FULL FORCE BATTERY

FFD210-12APW



FULL FORCE SERIES | DEEP CYCLE AGM

CYCLING CAPACITY

20 Hour Rate	**210 Amp Hours**

RESERVE CAPACITY

Reserve @25 AMPS	**400 Minutes**	Reserve @75 AMPS	**105 Minutes**

ELECTRICAL SPECIFICATIONS

Nominal Voltage	**12 Volt**
C100	**231 AH**
C20	**210 AH**
C10	**197 AH**
C5	**172 AH**
CCA	**1180 Amps**
CA or MCA	**1425 Amps**
Internal Resistance	**3.0 mΩ**

MECHANICAL SPECIFICATIONS

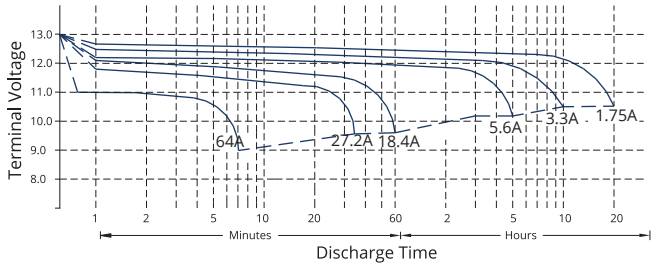
Group Size	**4D**	
Terminal Type	**APW**	
Terminal Torque	**5.8 - 6.7** ft/lbs **62 - 80** lbs/in **7 - 9** Nm	
Height (w/ terminal)	**9.49"**	**241 mm**
Height (case only)	**8.46"**	**215 mm**
Width	**6.89"**	**175 mm**
Length	**13.07"**	**332 mm**
Weight	**71.7 lbs**	**32.5 kg**
Case Type	**ABS Plastic** Flame Res. Rating UL94-HB	

DISCHARGE TABLE (Constant Current)

Time	Amps	Rate
20hr	10.5	0.05 CA
10hr	18.9	0.10 CA
8hr	22.9	0.13 CA
5hr	33.3	0.20 CA
3hr	47.6	0.33 CA
2hr	64.3	0.50 CA
1hr	116	1.00 CA

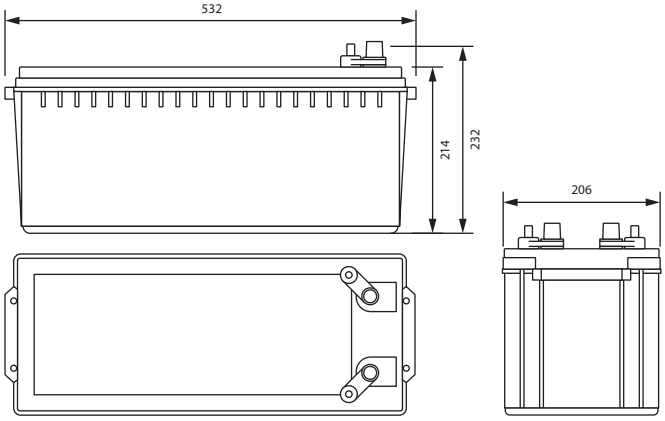
DISCHARGE PROFILE (Constant Current)

12-Volt Battery *Temperature: 77°F (25°C)*

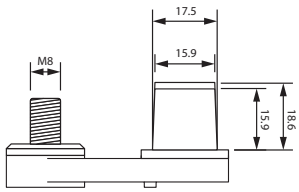


- All listed ratings are @ 100% SoC, T=77°F (25°C), 1.75VPC unless otherwise specified.
- Specifications listed are for estimation purposes only. Battery performance can vary depending on application. Battery design subject to change.

BATTERY & TERMINAL DIMENSIONS (All units shown in mm)

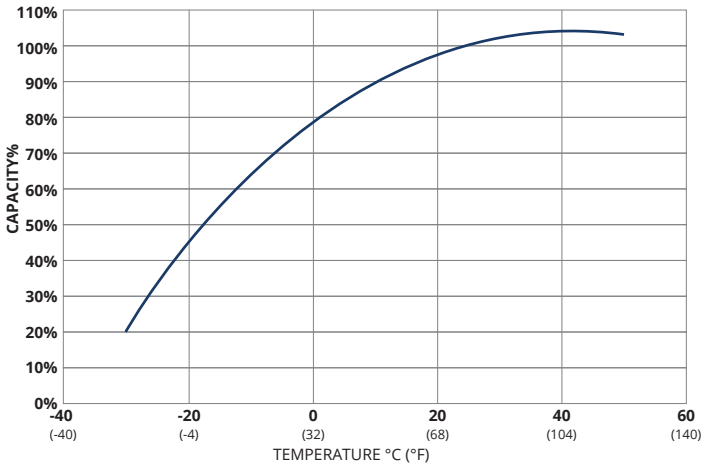


Terminal: APW

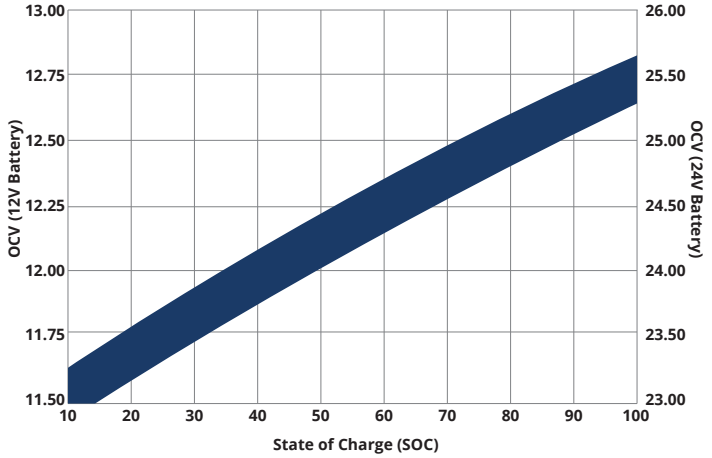


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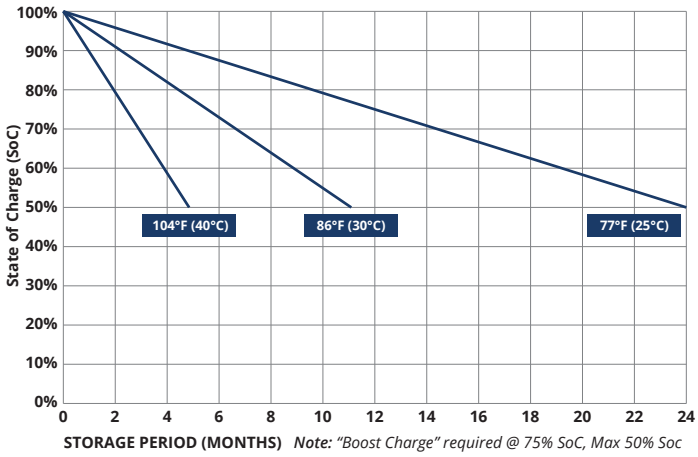
TEMPERATURE vs CAPACITY



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

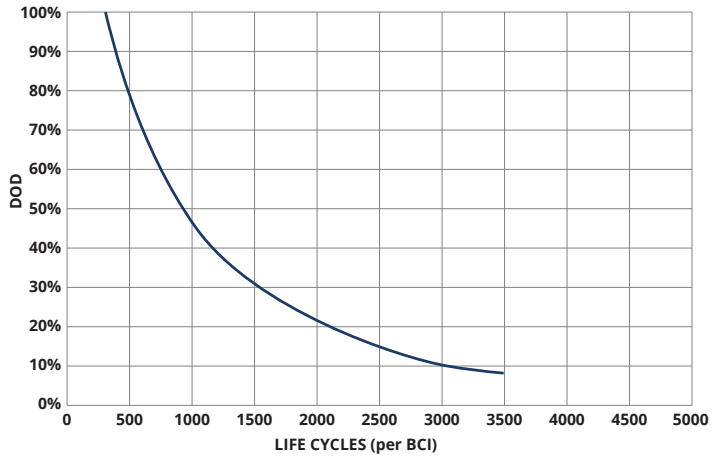


SELF DISCHARGE vs TIME/TEMPERATURE



***Note:** "Boost Charge" required @ 75% SoC, Max 50% Soc*

CYCLE LIFE vs DEPTH of DISCHARGE (DOD)



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

	Battery Voltages			
Charge Stage	**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

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

ISO CERTIFIED

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 excepted 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)**