



**BATTERY:** VRLA AGM  
**DIMENSIONS:** Inches (mm)  
**COLOR:** Maroon (case/cover)  
**MATERIAL:** Polypropylene

Trojan's deep-cycle absorbed glass mat (AGM) maintenance-free batteries feature a number of design elements to provide optimum performance. Robust plates extend the life-cycle of Trojan's deep-cycle AGM batteries and a separator of glass fibers serves to isolate the positive and negative plates while acting as a blotter to absorb the electrolyte. The separator is maintained under compression between plates to assure contact with plate surfaces. A computer-generated grid design is optimized for high-power density and the battery's flame arresting, one-way pressure relief vent prevents buildup of excessive pressure. Trojan's deep-cycle AGM batteries are low temperature tolerant, shock and vibration resistant and have a low internal resistance for higher discharge current and higher charging efficiency.

### PRODUCT SPECIFICATION

BCI GROUP SIZE	TYPE	VOLTAGE	CAPACITY <sup>A</sup> Amp-Hours (AH)				ENERGY (kWh)	Default TERMINAL	DIMENSIONS <sup>B</sup> Decimals (mm)			WEIGHT lbs. (Kg)
			5-Hr Rate	10-Hr Rate	20-Hr Rate	100-Hr Rate			Length	Width	Height <sup>C</sup>	
<b>AGM LINE - VRLA DEEP-CYCLE BATTERIES - 1,000 CYCLES @ 50% DOD</b>												
U1	U1-AGM	12 VOLT	29	31	33	34	0.408	13	7.78 (198)	5.20 (138)	6.75 (171)	27 (12)
22	22-AGM	12 VOLT	43	47	50	52	0.624	13	8.96 (228)	5.49 (139)	8.04 (204)	40 (18)
24	24-AGM	12 VOLT	67	70	76	84	1.01	6	10.77 (274)	6.84 (174)	8.62 (219)	54 (24)
27	27-AGM	12 VOLT	77	82	89	99	1.19	6	12.05 (306)	6.84 (174)	9.32 (237)	64 (29)
31	31-AGM	12 VOLT	82	92	100	111	1.33	6	13.73 (349)	6.80 (173)	9.16 (233)	69 (31)
GC12	12-AGM	12 VOLT	112	127	140	144	1.72	13	13.54 (344)	6.76 (172)	10.88 (276)	100 (45)

A. The amount of amp-hours (AH) a battery can deliver when discharged at a constant rate at 77°F (25°C) and maintain a voltage above 1.75 V/cell. Capacities are based on peak performance.

B. Dimensions are based on nominal size. Dimensions may vary depending on type of handle or terminal.

C. Dimensions taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal.

Trojan's battery testing procedures adhere to both BCI and IEC test standards.

## CHARGING INSTRUCTIONS

CHARGER VOLTAGE SETTINGS (AT 77°F/25°C)				
System Voltage	12V	24V	36V	48V
Absorption	14.1 – 14.7	28.2 – 29.4	42.3 – 44.1	56.4 – 58.8
Float	13.5	27	40.5	54

Do not install or charge batteries in a sealed or non-ventilated compartment. Constant under or overcharging will damage the battery and shorten its life as with any battery.

## OPERATIONAL DATA

OPERATING TEMPERATURE	SELF DISCHARGE
-4°F to 113°F (-20°C to +45°C). At temperatures below 32°F (0°C), maintain a state of charge greater than 60%.	Less than 3% per month depending on storage temperature conditions.

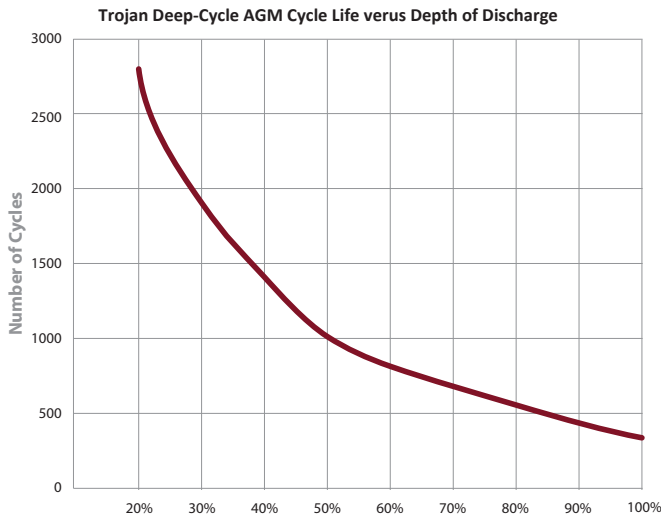
## CHARGING TEMPERATURE COMPENSATION

.028 VPC for every 10°F (5.55°C) above or below 77°F (25°C) (add .028 VPC for every 10°F (5.55°C) below 77°F and subtract .028 VPC for every 10°C above 77°F).

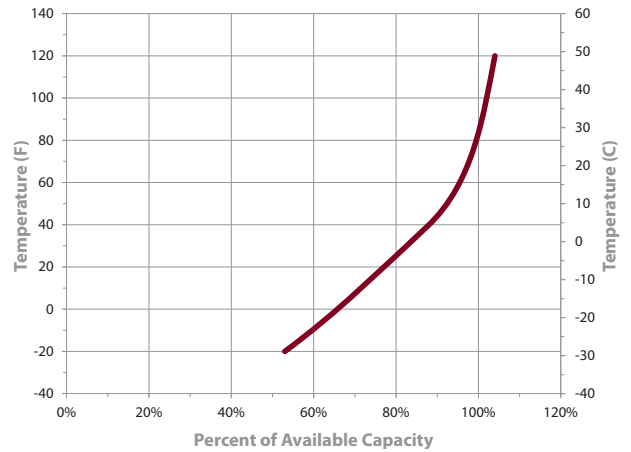
## EXPECTED LIFE VS. TEMPERATURE

Chemical reactions internal to the battery are driven by voltage and temperature. The higher the battery temperature, the faster chemical reactions will occur. While higher temperatures can provide improved discharge performance the increased rate of chemical reactions will result in a corresponding loss of battery life. As a rule of thumb, for every 10°C increase in temperature the reaction rate doubles. Thus, a month of operation at 35°C is equivalent in battery life to two months at 25°C. Heat is an enemy of all lead acid batteries, FLA, AGM and gel alike and even small increases in temperature will have a major influence on battery life.



## TYPICAL CYCLE LIFE IN A STATIONARY APPLICATION



## CAPACITY VS. TEMPERATURE



## TERMINAL CONFIGURATIONS

6	DT	Automotive Post & Stud Terminal	13	IT	Insert Terminal
		<p><b>Terminal Height Inches (mm)</b> .69 (18) <b>Torque Values in-lb (Nm)</b> AP: 50 – 70 (6 – 8) ST: 120 – 180 (14 – 20) <b>Bolt Size</b> 5/16 – 18</p>			<p><b>Terminal Height Inches (mm)</b> .19 (4.7) <b>Torque Values in-lb (Nm)</b> 30 (3 – 4) <b>Bolt Size</b> 10-32UNF</p>



Trojan batteries are available worldwide.

We offer outstanding technical support, provided by full-time application engineers.

**call 800.423.6569 or + 1.562.236.3000 or visit [www.trojanbatteryRE.com](http://www.trojanbatteryRE.com)**

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