

# FULL THROTTLE BATTERY



## FT310-20L

### CYCLING CAPACITY

20 Hour Rate **20 Amp Hours**

### RESERVE CAPACITY

Reserve @25 AMPS **30 Minutes** Reserve @75 AMPS **5.7 Minutes**

### ELECTRICAL SPECIFICATIONS

Nominal Voltage	<b>12 Volt</b>
C20	<b>20 AH</b>
C10	<b>19 AH</b>
C5	<b>17.5 AH</b>
Short Circuit Current	<b>2000 Amps</b>
CCA	<b>310 Amps</b>
CA or MCA	<b>385 Amps</b>
PHCA	<b>675 Amps</b>
Internal Resistance	<b>5.9 mΩ</b>

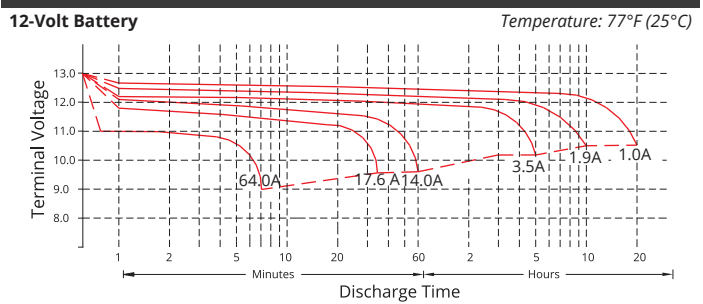
### MECHANICAL SPECIFICATIONS

Group Size	<b>20L-BS</b>	
Terminal Type	<b>M5TAS</b>	
Terminal Torque	<b>3.3 - 4.8 ft/lbs</b>	<b>40-57.5 lbs/in</b>
Height (w/ terminal)	<b>6.12"</b>	<b>156 mm</b>
Height (case only)	<b>6.12"</b>	<b>156 mm</b>
Width	<b>3.42"</b>	<b>87 mm</b>
Length	<b>6.89"</b>	<b>175 mm</b>
Weight	<b>15 lbs</b>	<b>6.8 kg</b>
Case Type	<b>ABS Plastic</b> Flame Res. Rating UL94-HB	

### DISCHARGE TABLE (Constant Current)

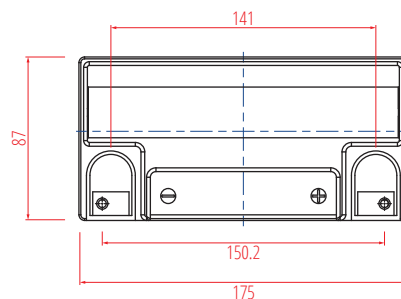
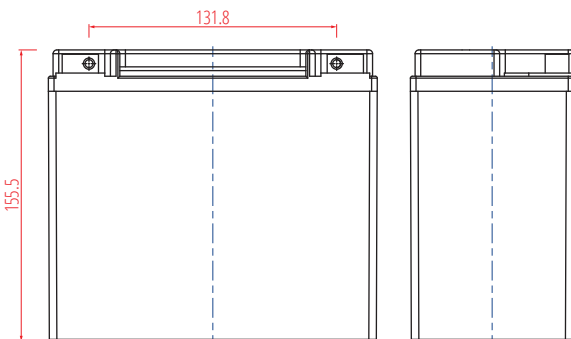
Time	Amps	Rate
20hr	1	0.05 CA
10hr	1.9	0.10 CA
8hr	2.3	0.13 CA
5hr	3.5	0.20 CA
3hr	5.2	0.33 CA
2hr	7.3	0.50 CA
1hr	14.0	1.00 CA

### DISCHARGE PROFILE (Constant Current)

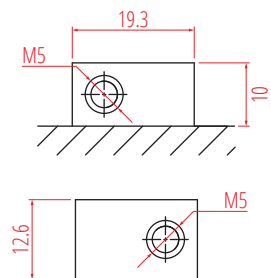


- All listed ratings are @ 100% SoC, T=77°F (25°C), 1.75VPC unless otherwise specified.  
 - Specifications listed are for estimation purposes only. Battery performance can vary depending on application. Battery design subject to change.

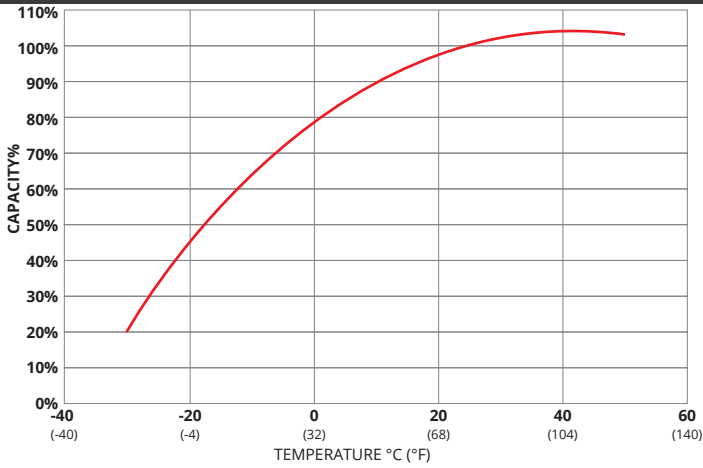
### BATTERY & TERMINAL DIMENSIONS (All units shown in mm)



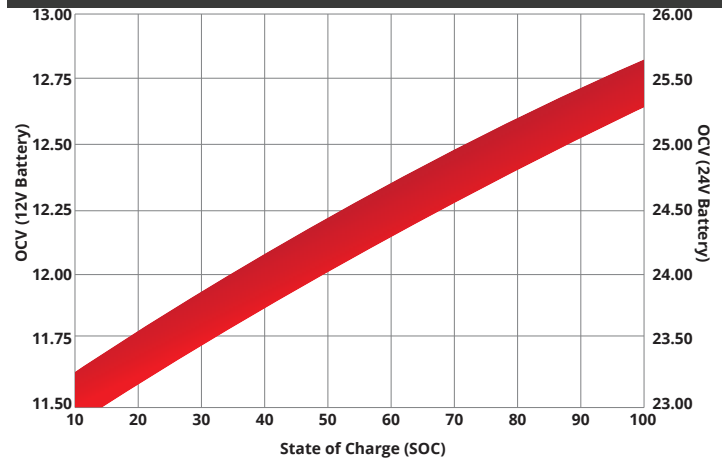
### Terminal: M5TAS



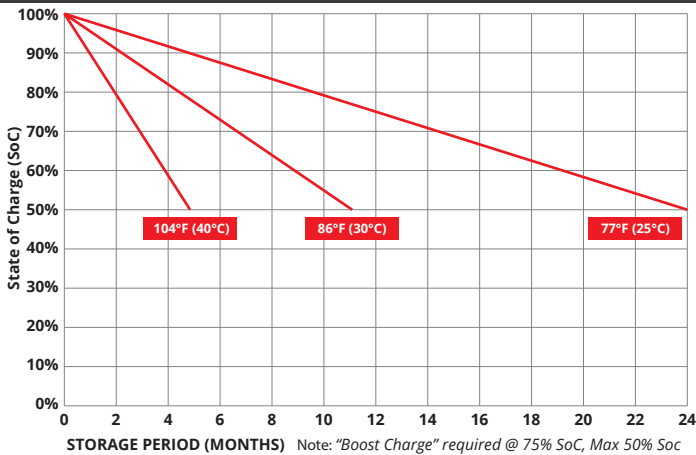
## TEMPERATURE vs CAPACITY



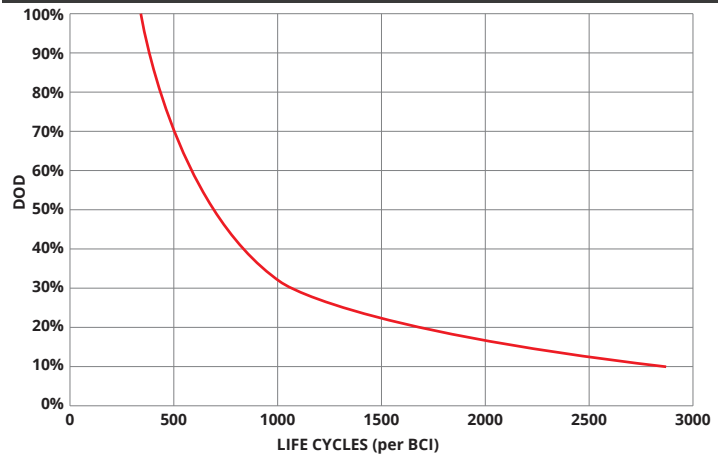
## STATE of CHARGE (SOC) vs OPEN CIRCUIT VOLTAGE (OCV)



## SELF DISCHARGE vs TIME/TEMPERATURE



## CYCLE LIFE vs DEPTH of DISCHARGE (DOD) \*(Based on BCI Testing @ 2-hr Rate)



## 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 (applicable values are highlighted)

M5TAS	M6	M8	M10	M6M (Stud)	M8M (Stud)	M10M (Stud) & 3/8" Stud	FR45	TP06 (AP)	TP08/TP68 (AP)	AP
1.67-2.5ft-lbs	3.3-4.8ft-lbs	5.2-6.7ft-lbs	8.1-10.3ft-lbs	2.6-3.7ft-lbs	4.4-5.9ft-lbs	7.4-8.8ft-lbs	4.8-6.3ft-lbs	2.6-3.3ft-lbs	4.6-6.3ft-lbs	4.2-5.8ft-lbs
20-30lbs-in	40-57.5lbs-in	62-80lbs-in	97-124lbs-in	31-44lbs-in	53-71lbs-in	88.5-106lbs-in	57-75lbs-in	31-40lbs-in	55-75lbs-in	50-70lbs-in
2.26-3.39Nm	4.5-6.5Nm	7-9Nm	11-14Nm	3.5-5Nm	6-8Nm	10-12Nm	6.5-8.5Nm	3.5-4.5Nm	6.2-8.5Nm	5.6-7.9Nm



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)