

# 6LF120-X 12V 120 Ah

## SUNNY BATT Rechargeable Products Sealed Lead Acid Battery

The rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and plates and thus immobilized. Should the battery be accidentally overcharged producing hydrogen and oxygen, special one-way valves allow the gases to escape thus avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof and usable in any position.

### General purpose application

SUNNY BATT LF series are designed for general purpose applications, such as UPS, telecom, electrical utilities.

With 10 years design life, the batteries comply to the most popular international standards, such as IEC896-2, BS6290-4, Eurobat Guide.

The battery container and cover are available both in V0 class flame retardant ABS or HBO ABS plastics.

SUNNY BATT GROUP has come to obtain wide recognition from customers all over the world. This is not only due to the fact that our products are featured by reliable stability in quality, but also because we attach great importance to our communication with customers and our perfect understanding of customers' requirements as well.

### General Features

- Positive and negative plates in lead-calcium-tin alloy
- Stable Quality & High Reliability
- Sealed Construction
- Long Service Life
- Maintenance-Free Operation
- Low Pressure Venting System
- Low Self Discharge
- U. L. Component Recognition
- Six months shelf life at 20°C
- Design life 10 years



### Dimensions and Weight

|                | SI Units | English Units |
|----------------|----------|---------------|
| Length         | 410mm    | 16.1inch      |
| Width          | 176mm    | 6.93inch      |
| Height         | 227mm    | 8.94inch      |
| Total Height   | 227mm    | 8.94inch      |
| Approx. Weight | 38.0Kg   | 83.8lbs       |

### Performance Characteristics

- Nominal Voltage 12V
- Number of cell 6
- Nominal Capacity 77°F(25°C)
  - 10 hour rate (12.0A, 10.8V) 120Ah
  - 5 hour rate (20.0A, 10.5V) 100Ah
  - 1 hour rate (71.6A, 9.60V) 71.6Ah
- Internal Resistance
  - Fully Charged battery 77°F(25°C) 4.3mOhms
- Self-Discharge
  - 3% of capacity declined per month at 20°C(average)
- Operating Temperature Range
  - Discharge -20~60°C
  - Charge -10~60°C
  - Storage -20~60°C
- Max. Discharge Current 77°F(25°C) 950A(5s)
- Short Circuit Current 2250A
- Charge Methods: Constant Voltage Charge 77°F(25°C)
  - Cycle use 14.4-14.7V
  - Maximum charging current 36A
  - Temperature compensation -30mV/°C
- Standby use 13.6-13.8V
  - Temperature compensation -20mV/°C

### Battery Construction

| Component    | Positive plate | Negative plate | Container | Cover | Safety valve | Terminal | Separator  | Electrolyte   |
|--------------|----------------|----------------|-----------|-------|--------------|----------|------------|---------------|
| Raw material | Lead dioxide   | Lead           | ABS       | ABS   | Rubber       | Copper   | Fiberglass | Sulfuric acid |

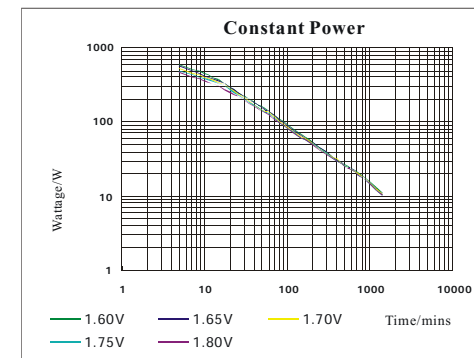
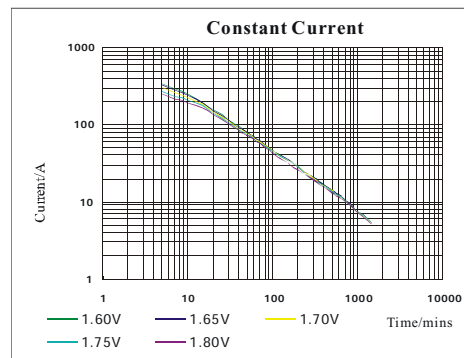
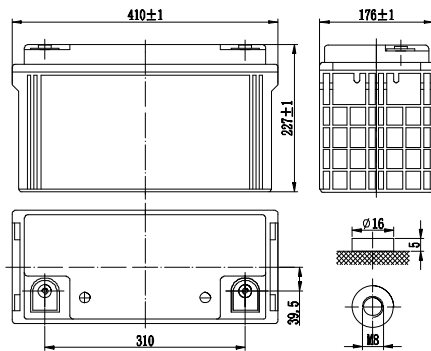
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## Discharge Data

| Constant Current Discharge Data ( Amperes at 25°C ) |  |       |       |       |       |       |       |       |       |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| End Voltage Per cell / V                            |  | 10min | 15min | 20min | 25min | 30min | 35min | 40min | 45min | 50min | 55min | 1h   | 1.5h | 2h   | 2.5h | 3h   | 4h   | 5h   | 6h   | 7h   | 8h   | 9h   | 10h  | 12h  | 24h  |
| 1.60  |  | 250   | 196   | 158   | 135   | 120   | 106   | 95.8  | 87.7  | 81.3  | 76.0  | 71.6 | 51.8 | 41.9 | 36.0 | 32.0 | 25.1 | 21.0 | 18.2 | 16.2 | 14.6 | 13.4 | 12.5 | 10.5 | 5.54 |
| 1.65  |  | 245   | 195   | 156   | 132   | 116   | 103   | 93.6  | 86.1  | 80.1  | 75.2  | 71.1 | 51.3 | 41.4 | 35.5 | 31.5 | 24.9 | 21.0 | 18.1 | 16.0 | 14.5 | 13.3 | 12.3 | 10.5 | 5.47 |
| 1.70  |  | 223   | 187   | 150   | 127   | 112   | 99.9  | 90.9  | 83.8  | 78.2  | 73.5  | 69.7 | 50.4 | 40.7 | 34.9 | 31.0 | 24.5 | 20.7 | 17.8 | 15.8 | 14.2 | 13.1 | 12.2 | 10.4 | 5.39 |
| 1.75  |  | 210   | 179   | 144   | 122   | 108   | 96.4  | 87.8  | 81.0  | 75.6  | 71.2  | 67.5 | 49.0 | 39.8 | 34.2 | 30.5 | 24.0 | 20.0 | 17.3 | 15.4 | 14.0 | 12.9 | 12.1 | 10.3 | 5.31 |
| 1.80  |  | 197   | 167   | 137   | 118   | 106   | 94.4  | 85.7  | 78.9  | 73.5  | 69.1  | 65.4 | 46.8 | 37.4 | 31.8 | 28.1 | 22.6 | 19.3 | 16.8 | 15.0 | 13.6 | 12.6 | 12.0 | 10.2 | 5.24 |

| Constant Power Discharge Data ( Watts per cell at 25°C ) |  |       |       |       |       |       |       |       |       |       |       |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| End Voltage Per cell / V                                 |  | 10min | 15min | 20min | 25min | 30min | 35min | 40min | 45min | 50min | 55min | 1h  | 1.5h | 2h   | 2.5h | 3h   | 4h   | 5h   | 6h   | 7h   | 8h   | 9h   | 10h  | 12h  | 24h  |
| 1.60   |  | 449   | 370   | 299   | 256   | 227   | 204   | 186   | 172   | 160   | 149   | 141 | 100  | 79.6 | 67.3 | 59.2 | 46.9 | 39.5 | 34.1 | 30.3 | 27.4 | 25.1 | 23.3 | 21.0 | 11.0 |
| 1.65   |  | 426   | 358   | 289   | 248   | 220   | 199   | 183   | 171   | 158   | 147   | 137 | 97.0 | 76.8 | 64.7 | 56.6 | 45.5 | 38.9 | 33.7 | 29.9 | 27.1 | 24.9 | 23.2 | 20.1 | 10.8 |
| 1.70   |  | 404   | 346   | 280   | 240   | 213   | 189   | 171   | 157   | 147   | 138   | 131 | 93.0 | 74.0 | 62.6 | 55.0 | 44.6 | 38.3 | 33.2 | 29.6 | 26.8 | 24.7 | 23.0 | 19.7 | 10.6 |
| 1.75   |  | 383   | 334   | 270   | 232   | 206   | 184   | 167   | 154   | 143   | 135   | 128 | 91.0 | 72.6 | 61.5 | 54.1 | 43.7 | 37.4 | 32.5 | 29.1 | 26.5 | 24.4 | 22.8 | 19.3 | 10.4 |
| 1.80   |  | 358   | 310   | 254   | 221   | 199   | 178   | 162   | 150   | 140   | 131   | 124 | 88.6 | 70.8 | 60.1 | 53.0 | 43.0 | 37.0 | 32.1 | 28.6 | 26.0 | 23.9 | 22.3 | 19.0 | 10.2 |

(Note) The above characteristics data are average values obtained within three charge/discharge cycles not the minimum values.



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