



EnerRocket™  
CONTINUOUSLY SAFEGUARDING

# ESH 12-400W FR

SMF VRLA RECHARGEABLE BATTERY

**HIGH RATE**  
**LONG**  
**LIFE**  
**SERIES**

## APPLICATIONS

UPS Systems  
Telecommunication Systems  
Fire Alarm Safety & Security Systems  
Medical Equipment

## COMPLIANCE STANDARDS

IEC 60896 PART 21 & 22  
Design Life as per Eurobat Standards

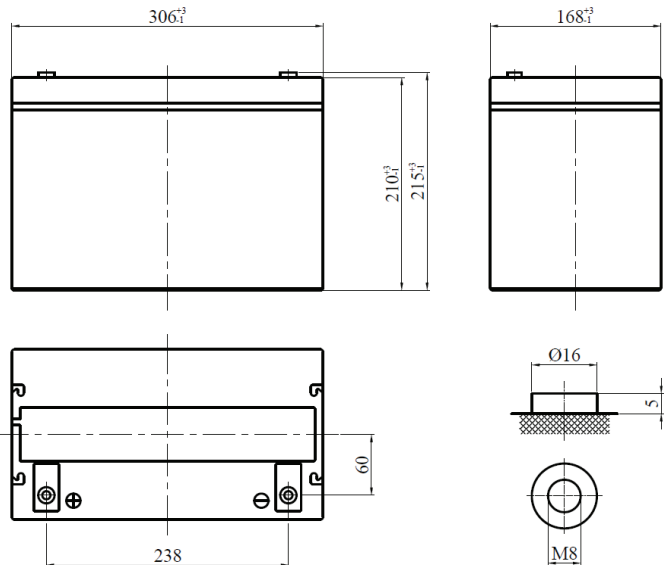
## TECHNICAL FEATURES



- Non-Spillable Sealed Construction
- Thin Plate Pure Lead Grid
- Absorptive Glass Mat System (AGM System)
- ABS (Acrylonitrile Butadiene Styrene) construction
- Gas Recombination
- Venting System for low internal pressure
- Low Self-Discharge
- Heavy-Duty, Highly Optimized Grids
- High Power Output
- Maintenance Free Operation

## CHARACTERISTICS

|                                                               |                                |                        |
|---------------------------------------------------------------|--------------------------------|------------------------|
| Nominal Voltage                                               | 12V                            |                        |
| Design Life                                                   | 12 Years                       |                        |
| Capacity (25°C)                                               | 15min 1.67ECV                  | 400w                   |
| Internal Resistance(25°C, 100% Charge)                        | ≤4.4 mΩ                        |                        |
| Self Discharge (20°C)                                         | 1 month                        | Remaining Capacity 97% |
| Operating Temperature                                         | Discharge                      | -20°C - 60°C           |
|                                                               | Charge                         | -10°C - 60°C           |
|                                                               | Storage                        | -20°C - 60°C           |
| Normal Operating Temperature                                  | 25°C ± 3°C                     |                        |
| Maximum Discharge current (25°C)                              | 810A (5sec)                    |                        |
| Maximum Charging current (25°C)                               | 28A                            |                        |
| Charge Methods<br>Constant Voltage Charge 25°C<br>Cyclic Use  | 14.4 to 14.7V                  |                        |
|                                                               | Temp. Compensation<br>-30mV/°C |                        |
| Charge Methods<br>Constant Voltage Charge 25°C<br>Standby Use | 13.4 to 13.8V                  |                        |
|                                                               | Temp. Compensation<br>-20mV/°C |                        |



## SPECIFICATIONS

| Length | Width | Height | Total Height | Weight (kg) |
|--------|-------|--------|--------------|-------------|
| 306mm  | 168mm | 210mm  | 215mm        | 29.2 ± 5%   |

### CONSTANT CURRENT DISCHARGE (Amperes) AT 25 °C

| End Voltage Volt/Cell | 3min | 5min | 10min | 15min | 20min | 25min | 30min | 45min | 60min |
|-----------------------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V                 | 446  | 376  | 286   | 215   | 182   | 161   | 145   | 100   | 71.2  |
| 1.65V                 | 441  | 366  | 270   | 211   | 180   | 158   | 139   | 99    | 68.7  |
| 1.67V                 | 439  | 362  | 264   | 210   | 179   | 156   | 137   | 99    | 67.7  |
| 1.70V                 | 425  | 352  | 251   | 200   | 171   | 148   | 129   | 86    | 65.1  |
| 1.75V                 | 408  | 339  | 245   | 194   | 167   | 144   | 125   | 84    | 63.2  |
| 1.80V                 | 397  | 318  | 236   | 188   | 156   | 137   | 120   | 82    | 60.5  |

### CONSTANT POWER DISCHARGE (Watts) AT 25 °C

| End Voltage Volt/Cell | 3min | 5min | 10min | 15min | 20min | 25min | 30min | 45min | 60min |
|-----------------------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V                 | 874  | 719  | 525   | 412   | 349   | 300   | 259   | 187   | 141   |
| 1.65V                 | 860  | 686  | 505   | 403   | 336   | 289   | 249   | 182   | 138   |
| 1.67V                 | 854  | 672  | 497   | 400   | 331   | 284   | 245   | 181   | 137   |
| 1.70V                 | 821  | 642  | 487   | 390   | 321   | 274   | 235   | 170   | 132   |
| 1.75V                 | 764  | 607  | 457   | 358   | 311   | 264   | 226   | 164   | 125   |
| 1.80V                 | 708  | 567  | 427   | 344   | 296   | 258   | 221   | 159   | 121   |

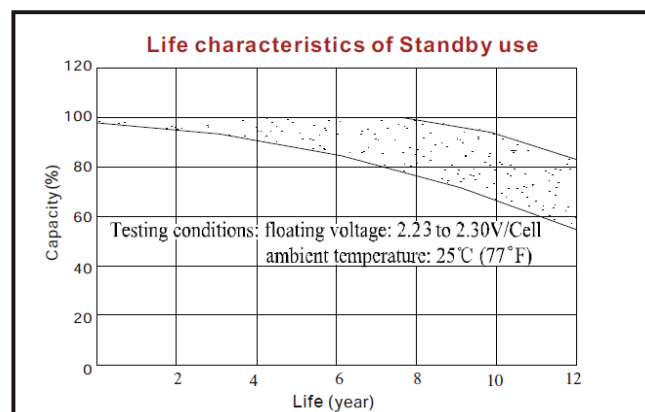
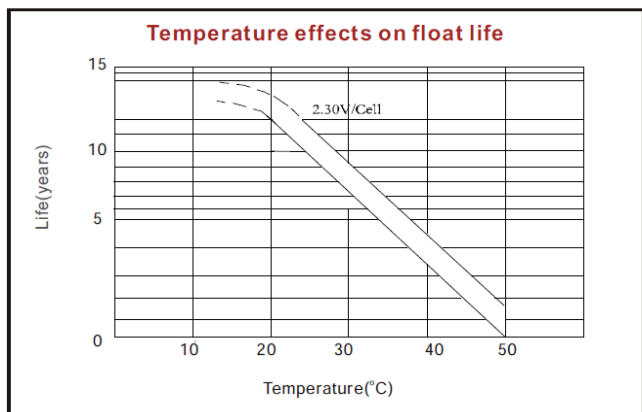
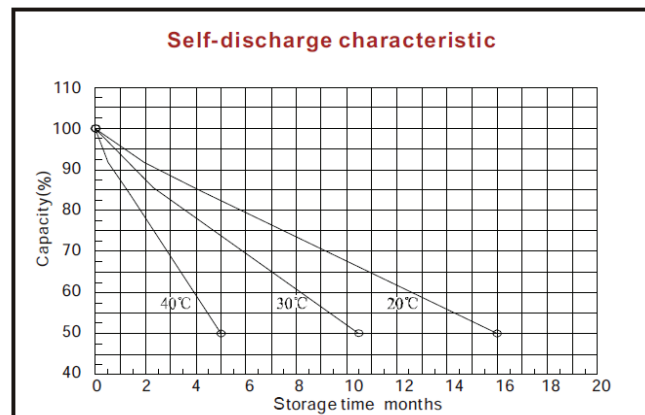
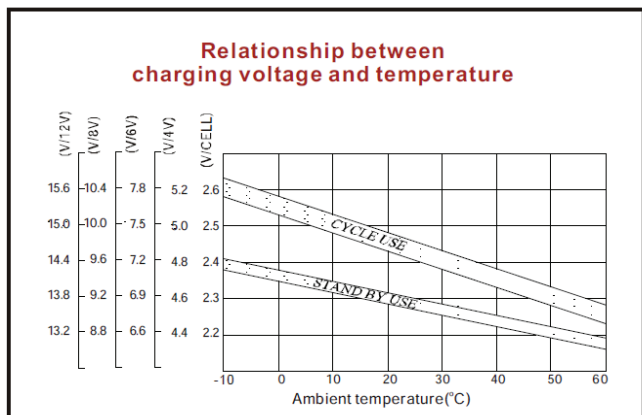
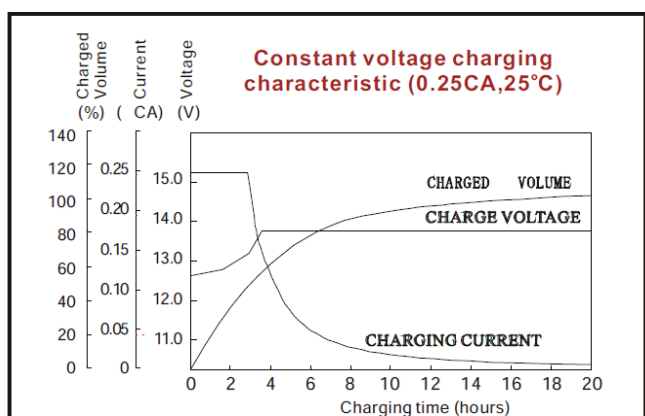
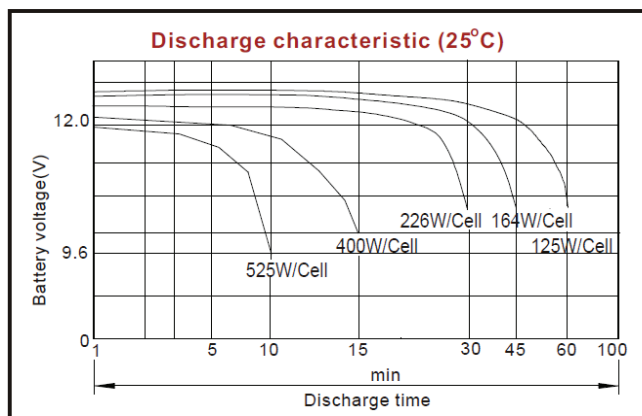
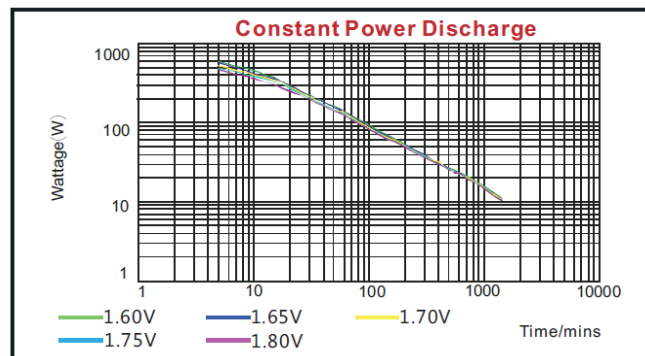
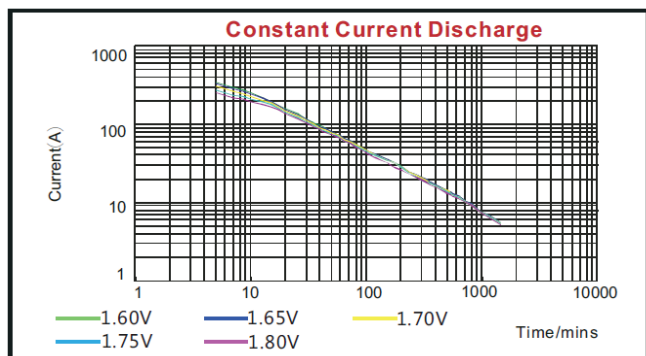


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Note:  
GPSGC reserves the right to make changes to the above values without any notice.  
All data and discharge characteristics are average values based on actual discharge cycle tests performed and not minimum values.

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