

## **Bioenno Power**®

12630 Westminster Ave., Suite H Santa Ana, California 92706, USA www.bioennopower.com sale@bioennopower.com Phone: +1 714 234-7363 +1 949 310-9899

## Bioenno Power® BLF-1220TS ABS Sealed Version 20A Continuous Discharge Current 12V, 20Ah LiFePO4 (Lithium Iron Phosphate) Battery

| Case Type ABS Sealed   Internal Impedance < 100 milli-chms   Nominal Charge Voltage 14.6 VDC (+/- 0.05V)   Discharge Cutoff Voltage 9.2 (+/- 0.5V)   Continuous Discharge Current 20A (Electrical Load should not exceed 20A continuous)   Max Peak Pulse Discharge Current 60A (2 Seconds)   Charge Method Constant Current (CC) / Constant Voltage (CV)   LiFePO4 Batteries must be charged using CC/CV CC Charging Current: <8A   Charges that are compatible with Bioenno Power batteries. Constant Voltage: 14.6 VDC   Cycle Life 2000 Charge Protection for Each Cell:   Min: 3.775 V; Typical: 3.6V; Max: 3.855 V Overcharge Protection for Each Cell:   Min: 3.755 V; Typical: 3.6V; Max: 3.65V Undercharge Recovery Protection for Each Cell:   Min: 1.92V; Typical: 2.0V; Max: 2.08V Undercharge Recovery Protection for Each Cell:   Min: 2.2V; Typical: 2.0V; Max: 2.4V Discharge Overcurrent Protection:   Min: 70A; Typical: 80A; Max: 2.4V Discharge Overcurrent Protection:   Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C Over Temperature Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C Over Temperature Recovery Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C Over Temperature Recovery Protec  | Nominal Voltage                    | 12.8V  |
|--|------------------------------------|--|
| Internal Impedance < 100 milli-ohms   Nominal Charge Voltage 14.6 VDC (+/-0.05V)   Discharge Cutoff Voltage 9.2 (+/-0.5V)   Continuous Discharge Current 20A (Electrical Load should not exceed 20A continuous)   Max Peak Pulse Discharge Current 60A (2 Seconds)   Charge Method Constant Current (CC) / Constant Voltage (CV)   LiFePO4 Batteries must be charged using CC/CV CC Charging Current: <8A   Method. Bioenno Power advises use of LiFePO4 Constant Voltage: 14.6 VDC   Cycle Life 2000 Charge Cycles (at 0.2C discharge rate)   Overcharge Protection for Each Cell: Min: 3.775 V; Typical: 3.8V; Max: 3.825 V   Overcharge Recovery Protection for Each Cell: Min: 3.55V; Typical: 3.6V; Max: 3.65V   Built in Protection Circuit Module Overcharge Recovery Protection for Each Cell:   Min: 3.25V; Typical: 2.0V; Max: 2.08V Undercharge Protection for Each Cell:   Min: 2.2V; Typical: 2.0V; Max: 2.4V Discharge Overcurrent Protection:   Min: 70A; Typical: 80A; Max: 90A Over Temperature Protection:   Min: 50 deg ; Typical: 55 deg C; Max: 70 deg C Over Temperature Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C Over Temperature Recovery Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   | Nominal Capacity                   | 20 Ah  |
| Nominal Charge Voltage   14.6 VDC (+/- 0.05V)     Discharge Cutroft Voltage   9.2 (+/- 0.5V)     Continuous Discharge Current   20A (Electrical Load should not exceed 20A continuous)     Max Peak Pulse Discharge Current   60A (2 Seconds)     Charge Method   Constant Voltage: 14.6 VDC     LiFePO4 Batteries must be charged using CC/CV   CC Charging Current: <8A     Charges that are compatible with Bioenno Power   constant Voltage: 14.6 VDC     batteries.   Constant Voltage: 14.6 VDC     Cycle Life   2000 Charge Protection for Each Cell:     Min: 3.775 V; Typical: 3.8V; Max: 3.825 V   Overcharge Protection for Each Cell:     Min: 3.55V; Typical: 3.6V; Max: 3.65V   Undercharge Protection for Each Cell:     Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:     Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:     Min: 2.2V; Typical: 2.3V; Max: 2.4V   Discharge Overcurrent Protection:     Min: 70A; Typical: 80A; Max: 90A   Over Temperature Protection:     Min: 50 deg C; Typical: 65 deg C; Max: 70 deg C   Over Temperature Recovery Protection:     Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   Over Temperature Recovery Protection:     Min:   | Case Type                          | ABS Sealed   |
| Discharge Cutoff Voltage   9.2 (+/-0.5V)     Continuous Discharge Current   20A. [ <i>Clectrical Load should not exceed 20A continuous</i> ]     Max Peak Pulse Discharge Current   60A (2 Seconds)     Charge Method   Constant Current (CC) / Constant Voltage (CV) <i>LiFePO4 Batteries must be charged using CC/CV Method. Bioenno Power advises use of LiFePO4 Constant Voltage</i> Constant Current (CC) / Constant Voltage (CV)     Cycle Life   2000 Charge Cycles (at 0.2C discharge rate)   CO vercharge Protection for Each Cell: Min: 3.75 V; Typical: 3.8V; Max: 3.825 V     PCM (Protection Circuit Module)   Parameters   Overcharge Recovery Protection for Each Cell: Min: 3.75 V; Typical: 3.8V; Max: 3.85V     Undercharge Recovery Protection for Each Cell: Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell: Min: 2.2V; Typical: 2.3V; Max: 2.4V     Discharge Overcurrent Protection: Min: 70A; Typical: 80A; Max: 90A   Over Temperature Protection: Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C     Dimensions   7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)   Weight   7.19 (add gr.) (add | Internal Impedance                 | < 100 milli-ohms   |
| Discharge Cutoff Voltage   9.2 (+/-0.5V)     Continuous Discharge Current   20A. [ <i>Clectrical Load should not exceed 20A continuous</i> ]     Max Peak Pulse Discharge Current   60A (2 Seconds)     Charge Method   Constant Current (CC) / Constant Voltage (CV) <i>LiFePO4 Batteries must be charged using CC/CV Method. Bioenno Power advises use of LiFePO4 Constant Voltage</i> Constant Current (CC) / Constant Voltage (CV)     Cycle Life   2000 Charge Cycles (at 0.2C discharge rate)   CO vercharge Protection for Each Cell: Min: 3.75 V; Typical: 3.8V; Max: 3.825 V     PCM (Protection Circuit Module)   Parameters   Overcharge Recovery Protection for Each Cell: Min: 3.75 V; Typical: 3.8V; Max: 3.85V     Undercharge Recovery Protection for Each Cell: Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell: Min: 2.2V; Typical: 2.3V; Max: 2.4V     Discharge Overcurrent Protection: Min: 70A; Typical: 80A; Max: 90A   Over Temperature Protection: Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C     Dimensions   7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)   Weight   7.19 (add gr.) (add | Nominal Charge Voltage             | 14.6 VDC (+/- 0.05V)                                     |
| Image: Continuous     Max Peak Pulse Discharge Current   60A (2 Seconds)     Charge Method   Constant Current (CC) / Constant Voltage (CV)     LiFePO4 Batteries must be charged using CC/CV<br>Method. Bioenno Power advises use of LiFePO4<br>chargers that are compatible with Bioenno Power<br>batteries.   CC Charging Current: <8A<br>Constant Voltage: 14.6 VDC<br>Charging Cut-Off Condition: < 200 mA     Cycle Life   2000 Charge Cycles (at 0.2C discharge rate)   Overcharge Protection of reach Cell:<br>Min: 3.775 V; Typical: 3.8V; Max: 3.825 V     PCM (Protection Circuit Module)   Parameters   Overcharge Recovery Protection for Each Cell:<br>Min: 3.55V; Typical: 3.6V; Max: 3.65V     Built in Protection Circuit Module   Overcharge Recovery Protection for Each Cell:<br>Min: 1.92V; Typical: 2.0V; Max: 2.08V     Undercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4V     Discharge Overcurrent Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C   Over Temperature Recovery Protection:<br>Min: 50 deg; Typical: 65 deg C; Max: 70 deg C     Dimensions   7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)   Yeight     Vieight   7 lbs. (3.18 kg)   Other Grups rature Recovery Condition:<br>100 deg C to 60 deg C)  | Discharge Cutoff Voltage           | 9.2 (+/- 0.5V)   |
| Max Peak Pulse Discharge Current 60A (2 Seconds)   Charge Method Constant Current (CC) / Constant Voltage (CV)   LiFeP04 Batteries must be charged using CC/CV Constant Current (CC) / Constant Voltage (CV)   Method. Bioenno Power advises use of LiFeP04 CC Charging Current: <8A   chargers that are compatible with Bioenno Power CC Charging Current: <8A   Cycle Life 2000 Charge Cycles (at 0.2C discharge rate)   PCM (Protection Circuit Module) Parameters   Built in Protection Circuit Module Overcharge Protection for Each Cell:   Min: 3.75 V; Typical: 3.8V; Max: 3.855 V Overcharge Protection for Each Cell:   Min: 1.92V; Typical: 2.0V; Max: 2.08V Undercharge Protection for Each Cell:   Min: 1.92V; Typical: 2.3V; Max: 2.08V Undercharge Recovery Protection for Each Cell:   Min: 2.2V; Typical: 2.3V; Max: 2.4V Discharge Overcurrent Protection:   Min: 2.2V; Typical: 2.3V; Max: 2.4V Discharge Overcurrent Protection:   Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C Over Temperature Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C Over Temperature Recovery Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C Over Temperature Recovery Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C Over Temperature Recovery Protec   | Continuous Discharge Current       | · · · · · · · · · · · · · · · · · · ·                    |
| Charge Method Constant Current (CC) / Constant Voltage (CV)   LIFePO4 Batteries must be charged using CC/CV Constant Current (CC) / Constant Voltage (CV)   Method. Bioenno Power advises use of LIFePO4 CC Charging Current: <8A   chargers that are compatible with Bioenno Power CC Charging Current: <8A   Cycle Life 2000 Charge Cycles (at 0.2C discharge rate)   PCM (Protection Circuit Module) Parameters   Built in Protection Circuit Module Overcharge Protection for Each Cell:   Min: 3.775 V; Typical: 3.8V; Max: 3.855 V Overcharge Protection for Each Cell:   Min: 3.55V; Typical: 3.6V; Max: 3.65V Undercharge Protection for Each Cell:   Min: 1.92V; Typical: 2.0V; Max: 2.08V Undercharge Recovery Protection for Each Cell:   Min: 2.2V; Typical: 2.0V; Max: 2.08V Undercharge Recovery Protection for Each Cell:   Min: 2.2V; Typical: 2.3V; Max: 2.4V Discharge Overcurrent Protection:   Min: 70A; Typical: 80A; Max: 90A Over Temperature Protection:   Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C Over Temperature Recovery Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C Over Temperature Recovery Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C Over Temperature Recovery Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   |                                    |  |
| LiFePO4 Batteries must be charged using CC/CV   Method. Bioenno Power advises use of LiFePO4   chargers that are compatible with Bioenno Power   batteries.   Cycle Life   PCM (Protection Circuit Module) Parameters   Built in Protection Circuit Module   Built in Protection Circuit Module   Vercharge Protection for Each Cell:   Min: 3.775 V; Typical: 3.8V; Max: 3.825 V   Overcharge Recovery Protection for Each Cell:   Min: 3.55V; Typical: 3.6V; Max: 3.65V   Undercharge Protection for Each Cell:   Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:   Min: 2.2V; Typical: 2.0V; Max: 2.4V   Discharge Overcurrent Protection:   Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C   Over Temperature Recovery Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   Dimensions 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)   Weight 7 lbs. (3.18 kg.)   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)  |                                    |  |
| Method. Bioenno Power advises use of LiFeP04<br>chargers that are compatible with Bioenno Power<br>batteries. CC Charging Current: <8A<br>Constant Voltage: 14.6 VDC<br>Charging Cut-Off Condition: < 200 mA   Cycle Life 2000 Charge Cycles (at 0.2C discharge rate)   PCM (Protection Circuit Module) Parameters<br>Built in Protection Circuit Module Overcharge Protection for Each Cell:<br>Min: 3.775 V; Typical: 3.8V; Max: 3.825 V   Overcharge Recovery Protection for Each Cell:<br>Min: 3.55V; Typical: 3.6V; Max: 3.65V Undercharge Protection for Each Cell:<br>Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4V Discharge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90A   Over Temperature Protection:<br>Min: 50 deg; C; Typical: 65 deg C; Max: 70 deg C Over Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   Dimensions 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm) Yeight   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    | Constant Current (CC) / Constant Voltage (CV)            |
| chargers that are compatible with Bioenno Power<br>batteries.   Constant Voltage: 14.6 VDC<br>Charging CutOff Condition: < 200 mA  |                                    |  |
| batteries. Charging Cut-Off Condition: < 200 mA   Cycle Life 2000 Charge Cycles (at 0.2C discharge rate)   PCM (Protection Circuit Module) Parameters Overcharge Protection for Each Cell:<br>Min: 3.775 V; Typical: 3.8V; Max: 3.825 V   Built in Protection Circuit Module Win: 3.775 V; Typical: 3.8V; Max: 3.825 V   Overcharge Recovery Protection for Each Cell:<br>Min: 3.55V; Typical: 3.6V; Max: 3.65V Undercharge Protection for Each Cell:<br>Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:<br>Min: 1.92V; Typical: 2.3V; Max: 2.08V Undercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4V   Discharge Overcurrent Protection:<br>Min: 70A; Typical: 65 deg C; Max: 70 deg C Over Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C   Dimensions 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)   Weight 7 lbs. (3.18 kg.)   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    |  |
| Cycle Life 2000 Charge Cycles (at 0.2C discharge rate)   PCM (Protection Circuit Module) Parameters   Built in Protection Circuit Module Overcharge Protection for Each Cell:<br>Min: 3.775 V; Typical: 3.8V; Max: 3.825 V   Overcharge Recovery Protection for Each Cell:<br>Min: 3.55V; Typical: 3.6V; Max: 3.65V Undercharge Protection for Each Cell:<br>Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4V Discharge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90A   Over Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C Over Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   Dimensions 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)   Weight 7 lbs. (3.18 kg.)   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    |  |
| PCM (Protection Circuit Module) Parameters   Built in Protection Circuit Module Overcharge Protection for Each Cell:<br>Min: 3.775 V; Typical: 3.8V; Max: 3.825 V   Overcharge Recovery Protection for Each Cell:<br>Min: 3.55V; Typical: 3.6V; Max: 3.65V Undercharge Protection for Each Cell:<br>Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4V Undercharge Recovery Protection for Each Cell:<br>Min: 70A; Typical: 2.3V; Max: 2.4V   Discharge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90A Over Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C   Over Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg C Over Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   Dimensions 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm) 7 lbs. (3.18 kg.)   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    |  |
| Built in Protection Circuit Module Min: 3.775 V; Typical: 3.8V; Max: 3.825 V   Overcharge Recovery Protection for Each Cell:<br>Min: 3.55V; Typical: 3.6V; Max: 3.65V Undercharge Protection for Each Cell:<br>Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:<br>Min: 1.92V; Typical: 2.3V; Max: 2.08V Undercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4V   Discharge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90A Over Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C   Over Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg C Over Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   Dimensions 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)<br>Y lbs. (3.18 kg.) Operating Temperature   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    |  |
| Overcharge Recovery Protection for Each Cell:<br>Min: 3.55V; Typical: 3.6V; Max: 3.65V   Undercharge Protection for Each Cell:<br>Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4V   Discharge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90A   Over Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C   Over Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   Dimensions 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)   Weight 7 lbs. (3.18 kg.)   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    |  |
| Min: 3.55V; Typical: 3.6V; Max: 3.65V   Undercharge Protection for Each Cell:   Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:   Min: 2.2V; Typical: 2.3V; Max: 2.4V   Discharge Overcurrent Protection:   Min: 70A; Typical: 80A; Max: 90A   Over Temperature Protection:   Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C   Over Temperature Recovery Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   Dimensions 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)   Weight 7 lbs. (3.18 kg.)   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)   Discharging: 14F to 140F (-10 deg C to 60 deg C) Discharging: 14F to 140F (-10 deg C to 60 deg C)  | Built in Protection Circuit Module | Min: 3.775 V; Typical: 3.8V; Max: 3.825 V                |
| Min: 3.55V; Typical: 3.6V; Max: 3.65V   Undercharge Protection for Each Cell:   Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:   Min: 2.2V; Typical: 2.3V; Max: 2.4V   Discharge Overcurrent Protection:   Min: 70A; Typical: 80A; Max: 90A   Over Temperature Protection:   Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C   Over Temperature Recovery Protection:   Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   Dimensions 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)   Weight 7 lbs. (3.18 kg.)   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)   Discharging: 14F to 140F (-10 deg C to 60 deg C) Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    | Overshards Resovery Bratestian for Each Call:            |
| Undercharge Protection for Each Cell:<br>Min: 1.92V; Typical: 2.0V; Max: 2.08V   Undercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4V   Discharge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90A   Over Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg C   Over Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg C   Dimensions 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)   Weight 7 lbs. (3.18 kg.)   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)   Discharging: 14F to 140F (-10 deg C to 60 deg C) Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    |  |
| Min: 1.92V; Typical: 2.0V; Max: 2.08VUndercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4VDischarge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90AOver Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg COver Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg CDimensions7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)Weight7 lbs. (3.18 kg.)Operating TemperatureCharging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    | Will. 5.55V, Typical. 5.0V, Wax. 5.05V                   |
| Min: 1.92V; Typical: 2.0V; Max: 2.08VUndercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4VDischarge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90AOver Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg COver Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg CDimensions7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)Weight7 lbs. (3.18 kg.)Operating TemperatureCharging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    | Undercharge Protection for Each Cell:                    |
| Undercharge Recovery Protection for Each Cell:<br>Min: 2.2V; Typical: 2.3V; Max: 2.4VDischarge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90AOver Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg COver Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg CDimensions7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)Weight7 lbs. (3.18 kg.)Operating TemperatureCharging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    |  |
| Min: 2.2V; Typical: 2.3V; Max: 2.4VDischarge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90AOver Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg COver Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg CDimensions7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)Weight7 lbs. (3.18 kg.)Operating TemperatureCharging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    |  |
| Min: 2.2V; Typical: 2.3V; Max: 2.4VDischarge Overcurrent Protection:<br>Min: 70A; Typical: 80A; Max: 90AOver Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg COver Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg CDimensions7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)Weight7 lbs. (3.18 kg.)Operating TemperatureCharging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    | Undercharge Recovery Protection for Each Cell:           |
| Min: 70Å; Typical: 80A; Max: 90AOver Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg COver Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg CDimensions7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)<br>Y lbs. (3.18 kg.)Operating TemperatureCharging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    |  |
| Min: 70Å; Typical: 80A; Max: 90AOver Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg COver Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg CDimensions7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)<br>Y lbs. (3.18 kg.)Operating TemperatureCharging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    |  |
| Over Temperature Protection:<br>Min: 60 deg C; Typical: 65 deg C; Max: 70 deg COver Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg CDimensions7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)Weight7 lbs. (3.18 kg.)Operating TemperatureCharging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    |  |
| Min: 60 deg C; Typical: 65 deg C; Max: 70 deg COver Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg CDimensions7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)Weight7 lbs. (3.18 kg.)Operating TemperatureCharging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    | Min: 70A; Typical: 80A; Max: 90A                         |
| Min: 60 deg C; Typical: 65 deg C; Max: 70 deg COver Temperature Recovery Protection:<br>Min: 50 deg; Typical: 55 deg C; Max: 60 deg CDimensions7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)Weight7 lbs. (3.18 kg.)Operating TemperatureCharging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    |  |
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| Dimensions   7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm)     Weight   7 lbs. (3.18 kg.)     Operating Temperature   Charging: 32F to 113F (0 deg C to 45 deg C)     Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    |  |
| Weight 7 lbs. (3.18 kg.)   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)   Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    | Min: 50 deg; Typical: 55 deg C; Max: 60 deg C            |
| Weight 7 lbs. (3.18 kg.)   Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)   Discharging: 14F to 140F (-10 deg C to 60 deg C)  | Dimensions                         | 7.09 in. x 6.54 in. x 2.95 in. (180 mm x 166 mm x 75 mm) |
| Operating Temperature Charging: 32F to 113F (0 deg C to 45 deg C)<br>Discharging: 14F to 140F (-10 deg C to 60 deg C)  |                                    |  |
| Discharging: 14F to 140F (-10 deg C to 60 deg C)   |                                    |  |
|  |                                    |  |
| Storage Temperature 41F to 95F (5 deg C to 35 deg C)   | Storage Temperature                |  |

## Warranty (6 months)

Bioenno Power and Bioenno Tech LLC warrants only to the original purchaser of this product that this product is free of defects in material and workmanship for 6 months from time of purchase as indicated on this receipt. This product will be replaced within the 6 month time period as long as the buyer contacts Bioenno Power and Bioenno Tech LLC within this time period (by telephone or email communication). Purchaser pays for return shipping. This warranty does **NOT** cover damage to the product caused by abuse or neglect, modification by tampering with the product casing, failure to keep the battery properly charged or maintained, disposal in a fire, freezing, theft, overcharging, or other forms of damage. This warranty shall be in lieu of any other warranty, express or implied, including but not limited to, any implied warranty of merchantability or fitness for a particular purpose.