

# FT438



## CYCLING CAPACITY

20 Hour Rate    **35 Amp Hours**

## RESERVE CAPACITY

Reserve @25 AMPS    **50 Minutes**    Reserve @75 AMPS    **11 Minutes**

## ELECTRICAL SPECIFICATIONS

Nominal Voltage	<b>12 Volt</b>
C100	<b>38 AH</b>
C20	<b>35 AH</b>
C5	<b>30 AH</b>
Short Circuit Current	<b>1332 Amps</b>
CCA	<b>438 Amps</b>
CA or MCA	<b>525 Amps</b>
PHCA	<b>975 Amps</b>
Internal Resistance	<b>9.4 mΩ</b>

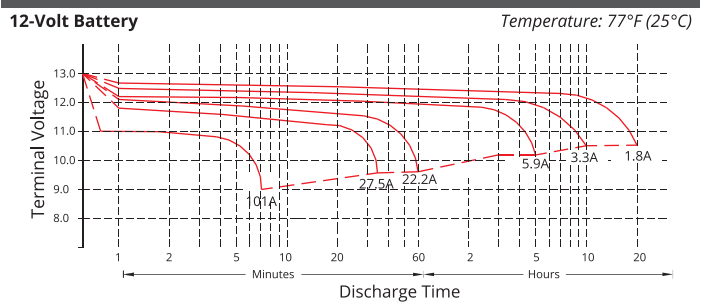
## MECHANICAL SPECIFICATIONS

Group Size	<b>U1R</b>	
Terminal Type	<b>M6</b>	
Terminal Torque	<b>See reverse side</b>	
Height (w/ terminal)	<b>6.57"</b>	<b>167 mm</b>
Height (case only)	<b>6.57"</b>	<b>167 mm</b>
Width	<b>5.16"</b>	<b>131 mm</b>
Length	<b>7.72"</b>	<b>196 mm</b>
Weight	<b>26.7 lbs</b>	<b>12.1 kg</b>
Case Type	<b>ABS Plastic - Flame Res. Rating UL94-HB</b>	

## DISCHARGE TABLE (Constant Current)

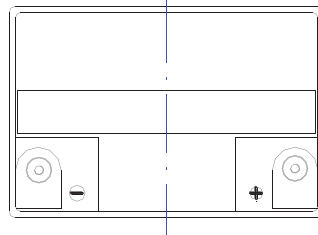
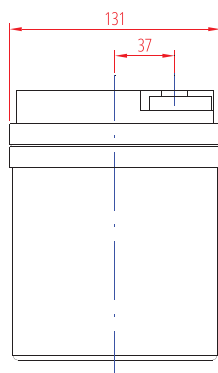
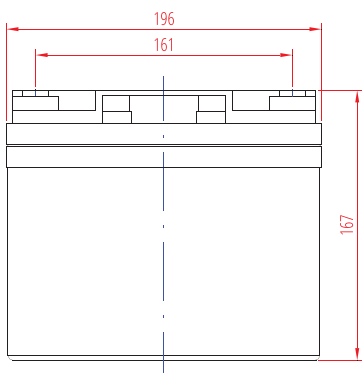
Time	Amps	Rate
20hr	1.8	0.05 CA
10hr	3.3	0.10 CA
8hr	3.9	0.13 CA
5hr	5.9	0.25 CA
3hr	8.7	0.33 CA
2hr	12.4	0.50 CA
1hr	22.2	1.00 CA

## DISCHARGE PROFILE (Constant Current)

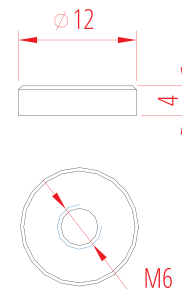


- All listed ratings are @ 100% SoC, T=77°F (25°C), 1.75VPC unless otherwise specified.  
 - Specifications listed are for estimation purposes only. Battery performance can vary depending on application. Battery design subject to change.

## BATTERY & TERMINAL DIMENSIONS (All units shown in mm)



### Terminal: M6

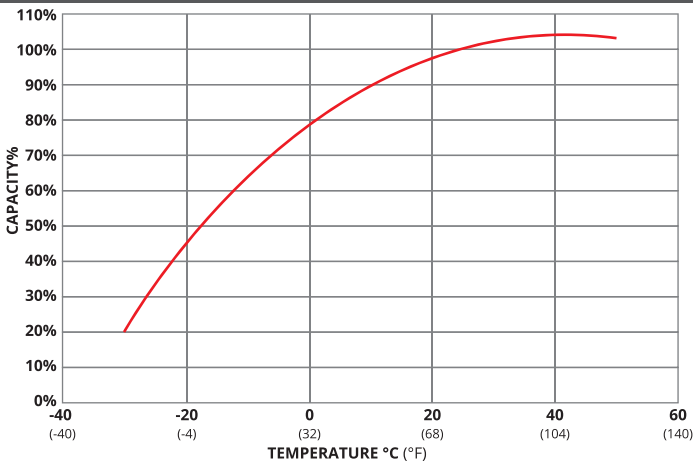


HIGH CRANKING AGM

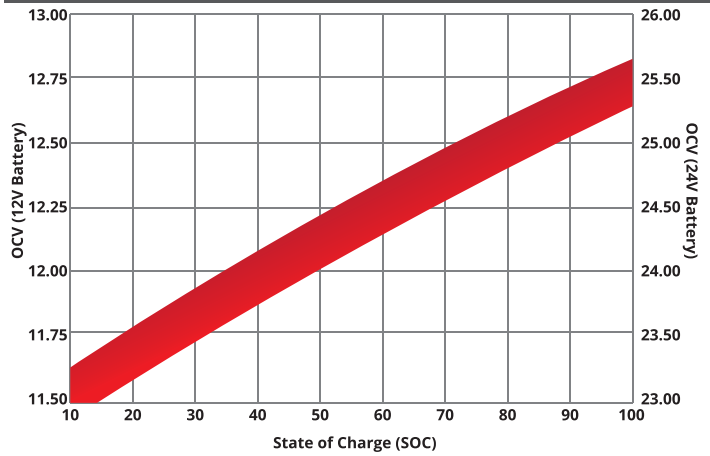
**FULL THROTTLE SERIES**

fullriverbattery.com

## TEMPERATURE vs CAPACITY

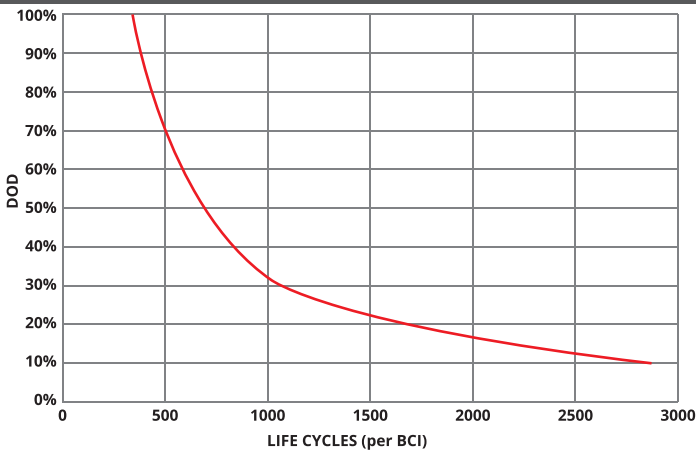


## STATE of CHARGE (SOC) vs OPEN CIRCUIT VOLTAGE (OCV)

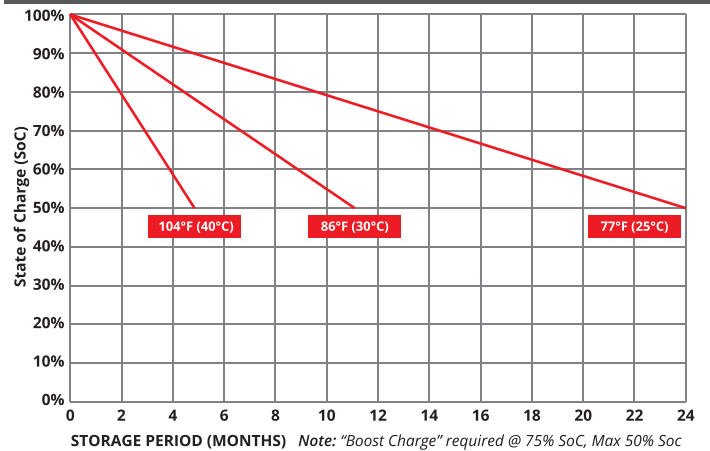


## CYCLE LIFE vs DEPTH of DISCHARGE (DOD)

\*(Based on BCI Testing @ 2-hr Rate)



## SELF DISCHARGE vs TIME/TEMPERATURE



## TEMPERATURE RANGE SPECIFICATIONS

Condition	Recommended	Maximum	Recommended	Maximum
Storage	5°F to 122°F	-40°F to 160°F	-15°C to 50°C	-40°C to 71°C
Operation	5°F to 104°F	-40°F to 160°F	-15°C to 40°C	-40°C to 71°C
Charge with TC	5°F to 122°F	-40°F to 160°F	-15°C to 50°C	-40°C to 71°C
Charge w/o TC	32°F to 104°F	5°F to 122°F	0°C to 40°C	-15°C to 50°C

\*TC= Temperature Compensation

## CHARGE VOLTAGES

Charge Stage	Battery Voltages			
	12V	24V	36V	48V
Bulk	14.4 - 14.7V	28.8 - 29.4V	43.2 - 44.1V	57.6 - 58.8V
Absorption	14.4 - 14.7V	28.8 - 29.4V	43.2 - 44.1V	57.6 - 58.8V
Float	13.6V	27.2V	40.8V	54.6V

TC Factor: (-2mV°F/cell) or (-4mV°C/cell)

## TERMINAL TORQUE SPECS

Terminal Type	ft-lbs	in-lbs	Nm
AP, DT (AP), M6, M6M (Stud), TP07 (AP), TP08 (AP)	4.2 - 6.0	50-70	5.6 - 7.9
FR45	6.0 - 7.5	70-90	7.9 - 10.1
M8	7.1 - 8.0	85-95	9.6 - 10.7
DT (Stud), M10M (Stud)	9.2 - 10.4	110-125	12.2 - 14



9001:2008 Quality Management System  
 14001:2004 Environmental Management System  
 18001:2007 Occupational Health & Safety Management System



TPPL TECHNOLOGY

DELIVERY APPROVED!  
**LAND, SEA  
 & AIR**

Fullriver batteries are sealed lead acid batteries made with Absorbed Glass Mat (AGM) technology. The electrolyte is absorbed into the fiberglass separator material rather than in a free-flowing liquid form. Fullriver batteries are non-spillable electric storage batteries. They are exempted from the requirements of DOT's hazardous materials regulations, since they adhere to the requirements of code 49 CFR Section 173.159(D) - (CLASSIFIED APPROVED: DOT, CFR, HMR49, IATA, ICAO67, IMDG27)