

ODYSSEY OPTIMIZER

THE EXTREME BATTERY CHARGER™

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| P/N SX90-1, 12V 6A, 90W | P/N SX180-1, 12V, 12A, 180W |
| Approved and recommended by EnerSys to charge and maintain their line of Drycell® batteries, models PC535, PC545, PC625, and PC680 | Approved and recommended by EnerSys to charge and maintain their line of Drycell® batteries, models PC925 and PC1200 |



- ▲ **PRECISION**- No moving parts runs totally clean and silent.
- ▲ **RELIABLE**- Maintains a 100% charge allowing for worry free use
- ▲ **RUGGED**- High quality heavy-duty aluminum enclosure perfect for *sporting or marine* environments
- ▲ Provides both **MAINTENANCE AND CYCLIC PRECISION CHARGING**.
- ▲ Optimum charging to maximize battery life in all environments utilizing charging technology developed from 33 years experience
- ▲ **5 YEAR WARRANTY**

ODYSSEY® OPTIMIZER™ AUTOMATIC BATTERY CHARGERS

FEATURES

CONSTANT CURRENT BULK CHARGE

Constant current charging is the fastest way to charge any battery; however, constant current can also overcharge a battery easily if it is not controlled properly. With the ODYSSEY OPTIMIZER, constant current is only used until the battery is approximately 80% charged. At this point a constant absorption voltage is applied. Unlike most chargers, the full rated current is maintained until the battery reaches the absorption voltage (true constant current).

CONSTANT ABSORPTION-VOLTAGE CHARGE

This voltage is a precision high-rate voltage that allows the battery to safely reach a full charge in the quickest time. This voltage is held constant while the charge current decreases as the battery accepts less current. Overcharging causes degradation of battery characteristics; to prevent this, the charge is terminated based on an adaptive timer. The time spent in the absorption mode is proportional to the time spent in the constant current mode and is based on three times the time spent in bulk, or 8 hr maximum, with 1 hr minimum. When the absorption timer expires, a constant float voltage is applied. At this point the battery is 100% charged.

CONSTANT FLOAT-VOLTAGE CHARGE

This voltage is a precision low-rate voltage. This voltage is low enough to prevent overcharging, but high enough to allow the battery to replace its standing losses and maintain a 100% charge. When not in use, we recommend the battery be left on the charger to receive this float charge.

TEMPERATURE COMPENSATION

To maximize battery life, a negative charge temperature coefficient of approximately 3.5mV per cell per °C variation from 25°C is used during the float charge mode. A precision temperature sensor monitors the ambient temperature. As the ambient temperature increases the float voltage must be reduced, and vice-versa. The

minimum charge voltage is limited to 13.2 volts. This helps offset the impact of high temperatures on the float life of the cell.

REVERSE POLARITY & SHORT CIRCUIT PROTECTION

If the attachment harness is accidentally reverse connected to the battery, or the output leads are somehow shorted (off the battery), the ODYSSEY OPTIMIZER will be electronically protected – there are no annoying fuses to replace. The output is not energized until a properly connected battery is detected.

INDICATORS

Indicators for charge mode (yellow) and ready mode (green) are provided. The charge LED lights whenever a battery is properly attached and charging. It will light continuously when the charger is in bulk mode (constant current) and will flash when in absorption mode (constant voltage). When the charger enters float mode, the charge LED will darken and the ready LED will light. With no battery properly attached, both indicators will remain dark.

STANDARD OUTPUT CABLE AND CONNECTOR

The output cable is parallel cable six feet long and has a fully-insulated, polarized, quick-disconnect plug. It is fixed to the enclosure using a strain relief. A quick-disconnect attachment harness with ring terminals is provided.

STANDARD INPUT CABLE AND CONNECTOR

The input cable is six feet long and has a NEMA 5-15P grounding plug for use in North America. It is fixed to the enclosure using a strain relief.

HEAT SINK ENCLOSURE AND MOUNTING

The ODYSSEY OPTIMIZER is provided with a heavy-duty, extruded aluminum heat sink enclosure with aluminum back and end plates. Mounting slots are provided for wall mounting the unit.

SPECIFICATIONS (General Conditions: Ambient Temperature = 25°C / 77°F)

| | SX90-1 | SX180-1 |
|-----------------------------------|--|--|
| XENOTRONIX Model Number | SX90-1 | SX180-1 |
| ODYSSEY® Drycell™ battery | PC535, PC545, PC625, PC680 | PC925, PC1200 |
| Charge Voltage | 14.46 V | 14.46 V |
| Float Voltage (temp. compensated) | 13.62 V | 13.62 V |
| Maximum Charge Current | 6.0 A up to 14.46 V | 12.0 A up to 14.46 V |
| Reset Condition | 12.6 V or Battery Disconnect | 12.6 V or Battery Disconnect |
| AC Voltage and Frequency | 110-127 VAC, 50-60 Hz | 110-127 VAC, 50-60 Hz |
| AC Line Current | Approx. 1.6 A RMS | Approx. 3.2 A RMS |
| Operating Temperature Range | -20 to 50 °C (-4 to 122 °F) | -20 to 50 °C (-4 to 122 °F) |
| Output Cable Wire and Ring Sizes | 14 AWG / 6 mm | 12 AWG / 0.375" |
| Storage Temperature Range | -40 to 80 °C (-40 to 176 °F) | -40 to 80 °C (-40 to 176 °F) |
| Dimensions (L x W x H) | 6.40" (16.3 cm) x 6.40" (16.3 cm) x 2.00" (5.1 cm) | 8.40" (21.4 cm) x 6.40" (16.3 cm) x 2.00" (5.1 cm) |
| Weight | Approx. 2.5 lbs. (1.14 kg) | Approx. 3 lbs. (1.37 kg) |

