Trojan BATTERY COMPANY
Clean energy for life™

INDUSTRIAL LINE BATTERIES

for Renewable Energy / Hybrid System / Backup Power Applications

PRODUCT LINE SHEET

BATTERY: Flooded/wet lead-acid battery
DIMENSIONS: inches (mm)
COLOR: Maroon (case/cover)
MATERIAL: Polypropylene (internal cell) • Polyethylene (outer container)

SMART CARBON™

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 photovoltaic (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. In addition, Trojan has addressed the issue of partial state of charge (PSOC) by incorporating our proprietary technology, Smart Carbon™, to our Industrial Line of deep-cycle batteries. Tested to meet industry 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.

PRODUCT SPECIFICATION

BCI GROUP SIZE	TYPE	VOLTAGE	CAPACITY [A] Amp-Hours (AH)				ENERGY (kWH)	Default TERMINAL	DIMENSIONS [B] Inches (mm)			WEIGHT lbs. (kg)
			5-Hr Rate	10-Hr Rate	20-Hr Rate	100-Hr Rate	100-Hr Rate		Length	Width	Height [C]	
INDUSTRIAL LINE - DEEP-CYCLE FLOODED BATTERIES - DESIGNED FOR 2800 CYCLES AT 50% DOD												
N/A	**IND9-6V**	6 VOLT	365	414	464	601	3.61	14	15.32 (389)	10.24 (260)	23.54 (598)	220 (100)
N/A	**IND13-6V**	6 VOLT	545	616	695	902	5.41	14	22.36 (568)	10.34 (263)	23.92 (608)	315 (143)
N/A	**IND17-6V**	6 VOLT	727	820	925	1202	7.21	14	27.21 (691)	10.38 (264)	23.73 (603)	415 (188)
N/A	**IND23-4V**	4 VOLT	1000	1129	1270	1654	6.62	14	22.38 (568)	10.34 (263)	23.56 (598)	370 (168)
N/A	**IND27-2V**	2 VOLT	1215	1368	1520	1954	3.91	14	15.28 (388)	10.38 (264)	24.00 (610)	228(104)
N/A	**IND29-4V**	4 VOLT	1274	1448	1618	2105	8.42	14	27.10 (688)	10.35 (263)	23.81 (605)	465 (211)
N/A	**IND33-2V**	2 VOLT	1455	1682	1849	2405	4.81	14	17.33 (440)	10.22 (260)	24.01 (610)	278 (125)

A. The amount of amp-hours (AH) a battery can deliver when discharged at a constant rate at 80°F (27°C) and 86°F (30°C) for the 5-Hour rate 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 Industrial Line is tested to BCI and IEC 61427 standards.

CHARGING INSTRUCTIONS

CHARGER VOLTAGE SETTINGS (AT 77°F/25°C)	
	Voltage per cell
Absorption charge	2.35-2.45
Float charge	2.20
Equalize charge	2.58

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	SPECIFIC GRAVITY
-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%.	The specific gravity at 100% state-of-charge is 1.260

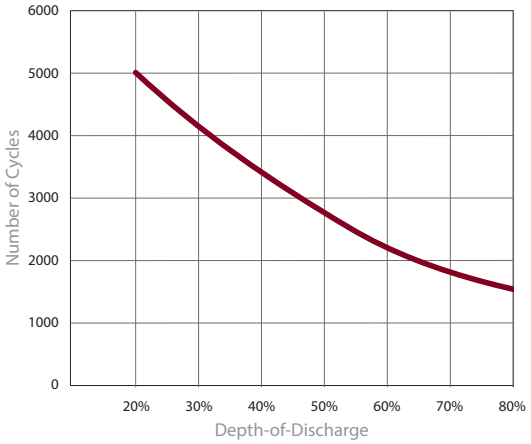
CHARGING TEMPERATURE COMPENSATION

To the Voltage Reading -- Subtract 0.005 volt per cell (VPC) for every 1°C above 25°C or add 0.005 volt per cell for every 1°C below 25°C.

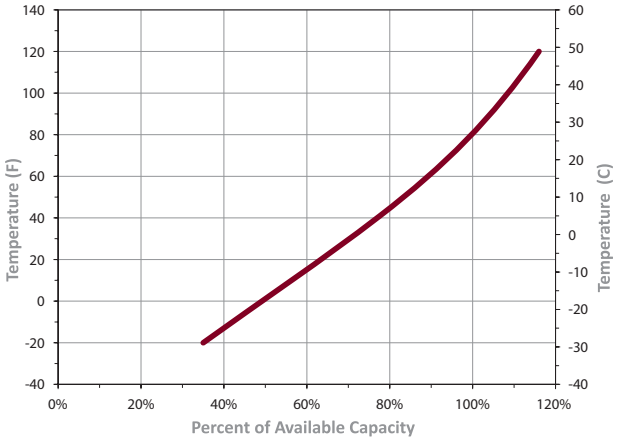
EXPECTED LIFE VS. TEMPERATURE

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

14	IND	IND Terminal
		*Terminal Height Inches (mm)* 1.73 (44) *Torque Values LB-IN (Nm)* 100 – 120 (11 – 14) *Bolt Size* 5/16"

VENT CAP OPTIONS

Bayonet	Flip Top
	

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 trojanbattery.com

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