Energy Storage Solutions

for Renewable Energy and Backup Power

Trojan® BATTERY COMPANY

Clean energy for life™

Imagine a World of Clean Energy for Everyone.

In Kenya, a child learns to read and write in a classroom using clean energy sources...

In India, a family gathers for dinner in a small lighted dwelling powered by an off-grid solar home system...

In the United States, a rural ranch powers its equipment shed using a hybrid power system...

Alternative sources of energy, which were once considered a dream, are increasingly becoming a reality. Today, in the developing regions of the world where electricity is scarce, more than 1.6 billion people live without access to electric power; unable to meet their basic human needs due to lack of power for lighting, communications, health care and clean water. In these regions of the world renewable energy provides the resources to allow children to learn, families to prosper and businesses to grow.

In the developed regions of the world the emergence of smart grid technologies and environmental consciousness are having a profound impact on the way we live. Renewable energy sources are transforming our dependence on fossil fuels and inspiring new technologies for clean energy, effectively reducing our impact on the environment.

As the leading manufacturer of deep-cycle batteries, we believe in the dream of transforming global energy into resources that are environmentally friendly and readily available in all regions of the globe. At Trojan Battery Company, we supply energy storage solutions for renewable energy and backup power applications. We understand that reliability means everything when your power relies on a battery-based system, which is why we are committed to delivering the highest quality energy storage solutions available.

At Trojan we are committed to…Clean Energy for Life.

Energy Storage Solutions

for Renewable Energy and Backup Power Applications

For over 85 years Trojan Battery has focused its experience and expertise in deep-cycle technology on manufacturing the highest quality, deep-cycle batteries available in the industry. If there is one thing we've learned over the years it's that a truly outstanding battery must provide rugged durability, long life and reliable performance day in and day out. As the world's leading supplier of deep-cycle batteries, we understand the importance of these performance features and that is why we offer the broadest portfolio of high-quality, deep-cycle flooded, AGM and gel products available for a wide range of renewable energy and backup power applications. With our broad portfolio of renewable energy products you'll find a Trojan battery perfectly suited to your specific application.

Renewable Energy and Backup Power Markets

Rural Electrification

Today more than 80 percent of the world's population lives in rural areas where access to electricity is unreliable or even nonexistent. Battery-based renewable energy technologies have made it possible to bring stable and reliable power to these remote areas effectively changing the way people live. In these remote locations, stand-alone systems require exceptionally reliable batteries. Trojan manufactures a wide range of batteries that are reliable, durable and long lasting.

Backup Power

The increase in global energy consumption is placing an even greater strain on existing power grids. Many electrical grids are inefficient and unable to consistently meet the demands of growing urban populations. Power outages are becoming more common and the demand for battery backup systems to provide stable power is becoming a valuable part of the overall energy mix. Trojan's deep-cycle technology is ideal for supplementing power when the grid goes down.

Off-Grid

In locations where access to grid power is unavailable or not economically viable, off-grid renewable energy systems provide continuous power for many applications. Off-grid systems designed for residential, community and industrial applications depend upon deep-cycle batteries to provide consistent, reliable access to power under a wide range of environmental conditions. Trojan's deep-cycle, batteries are engineered to deliver the consistent performance required by off-grid systems.

Grid Tied and Smart Grid

Deep-cycle batteries are an essential component of grid-tied with battery backup systems and smart grid energy management applications. Residential and commercial renewable energy systems with battery backup enable grid-tied customers to cope with intermittent power outages. Power from the grid is stored in the batteries and when needed can be accessed to provide a continued supply of power to a home or business. Smart grid applications also rely on deep-cycle batteries to store energy which can be used when the power is down or to feed power back into the grid.

Energy Storage Solutions

for Renewable Energy and Backup Power Applications

Renewable Energy and Backup Power Applications

Solar Home Systems

In developing regions of the world, rural electrification programs provide small-scale, off-grid power solutions to individual households. Solar home systems (SHS) are typically battery-based solar systems that provide electric power to homes that have never had access to electricity. Government agencies, funding institutions and non-government organizations (NGOs) around the world recognize Trojan Battery Company as the leading supplier of deep-cycle batteries for rural electrification programs.

Water Pumping and Purification

Solar powered water pumping and purification systems provide essential clean water and are the key to improving health and agricultural productivity in many remote parts of the world. Relief organizations rely on these technologies to ensure clean drinking water is available in emergency situations when centralized power systems have been compromised. Trojan batteries deliver reliable, consistent power to support these important clean water technologies worldwide.

Micro Grids

In parts of the world where small rural villages do not have access to centralized power, battery-based micro grids powered by standalone or hybrid renewable energy sources provide reliable electricity where grid expansion is not viable. Micro grid systems are a centralized approach to rural electrification efforts in many parts of the world. Micro grid systems require high-quality, long-lasting battery storage technologies in order to provide the communities they serve with the lowest life-cycle system cost while consistently meeting daily energy requirements without service interruption.

Lighting Systems

Continuing advances in energy efficient lighting technologies, combined with the proven reliability of battery-based solar systems, have created a rapidly expanding market for solar lighting applications. Area, highway, parking and security lighting projects that use solar power count on Trojan batteries for dependable power.

Backup Power for Grid Instability

A growing number of electrical grids worldwide are facing power reliability challenges. As energy demands increase with the population, many of the existing grid networks have become outdated. Other areas that are prone to weather-inflicted power outages need to be able to rely on backup power. In the event of a power outage, a battery-based energy system provides stable power. Trojan's deep-cycle technology is ideal for supplementing power when the grid goes down.

Industrial Instrumentation and Controls

Solar power is recognized as a cost-effective and reliable solution for a broad range of industrial instrumentation and control applications where power availability has a direct impact on cost, reliability and management of resources. To overcome potential power supply problems in remote areas with limited infrastructure, companies utilize battery-based systems to provide both primary and backup power. In these installations where system failure can be costly, systems engineers demand the highest quality components for their instrumentation and control system needs.

Telecommunications

In areas where the electrical grid is unavailable, telecommunications sites powered by battery-based solar or hybrid solar systems maintain critical power for uninterrupted communications services under a wide range of challenging site and environmental conditions. Telecom systems are designed to provide the highest level of reliability under the worst-case conditions in order to minimize network down time and the potential loss of revenue. Trojan is committed to producing world-class energy storage products that deliver consistent, reliable power under the harshest conditions.

Residential Solar Energy Storage for Smart Grid

The modernization of the current utility grid from a power produced-on-demand system to a power available-on-demand smart grid provides consumers with the opportunity for real-time management of power flows. The smart grid, combined with solar energy storage at home, distributes power intelligently to address peak power needs, optimizes the use of a utility company's assets and increases the end user's ability to actively manage energy consumption costs. Energy storage plays a critical role in maintaining backup power during a power interruption. Trojan's deep-cycle batteries are a proven technology ideal for smart grid and residential backup applications.

Deep-Cycle Flooded Batteries
Premium Line

Premium batteries...
optimized for Renewable Energy

Renewable energy applications operate under challenging conditions such as fluctuating or extreme temperatures, remote locations and the intermittent nature of solar and wind power generation. Designed with a 10-year battery life, Trojan Battery's Premium Line of flooded deep-cycle batteries is specifically engineered to withstand the rigorous conditions of renewable energy applications. The Premium Line incorporates advanced battery features such as Trojan's DuraGrid™, MaxGuard® XL separator and Alpha Plus® Paste technologies that provide superior performance, rugged durability and exceptionally long life. Our product strategy is focused on one simple objective – manufacture the highest quality battery available in the industry which is why our Premium Line is tested to IEC standards.

1 DuraGrid™ Technology

Trojan's DuraGrid Technology is a grid design specifically engineered for the longer life requirements of renewable energy applications. DuraGrid features a thicker grid structure maintaining even greater corrosion resistance effectively increasing the life of the battery for up to 10 years. Trojan's DuraGrid Technology combined with the Maxguard XL separator offers excellent charge efficiency allowing the batteries to charge quickly throughout the life of the battery.

2 Maxguard® XL Separator

In renewable energy applications batteries may go days without a charge and they frequently operate at partial states of charge. Recognizing the rigorous use of batteries in renewable energy applications, Trojan incorporated the Maxguard XL advanced separator into its battery design. Exclusively available in Trojan's Premium and Industrial lines of batteries, the Maxguard XL separator is 30 percent thicker than our T2 flooded battery separator. The Maxguard XL provides even greater resistance to stratification which is typically a mode of failure in batteries used in renewable energy systems.

3 Alpha Plus® Paste with T2 Technology™

Trojan's Alpha Plus Paste is a proprietary, high-density paste formulation precisely engineered to deliver outstanding battery performance. This high-density paste optimizes porosity development in the active material utilizing the active material more effectively resulting in sustained battery performance over a longer period of time. Trojan's T2 Technology features a patent-pending T2 metal agent which is incorporated into Trojan's Alpha Plus Paste further strengthening the electrochemical processing capabilities of Alpha Plus Paste. Together Alpha Plus Paste with T2 Technology increase both sustained capacity and total overall ampere-hours resulting in more operating power for your application. It's a key reason why Trojan batteries consistently outperform the competition.

BCI GROUP SIZE	TYPE	CAPACITY [A] Amp-Hours (AH)			ENERGY (kWH)	VOLTAGE	TERMINAL Type	DIMENSIONS [B] Inches (mm)			WEIGHT lbs. (kg)
		5-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate			Length	Width	Height [C]	
GC2H	**T105-RE**	185	225	250	1.50	6 VOLT	5	10-3/8 (264)	7-1/8 (181)	11-3/4 (299)	67 (30)
903	**L16RE-A***	267	325	360	2.16	6 VOLT	5	11-5/8 (295)	7 (178)	17-11/16 (450)	115 (52)
903	**L16RE-B***	303	370	410	2.46	6 VOLT	5	11-5/8 (295)	7 (178)	17-11/16 (450)	118 (54)
903	**L16RE-2V***	909	1110	1235	2.47	2 VOLT	5	11-5/8 (295)	7 (178)	17-11/16 (450)	119 (54)

* Polyon™ Case

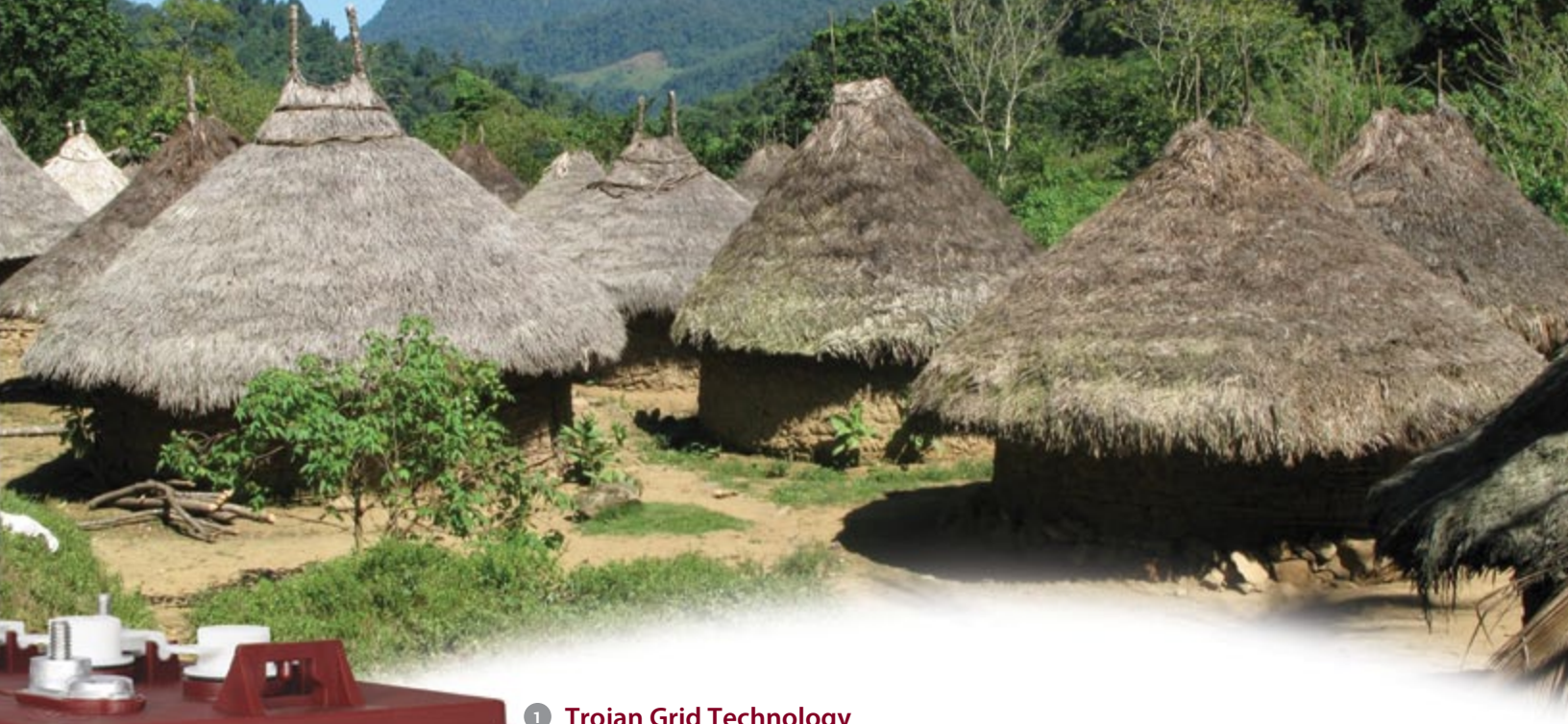
A. The amount of amp-hours (AH) a battery can deliver when discharged at a constant rate at 80°F (27°C) for the 20-Hour and 100-Hour rates and 86°F (30°C) for the 5-Hour rate and maintain a voltage above 1.75 V/cell. Capacities are based on nominal performance.
B. Dimensions are based on nominal size. Dimensions may vary depending on type of handle or terminal. Batteries to be mounted with .5 inches (12.7 mm) spacing minimum.
C. Dimensions taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal.

Deep-Cycle Flooded Batteries
Signature Line

Classic Trojan featuring...
T2 Technology™

The Signature Line of deep-cycle flooded batteries is the flagship of Trojan's product portfolio. Engineered to provide rugged durability and outstanding performance, Trojan's Signature Line is perfectly suited for use in renewable energy systems where lowest life-cycle cost is the key consideration. An all around power house, the Signature Line features Trojan's historically-proven engineering with T2 Technology, an advanced battery technology for maximum sustained performance, longer life and increased total energy.

BCI GROUP SIZE	TYPE	CAPACITY [A] Amp-Hours (AH)			ENERGY (kWH)	VOLTAGE	TERMINAL Type	DIMENSIONS [B] Inches (mm)			WEIGHT lbs. (kg)
		5-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate			Length	Width	Height [C]	
24	**24TMX**	70	85	94	1.13	12 VOLT	5, 9	11-1/4 (286)	6-3/4 (171)	9-3/4 (248)	47 (21)
27	**27TMX**	85	105	117	1.40	12 VOLT	5, 9	12-3/4 (324)	6-3/4 (171)	9-3/4 (248)	55 (25)
27	**27TMH**	95	115	128	1.54	12 VOLT	5, 7, 8, 9	12-3/4 (324)	6-3/4 (171)	9-3/4 (248)	61 (28)
30H	**30XHS**	105	130	144	1.73	12 VOLT	5, 7, 8, 9	13-15/16 (355)	6-3/4 (171)	10-1/16 (256)	66 (30)
N/A	**J150**	120	150	166	1.99	12 VOLT	1, 2	13-13/16 (351)	7-1/8 (181)	11-1/8 (283)	84 (38)
921	**J185P-AC***	168	205	226	2.71	12 VOLT	6	15 (381)	7 (178)	14-5/8 (371)	114 (52)
921	**J185H-AC***	185	225	249	2.99	12 VOLT	6	15 (381)	7 (178)	14-5/8 (371)	128 (58)



1 Trojan Grid Technology

Trojan's grid technology is a lead antimony alloy grid mixture formulated for use with Trojan's Alpha Plus® Paste with T2 Technology™. The grid formulation provides exceptional structural adhesion between the Alpha Plus Paste and the grid frame. Thick grids reinforce the strength of the frame and reduce overall corrosion. The overall grid configuration is optimized to enhance current flow through the grid network providing exceptional battery performance, reducing downtime and lowering overall maintenance costs.

2 Maxguard® T2 Separator

Available in Trojan's Signature Line of deep-cycle flooded batteries is our Maxguard® T2 advanced separator. Trojan's Maxguard T2 separator features a multi-rib geometry which keeps acid channels open longer enhancing electrochemical processing while reducing the risk of stratification. Maxguard's proprietary rubber-based material formulation inhibits antimony transfer between the positive grids and negative plates; a protection not available in many other competitor batteries. A fortified, thick back web provides even greater separator strength resulting in a more robust battery with increased protection against failures caused by separator degradation. Trojan's Maxguard T2 advanced separator sustains performance providing exceptionally longer battery life and significantly lowering your operating costs.

3 Alpha Plus® Paste with T2 Technology™

Trojan's Alpha Plus Paste is a proprietary, high-density paste formulation precisely engineered to deliver outstanding battery performance. This high-density paste optimizes porosity development in the active material utilizing the active material more effectively resulting in sustained battery performance over a longer period of time. Trojan's T2 Technology features a patent-pending T2 metal agent which is incorporated into Trojan's Alpha Plus Paste further strengthening the electrochemical processing capabilities of Alpha Plus Paste. Together Alpha Plus Paste with T2 Technology increase both sustained capacity and total overall ampere-hours resulting in more operating power for your application. It's a key reason why Trojan batteries consistently outperform the competition.

BCI GROUP SIZE	TYPE	CAPACITY [A] Amp-Hours (AH)			ENERGY (kWH)	VOLTAGE	TERMINAL Type	DIMENSIONS [B] Inches (mm)			WEIGHT lbs. (kg)
		5-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate			Length	Width	Height [C]	
GC2	**T-105**	185	225	250	1.50	6 VOLT	1, 2, 3, 4, 5	10-3/8 (264)	7-1/8 (181)	10-7/8 (276)	62 (28)
GC2	**T-125**	195	240	266	1.60	6 VOLT	1, 2, 3, 4	10-3/8 (264)	7-1/8 (181)	10-7/8 (276)	66 (30)
GC2H	**T-145**	215	260	287	1.72	6 VOLT	1, 2, 3, 4	10-3/8 (264)	7-1/8 (181)	11-5/8 (295)	72 (33)
902	**J305P-AC***	271	330	367	2.20	6 VOLT	6	11-5/8 (295)	7 (178)	14-3/8 (365)	96 (44)
902	**J305H-AC***	295	360	400	2.40	6 VOLT	6	11-5/8 (295)	7 (178)	14-3/8 (365)	98 (45)
903	**L16P**	344	420	467	2.80	6 VOLT	5	11-5/8 (295)	7 (178)	16-3/4 (424)	114 (52)
903	**L16H**	357	435	483	2.89	6 VOLT	5	11-5/8 (295)	7 (178)	16-3/4 (424)	125 (57)

* Polyon™ Case

A. The amount of amp-hours (AH) a battery can deliver when discharged at a constant rate at 80°F (27°C) for the 20-Hour and 100-Hour rates and 86°F (30°C) for the 5-Hour rate and maintain a voltage above 1.75 V/cell. Capacities are based on nominal performance.
B. Dimensions are based on nominal size. Dimensions may vary depending on type of handle or terminal. Batteries to be mounted with .5 inches (12.7 mm) spacing minimum.
C. Dimensions taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal.

Industrial batteries...
designed for 1500 cycles at 80% DOD

Trojan's Industrial line of deep-cycle batteries is the newest addition to Trojan's lineage of high-quality flooded batteries. The Industrial line is engineered specifically to support renewable energy systems with large daily loads where the batteries are cycled regularly. These high amp-hour capacity batteries are ideal for use in large off-grid photovolataic (PV) systems, off-grid hybrid PV systems, grid-tied PV systems with battery backup, smart grid peak shifting systems and a variety of other applications. Tested to meet both IEC and BCI standards, the Industrial line features advanced battery technologies that deliver reliable power and is housed in a dual container construction for enhanced battery protection. Trojan's Industrial line is the perfect combination of performance and function.

Intelligent Design

Dual Container Protection

Trojan's Industrial line of batteries is comprised of removable 2-volt cells bundled in a secondary containment case to form single, high-capacity 4-volt and 6-volt battery solutions. Components of the individual cells are assembled in a rugged polypropylene housing designed to protect the internal plates from potential damage that may be caused during transport and installation. The 2-volt cells are enclosed in a larger polyethylene outer case that protects against damage caused by harsh environmental conditions such as moisture and dirt buildup, as well as safeguards against potential acid leaks. For added protection the thick-walled case features a lattice-design that reinforces the outer case's structural integrity. The removable 2-volt cells are easier to maintain and replace while the combined insulation of the dual container construction provides added protection against extreme temperatures.

Stability Control

Trojan designed its Industrial line of batteries with stability in mind. Featuring a lower battery profile and wider stance design, weight is evenly distributed throughout the battery. By creating a wider center of gravity the battery profile enhances overall stability. Molded into the case design are dual handles that enable easy movement during transport and installation.

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

Advanced Battery Technology

1 Alpha Plus® Paste with T2 Technology™

Trojan's Alpha Plus Paste is a proprietary, high-density paste formulation precisely engineered to deliver outstanding battery performance. This high-density paste optimizes porosity development in the active material utilizing the active material more effectively resulting in sustained battery performance over a longer period of time. Trojan's T2 Technology features a patent-pending T2 metal agent which is incorporated into Trojan's Alpha Plus Paste further strengthening the electrochemical processing capabilities of the paste. Together Alpha Plus Paste with T2 Technology increase both sustained capacity and total overall ampere-hours resulting in more operating power. It's a key reason why Trojan batteries consistently outperform the competition.

2 DuraGrid™ Technology

Trojan's DuraGrid Technology is an innovative grid design specifically engineered for the longer life requirements of demanding renewable energy applications. DuraGrid features a thick grid structure which maintains greater corrosion resistance effectively increasing the life of the battery for up to 10 years. Exclusive to Trojan's Industrial line is a low-profile grid configuration that is optimized to enhance current flow throughout the grid network. This low-profile configuration maximizes the amount of electrolyte resulting in longer intervals between watering.

3 Reinforced Protection Wrap

Trojan's Industrial batteries are engineered with a robust positive plate construction that enhances overall performance. Trojan's DuraGrid technology combined with Alpha Plus paste securely locks the active materials to the grid creating an exceptionally strong positive plate. The Industrial line includes a five component wrapping and insulating system comprised of a stranded vertical slyver with a 20 mil backing mat and a secondary 20 mil horizontal compression mat. The entire mat is wrapped with edge-protecting Koroseal that is heat bonded as well as bonded to the plastic boot to protect the bottom of the plate and to keep the Koroseal in place.The advanced plate construction protects against shedding and assures the electrochemical performance of the battery's active materials.

4 Maxguard® XL Separator

Exclusively available in Trojan's Industrial and Premium batteries is the Maxguard XL separator. Featuring a wide-channel design, the Maxguard XL separator increases acid flow for optimum battery performance. Thirty percent thicker than our standard flooded battery separators, the Maxguard XL provides even greater resistance to stratification which is a typical mode of failure in batteries used in renewable energy systems.

5 Moss Shield

Trojan's Industrial line of deep-cycle batteries includes a full length moss shield to protect the separators from damage. The moss shield increases the battery life by protecting the top of the plates from shorting to the cell strap.

BCI GROUP SIZE	TYPE	CAPACITY [A] Amp-Hours (AH)			ENERGY (kWH)	VOLTAGE	TERMINAL Type	DIMENSIONS [B] Inches (mm)			WEIGHT lbs. (kg)
		5-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate			Length	Width	Height [C]	
N/A	**IND9-6V**	355	445	545	3.27	6 VOLT	14	15-3/8 (390)	10-1/4 (260)	24 (610)	220 (100)
N/A	**IND13-6V**	533	673	820	4.92	6 VOLT	14	22-3/8 (568)	10-1/4 (260)	24 (610)	315 (143)
N/A	**IND17-6V**	711	897	1090	6.54	6 VOLT	14	26-11/16 (678)	10-1/4 (260)	24 (610)	415 (188)
N/A	**IND23-4V**	977	1233	1500	6.00	4 VOLT	14	22-3/8 (568)	10-1/4 (260)	24 (610)	370 (168)
N/A	**IND29-4V**	1245	1570	1910	7.64	4 VOLT	14	26-11/16 (678)	10-1/4 (260)	24 (610)	465 (211)

A. The amount of amp-hours (AH) a battery can deliver when discharged at a constant rate at 80°F (27°C) and maintain a voltage above 1.75 V/cell. Capacities are based on nominal performance.
B. Dimensions are based on nominal size. Dimensions may vary depending on type of handle or terminal. Batteries to be mounted with .5 inches (12.7 mm) spacing minimum.
C. Dimensions taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal.

Deep-Cycle AGM Batteries

Trojan's deep-cycle absorbed glass mat (AGM) maintenance-free batteries for renewable energy applications feature a number of design elements to provide optimum performance. Robust plates extend the life-cycle of Trojan's deep-cycle AGM batteries. 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. Low calcium grid alloy reduces gas emissions and a 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.

BCI GROUP SIZE	TYPE	CAPACITY [A] Amp-Hours (AH)			ENERGY (kWH)	VOLTAGE	TERMINAL Type	DIMENSIONS [B] Inches (mm)			WEIGHT lbs. (kg)
		5-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate			Length	Width	Height [C]	
U1	**U1-AGM**	29	33	34	0.408	12 VOLT	13	8-3/16 (207)	5-3/16 (132)	6-13/16 (174)	27 (12)
22	**22-AGM**	43.3	50	52	0.624	12 VOLT	13	9 (229)	5-8/16 (139)	8-1/16 (205)	40 (18)
24	**24-AGM**	67	76	84	1.01	12 VOLT	6	10-3/4 (274)	6-13/16 (174)	8-11/16 (220)	54 (24)
27	**27-AGM**	77	89	99	1.19	12 VOLT	6	12-9/16 (318)	6-13/16 (174)	8-3/4 (221)	64 (29)
31	**31-AGM**	82	100	111	1.33	12 VOLT	6	13-7/16 (341)	6-13/16 (174)	9-3/16 (233)	69 (31)

A. The amount of amp-hours (AH) a battery can deliver when discharged at a constant rate at 80°F (27°C) for the 20-Hour and 100-Hour rates and 86°F (30°C) for the 5-Hour rate and maintain a voltage above 1.75 V/cell. Capacities are based on nominal performance.
B. Dimensions are based on nominal size. Dimensions may vary depending on type of handle or terminal. Batteries to be mounted with .5 inches (12.7 mm) spacing minimum.
C. Dimensions taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal.

Deep-Cycle GEL Batteries

Trojan's deep-cycle gel batteries are sealed, maintenance-free batteries that deliver superior power in demanding renewable energy applications. Engineered for rugged durability, outstanding performance and long battery life, Trojan's deep-cycle gel batteries feature a number of important design characteristics that provide significant advantages over competing gel products. The gelled electrolyte is a proprietary formulation containing sulfuric acid, fumed silica, pure demineralized, deionized water and a phosphoric acid additive. This exclusive formulation produces a homogenous gel that delivers consistent performance and dramatically long cycle life. The heavy-duty grids lock active material onto the grid network to efficiently deliver more concentrated energy to the terminals. Premium grade, double-insulated separators allow maximum charge flow between the plates for optimum performance.

BCI GROUP SIZE	TYPE	CAPACITY [A] Amp-Hours (AH)			ENERGY (kWH)	VOLTAGE	TERMINAL Type	DIMENSIONS [B] Inches (mm)			WEIGHT lbs. (kg)
		5-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate			Length	Width	Height [C]	
24	**24-GEL**	66	77	85	1.02	12 VOLT	6, 7	10-7/8 (276)	6-3/4 (171)	9-5/16 (236)	52 (24)
27	**27-GEL**	76	91	100	1.20	12 VOLT	7	12-3/4 (324)	6-3/4 (171)	9-1/4 (234)	63 (29)
31	**31-GEL**	85	102	108	1.30	12 VOLT	7	12-15/16 (329)	6-3/4 (171)	9-5/8 (245)	70 (32)
DIN	**5SHP-GEL**	110	125	137	1.64	12 VOLT	5, 8	13-9/16 (345)	6-3/4 (171)	11-1/8 (283)	85 (39)
GC2	**6V-GEL**	154	189	198	1.19	6 VOLT	7	10-1/4 (260)	7-1/8 (181)	10-7/8 (276)	68 (31)
DIN	**TE35-GEL**	180	210	220	1.32	6 VOLT	5, 8	9-5/8 (244)	7-1/2 (190)	10-7/8 (276)	69 (31)
8D	**8D-GEL**	188	225	265	3.18	12 VOLT	5	21-1/16 (534)	11 (279)	10-13/16 (233)	157 (71)

A. The amount of amp-hours (AH) a battery can deliver when discharged at a constant rate at 80°F (27°C) for the 20-Hour and 100-Hour rates and 86°F (30°C) for the 5-Hour rate and maintain a voltage above 1.75 V/cell. Capacities are based on nominal performance.
B. Dimensions are based on nominal size. Dimensions may vary depending on type of handle or terminal. Batteries to be mounted with .5 inches (12.7 mm) spacing minimum.
C. Dimensions taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal.

HydroLink™

Battery Watering Made Easy

Independent Water Level Indicator

Water Indicator Signal

Clampless Tubing

Coupler Connection with Water Flow Indicator

HydroLink™ – Watering System

Proper maintenance and periodic watering are important factors in maximizing the performance and life of Trojan deep-cycle, flooded batteries. Battery maintenance can be a costly, time-consuming and messy job. With Trojan's HydroLink™ advanced, single-point watering system, precise battery watering is made easy saving valuable time and money.

Convenient Installation

Trojan's HydroLink watering system is specifically designed to work with Trojan 6-volt and 12-volt flooded batteries* and takes the guess work out of properly watering flooded batteries. With a simple installation of the HydroLink manifolds and the tubing, the system is ready for use. Once installed, a complete set of batteries can be filled in less than 30 seconds.

HydroLink™ Vent

The HydroLink™ vent assembly is unique and features an independent water level indicator, valve shut off and dual flame arrestors.

Independent Water Level Indicator

Maintaining the proper electrolyte level can extend the performance and life of Trojan flooded batteries. However, determining the correct level can be a challenge. Trojan's HydroLink vent features an independent water level indicator that accurately displays whether a battery needs watering. A white indicator signals that the battery needs water. A black indicator signals that the battery has enough water…it's that simple.

Valve Shut Off

The valve shut off accurately controls cell electrolyte levels. Using a balanced valve design the shut off valves automatically cut the water flow into the individual cells eliminating the potential of overflow or acid splash caused by overfilling. HydroLink's valve shut off works in conjunction with the hose end assembly and flow indicator to provide precise battery watering.

Dual Flame Arrestors

The HydroLink system is equipped with dual flame arrestors, an important safety feature not standard on other watering systems. The internal flame arrestors prevent internal sparks from passing through the watering system to neighboring cells while the external flame arrestor prevents external sparks from entering the Trojan battery.

Clampless Tubing

The HydroLink offers clampless tubing for customizable configurations.

Warranty

HydroLink™ watering system comes with a four-year, limited warranty.

* HydroLink is not compatible with all batteries. Please visit: www.trojanbatteryRE.com/Products/Hydrolink

Product Specification Guide

BCI GROUP SIZE	TYPE	CAPACITY [A] Amp-Hours (AH)			ENERGY (kWH)	VOLTAGE	TERMINAL Type	DIMENSIONS [B] Inches (mm)			WEIGHT lbs. (kg)
		5-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate			Length	Width	Height [C]	
DEEP-CYCLE FLOODED BATTERIES											
24	**24TMX**	70	85	94	1.13	12 VOLT	5, 9	11-1/4 (286)	6-3/4 (171)	9-3/4 (248)	47 (21)
27	**27TMX**	85	105	117	1.40	12 VOLT	5, 9	12-3/4 (324)	6-3/4 (171)	9-3/4 (248)	55 (25)
27	**27TMH**	95	115	128	1.54	12 VOLT	5, 7, 8, 9	12-3/4 (324)	6-3/4 (171)	9-3/4 (248)	61 (28)
30H	**30XHS**	105	130	144	1.73	12 VOLT	5, 7, 8, 9	13-15/16 (355)	6-3/4 (171)	10-1/16 (256)	66 (30)
N/A	**J150**	120	150	166	1.99	12 VOLT	1, 2	13-13/16 (351)	7-1/8 (181)	11-1/8 (283)	84 (38)
921	**J185P-AC***	168	205	226	2.71	12 VOLT	6	15 (381)	7 (178)	14-5/8 (371)	114 (52)
921	**J185H-AC***	185	225	249	2.99	12 VOLT	6	15 (381)	7 (178)	14-5/8 (371)	128 (58)
GC2	**T-105**	185	225	250	1.50	6 VOLT	1, 2, 3, 4, 5	10-3/8 (264)	7-1/8 (181)	10-7/8 (276)	62 (28)
GC2	**T-125**	195	240	266	1.60	6 VOLT	1, 2, 3, 4	10-3/8 (264)	7-1/8 (181)	10-7/8 (276)	66 (30)
GC2H	**T-145**	215	260	287	1.72	6 VOLT	1, 2, 3, 4	10-3/8 (264)	7-1/8 (181)	11-5/8 (295)	72 (33)
902	**J305P-AC***	271	330	367	2.20	6 VOLT	6	11-5/8 (295)	7 (178)	14-3/8 (365)	96 (44)
902	**J305H-AC***	295	360	400	2.40	6 VOLT	6	11-5/8 (295)	7 (178)	14-3/8 (365)	98 (45)
903	**L16P**	344	420	467	2.80	6 VOLT	5	11-5/8 (295)	7 (178)	16-3/4 (424)	114 (52)
903	**L16H**	357	435	483	2.89	6 VOLT	5	11-5/8 (295)	7 (178)	16-3/4 (424)	125 (57)
GC2H	**T105-RE**	185	225	250	1.50	6 VOLT	5	10-3/8 (264)	7-1/8 (181)	11-3/4 (299)	67 (30)
903	**L16RE-A***	267	325	360	2.16	6 VOLT	5	11-5/8 (295)	7 (178)	17-11/16 (450)	115 (52)
903	**L16RE-B***	303	370	410	2.46	6 VOLT	5	11-5/8 (295)	7 (178)	17-11/16 (450)	118 (54)
903	**L16RE-2V***	909	1110	1235	2.47	2 VOLT	5	11-5/8 (295)	7 (178)	17-11/16 (450)	119 (54)
N/A	**IND9-6V**	355	445	545	3.27	6 VOLT	14	15-3/8 (390)	10-1/4 (260)	24 (610)	220 (100)
N/A	**IND13-6V**	533	673	820	4.92	6 VOLT	14	22-3/8 (568)	10-1/4 (260)	24 (610)	315 (143)
N/A	**IND17-6V**	711	897	1090	6.54	6 VOLT	14	26-11/16 (678)	10-1/4 (260)	24 (610)	415 (188)
N/A	**IND23-4V**	977	1233	1500	6.00	4 VOLT	14	22-3/8 (568)	10-1/4 (260)	24 (610)	370 (168)
N/A	**IND29-4V**	1245	1570	1910	7.64	4 VOLT	14	26-11/16 (678)	10-1/4 (260)	24 (610)	465 (211)
DEEP-CYCLE AGM BATTERIES											
U1	**U1-AGM**	29	33	34	0.408	12 VOLT	13	8-3/16 (207)	5-3/16 (132)	6-13/16 (174)	27 (12)
22	**22-AGM**	43.3	50	52	0.624	12 VOLT	13	9 (229)	5-8/16 (139)	8-1/16 (205)	40 (18)
24	**24-AGM**	67	76	84	1.01	12 VOLT	6	10-3/4 (274)	6-13/16 (174)	8-11/16 (220)	54 (24)
27	**27-AGM**	77	89	99	1.19	12 VOLT	6	12-9/16 (318)	6-13/16 (174)	8-3/4 (221)	64 (29)
31	**31-AGM**	82	100	111	1.33	12 VOLT	6	13-7/16 (341)	6-13/16 (174)	9-3/16 (233)	69 (31)
DEEP-CYCLE GEL BATTERIES											
24	**24-GEL**	66	77	85	1.02	12 VOLT	6, 7	10-7/8 (276)	6-3/4 (171)	9-5/16 (236)	52 (24)
27	**27-GEL**	76	91	100	1.20	12 VOLT	7	12-3/4 (324)	6-3/4 (171)	9-1/4 (234)	63 (29)
31	**31-GEL**	85	102	108	1.30	12 VOLT	7	12-15/16 (329)	6-3/4 (171)	9-5/8 (245)	70 (32)
DIN	**5SHP-GEL**	110	125	137	1.64	12 VOLT	5, 8	13-9/16 (345)	6-3/4 (171)	11-1/8 (283)	85 (39)
GC2	**6V-GEL**	154	189	198	1.19	6 VOLT	7	10-1/4 (260)	7-1/8 (181)	10-7/8 (276)	68 (31)
DIN	**TE35-GEL**	180	210	220	1.32	6 VOLT	5, 8	9-5/8 (244)	7-1/2 (190)	10-7/8 (276)	69 (31)
8D	**8D-GEL**	188	225	265	3.18	12 VOLT	5	21-1/16 (534)	11 (279)	10-13/16 (233)	157 (71)

Terminal Configurations

1 - ELPT
Embedded Low Profile Terminal

2 - EHPT
Embedded High Profile Terminal

3 - EAPT
Embedded Automotive Post Terminal

4 - EUT
Embedded Universal Terminal

5 - LT
L-Terminal

6 - DT
Automotive Post & Stud Terminal

7 - UT
Universal Terminal

8 - AP
Automotive Post Terminal

9 - WNT
Wingnut Terminal

13 - IT
Insert Terminal

14 - IND
Ind Terminal

* Polyon™ Case

A. The amount of amp-hours (AH) a battery can deliver when discharged at a constant rate at 80°F (27°C) for the 20-Hour and 100-Hour rates and 86°F (30°C) for the 5-Hour rate and maintain a voltage above 1.75 V/cell. Capacities are based on nominal performance.
B. Dimensions are based on nominal size. Dimensions may vary depending on type of handle or terminal. Batteries to be mounted with .5 inches (12.7 mm) spacing minimum.
C. Dimensions taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal.

Trojan - Quality

Research and Development

Quality and innovation are the cornerstones of Trojan's product development. As the leading manufacturer of deep-cycle flooded batteries, Trojan retains two state-of-the-art research and development centers dedicated exclusively to battery technology and innovation. Engineering teams, backed by more than 200 years of deep-cycle development expertise, work together to innovate and bring to market advanced battery technologies that exceed our customers' expectations for outstanding battery performance. To ensure the quality and superior performance of our batteries, Trojan applies the most rigorous testing procedures in the industry to test for cycle life, capacity, charger algorithms and both physical and mechanical integrity. Trojan's battery testing procedures adhere to both BCI and IEC test standards. Trojan's state-of-the-art research and development centers include charger characterization and analytical labs, battery prototype and evaluation labs and battery autopsy centers all dedicated to providing you with a superior battery that you can rely on.

Technical Support and Training

At Trojan one of our core strengths is the dedication and support we provide to our customers. Trojan's expertise as the world's leading manufacturer of deep-cycle batteries provides us with a unique knowledge and understanding of battery technology in renewable energy applications. We apply this knowledge and experience to the benefit of our customers by offering outstanding technical support provided by experienced engineers. To assist our customers with in-depth understanding of battery technologies and systems specifications, Trojan offers a range of training services that can be customized according to your application and market focus. These training services range from over-the-phone technical support to two-day training seminars and even on-site training sessions. Customers can earn North American Board of Certified Energy Practitioners (NABCEP) Continuing Education credit through our technical training sessions held at industry trade shows.

The Trojan Difference

Reputation Built on Quality, Leadership and Innovation

Founded in 1925 by co-founders George Godber and Carl Speer, Trojan Battery Company is the world's leading manufacturer of deep-cycle batteries. From deep-cycle flooded batteries to deep-cycle AGM and gel batteries, Trojan has shaped the world of deep-cycle battery technology with more than 85 years of battery manufacturing experience. With the invention of the golf car battery for the Autoette vehicle in 1952, Trojan pioneered the development of deep-cycle battery technology for the golf industry; successfully introducing mobilization to the game of golf. For Trojan, this began a legacy of leadership and innovation that prevails today in the global, deep-cycle markets spanning applications for renewable energy, golf, transportation, floor machines, aerial work platforms, marine and recreational vehicles. Today, Trojan batteries are available worldwide.

Headquartered in Santa Fe Springs, Calif, Trojan's operations include ISO 9001:2008 certified manufacturing plants in the U.S. in California and Georgia and international offices located in Europe, UAE and Asia. Trojan is a proud member of the Alliance for Rural Electrification (ARE), the Solar Electric Power Association (SEPA), the American Solar Energy Society (ASES), the Battery Council International (BCI) we also are a technical research partner with the Bulgarian Academy of Sciences.

Environmental Stewardship

At Trojan Battery, when we say, "Clean energy for life™," we mean every word. As proactive supporters of environmental sustainability, our environmental stewardship focuses on clean energy initiatives and recycling programs.

- Trojan batteries are 97% recyclable. The container plastic, battery lead and electrolyte from old deep-cycle batteries can be recycled to produce new deep-cycle batteries.
- Through its partnership with Southern California Edison (SCE) Trojan saves over 8 million kilowatt hours and cuts CO2 emissions by more than 12 million pounds significantly reducing our annual energy consumption and carbon foot print.

Trojan BATTERY COMPANY
Clean energy for life℠

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

12380 Clark Street, Santa Fe Springs, CA 90670 • USA or email re@trojanbattery.com

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