Trojan BATTERY COMPANY

DATA SHEET

IND9-6V
INDUSTRIAL LINE

MODEL	**IND9-6V**
NOMINAL CAPACITY	**464AH @ C_{20}**
MATERIAL	**Polypropylene** (internal cell container) **Polyethylene** (outer container)
DIMENSIONS	**Inches (mm)**
BATTERY	**Deep-Cycle Flooded/Advanced Lead Acid Battery**
COLOR	**Maroon**
WATERING	**Single-Point Watering Kit (Optional)**
PRODUCT HIGHLIGHTS	**Smart Carbon™ for Improved Performance** **17 Years Battery Life Based on IEC 61427**

6V

PRODUCT + PHYSICAL SPECIFICATIONS

BCI Group Size	Type	Terminal Type [G]	Dimensions [C] Inches (mm)			Weight Lbs. (kg)
			Length	Width	Height [F]	
N/A	IND9-6V	14	15.32 (389)	10.24 (260)	23.54 (598)	220 (100)

ELECTRICAL SPECIFICATIONS

Cranking Performance		Capacity [A] Minutes		Capacity [B] Amp-Hours (AH)							Energy (kWh)	Internal Resistance (mΩ)	Short Circuit Current (amps)
C.C.A.[D] @ 0°F (-18°C)	C.A.[E] @ 32°F (0°C)	@ 25 Amps	@ 75 Amps	2-Hr	5-Hr	10-Hr	20-Hr	48-Hr	72-Hr	100-Hr	100-Hr		
—	—	—	—	—	365	414	464	545	580	601	3.61	—	—

CHARGING INSTRUCTIONS

Charger Voltage Settings (at 77°F/25°C)					
System Voltage	6V	12V	24V	36V	48V
Bulk Charge	**7.41**	**14.82**	**29.64**	**44.46**	**59.28**
Float Charge	**6.75**	**13.50**	**27.00**	**40.50**	**54.00**
Equalize Charge	**8.10**	**16.20**	**32.40**	**48.60**	**64.80**

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.

CHARGING TEMPERATURE COMPENSATION

Add	Subtract
0.005 volt per cell for every 1°C below 25°C 0.0028 volt per cell for every 1°F below 77°F	0.005 volt per cell for every 1°C above 25°C 0.0028 volt per cell for every 1°F above 77°F

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%.	5 – 15% per month depending on storage temperature conditions.

STATE OF CHARGE MEASURE OF OPEN-CIRCUIT VOLTAGE

Percentage Charge	Specific Gravity	Cell	6 Volt
100	1.260	2.11	6.33
90	1.246	2.09	6.27
80	1.227	2.07	6.21
70	1.207	2.05	6.15
60	1.187	2.03	6.09
50	1.165	2.01	6.03
40	1.142	1.99	5.97
30	1.119	1.96	5.88
20	1.096	1.94	5.82
10	1.072	1.92	5.76

MADE IN USA

TRUE DEEP CYCLE

SMART CARBON™

T2 Technology™

Designed in compliance with applicable BCI, DIN, BS and IEC standards.
Tested in compliance to BCI and IEC standards.

IEC

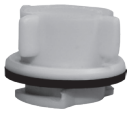
Battery Council International

TROJAN BATTERY COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV = ISO 9001:2008 =

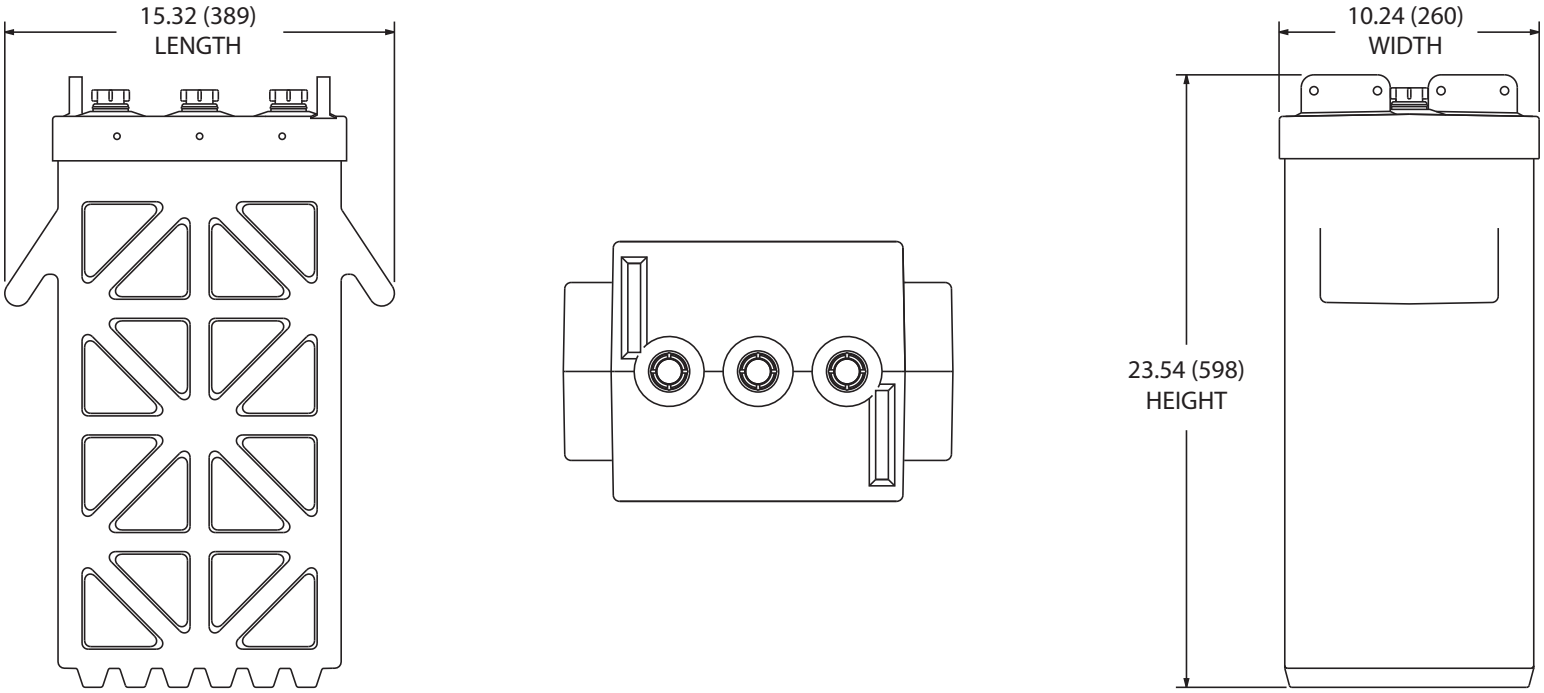
TERMINAL CONFIGURATIONS [6]

14 IND	IND Terminal
	**Terminal Height Inches (mm)** 1.75 (44) **Torque Values in-lb (Nm)** 95 – 105 (11 – 12) **Bolt** 5/16″

VENT CAP OPTIONS

Bayonet	Flip Top
	

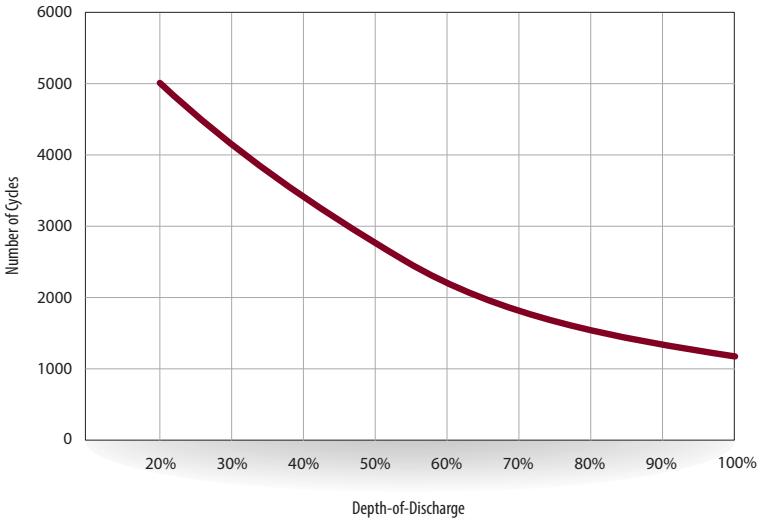
BATTERY DIMENSIONS (shown with IND)



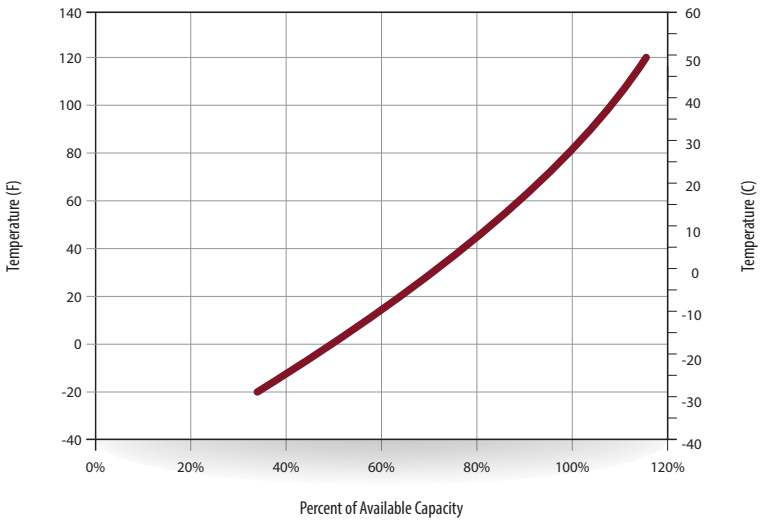
CAPACITY AMP-HOURS (AH)

Cutoff Voltage	5-Hr	10-Hr	20-Hr	48-Hr	72-Hr	100-Hr	240-Hr
1.75 vpc	**365**	**414**	**464**	**545**	**580**	**601**	**604**
1.80 vpc	**329**	**389**	**445**	**530**	**566**	**588**	**590**
1.85 vpc	**300**	**352**	**409**	**474**	**516**	**554**	**555**
1.90 vpc	**222**	**285**	**342**	**396**	**439**	**492**	**493**

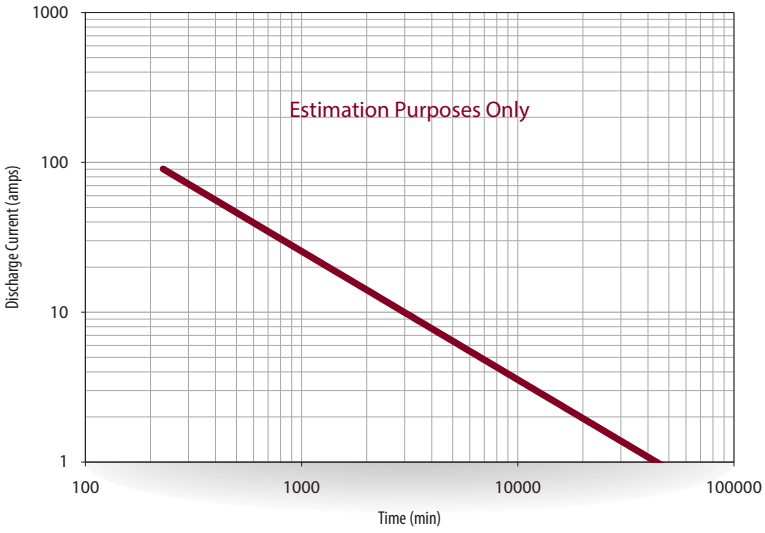
TYPICAL CYCLE LIFE IN A STATIONARY APPLICATION



PERCENT CAPACITY VS. TEMPERATURE



TROJAN IND9-6V PERFORMANCE



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.

SMART CARBON™

Deep-cycle batteries used in off-grid and unstable grid applications are heavily cycled at partial state of charge (PSOC). Operating at PSOC on a regular basis can quickly diminish the overall life of a battery, which results in frequent and costly battery replacements.
To address the impact of PSOC on deep-cycle batteries in renewable energy (RE), inverter backup and telecom applications, Trojan Battery has now included Smart Carbon™ as a standard feature in its Industrial and Premium flooded battery lines.

A. The number of minutes 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 peak performance.
B. 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 peak performance.
C. Dimensions may vary depending on type of handle or terminal. Batteries should be mounted with 0.5 inches (12.7 mm) spacing minimum.
D. C.C.A. (Cold Cranking Amps) - the discharge load in amperes which a new, fully charged battery can maintain for 30 seconds at 0°F (-18°C) at a voltage above 1.2 V/cell.
E. C.A. (Cranking Amps) - the discharge load in amperes which a new, fully charged battery can maintain for 30 seconds at 32°F (0°C) at a voltage above 1.2 V/cell. This is sometimes referred to as marine cranking amps @ 32°F or M.C.A. @ 32°F.
F. Height taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal.
G. Terminal images are representative only.

Trojan BATTERY COMPANY

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IND9-6V_DS 2016_0617