TROJAN BATTERY COMPANY

DATA SHEET MOTIVE OVERDRIVE™ AES 31

MODEL **OverDrive™ AES 31**
VOLTAGE **12**
CAPACITY **104Ah @ 20Hr**
MATERIAL **Polypropylene**
BATTERY **VRLA AGM / Non-Spillable / Maintenance-Free**
COLOR **Maroon**
WATERING **No Watering Required**

12 VOLT

PHYSICAL SPECIFICATIONS

BCI	MODEL NAME	TERMINAL TYPE	DIMENSIONS [C] INCHES (mm)			WEIGHT [I] LBS. (kg)	HANDLES	INSTALLATION ORIENTATION
			LENGTH	WIDTH	HEIGHT [F]			
31	OVERDRIVE™ AES 31	ST	12.80 (325)	6.81 (173)	9.43 (240)	69 (31)	Plastic Handle	Horizontal and Vertical

ELECTRICAL SPECIFICATIONS

VOLTAGE	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	C.A.[E] @32°F	@ 25 Amps	5-Hr	10-Hr	20-Hr	100-Hr	100-Hr		
12	540	648	178	83	92	104	115	1.38	4.80	2555

CHARGING INSTRUCTIONS

CHARGER VOLTAGE SETTINGS (AT 77°F/25°C)				
SYSTEM VOLTAGE	**12V**	**24V**	**36V**	**48V**
Maximum Charge Current (A)	50% of C_{20}			
Absorption Voltage (2.40 V/cell)	14.40	28.80	43.20	57.60
Float Voltage (2.25 V/cell)	13.50	27.00	40.50	54.00

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

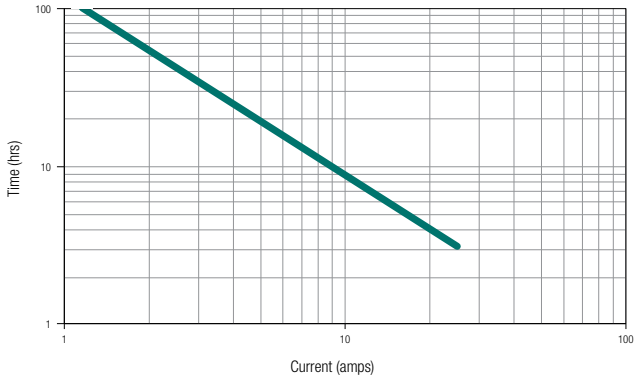
OPERATING TEMPERATURE	SELF DISCHARGE
-40°F to 140°F (-40°C to +60°C). At temperatures below 32°F (0°C) maintain a state of charge greater than 60%.	Less than 3% per month depending on storage temperature conditions

RECYCLE RESPONSIBLY

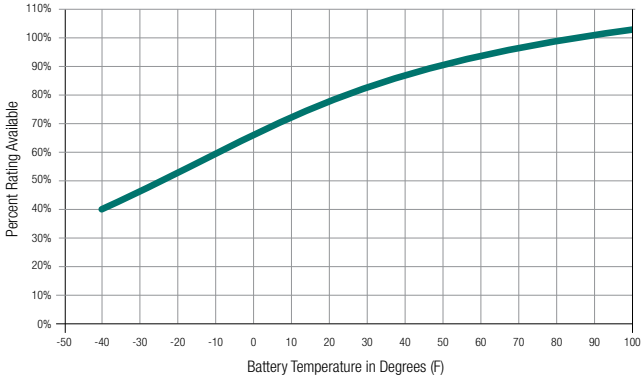
STATE OF CHARGE MEASURE OF OPEN-CIRCUIT VOLTAGE

PERCENTAGE CHARGE	CELL	12 VOLT
100	2.14	12.84
75	2.09	12.54
50	2.04	12.24
25	1.99	11.94
0	1.94	11.64

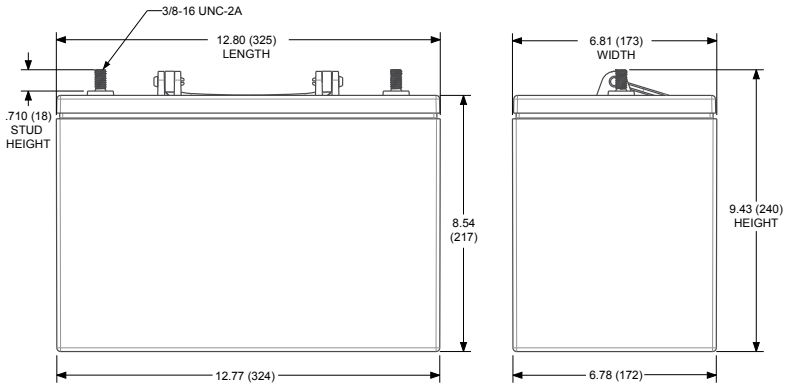
TROJAN OVERDRIVE™ AES 31 PERFORMANCE

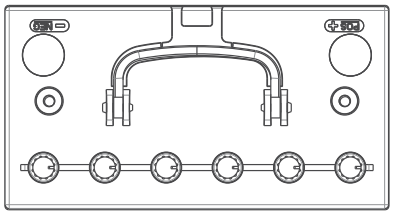


PERCENT CAPACITY VS. TEMPERATURE

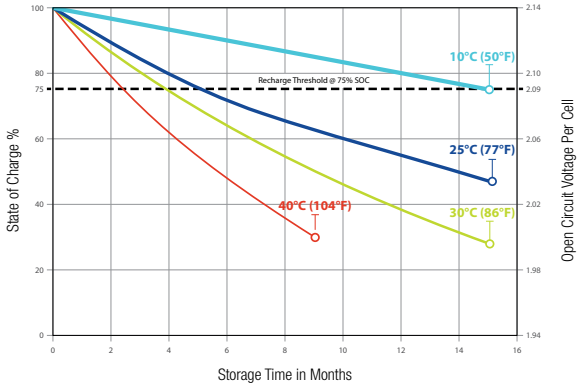


BATTERY DIMENSIONS (shown with ST)





SELF DISCHARGE VS. TIME[H]



TERMINAL TYPE[G]

11 ST	STUD
	**Battery Height with Terminal in Inches (mm)** 9.43 (240) **Torque Values in-lb (Nm)** 120 - 180 (14 – 20) **Stud Size** 3/8" – 16

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.
H. Batteries in storage should be charged when they decline to 75% State of Charge (SOC).
I. Weight may vary.

ARA Associate Member · MHI · Battery Council International · IEC · TROJAN BATTERY COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV = ISO 9001:2015 = · COMPLIES WITH BCIS-21 (DOT/IATA) – NOT RESTRICTED FOR SURFACE TRANSPORT – CLASSIFIED AS NON-HAZARDOUS MATERIAL PER DOT 49 CFR 173.159a · UL®

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

TROJAN BATTERY COMPANY

2023009-OverDrive-31-AES-Datasheet
REV: 7/10/23