ODYSSEY®
BATTERY

ODYSSEY® Extreme Series™ Batteries
Genset Applications

Battery Installation, Operation and Maintenance Instructions

EnerSys®
Power/Full Solutions

Available exclusively from EnerSys®, the global leader in stored energy solutions for industrial applications.

Important

Please read this manual immediately upon receipt of battery before unpacking and installing. Failure to comply with these instructions will render any warranties null and void. The term battery within this literature pertains to one 12 Volt battery consisting of six individual cells. Lead acid batteries should only be assembled and maintained by qualified battery technicians using proper safety precautions.

Care for Your Safety

Dispose at registered waste handling facility

Battery must be recycled

Protect eyes from electrolyte

Read instructions

Do not charge in sealed container

Handling

ODYSSEY® Extreme Series™ batteries are supplied in a fully charged state and must be unpacked carefully to avoid very high short-circuit currents between terminals of opposite polarity. Use care when handling and moving batteries. Appropriate lifting equipment must be used.

Keep flames away

In case of accidental overcharge, a flammable gas can escape from the safety vent.

Discharge any possible static electricity from clothes by touching a grounded surface.

Tools

Use tools with insulated handles.

Do not place or drop metal objects on the battery.

Remove rings, wristwatches and any other articles of clothing with metal parts that may come into contact with the battery terminals.

Other safety precautions/warnings

No smoking, no naked flames, no sparks

Electrolyte is corrosive

Clean all acid splash in eyes or on skin with plenty of clean water.

Then seek medical help. Acid on clothing is to be washed with water.

Risk of explosion or fire. Avoid any short circuit. Metallic parts under voltage on the battery, do not place tools or items on top of the battery.

Receiving the Shipment

Carefully examine the battery shipment upon arrival for any signs of transit damage and that it agrees with the materials list or packing slip. Be very careful not to inadvertently discard any accessories contained in the packing material.

Batteries contain sulfuric acid in glass fiber separators.

Use acid protective gloves when handling broken or damaged containers in case of acid leakage.

Storage

Store ODYSSEY Extreme Series batteries in a dry, clean and preferably cool location.

Since the batteries are supplied charged, storage time is limited. In order to easily charge the batteries after prolonged storage, it is advised not to store more than:

- 24 months at ambient temperature no warmer than 77°F (25°C)
- 18 months at 86°F (30°C)
- 5 months at 104°F (40°C)

A fully charged ODYSSEY Extreme Series battery Open Circuit Voltage (OCV) is 12.84 volts. Give the battery a freshening charge before it reaches the end of the recommended above storage time or if an ODYSSEY Extreme Series battery's OCV reaches 12.65 volts or lower. Maximum total storage time prior to installation is two years from the date of shipment from the factory to the customer at ambient temperature.

We recommend using a freshening battery charger capable of charging at 14.7 volts per battery (2.45 volts per cell) at 77°F (25°C). When the charger reaches 14.7 volts, leave it on for four more hours. Never charge longer than 24 hours at a time. If the charger is not capable of reaching 14.7 volts, leave the battery connected to the charger for no more than 24 hours.

Failure to observe these conditions may result in greatly reduced capacity and service life.

FAILURE TO CHARGE AS NOTED VOIDS THE BATTERY WARRANTY.

Pre-Installation

Prior to installing and/or maintaining ODYSSEY Extreme Series batteries, the technician should remove all metal objects, i.e., watches, rings and any jewelry, as well as follow all standard lead acid battery safety practices.

ODYSSEY Extreme Series batteries are Valve Regulated Lead Acid (VRLA) batteries. ODYSSEY Extreme Series batteries should be installed in rooms or areas with normal air circulation. ODYSSEY Extreme Series batteries should not be installed in "air tight" containers even though they release minimal amounts of gases during normal operation (gas recombination efficiency = 97%). No water needs to be replaced throughout the service life of ODYSSEY Extreme Series batteries. Warranty will be voided if any attempt has been made to tamper or remove the vents. ODYSSEY Extreme Series batteries must be installed in accordance with federal, state and local law regulations as well as the manufacturer's instructions.

- ODYSSEY Extreme Series batteries can be installed near the generators
- Wash hands after any contact with lead terminals
- ODYSSEY Extreme Series batteries are intended to be installed in the upright position (terminals facing up)

Genset Kits

Kit Part Number	Figure Number	Quantity and Type of Batteries Needed	Rated Capacity	
			PHCA	CCA
GSG34M-PC1500-A Kit	Figure 1	4x 34M-PC1500	3000	1700
GSG34M-PC1500-B Kit	Figure 2	4x 34M-PC1500	3000	1700
GSG34M-PC1500-C Kit	Figure 3	2x 34M-PC1500	1500	850
GSG34M-PC1500-D Kit	Figure 4	2x 34M-PC1500	1500	850
GSG31M-PC2150-A Kit	Figure 5	4x 31M-PC2150	4300	2300
GSG31M-PC2150-B Kit	Figure 6	4x 31M-PC2150	4300	2300
GSG31M-PC2150-C Kit	Figure 7	2x 31M-PC2150	2150	1150
GSG31M-PC2150-D Kit	Figure 8	2x 31M-PC2150	2150	1150
GSPC2250-A Kit	Figure 9	4x PC2250	4500	2450
GSPC2250-B Kit	Figure 10	4x PC2250	4500	2450
GSPC2250-C Kit	Figure 11	2x PC2250	2250	1225
GSPC2250-D Kit	Figure 12	2x PC2250	2250	1225

Table 1

ODYSSEY® Extreme SERIES™

Genset Installation Manual

Installation

1. Do not install any batteries with any physical or shipping damage.
2. Depending on which battery (34M-PC1500, 31M-PC2150 or PC2250), quantity ordered and the layout selected (A-B-C-D), position the batteries exactly the way they are laid out in the provided line diagrams (See Figures 1-12). The different A-B-C-D Kit line diagrams are laid out using different posts or terminations.
3. Make sure the battery charger is turned off prior to making any battery connections.
4. Install the cables/tin plated copper bar as per the appropriate kit diagrams A-B-C-D.
5. Torque the batteries to the specifications listed in Table 2 below.

Torque Specifications

Battery	3/8-16 Stud	SAE Terminals
34M-PC1500	150 inch pounds (16.9 Nm)	60 inch pounds (6.8 Nm)
31M-PC2150	150 inch pounds (16.9 Nm)	60 inch pounds (6.8 Nm)
PC2250	100 inch pounds (16.9 Nm)	60 inch pounds (6.8 Nm)

Table 2

6. Number the batteries. Battery 1 is the initial positive battery and the highest number battery is the last or the battery negative termination.
7. Connect the (-) negative cable from the charger to the proper (-) negative battery terminal as per the appropriate line diagram (See Figures 1-12).
8. Connect the (+) positive cable from the charger to the proper (+) positive battery terminal as per the appropriate line diagram (See Figures 1-12).
9. Turn on the battery 24 VDC charger, if necessary adjust the 24 VDC charger to 27.3 volts DC @ 77°F (25°C).

▪ Temperature

Avoid placing batteries in areas of high temperature or in direct sunlight. The batteries will give their best performance and service life when operating at a temperature between 68°F (20°C) and 77°F (25°C), however they are capable of operating in a temperature range of -40°F (-40°C) to 176°F (80°C). Reasonable precautions should be taken to prevent continuous operation below -40°F (-40°C) or above 176°F (80°C).

▪ Ventilation

Under normal conditions gas release is very low and natural ventilation is sufficient for cooling purposes. This allows ODYSSEY® Extreme Series™ batteries to be used safely in offices and with main equipment.

However, care must be taken to ensure adequate ventilation when placed in cabinets. Batteries must not be placed in sealed cabinets.

Battery Maintenance

▪ Monthly

Visually check the batteries making sure they are clean and dry.

▪ Quarterly

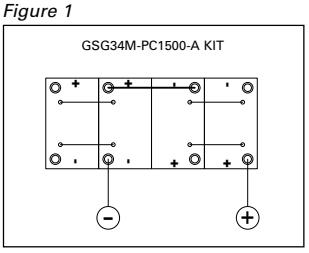
Visually check the batteries, with the batteries connected to the charger, record and save each battery on charge voltage readings.

The individual battery voltages with the charger connected (on-charge) should be approximately 13.65 volts. If any battery is approximately two volts less than the others, it should be replaced.

▪ Yearly

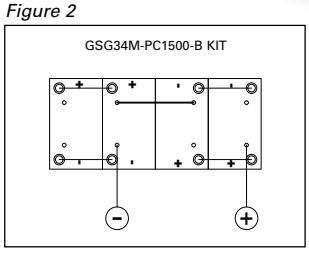
Perform the quarterly maintenance plus retorque the battery terminal connectors to 80% of the original torque values.

Figure 1



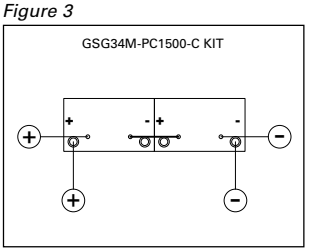
27.08" L x 10.86" D

Figure 2



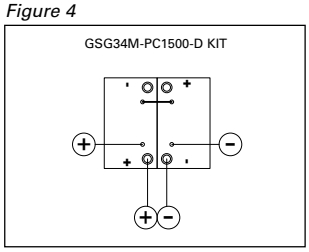
27.08" L x 10.86" D

Figure 3



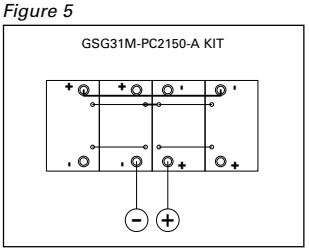
21.72" L x 6.77" D

Figure 4



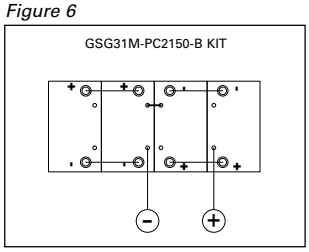
13.54" L x 10.86" D

Figure 5



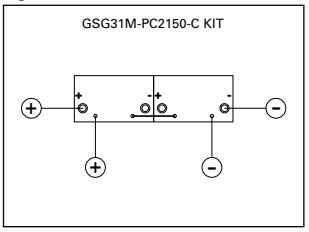
27.64" L x 13.07" D

Figure 6



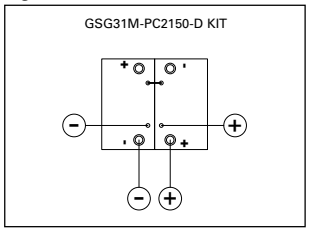
27.64" L x 13.07" D

Figure 7



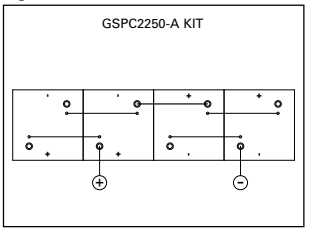
26.14" L x 6.91" D

Figure 8



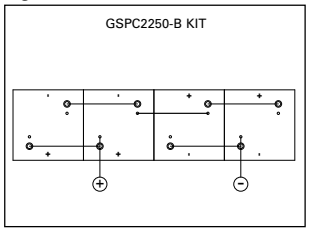
13.82" L x 13.07" D

Figure 9



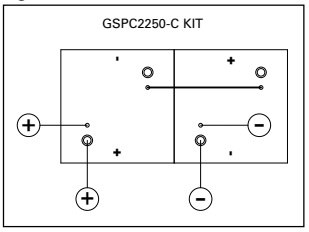
42.36" L x 11.26" D

Figure 10



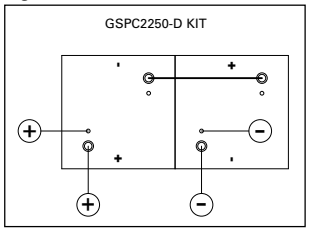
42.36" L x 11.26" D

Figure 11



21.18" L x 11.26" D

Figure 12



21.18" L x 11.26" D

Breakdown of Kits

GSG34M-PC1500-A
Includes: 2 series and parallel battery connections (batteries not included)

Cable Part Number	Quantity	Description
883163-011	1	Automotive Post Black 4/0 Cable
883144-008	2	Stud Post Red 2/0 Cable
883146-008	2	Stud Post Black 2/0 Cable

GSG34M-PC1500-B
Includes: 2 series and parallel battery connections (batteries not included)

Cable Part Number	Quantity	Description
883145-007	1	Stud Post Black 4/0 Cable
883164-009	2	Automotive Post Red 2/0 Cable
883165-009	2	Automotive Post Red 2/0 Cable

GSG34M-PC1500-C
Includes: series battery connection (batteries not included)

Cable Part Number	Quantity	Description
883141TP	1	Tin Coated Copper Bar

GSG34M-PC1500-D
Includes: series battery connection (batteries not included)

Cable Part Number	Quantity	Description
883145-007	1	Stud Post Black 4/0 Cable

GSG31M-PC2150-A
Includes: 2 series and parallel battery connections (batteries not included)

Cable Part Number	Quantity	Description
883162-021	1	Automotive Post Black 4/0 Cable
883144-008	2	Stud Post Red 2/0 Cable
883146-008	2	Stud Post Black 2/0 Cable

GSG31M-PC2150-B
Includes: 2 series and parallel battery connections (batteries not included)

Cable Part Number	Quantity	Description
883140TP	1	Tin Coated Copper Bar
883164-010	2	Automotive Post Red 2/0 Cable
883165-010	2	Automotive Post Red 2/0 Cable

GSG31M-PC2150-C
Includes: series battery connection (batteries not included)

Cable Part Number	Quantity	Description
883142TP	1	Tin Coated Copper Bar

GSG31M-PC2150-D
Includes: series battery connection (batteries not included)

Cable Part Number	Quantity	Description
883140TP	1	Tin Coated Copper Bar

GSPC2250-A
Includes: 2 series and parallel battery connections (batteries not included)

Cable Part Number	Quantity	Description
883162-011	1	Automotive Post Black 4/0 Cable
883144-011	2	Stud Post Red 2/0 Cable
800111-011	2	Stud Post Black 2/0 Cable

GSPC2250-B
Includes: 2 series and parallel battery connections (batteries not included)

Cable Part Number	Quantity	Description
881874-011	1	Stud Post Black 4/0 Cable
883160-011	2	Automotive Post Red 2/0 Cable
883161-011	2	Automotive Post Black 2/0 Cable

GSPC2250-C
Includes: series battery connection (batteries not included)

Cable Part Number	Quantity	Description
881874-011	1	Stud Post Black 4/0 Cable

GSPC2250-D
Includes: series battery connection (batteries not included)

Cable Part Number	Quantity	Description
883162-011	1	Automotive Post Black 4/0 Cable

About EnerSys®

EnerSys®, the global leader in stored energy solutions for industrial applications, manufactures and distributes reserve power and motive power batteries, battery chargers, power equipment, battery accessories and outdoor equipment enclosure solutions to customers worldwide. Motive power batteries and chargers are utilized in electric forklift trucks and other commercial electric powered vehicles. Reserve power batteries are used in the telecommunication and utility industries, uninterruptible power supplies, and numerous applications requiring stored energy solutions including medical, aerospace and defense systems. Outdoor equipment enclosure products are utilized in the telecommunication, cable, utility, transportation industries and by governement and defense customers. The company also provides aftermarket and customer support services to its customers from over 100 countries through its sales and manufacturing locations around the world.

EnerSys® Power/Full Solutions

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Publication No. US-GM-IOM-AA - January 2016