



|                |            |                    |                    |
|----------------|------------|--------------------|--------------------|
| 20<br>Years    | TPPL       | 5 Years            | -35 °C ~<br>+65 °C |
| Design Life    | Technology | Warranty*          | Temperature        |
|                |            |                    |                    |
| High Rate Type | UPS        | Emergency Lighting | Recyclable         |

# Pure Lead Power

## 450-12FT M8V0 (12V450W)

Item Nr.: SSB2037905

### Applications (for industrial standby use)

- Uninterruptable Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Emergency light
- Railway signal
- Communication power supply
- DC power supply

### Certificates



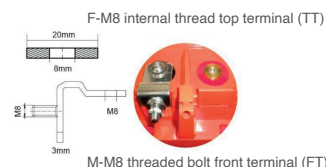
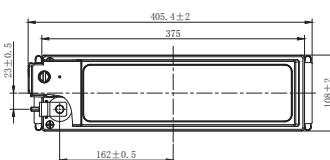
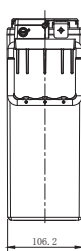
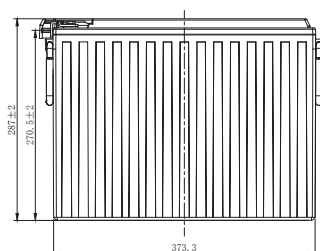
### Specifications

|                                               |                                                             |                         |                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------|-------------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Nominal Voltage</b>                        | 12V                                                         | <b>Float Charge</b>     | 2.285V/cell @ 20°C, 2.270V/cell @ 25°C<br>Temperature coefficient: -3mV/cell/°C                                                                                                                                                                                                                                        |
| <b>Open-circuit voltage</b>                   | 12.96V (fully charged)                                      | <b>Boost Charge</b>     | 2.395V/cell @ 20°C, 2.375V/cell @ 25°C<br>Temperature coefficient: -4mV/cell/°C                                                                                                                                                                                                                                        |
| <b>Nominal Rate</b>                           | 450.0W/cell (W <sub>15</sub> , 1.60V/cell)                  | <b>Charging Current</b> | 0.1-0.3C                                                                                                                                                                                                                                                                                                               |
| <b>Nominal Capacity</b>                       | 109Ah (C <sub>10</sub> , 1.80V/cell)                        | <b>Self Discharge</b>   | SSB Battery PLP batteries may be stored for up to 24 months at 20°C (self-discharge per month ≤0.5%).<br>For higher temperatures the time interval will be shorter. Batteries need to be given a freshening charge when the OCV is <12.72 V/block or when the maximum storage time is reached, whichever occurs first. |
| <b>Approx. Weight</b>                         | 30.8kg                                                      | <b>Life Expectancy</b>  | >12 years according to EUROBAT (Very Long Life)<br>20 years Design Life                                                                                                                                                                                                                                                |
| <b>Terminal</b>                               | M8                                                          |                         |                                                                                                                                                                                                                                                                                                                        |
| <b>Container Material</b>                     | FT (M-M8)/TT (F-M8)                                         |                         |                                                                                                                                                                                                                                                                                                                        |
| <b>Max. Discharge Current</b>                 | 1200A (5 s)<br>425.8A (30)                                  |                         |                                                                                                                                                                                                                                                                                                                        |
| <b>Short-circuit Current</b>                  | 2000A                                                       |                         |                                                                                                                                                                                                                                                                                                                        |
| <b>Internal Resistance / Impedance (1kHz)</b> | Approx. 4.5mΩ (±10 %)                                       |                         |                                                                                                                                                                                                                                                                                                                        |
| <b>Nominal Oper. Temp. R.</b>                 | 20±2°C                                                      |                         |                                                                                                                                                                                                                                                                                                                        |
| <b>Operating Temp. Range</b>                  | Discharge: -35°~65°C<br>Charge: -20~45°C<br>Storage: 5~30°C |                         |                                                                                                                                                                                                                                                                                                                        |

### Dimensions

■ Unit: mm | Dimensions: 405.4 Length X 108 Width X 287 Height (287 Height incl. Terminal)

■ TT(F-M8)/FT(M-M8)



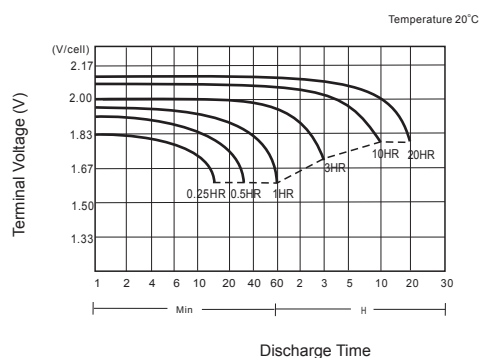
## Constant Current Discharge (Amperes) at 20°C

| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h   | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h |
|------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|-----|
| 1.85V/cell | 220.9 | 197.1 | 167.3 | 137.9 | 109.7 | 88.8  | 68.7 | 41.1 | 28.5 | 22.0 | 18.2 | 13.0 | 10.7 | 5.3 |
| 1.80V/cell | 248.8 | 218.3 | 187.1 | 148.5 | 115.7 | 91.8  | 70.9 | 42.2 | 29.2 | 22.6 | 18.7 | 13.3 | 10.9 | 5.4 |
| 1.75V/cell | 278.0 | 234.5 | 197.2 | 155.2 | 119.1 | 94.6  | 73.0 | 43.3 | 30.0 | 23.0 | 19.1 | 13.6 | 11.0 | 5.4 |
| 1.70V/cell | 299.2 | 250.7 | 208.6 | 163.0 | 123.4 | 97.7  | 75.1 | 44.4 | 30.7 | 23.3 | 19.3 | 13.6 | 11.0 | 5.5 |
| 1.67V/cell | 320.5 | 266.8 | 219.2 | 170.4 | 128.3 | 101.3 | 77.7 | 45.0 | 31.1 | 23.8 | 19.5 | 13.6 | 11.1 | 5.5 |
| 1.60V/cell | 340.8 | 284.4 | 230.6 | 177.7 | 135.0 | 104.0 | 79.6 | 46.1 | 31.9 | 24.1 | 19.7 | 13.7 | 11.2 | 5.6 |

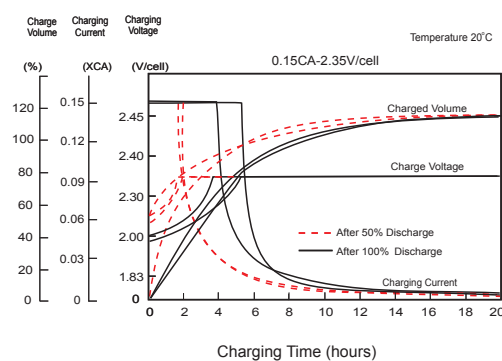
## Constant Power Discharge (Watts/cell) at 20°C

| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h    | 2h   | 3h   | 4h   | 5h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 1.85V/cell | 438.6 | 389.9 | 334.2 | 277.2 | 222.4 | 181.4 | 140.8 | 84.8 | 59.0 | 45.5 | 38.0 | 26.4 | 21.9 | 10.4 |
| 1.80V/cell | 482.6 | 423.8 | 368.1 | 295.6 | 232.6 | 185.0 | 143.6 | 86.1 | 59.6 | 46.2 | 38.4 | 27.0 | 22.0 | 10.7 |
| 1.75V/cell | 528.6 | 447.3 | 382.2 | 303.4 | 234.9 | 188.1 | 146.1 | 87.2 | 60.5 | 46.4 | 38.5 | 27.5 | 22.1 | 10.8 |
| 1.70V/cell | 566.7 | 475.2 | 410.9 | 323.0 | 244.2 | 193.0 | 148.7 | 88.4 | 61.5 | 46.6 | 38.6 | 27.5 | 22.1 | 10.9 |
| 1.67V/cell | 603.9 | 503.8 | 429.0 | 335.7 | 252.5 | 199.4 | 153.0 | 89.1 | 61.8 | 47.5 | 39.0 | 27.5 | 22.2 | 10.9 |
| 1.60V/cell | 639.5 | 534.5 | 450.0 | 347.4 | 263.5 | 202.9 | 155.5 | 90.5 | 63.0 | 47.8 | 39.1 | 27.7 | 22.5 | 11.0 |

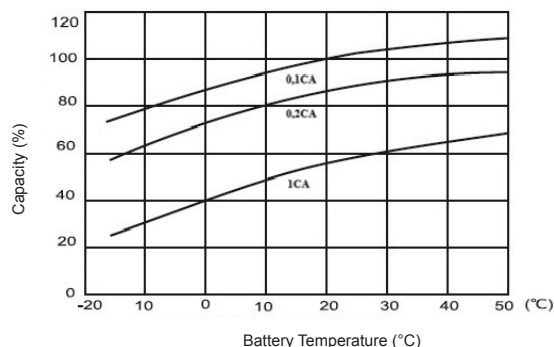
## Discharge Characteristics



## Charging Characteristics



## Effect of Temperature on Capacity



## Float Life Characteristics

