on board blue Battery Discharge Indicator (BDI) which will display the battery's SOC % and any DTCs that may be present</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 22.4V. It is more common to see this occurrence on a pack voltage of 22.4V-23V.</p> <p>The battery is programmed to prevent discharging once at least one cell registers at 2.80V.</p> <p>If at least one cell reaches 2.50V, then the battery</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> As the battery is discharged, overtime the SOC % on the BDI will display a lower and lower SOC %. Eventually the BDI will reach 0%. It is possible that all the cells are still well above 2.80V. This would mean that the cells are all performing well above their capacity. The BDI will display DTC 1, 9, and 11. 	<p>This battery is charged through it power cables that also connect to the truck. The battery will need to be disconnected from the truck to charge it.</p> <p>The best practice is to plug the battery in to charge once the BDI displays 20%. At 15% the battery will activate the buzzer. This ensures that the battery does not reach a 10% SOC.</p> <p>If the buzzer is ever activated (SOC reached 0-15%), the user should immediately plug the battery in to charge.</p> <p>The battery will indicate charging by having the BDI display a slow filling battery</p>

	<p>will "latch" itself which will prevent the battery from charging or discharging. Service assistance will be required.</p>	<p>2. The battery is programmed to display a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash.</p>	<p>animation. It will also display the current state of charge of the battery.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does not indicate that it is charging, then contact Product Support for assistance.</p> <p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
M36	<p>$(12 \text{ cells}) \times (2.80\text{V}) = 33.6\text{V}$</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 33.6V. It is more common to see this occurrence on a pack voltage of 33.6V-34V.</p> <p>The battery is programmed to prevent discharging once at least one cell registers at 2.80V.</p> <p>If at least one cell reaches 2.50V, then the battery will "latch" itself which will prevent the battery from charging or discharging. Service assistance will be required.</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> 1. As the battery is discharged, overtime the LEDs on top will display a lower and lower SOC %. Eventually the LEDs will reach 0%. It is possible that all the cells are still well above 2.80V. This would mean that the cells are all performing well above their capacity. The red LED will flash. 2. The battery is programmed to display a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash. 	<p>This battery is charged through its black charge port (Euro connector).</p> <p>The best practice is to plug the battery in to charge once the red and yellow LEDs are illuminated on the front face SOC gauge. This ensures that the battery does not reach a 10% SOC which is when the warning buzzer is activated.</p> <p>If the buzzer is ever activated (SOC reached 0-10%), the user should immediately plug the battery in to charge.</p> <p>The battery will indicate charging by having the 6 LEDs light up one at a time (0% to 100%) until all 6 LEDs are illuminated. It will then flash the current state of charge of the battery, and then perform the cycle again.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does not indicate that it is charging, then contact Product Support for assistance.</p> <p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
L48	<p>$(16 \text{ cells}) \times (2.80\text{V}) = 44.8\text{V}$</p> <p>This battery is equipped with an on board blue Battery Discharge Indicator (BDI) which will display the battery's SOC % and any DTCs that may be present</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 44.8V. It is more common to see this occurrence on a pack voltage of 44.8V-45.5V.</p> <p>The battery is programmed to prevent discharging once at least</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> 1. As the battery is discharged, overtime the SOC % on the BDI will display a lower and lower SOC %. Eventually the BDI will reach 0%. It is possible that all the cells are still well above 2.80V. This would mean that the cells are all performing well above their 	<p>This battery is charged through its black charge port (Euro connector).</p> <p>The best practice is to plug the battery in to charge once the BDI displays 20%. At 15% the battery will activate the buzzer. This ensures that the battery does not reach a 10% SOC.</p> <p>If the buzzer is ever activated (SOC reached 0-15%), the user should immediately plug the battery in to charge.</p> <p>The battery will indicate charging by having the BDI display a slow filling battery</p>

	<p>one cell registers at 2.80V.</p> <p>If at least one cell reaches 2.50V, then the battery will “latch” itself which will prevent the battery from charging or discharging. Service assistance will be required.</p>	<p>capacity. The BDI will display DTC 1, 9, and 11.</p> <ol style="list-style-type: none"> 2. The battery is programmed to display a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash. 	<p>animation. It will also display the current state of charge of the battery.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does not indicate that it is charging, then contact Product Support for assistance.</p> <p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
X36	<p>(12 cells per blade) x (2.80V) = 33.6V</p> <p>Each blade has 24 cell readings. Each pair is in parallel, registering 12 cells. There are 3-4 blades in parallel.</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 33.6V. It is more common to see this occurrence on a pack voltage of 33.6V-34V.</p> <p>The battery is programmed to prevent discharging once at least one cell registers at 2.80V.</p> <p>If at least one cell reaches 2.50V, then the battery will “latch” itself which will prevent the battery from charging or discharging. Service assistance will be required.</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> 1. As the battery is discharged, overtime the LEDs on top will display a lower and lower SOC %. <p>Eventually the LEDs will reach 0%. It is possible that all the cells are still well above 2.80V. This would mean that the cells are all performing well above their capacity. The red LED will flash.</p> <ol style="list-style-type: none"> 2. The battery is programmed to display a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash. 	<p>This battery is charged through its black charge port (Euro connector).</p> <p>The best practice is to plug the battery in to charge once the red and yellow LEDs are illuminated on the front face SOC gauge. This ensures that the battery does not reach a 10% SOC which is when the warning buzzer is activated.</p> <p>If the buzzer is ever activated (SOC reached 0-10%), the user should immediately plug the battery in to charge.</p> <p>The battery will indicate charging by having the 6 LEDs light up one at a time (0% to 100%) until all 6 LEDs are illuminated. It will then flash the current state of charge of the battery, and then perform the cycle again.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does not indicate that it is charging, then contact Product Support for assistance.</p> <p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
X48	<p>(16 cells) x (2.80V) = 44.8V</p> <p>Each pair of blades are in parallel, and the 2 sets are in series.</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 44.8V. It is more common to see</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> 1. As the battery is discharged, overtime the LEDs on top will display a lower and lower SOC %. <p>Eventually the LEDs will reach 0%. It is possible that all the cells are still well above 2.80V. This would mean that the cells are all</p>	<p>This battery is charged through its black charge port (Euro connector).</p> <p>The best practice is to plug the battery in to charge once the red and yellow LEDs are illuminated on the front face SOC gauge. This ensures that the battery does not reach a 10% SOC which is when the warning buzzer is activated.</p> <p>If the buzzer is ever activated (SOC reached 0-10%), the user should immediately plug the battery in to charge.</p>

	<p>this occurrence on a pack voltage of 44.8V-45.5V.</p> <p>The battery is programmed to prevent discharging once at least one cell registers at 2.80V.</p> <p>If at least one cell reaches 2.50V, then the battery will "latch" itself which will prevent the battery from charging or discharging. Service assistance will be required.</p>	<p>performing well above their capacity. The red LED will flash.</p> <ol style="list-style-type: none"> 2. The battery is programmed to display a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash. 	<p>The battery will indicate charging by having the 6 LEDs light up one at a time (0% to 100%) until all 6 LEDs are illuminated. It will then flash the current state of charge of the battery, and then perform the cycle again.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does not indicate that it is charging, then contact Product Support for assistance.</p> <p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
X80	<p>(24 cells per blade) x (2.80V) = 67.2V</p> <p>There are 4 blades in parallel.</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 44.8V. It is more common to see this occurrence on a pack voltage of 67.2V-68V.</p> <p>The battery is programmed to prevent discharging once at least one cell registers at 2.80V.</p> <p>If at least one cell reaches 2.50V, then the battery will "latch" itself which will prevent the battery from charging or discharging. Service assistance will be required.</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> 1. As the battery is discharged, overtime the LEDs on top will display a lower and lower SOC %. Eventually the LEDs will reach 0%. It is possible that all the cells are still well above 2.80V. This would mean that the cells are all performing well above their capacity. The red LED will flash. 2. The battery is programmed to display a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash. 	<p>This battery is charged through its black charge port (Euro connector).</p> <p>The best practice is to plug the battery in to charge once the red and yellow LEDs are illuminated on the front face SOC gauge. This ensures that the battery does not reach a 10% SOC which is when the warning buzzer is activated.</p> <p>If the buzzer is ever activated (SOC reached 0-10%), the user should immediately plug the battery in to charge.</p> <p>The battery will indicate charging by having the 6 LEDs light up one at a time (0% to 100%) until all 6 LEDs are illuminated. It will then flash the current state of charge of the battery, and then perform the cycle again.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does not indicate that it is charging, then contact Product Support for assistance.</p> <p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
GSE 3-300	<p>(24 cells per blade) x (2.80V) = 67.2V</p> <p>There are 3 blades in parallel.</p> <p>When the battery's cells are fully balanced, the battery will reach a 0% SOC when the pack voltage reaches 44.8V. It is more common to see</p>	<p>The battery will display 0% SOC when either the amount of current registered over time has accumulated to the battery's capacity, or if at least one cell registers at 2.80V or lower.</p> <ol style="list-style-type: none"> 1. As the battery is discharged, overtime the LEDs on top will display a lower and lower SOC %. Eventually the LEDs will reach 0%. It is possible that all the cells are still well 	<p>The best practice is to plug the battery in to charge once the red and yellow LEDs are illuminated on the front face SOC gauge. This ensures that the battery does not reach a 10% SOC which is when the warning buzzer is activated.</p> <p>If the buzzer is ever activated (SOC reached 0-10%), the user should immediately plug the battery in to charge.</p> <p>The battery will indicate charging by having the 6 LEDs light up one at a time (0% to</p>

<p>this occurrence on a pack voltage of 67.2V-68V.</p> <p>The battery is programmed to prevent discharging once at least one cell registers at 2.80V.</p> <p>If at least one cell reaches 2.50V, then the battery will "latch" itself which will prevent the battery from charging or discharging. Service assistance will be required.</p>	<p>above 2.80V. This would mean that the cells are all performing well above their capacity. The red LED will flash.</p> <ol style="list-style-type: none">2. The battery is programmed to display a 0% - 3% SOC when it registers at least one cell at 2.80V. The red LED will flash.	<p>100%) until all 6 LEDs are illuminated. It will then flash the current state of charge of the battery, and then perform the cycle again.</p> <p>The battery may take 1 minute from plugging in to indicate charging. If the battery does not indicate that it is charging, then contact Product Support for assistance.</p> <p>If one cell reaches 2.50V, or if the battery reaches a pack voltage of 20V or less, then recovery of the pack may be susceptible to not be covered under warranty due to customer neglect.</p>
---	--	--

Flux Power Contact Details

Flux Power Inc.
Address: 2685 South Melrose Drive,
Vista, CA 92081
Tel: 877-358-9487 (FLUX4US)
Email: Support@fluxpower.com
Web: www.fluxpower.com