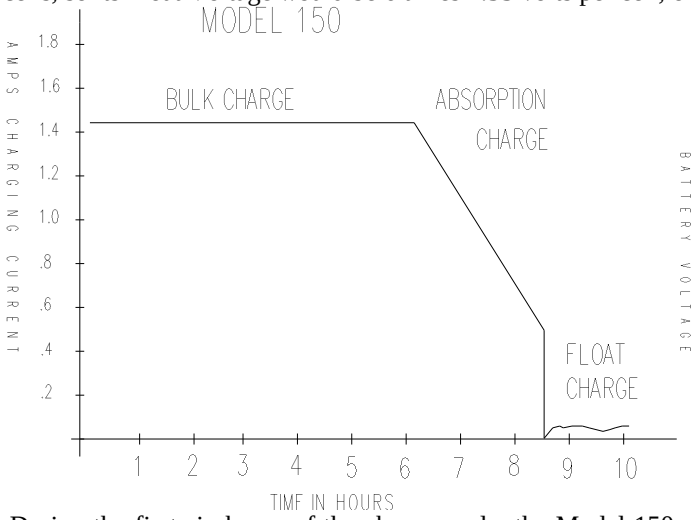


The *INTELITender* **Model 150** is a battery charger, designed to charge lead/acid batteries, with two key characteristics. First, the *InteliTender* output is temperature compensated. Since the output of a lead acid battery changes as temperature changes, it is vital that the output of the battery charger match these characteristics. Second, the *InteliTender* is a three state float charger, as required to properly maintain any lead-acid battery. Note: A float charger without continuous temperature compensation will damage a battery. The three modes of operation are:

1. Bulk Charge Mode - Used when the battery has been discharged. This mode replaces 80% of the charge to the battery.
2. Absorption Mode - A tapering current, replacing the final 20% of the charge to the battery.
3. Float Mode - This mode maintains the battery's electrolyte at the ideal specific gravity regardless of the temperature of the battery. This weatherproofs the battery, eliminating freezing and boil-off. It also prevents plate oxidation and sulfation.

The following two graphs illustrate how these functions are accomplished. The Model 150 actually becomes three unique instruments, depending on the charge stored and the temperature of the battery. The first curve, **Figure 1**, shows the current from the Model 150 as it brings a 20 Amp Hour battery from full discharge to full charge. The second curve, **Figure 2**, shows the voltage measured at the battery's terminals. Because the Model 150 has versions for several different voltage batteries, the data is given in "Volts per Cell". To obtain the battery voltage, multiply the number of cells times the voltage given in **Figure 2**. For instance, a twelve volt battery has six cells, so its Float Voltage would be 6 times 2.35 volts per cell, or 14.05 Volts.



During the first six hours of the charge cycle, the Model 150 supplies to the battery a constant current of 1.5 Amperes. As the battery reaches 80% of its capacity, the Model 150 changes to a constant voltage source, providing a tapering current during the stage of charging that would be generating increasing amounts of gas if the constant current were still applied. Once the current to the battery reaches a pre-programmed value, compensated for temperature, the Model 150 changes to its final mode of operation, that of a float charger.

FIGURE 1

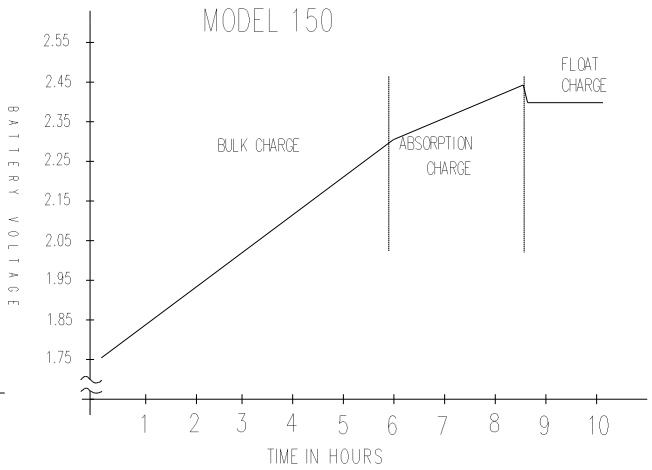


FIGURE 2

The management of the current flowing to the battery during this process is critical if the process of energy storage is to be optimized. Once the charge stored reaches the eighty percent level, gas produced by charging increases. During the Absorption Mode, the current tapers, generating a slower increase in voltage for the same time interval. Finally, when the battery is fully charged, the current ceases for a brief time and the voltage falls to the Float Voltage. These critical break points, ending Bulk Charge, ending Absorption Charge, and Float Voltage are all temperature compensated, permitting precise programming of these voltages, hence maximum charge stored.

The *InteliTender* Model 150 is ideal for both charging and tending batteries of 25 Amp Hour capacity and less. The instrument is available in .75 and 1.5 Amp versions of the 6, 12, and 24 volt battery chargers. When larger batteries are involved, the charging time is several days. It must be noted that the *InteliTender* is designed primarily for use in intermittently used vehicles, and not intended to support rapid recharge of a large depleted battery. If a larger battery must be recharged quickly, the Model 510 or Model 1100 may be used. To determine whether the Model 150-750 or the Model 150 is best, divide the Amp-Hour capacity of the battery to be recharged by 10, and choose the instrument whose Bulk Charge current is closest to that number. Figures 3 and 4 indicate the time to recharge a battery that has given up 70% of its rated capacity. This discharge exceeds most manufacturers recommendations, where maximum discharge is limited to 60% of rated capacity.

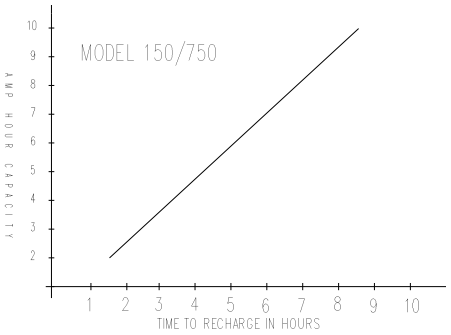


FIGURE 3

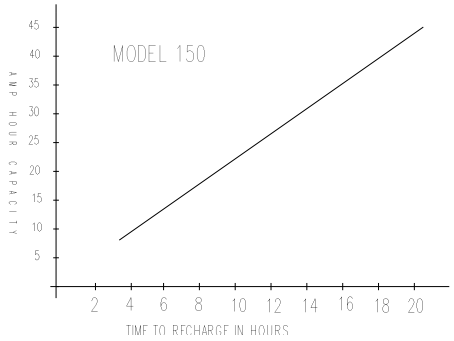


FIGURE 4

Specifications

	Model 150-6/750	Model 150-6	Model 150-12/750	Model 150-12	Model 150S-24
Bulk Charge Current	.8 Amps	2.0 Amps	.8 Amps	1.50 Amps	1.0 Amps
Bulk Charge Voltage Range	5.0 - 7.0 Volts	5.0 - 7.0 Volts	10 - 14 Volts	10 - 14 Volts	20 - 28 Volts
Absorption Mode Current	.75 - .25 Amps	2.0 - .5 Amps	.75 - .25 Amps	1.5 - .5 Amps	1.0 - .25 Amps
Absorption Mode Voltage Range	7.0 - 7.5 Volts	7.0 - 7.25 Volts	14.0-15.0 Volts	14.0-14.5 Volts	28 - 29 Volts
Float Voltage	7.25 Volts	7.0 Volts	14.5 Volts	14.0 Volts	28 Volts
AC Voltage In	115-130 VAC	115-130 VAC	115 - 130 VAC	115-130 VAC	90-280 VAC
Frequency In	60 Hz	60 Hz	60 Hz	60 Hz	45-70 Hz
Power In	15 Watts	20 Watts	20 Watts	30 Watts	35 Watts

Size:
5” Long, 2.5” High, 3.5” Deep

Construction:
Extruded Aluminum body
Polycarbonate end caps

Mounting:
4 ea #6 screws, 2.75” x 5.5”

Finish:
Electrolytic Hardcoat

Weight:
2.7 lbs., 1.2 Kg

Operating Temperature:
0-50 Degrees C
Optional, -40 - 50 Degrees C

***PATCO ELECTRONICS, INC.* / 1855 Shepard Drive / Titusville, FL 32780**
[321] 268-0205 www.patcoelectronics.com FAX 264-4253

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Шишлаков Евгений

8 (495)668-30-28 доб 169

manager28@tradeelectronics.ru

http://www.tradeelectronics.ru/