

## INDUSTRIAL LINE



**MODEL:** IND33-2V

**DIMENSIONS:** inches (mm)

**BATTERY:** Flooded/wet lead-acid battery

**COLOR:** Maroon (case/cover)

**MATERIAL:** Polypropylene (internal cell container)  
Polyethylene (outer container)

### PRODUCT SPECIFICATIONS

BCI GROUP SIZE	TYPE	CAPACITY <sup>A</sup> Amp-Hours (AH)							ENERGY (kWh)	VOLTAGE	TERMINAL Type <sup>D</sup>	DIMENSIONS <sup>B</sup> Inches (mm)			WEIGHT lbs. (kg)
		5-Hr Rate	10-Hr Rate	20-Hr Rate	48-Hr Rate	72-Hr Rate	100-Hr Rate	240-Hr Rate	100-Hr Rate			Length	Width	Height <sup>C</sup>	
		INDUSTRIAL LINE - DEEP-CYCLE FLOODED BATTERIES													
N/A	IND33-2V	1455	1682	1849	2170	2311	2405	2411	4.37	2 VOLT	14	17-1/3 (440)	10-1/4 (260)	24 (610)	278 (125)

### CAPACITY AMP-HOURS (AH)

Cutoff Voltage	5-Hr	10-Hr	20-Hr	48-Hr	72-Hr	100-Hr	240-Hr
1.75 vpc	1455	1682	1849	2170	2311	2405	2411
1.80 vpc	1312	1581	1775	2114	2254	2343	2349
1.85 vpc	1189	1430	1630	1888	2057	2208	2213
1.90 vpc	887	1151	1365	1579	1748	1961	1964

### 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 70%.	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, GEL, and AGM alike and even small increases in temperature will have a major influence on battery life.

<sup>A</sup>. 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.

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

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

<sup>D</sup>. Terminal images are representative only.

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

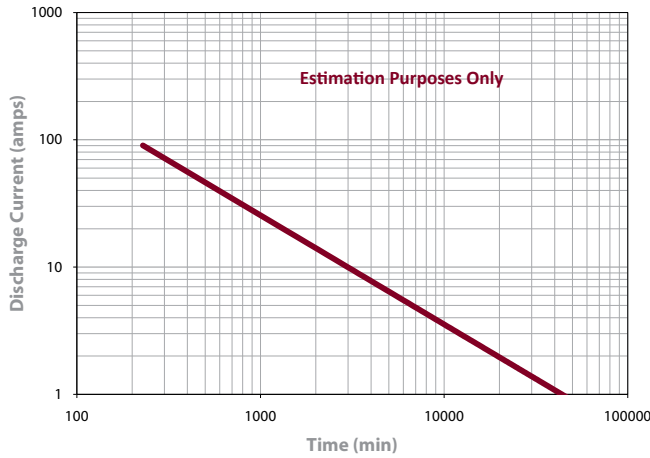
-- Additional Terminals Available

# IND33-2V DATA SHEET

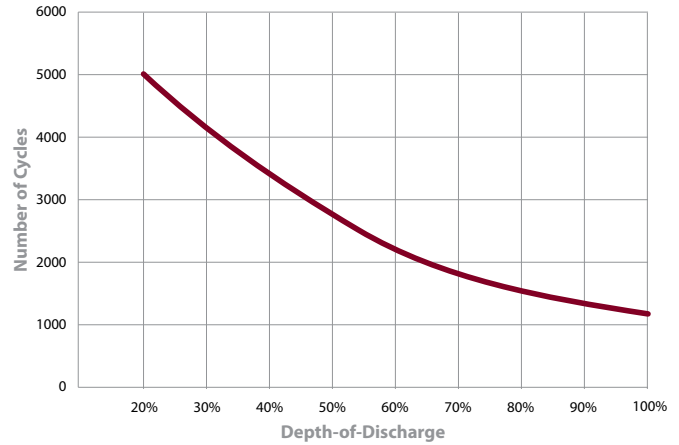
for Renewable Energy and Backup Power Applications

## INDUSTRIAL LINE

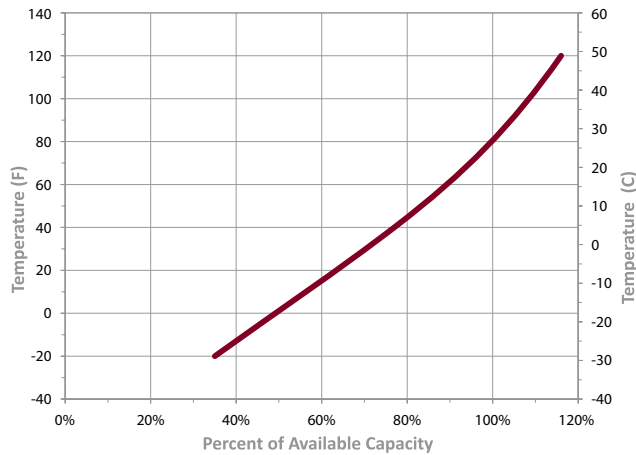
### TROJAN IND33-2V PERFORMANCE



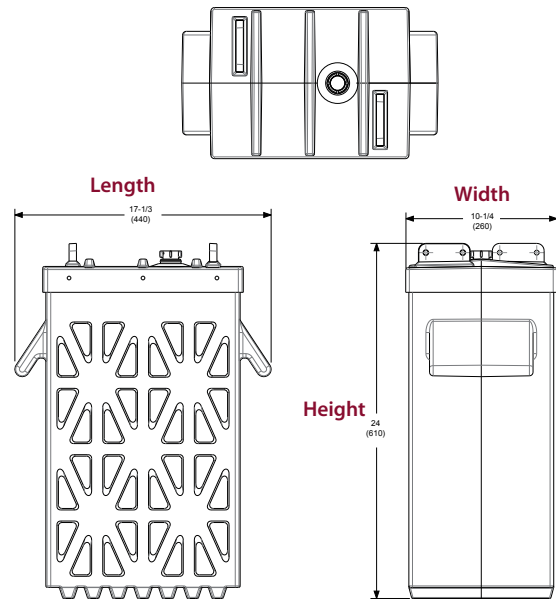
### TYPICAL CYCLE LIFE IN A STATIONARY APPLICATION




### PERCENT CAPACITY VS. TEMPERATURE



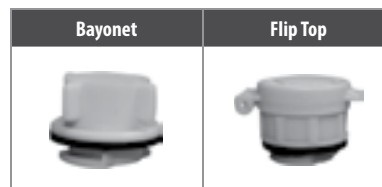
### BATTERY DIMENSIONS



### TERMINAL CONFIGURATIONS

14	IND	Ind Terminal
		
Terminal Height Inches (mm)		
1-3/4 (44)		
Torque Values LB-IN (Nm)		
100 - 120 (11 - 14)		
Through-hole Diameter Inches (mm)		
3/8 (9.5)		

### VENT CAP OPTIONS



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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