



# XP Series-Ultra High Rate

## XP12-540(12V540W)

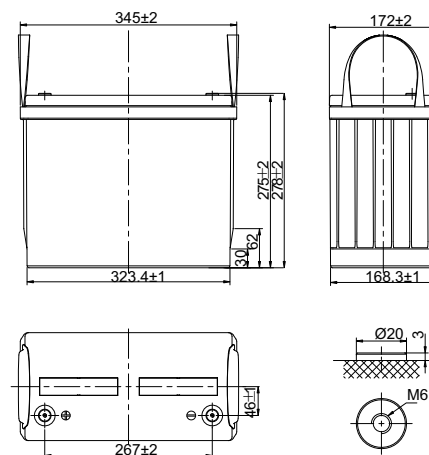


### Specifications

|  |                    |                           |
|--|--------------------|---------------------------|
| Rated Voltage                            | 12V                |                           |
| Nominal Rate ( $W_{15}, 1.67V/cell$ )    | 539.0W/cell        |                           |
| Nominal Capacity( $C_{20}, 1.80V/cell$ ) | 155Ah              |                           |
| Dimension                                | Length             | 345±3mm (13.58 inches)    |
|  | Width              | 172±2mm (6.77 inches)     |
|  | Container Height   | 275±3mm (10.83 inches)    |
|  | Total Height       | 278±3mm (10.94 inches)    |
| Approx. Weight                           | 44.8 Kg (98.8 lbs) |                           |
| Terminal                                 | M6                 |                           |
| Container Material                       | ABS                |                           |
| Rated Capacity (25°C)                    | 155.0 Ah           | (20hr, 7.75A, 1.80V/cell) |
|  | 147.0 Ah           | (10hr, 14.7A, 1.80V/cell) |
|  | 130.5 Ah           | (5hr, 26.1A, 1.75V/cell)  |
|  | 120.3 Ah           | (3hr, 40.1A, 1.75V/cell)  |
|  | 105.6 Ah           | (1hr, 105.6A, 1.67V/cell) |
| Max. Discharge Current                   | 2015A              |                           |
| Internal Resistance (25°C)               | Approx. 3.1mΩ      |                           |
| Operating Temp. Range                    | Discharge          | -15 ~ 50°C (5 ~ 122°F)    |
|  | Charge             | 0 ~ 40°C (32 ~ 104°F)     |
|  | Storage            | -15 ~ 40°C (5 ~ 104°F)    |
| Nominal Operating Temp. Range            | 25±3°C (77±5°F)    |                           |
| Max. Charging Current(25°C)              | 46.5A              |                           |
| Charge voltage(25°C)                     | Float              | 13.5V                     |
|  | Temp. Coefficient  | -3mV/cell/°C              |
|  | Equalization       | 14.1~14.4V                |
| Effect of temp. to Capacity              | 40°C (104°F)       | 103%                      |
|  | 25°C (77°F)        | 100%                      |
|  | 0°C (32°F)         | 86%                       |
| Self Discharge                           | ≤3%/month @ 25°C   |                           |



### Layout



### Constant Current Discharge (Amperes) at 25 °C (77°F)

| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h    | 2h   | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| 1.85V/cell | 282.7 | 227.9 | 197.5 | 173.4 | 138.3 | 106.0 | 87.0  | 51.5 | 37.2 | 29.6 | 24.6 | 21.4 | 17.1 | 14.3 | 7.57 |
| 1.80V/cell | 327.4 | 252.0 | 217.6 | 192.0 | 150.7 | 114.1 | 92.1  | 54.0 | 38.8 | 30.7 | 25.5 | 22.1 | 17.6 | 14.7 | 7.75 |
| 1.75V/cell | 381.3 | 281.8 | 241.2 | 207.9 | 161.8 | 121.1 | 97.3  | 56.3 | 40.1 | 31.5 | 26.1 | 22.6 | 17.9 | 15.0 | 7.93 |
| 1.70V/cell | 425.9 | 309.7 | 265.0 | 225.9 | 173.3 | 127.9 | 102.0 | 58.2 | 41.2 | 32.3 | 26.7 | 23.0 | 18.3 | 15.3 | 8.06 |
| 1.67V/cell | 466.9 | 341.3 | 288.5 | 240.4 | 180.8 | 133.3 | 105.6 | 60.1 | 42.4 | 33.1 | 27.3 | 23.5 | 18.7 | 15.5 | 8.20 |
| 1.60V/cell | 507.8 | 369.2 | 304.4 | 253.4 | 190.0 | 138.9 | 109.5 | 61.7 | 43.2 | 34.0 | 28.0 | 24.2 | 19.1 | 15.9 | 8.36 |

### Constant Power Discharge (Watts/cell) at 25 °C (77°F)

| F.V/Time   | 5min  | 10min | 15min | 20min | 30min | 45min | 1h    | 2h    | 3h   | 4h   | 5h   | 6h   | 8h   | 10h  | 20h  |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 1.85V/cell | 537.7 | 438.4 | 382.7 | 337.8 | 271.0 | 209.1 | 172.5 | 102.8 | 74.4 | 59.5 | 49.8 | 43.5 | 34.9 | 29.5 | 15.6 |
| 1.80V/cell | 615.4 | 480.8 | 417.8 | 371.3 | 293.0 | 223.2 | 181.3 | 106.8 | 77.1 | 61.2 | 51.1 | 44.4 | 35.6 | 30.0 | 15.9 |
| 1.75V/cell | 710.1 | 530.7 | 458.9 | 398.9 | 312.2 | 235.1 | 190.2 | 110.7 | 79.2 | 62.5 | 52.0 | 45.2 | 36.1 | 30.4 | 16.2 |
| 1.70V/cell | 785.4 | 577.9 | 499.2 | 430.2 | 332.1 | 246.5 | 197.9 | 113.6 | 80.8 | 63.8 | 53.0 | 45.8 | 36.7 | 30.9 | 16.4 |
| 1.67V/cell | 852.0 | 630.1 | 539.0 | 454.3 | 344.4 | 255.5 | 203.8 | 116.8 | 82.8 | 65.0 | 53.9 | 46.6 | 37.2 | 31.2 | 16.6 |
| 1.60V/cell | 908.9 | 667.5 | 558.6 | 468.8 | 354.4 | 261.2 | 207.5 | 117.7 | 82.9 | 65.5 | 54.3 | 47.1 | 37.5 | 31.3 | 16.6 |



# XP Series-Ultra High Rate

## XP12-540(12V540W)



### Applications

- UPS
- Hospitals & Testing Laboratories
- Emergency Power Supply
- Electric starting
- Telecommunications
- Data Centers

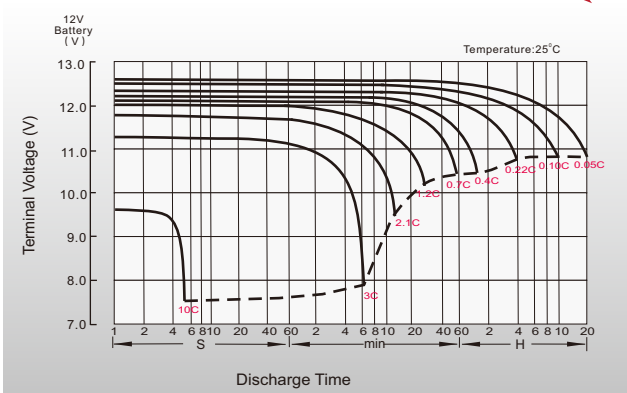
### General Features

- Special designed grids for optimized high power density
- Oversized partition intercell welds, providing low resistance connections & minimal power loss
- Advanced lead tin calcium alloy, reduces grid corrosion & promotes long battery life
- Performance excels at high rates of discharge & recharge
- High integrity post seal for long life

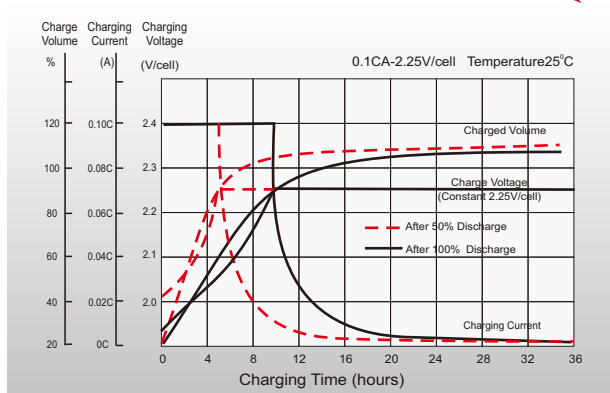
### Standards

- Compliance with IEC 60896 standards
- Classified as "Very Long Life" according to Eurobat
- CE, UL Certified
- Manufactured in Leoch®TS16949, OHSAS 18001, ISO 9001 and ISO 14001 certified production facilities

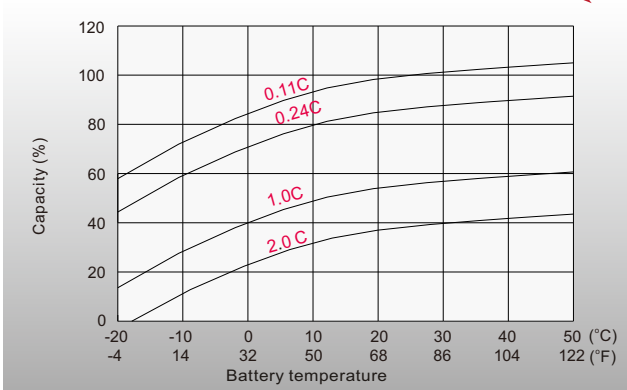
### Discharge Characteristics



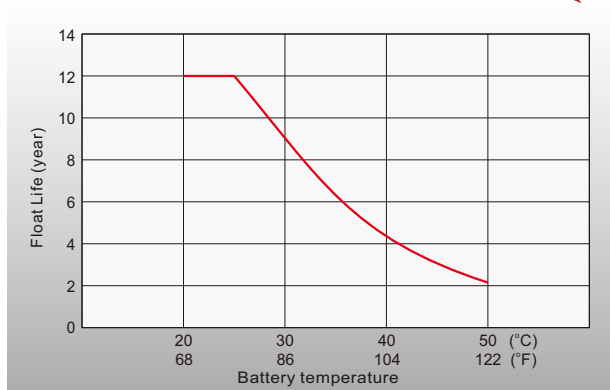
### Float Charging Characteristics



### Temperature Effects in Relation to Battery Capacity



### Temperature Effects on Long Term Float Life



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