

ODYSSEY[®]

THE EXTREME BATTERY

Trolling Thunder[®] / Marine Dual Purpose Battery

A guide to the industry's best starting and deep cycle battery



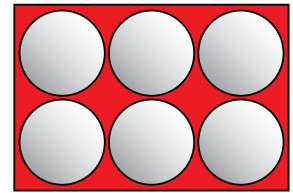
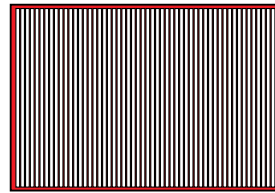
*Twice the overall power
and three times the life of
conventional marine batteries.
Up to 400 cycles at 80% depth
of discharge!*



EnerSys
Power/Full Solutions

ODYSSEY® battery technology comparison

	ODYSSEY® BATTERIES	CONVENTIONAL BATTERIES
DESIGN LIFE	8-12 years (Float) @ 25° C (77° F)	5 years
SERVICE LIFE	3 to 10 years	1 to 5 years
ELECTROLYTE	Drycell ("starved electrolyte") no external leakage or corrosion	Most are acid flooded (causing acid burns and spills); some wet sealed or "gelled"
STORAGE LIFE	2 years before needing charge @ 25°C (77°F)	6-12 weeks before needing charge
SHIPPING	Air transportable; classified as non-spillable in accordance with U.S. Department of Transportation regulations (less expensive)	Ground transport; classified as hazardous material (more expensive)
END OF LIFE	Battery slowly loses power at end of life; no catastrophic failure	Immediate and catastrophic loss of power (can leave you stranded)



Unused battery space

ODYSSEY® batteries beat spiral-wound

Compared to spiral-wound batteries of equal size, ODYSSEY® batteries pack 15% more plate surface area into the case. Avoiding the "dead space" between cylinders in "six-pack" designs means ODYSSEY batteries deliver more power and 40% more reserve capacity.

CONSTRUCTION

- Pure virgin lead plates for maximum surface area, optimized recycling
- AGM (absorbed glass mat) design eliminates acid spills
- High conductivity, corrosion-resistant tin-plated brass terminals
- High integrity terminal seal
- Sealed design – gases recycled internally during operation or charging
- Safety relief valve per cell
- Robust intercell connections prevents vibration damage



Optional height adapter

May be used on the 34M-PC1500 for installations where a group 24 or group 27 is required. Snap the adapter securely into place on the bottom of the 34M-PC1500 battery. In some installations, a 34M-PC1500 with this adapter may be used to replace a group 24F or 27F depending on required cable length.





ODYSSEY® Powersports Batteries

The ODYSSEY® battery line also includes a full range of specialized batteries for marine powersports applications. Incorporating the same rugged design and deep cycling capability as ODYSSEY Trolling Thunder®/Marine Dual Purpose batteries, ODYSSEY Powersports batteries are engineered to withstand the constant pounding and frequent discharges common in water powersports applications.

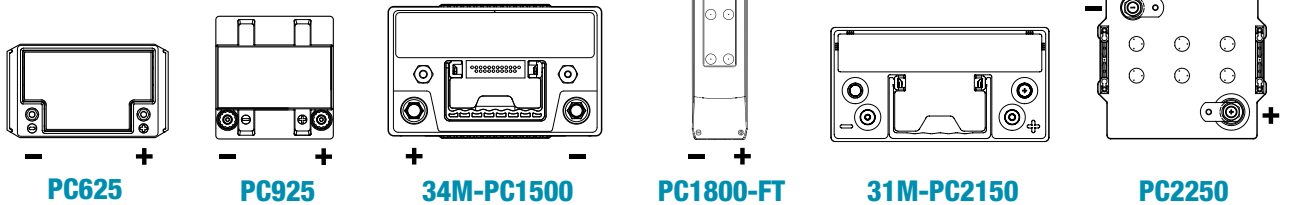


Trolling Thunder® / Marine Dual Purpose Ultimizer™ Chargers

ODYSSEY® Trolling Thunder®/Marine Dual Purpose batteries are complemented by ULTIMIZER™ Chargers – lightweight and compact 12V chargers featuring a 3-step charge profile for fast, complete and safe charging. Models include 6amp, 12amp, and 25amp (2 bank).

Terminal Layouts

Drawing sizes are for terminal position reference only; diagrams are not proportionate to each other.



MODEL	Voltage	PHCA** (5 sec)	CCA*	HCA	MCA	Nominal Capacity		Reserve Capacity Minutes	Length inches (mm)	Width inches (mm)	Height inches (mm)	Weight lbs (kg)	Terminal	Torque Specs in-lbs (Nm max)	Internal Resistance (mΩ)	Short Circuit Current
						(20 Hr Rate-Ah)	(10 Hr Rate-Ah)									
PC625	12	625	265	440	350	18	17	27	6.70 (170.2)	3.90 (99.1)	6.89 (175.0)	13.2 (6.0)	M6 Stud	40 (4.5)	7	1800A
PC925	12	925	380	625	500	28	27	52	6.64 (168.6)	7.05 (179.0)	5.04 (128.0)	26.0 (11.8)	M6 Receptacle† or SAE 3/8" Receptacle	60 (6.8)	5	2400A
34M-PC1500	12	1500	880	1250	1050	68	62	135	10.85 (275.6)	6.76 (171.7)	7.82 (198.6)	49.5 (22.4)	SAE and 3/8" Stud (Pos.) 5/16" Stud (Neg.)	70 (7.9)	2.5	3100A
PC1800-FT	12	1800	1300	1600	1450	214	190	475	22.75 (577.9)	4.9 (125.0)	12.44 (316.0)	132.3 (60.0)	3/8" Stud	80 (9.0)	3.3	3800A
31M-PC2150	12	2150	1150	1545	1370	100	92	205	13.00 (330.2)	6.80 (172.7)	9.47 (240.5)	77.8 (35.3)	SAE and 3/8" Stud (Pos.) 5/16" Stud (Neg.)	150-220 (16.9-22.6)	2.2	5000A
PC2250	12	2250	1225	1730	1550	126	114	240	11.26 (286.0)	10.59 (269.0)	9.17 (233.0)	86.0 (39.0)	Dual SAE/DIN Terminal and 3/8" Stud	100 (11.0) for 3/8" Stud Only	2.1	5000A

* Cold Start Performance S.A.E J537 JUNE 82

**Pulse Current

Operating temperature range:

-40°C (-40°F) to 45°C (113°F) for PC625 and PC925

-40°C (-40°F) to 80°C (176°F) for 34M-PC1500 and 31M-PC2150

-30°C (-22°F) to 40°C (104°F) for PC2250

-40°C (-40°F) to 50°C (122°F) for PC1800-FT

Constant voltage portable charger parameters:

Standby, per 12V battery	13.5-13.8V no current limit required
Cyclic, per 12V battery (16-hour recharge)	14.4-14.8V no current limit required
Typical deep-cycle life at 25°C/77°F at a 5-hour rate	400 cycles at 80% DOD
Typical service life at 25°C/77°F	Medium to heavy duty usage – 3+ years Light duty usage – 5+ years

Longer service life

Forget replacing batteries every year. With 3-10 years of service life, ODYSSEY® batteries save consumers time, money, and aggravation.

Longer cycle life

70% longer cycle life compared to conventional deep cycle batteries — up to 400 cycles at 80% depth of discharge — high stable voltage for longer periods of time.

Longer shelf life

Can be stored on open circuit (nothing connected to the terminals) without the need for recharging up to 2 years or 12.00V, whichever occurs first.

Faster recharge

The highest recharge efficiency of any sealed lead battery on the market — capable of 100% recharge in 4 - 6 hours.

Mounting flexibility

Non-spillable design — can be mounted on any side in any position except inverted. Takes up less space in the boat than competitors.

Vibration resistance

Design protects against high impact shock and mechanical vibration — a common cause of premature battery failure.

Extreme temperature tolerant

Operating temperatures from -40°C (-40°F) to 80°C (176°F) for the 34M-PC1500 and 31M-PC2150. No need to winterize this unit — leave it in the boat!

Totally maintenance free

No need to add water, ever!

Improved safety

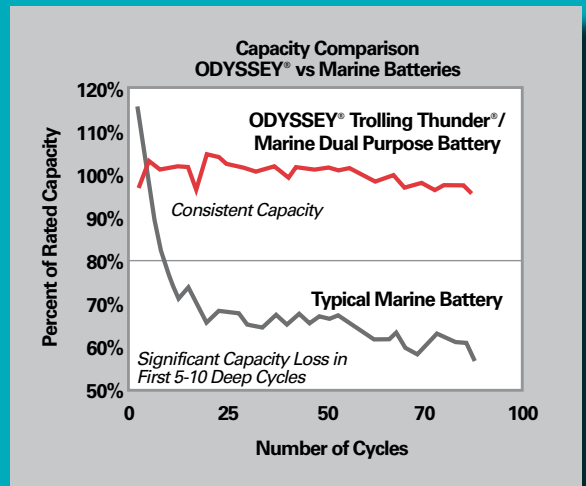
US Department of Transportation classified as a 'non-spillable' battery. No acid spills, no escaping gases. Drycell design with resealable venting system.

Superior to spirals

Compressed flat plates eliminate wasted space — 15% more plate surface area and up to 40% more reserve capacity than popular "six-pack" AGM batteries.

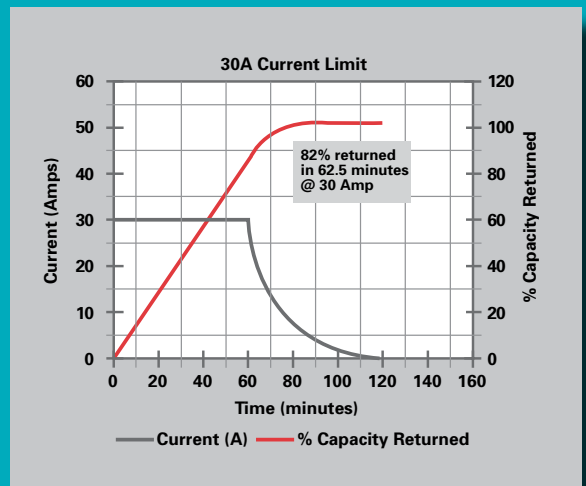
Better warranty

Limited 3- and 4-year full replacement warranty — not pro rata.



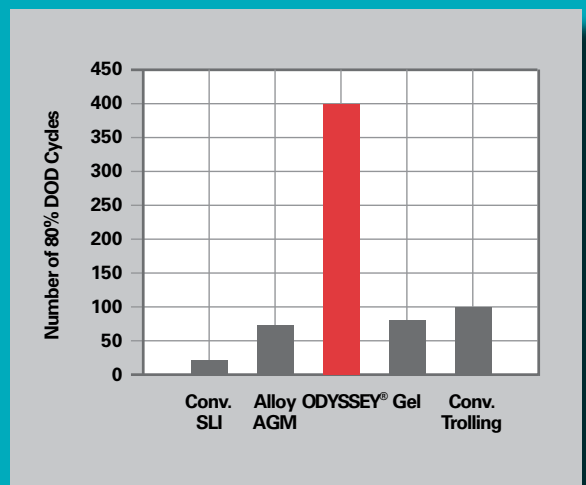
Consistent Power

ODYSSEY® batteries maintain consistently high voltage over a long cycle life.



Fast Recovery

ODYSSEY® batteries recharge faster and more fully than conventional marine batteries.



Long Cycle Life

ODYSSEY® batteries routinely deliver up to 400 deep cycle (80%) discharges.

About EnerSys®

EnerSys® is a global leader in stored energy solutions for automotive, military, and industrial applications. With manufacturing facilities in 17 countries, sales and service locations throughout the world, and over 100 years of battery experience, EnerSys is a powerful partner for automotive service and parts providers.



EnerSys

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WARRANTY:

EnerSys Energy Products Inc. ("Manufacturer") warrants its ODYSSEY® batteries (hereafter referred to as "Battery") to be free of defects in material and workmanship for the earlier of (a) the Applicable Warranty Period or (b) within 400 cycles to 80% depth of discharge, whichever occurs first. The Applicable Warranty Period is two (2) years for power sports applications; three (3) years in automotive, marine, commercial, and industrial applications; and four (4) years in the case of the PC1220, 75-PC1230, 75/86-PC1230, PC1350, 25-PC1400, 35-PC1400, 34-PC1500, 34M-PC1500, 34R-PC1500, 34/78-PC1500, 78-PC1500, 65-PC1750, 31-PC2150, 31M-PC2150 and PC2250 batteries, except in APU (auxiliary power unit) applications, then warranty is two (2) years. The Applicable Warranty Period begins from the date of purchase with original receipt, or, if no receipt is available, from Manufacturer's shipping date. Within the Applicable Warranty Period, the Battery will be replaced free of charge if, at the discretion of Manufacturer, adjustment is necessary due to defect in material or workmanship (not merely discharged). Batteries for warranty replacement consideration are to be returned to the original supplying distributor/dealer. If not truly feasible, other ODYSSEY distributors/dealers can be approached but a warranty processing fee may be applied. This warranty may vary from country to country; contact your authorized ODYSSEY battery wholesaler or dealer for the applicable warranty.

GENERAL PROVISIONS

A. Manufacturer has no obligation under the limited warranty set forth above in the event the Battery is damaged or destroyed as a result of one or more of the following:

- Willful abuse or neglect or if the top decorative cover has been removed.
- Natural forces such as wind, lightning, hail; damage due to fire, collision, explosion, vandalism, theft, penetration or opening of the Battery case in any manner.
- Overcharging, undercharging, charging or installing in reverse polarity, improper maintenance, allowing the Battery to be deeply discharged via a parasitic load or mishandling of the Battery such as but not limited to using the terminals for lifting or carrying the Battery. Trickle chargers that do not have a regulated trickle charge voltage between 13.5V and 13.8V (no lower than 13.5V and no higher than 13.8V) will cause early failure of the Battery. Use of such chargers with the Battery will also void the Battery's warranty. For applications where an alternator is present, the alternator must deliver between 14.0V and 14.7V when measured at the battery's terminals. Alternators that do not have a regulated charge between 14.0V and 14.7V (no lower than 14.0V and no higher than 14.7V) will cause early failure of the Battery. Use of such alternators with the Battery will also void the Battery's warranty.
- Failure to properly install the Battery or lack of metal jacket for high temperature or vibration applications.
- Normal deterioration in the electrical qualities or the acceleration of such deterioration due to conditions that accelerate such deterioration.
- If the Battery is used for an application that requires higher cranking power or a greater reserve rating than the Battery is designed to deliver, or the Battery capacity is less than the Battery capacity specified by the vehicle manufacturer, or the Battery is otherwise used in applications for which it was not designed.
- Prolonged storage of vehicles with fuel injection computers, alarms, GPS and other electrical devices that require continuous battery power to support active memories; this power drain must be offset with a maintenance-float charger, periodic charging or disconnecting the battery to prevent the establishment of irreversible crystallized sulphation in the battery plate oxide. Failure to address this destroys battery capacity and voids the warranty, as this is not a warranted defect in materials or workmanship. A battery with an open circuit voltage (OCV) of equal to or less than 10.0V will be deemed as overdischarged and void from warranty due to misuse and/or neglect.
- WARNING - Do NOT use any type of oil, organic solvent, alcohol, detergent, strong acids, strong alkalis, petroleum-based solvent or ammonia solution to clean the jars or covers. These materials may cause permanent damage to the battery jar and cover and will void the warranty.

B. To obtain warranty service:

1. Return the Battery to any authorized ODYSSEY battery wholesaler or dealer.
2. If the battery is determined by Manufacturer, in its sole discretion, to be defective for material or workmanship under terms of this limited warranty, it will be replaced.
3. Manufacturer's acceptance of any items shipped to Manufacturer shall not be deemed an admission that the items so shipped are defective. Any items shipped back to Manufacturer, shall in Manufacturer's sole discretion, become Manufacturer's sole property.

THIS LIMITED WARRANTY IS IN LIEU OF, AND MANUFACTURER DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, STATUTORY, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. MANUFACTURER'S EXCLUSIVE LIABILITY FOR BREACH OF WARRANTY SHALL BE TO REPLACE THE BATTERY WITHIN THE EFFECTIVE WARRANTY PERIOD. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR ANY LOSS OR DAMAGES OF ANY OTHER KIND, WHETHER DIRECT, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY, SPECIAL OR OTHERWISE. NOR SHALL MANUFACTURER BE LIABLE FOR ANY REMOVAL OR INSTALLATION EXPENSE, OR THE LOSS OF TIME OR PROFITS.

Some countries and/or states do not allow limitation on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, which may vary from country to country and/or state to state.