



12V

152Ah

SLA

AGM

## 12TP160FT-FR

Rechargeable AGM Sealed Lead Acid Battery

### SPECIFICATIONS

|                                              |                          |  |
|----------------------------------------------|--------------------------|--|
| <b>Nominal Voltage</b>                       | 12V                      |  |
| <b>Nominal Capacity</b>                      |                          |  |
| 20 hour rate (7.6A to 10.5V)                 | 152Ah                    |  |
| 10 hour rate (15A to 10.8V)                  | 150Ah                    |  |
| 5 hour rate (25.5A to 10.2V)                 | 127.5Ah                  |  |
| 1 hour rate (90A to 9.6V)                    | 90Ah                     |  |
| 1C (150A to 9.6V)                            | 75Ah                     |  |
| <b>Weight</b>                                | Approx. 45kg             |  |
| <b>Internal Resistance</b> (at 1KHz)         | Approx. 4.5mΩ            |  |
| <b>Maximum Discharge Current</b> (5 secs)    | 1500A                    |  |
| <b>Charge Methods at 25°C</b>                |                          |  |
| <b>Cycle Use</b>                             |                          |  |
| Charging Voltage                             | 14.4V to 15.0V           |  |
| Coefficient -5.0mV/°C/Cell                   |                          |  |
| Maximum Charging Current                     | 45.6A                    |  |
| <b>Standby Use</b>                           |                          |  |
| Float Charging Voltage                       | 13.5V to 13.8V           |  |
| Coefficient -3.0mV/°C/Cell                   |                          |  |
| <b>Operating Temperature Range</b>           |                          |  |
| <b>Charge</b>                                | -15°C to 50°C*           |  |
| <b>Discharge</b>                             | -15°C to 50°C            |  |
| <b>Storage</b>                               | -15°C to 40°C            |  |
| <b>Charge Retention (Shelf Life) at 20°C</b> |                          |  |
| 1 month                                      | 98%                      |  |
| 3 months                                     | 94%                      |  |
| 6 months                                     | 85%                      |  |
| <b>Case Material</b>                         | UL94 V-0 Flame Retardant |  |
| <b>Termination</b>                           | F18 (M8 Bolt)            |  |

#### Description of Torque Value of Hardware for the Terminals

|                             |                        |
|-----------------------------|------------------------|
| Recommended Torque Value    | M8: 12 N-m (122kgf-cm) |
| Max. Allowable Torque Value | M8: 15 N-m (153kgf-cm) |

|                    |          |
|--------------------|----------|
| <b>Design Life</b> | 12 Years |
|--------------------|----------|

**Classified as a non-spillable battery.**

**Approved for transportation by:**

- Air (IATA/ICAO provision A67)
- Road
- Sea (per IMDG Special Provision 238)



**Barcode**



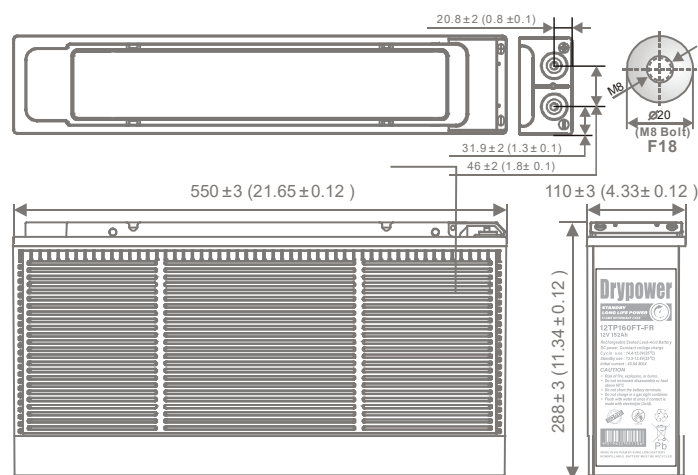
9319632521106



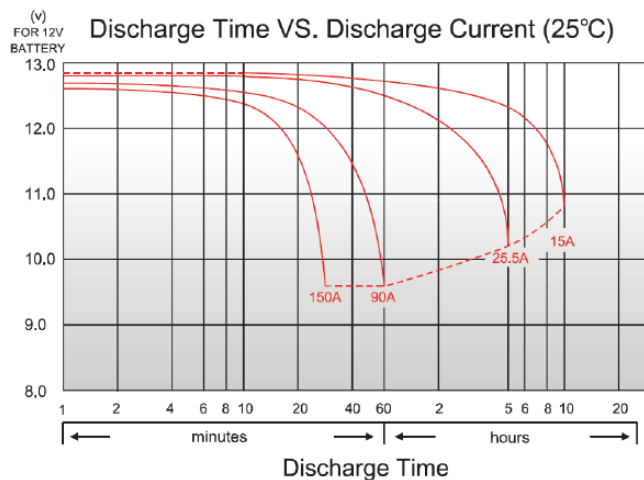
UL94 V-0  
FLAME RETARDANT  
CASE

### DIMENSIONS

mm (inch)



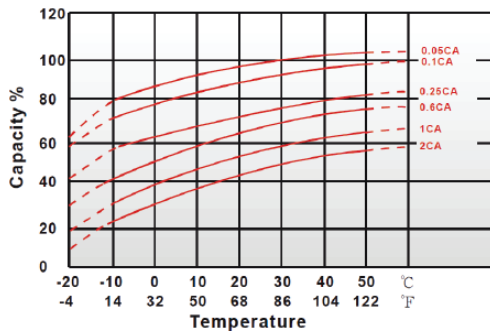
### Discharge Time VS. Discharge Current (25°C)



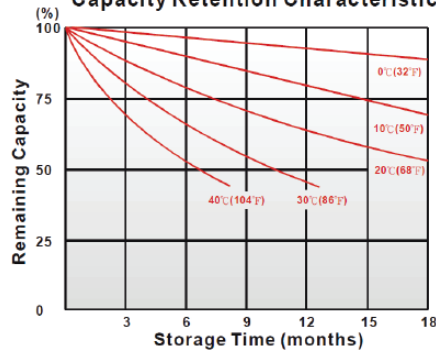
\* If charging above 40°C, always use temperature-compensated charging (refer charge methods above). High temperature use accelerates ageing; as a general guide, service life halves for every 10°C sustained rise above 25°C. Consult the engineers at MI for more information if required.

### CHARACTERISTICS CHARTS

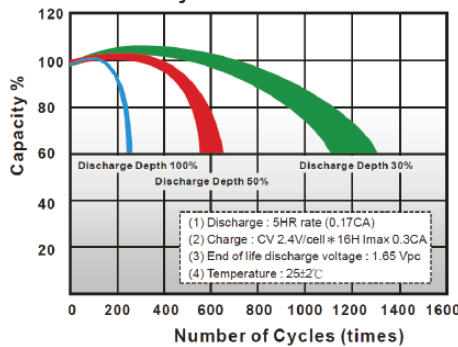
Effect of Temperature on Capacity 25°C (77°F)



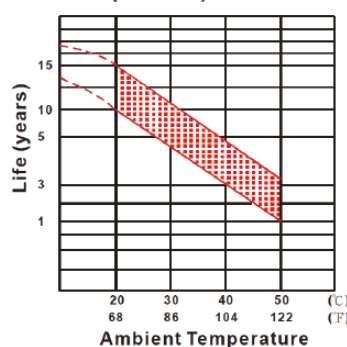
Capacity Retention Characteristic



Cycle Service Life



Trickle (or float) Service Life



### FEATURES & BENEFITS

- ◆ Industry leading 99.99% pure lead content for superior service life and dependable performance.
- ◆ Long service life to reduce maintenance and logistical costs across telecom, utilities and off-grid applications.
- ◆ Minimises sulphation with a thicker plate design and higher percentage of tin content to maximise battery standby life.
- ◆ High rate discharge capable to ensure reliable performance.
- ◆ Maintenance free technology and non-spillable design.
- ◆ Manufactured by Kung Long Battery (KLB) at facilities in Taiwan and Vietnam. KLB is a leading manufacturer and complies with relevant international quality standards including ISO9001, CE ETL9000, UL1989, OHSAS18001 and ISO17025. KLB supports Green Sustainable supply chain practices.



### PERFORMANCE DATA

Discharge Rates in Watts to Various End Voltages at 25°C (77°F)

| End Voltage |     | 1.85V | 1.80V | 1.75V | 1.70V | 1.67V | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| Time        |     |       |       |       |       |       |       |       |
| 15          | min | 330   | 405   | 456   | 489   | 499   | 509   | 520   |
| 30          | min | 197   | 241   | 272   | 291   | 297   | 303   | 310   |
| 60          | min | 164   | 175   | 182   | 186   | 187   | 188   | 189   |
| 120         | min | 88.3  | 93.2  | 95.8  | 98    | 98.8  | 99.7  | 101   |
| 180         | min | 70.2  | 73.8  | 76.5  | 78.5  | 79.2  | 80    | 80.8  |
| 240         | min | 57.5  | 60.3  | 62.2  | 63.7  | 64.2  | 64.8  | 65.5  |
| 300         | min | 48.8  | 51.2  | 52.6  | 53.2  | 53.4  | 53.6  | 53.8  |
| 480         | min | 32.4  | 33.3  | 34.6  | 35.5  | 35.8  | 36.1  | 36.4  |
| 600         | min | 29.3  | 30.2  | 30.8  | 31.1  | 31.3  | 31.5  | 31.7  |
| 1200        | min | 15    | 15.5  | 15.8  | 16    | 16.2  | 16.3  | 16.4  |

Discharge Rates in Amperes to Various End Voltages at 25°C (77°F)

| End Voltage |     | 1.85V | 1.80V | 1.75V | 1.70V | 1.67V | 1.65V | 1.60V |
|-------------|-----|-------|-------|-------|-------|-------|-------|-------|
| Time        |     |       |       |       |       |       |       |       |
| 15          | min | 187   | 217   | 241   | 261   | 275   | 288   | 298   |
| 30          | min | 107   | 132   | 148   | 159   | 162   | 165   | 169   |
| 60          | min | 82.7  | 89.9  | 92.7  | 94.8  | 95.6  | 96.4  | 97.5  |
| 120         | min | 43.7  | 49.6  | 52.1  | 53.9  | 54.6  | 55.4  | 56.4  |
| 180         | min | 33.4  | 37.2  | 39.1  | 40.5  | 41    | 41.6  | 42.3  |
| 240         | min | 27.4  | 30.1  | 31.4  | 32.4  | 32.7  | 33.1  | 33.5  |
| 300         | min | 22.7  | 24.3  | 25.5  | 25.9  | 26.2  | 26.4  | 26.6  |
| 480         | min | 15.90 | 17.3  | 17.5  | 17.7  | 17.9  | 18.1  | 18.3  |
| 600         | min | 14.4  | 15    | 15.1  | 15.2  | 15.3  | 15.4  | 15.5  |
| 1200        | min | 7.23  | 7.5   | 7.57  | 7.63  | 7.68  | 7.74  | 7.8   |

All data on the spec. sheet is an average value:

The tolerance range :  $X < 6\text{min}$  (+15%~-15%),  $6\text{min} \leq X < 10\text{min}$  (+12%~-12%),  $10\text{min} \leq X < 60\text{min}$  (+8%~-8%),  $X \geq 60\text{min}$  (+5%~-5%)

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Performance may vary depending on application. All specifications are correct at time of creation. All specifications and operation conditions contained in this datasheet are subject to change or improvement without prior notice to the user. This data is for evaluation purposes only. No guarantee is intended or implied by this data. For clarification and updated information, please contact us.