

ULTRACHARGE[®]

Interactive SCR

Industrial Battery Charger



The Quality Leader for Battery Charging Flexibility and Temperature Compensation

- **The two line display shows the charger's output volts, amps, and amp hours returned during the charge cycle.**
- **Archive function allows the ability to review information from the last 99 cycles**
- **Charges 100% discharged batteries in 8 hours or less**
- **Adapts to all battery types with 7 user-selectable charge curve options**
- **Timer Start Mode lets you choose the time and rate of charge**
- **Programming feature assigns battery capacity and type to voltage**
- **Compensates for battery operating temperatures automatically; from 32° F to 115° F with optional BID module**
- **Data-Mate™ and CDAC® compatible**
- **UL listed, cUL and meets BCI standards**

Ultra Charge Covers a Wide Range of Charging Applications

The Ultra The Ultra Charge is ideal for a wide variety of operating environments and applications. It's rugged design and flexibility make it suitable for nearly any manufacturing or warehouse operation, particularly those with multiple shifts or harsh environments such as cold storage, foundries, mills, and other similar applications.

Extend Battery Life

One of the most significant factors in prolonging battery life is giving proper attention to the battery's electrolyte temperature while charging. Because conventional chargers are designed to charge batteries that are 77° F, any deviation of more than 10° F creates a special condition which can impact battery operation and life. For example, when the electrolyte temperature of a battery has been lowered, as in a cold-storage application, the battery's gassing point will be higher than normal. As a result, the charger must compensate for this change. Traditionally, this change was managed by oversizing the charger or extending the charge time with a change in the 80% point of the control. Although limited success can be achieved in applications involving a constant temperature, these options may not be practical for all applications.

Ultra Charge's temperature compensation assures your battery of a full charge regardless of operating temperature. Because it is normal for the temperature of a battery to rise as much as 25° F during the charging cycle, Ultra Charge compensates for battery temperature changes throughout the charge cycle. And, especially for applications where the battery temperature rises during weekly operations and cools down over the weekend, Ultra Charge's flexibility eliminates the need to wait for the battery to be near the "right temperature for charging" or to adjust the control.

Assign Ampere-Hour Capacity & Battery Type According to Voltage

Now, through Ultra Charge's enhanced multi-voltage, multi-ampere-hour capability, you can program the charger to charge batteries automatically – (without BID) according to battery voltage. Particularly convenient for battery fleets in which batteries can be grouped by battery voltage and ampere-hour capacity (for example, all 24-volt batteries with ampere-hour capacities of 510 A-H; all 36-volt batteries with 750 A-H; etc.), Ultra Charge allows you to enter a specific charge rate for a particular voltage so when the battery is connected, the charger automatically begins charging once it recognizes the battery's voltage.*

This outstanding feature eliminates the need in many applications for a BID module to charge batteries automatically. In addition, if the same voltage batteries are of a certain type, such as sealed maintenance-free, this information, too, can be programmed so that batteries of various types can be recognized and automatically charged with the same charger.

* Only one ampere-hour charge rate can be specified per battery voltage.

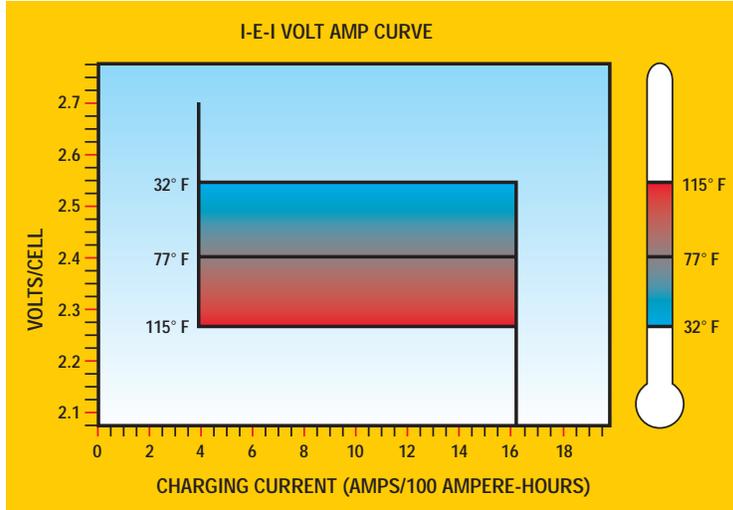


ULTRACHARGE®

Flexible, Temperature-Compensating Ultra Charge

Works Successfully in any Environment!

Gassing Voltage vs Electrolyte Temperature



Ultra Charge automatically compensates for battery electrolyte temperatures that are outside of the charging norm.

Ideal for Many Environments

Ultra Charge is ideal for a wide variety of environments because it is capable of using various inputs, such as battery temperature, type, and size, to automatically adjust the output charge characteristics within the limits of its own power circuit, providing an optimum charge.

Great for harsh environments – like those found in textile and carpet mills, trucking, foundry and cold storage warehousing – Ultra Charge can be used to meet special battery charging practices brought forth by workplace regulations as mandated by the Air Quality Act, OSHA and EPA in requiring electric trucks for applications historically served by internal combustion trucks.

Charge Operation

With the Ultra-Charge, the battery determines its own charge cycle rate in accordance with its state of discharge. The Ultra Charge provides a constant current-constant voltage-constant current (I-E-I) charge curve to eliminate the possibility of overcharging, even with line voltage variations of $\pm 10\%$, and it completes the charge at the proper current regardless of battery age or specific gravity.

Optional Battery Identification Module



With a Battery Identification (BID) module connected to the battery, Ultra Charge can automatically adjust its output to match the electrolyte temperature of the battery, compensating for temperatures ranging from 32° F to 115° F. Once the battery is connected to the charger, Ultra Charge reads the BID program information which identifies the battery along with its ampere-hour rating, voltage, construction, and electrolyte temperature. Ultra Charge then regulates its output curve based on this information. During the charge cycle, Ultra Charge continuously monitors the battery's

temperature, via the BID module, and adjusts its output throughout the charge cycle to match the charging battery's temperature.

Timer Start Mode

Timer Start Mode lets you override Ultra Charge's automatic start/stop feature by allowing you to manually select the desired charge time at the desired charge rate. Choose up to 23 hours and 59 minutes of extended charge time, ideal for equalizing batteries with mismatched cells or for recovering sulfated batteries.

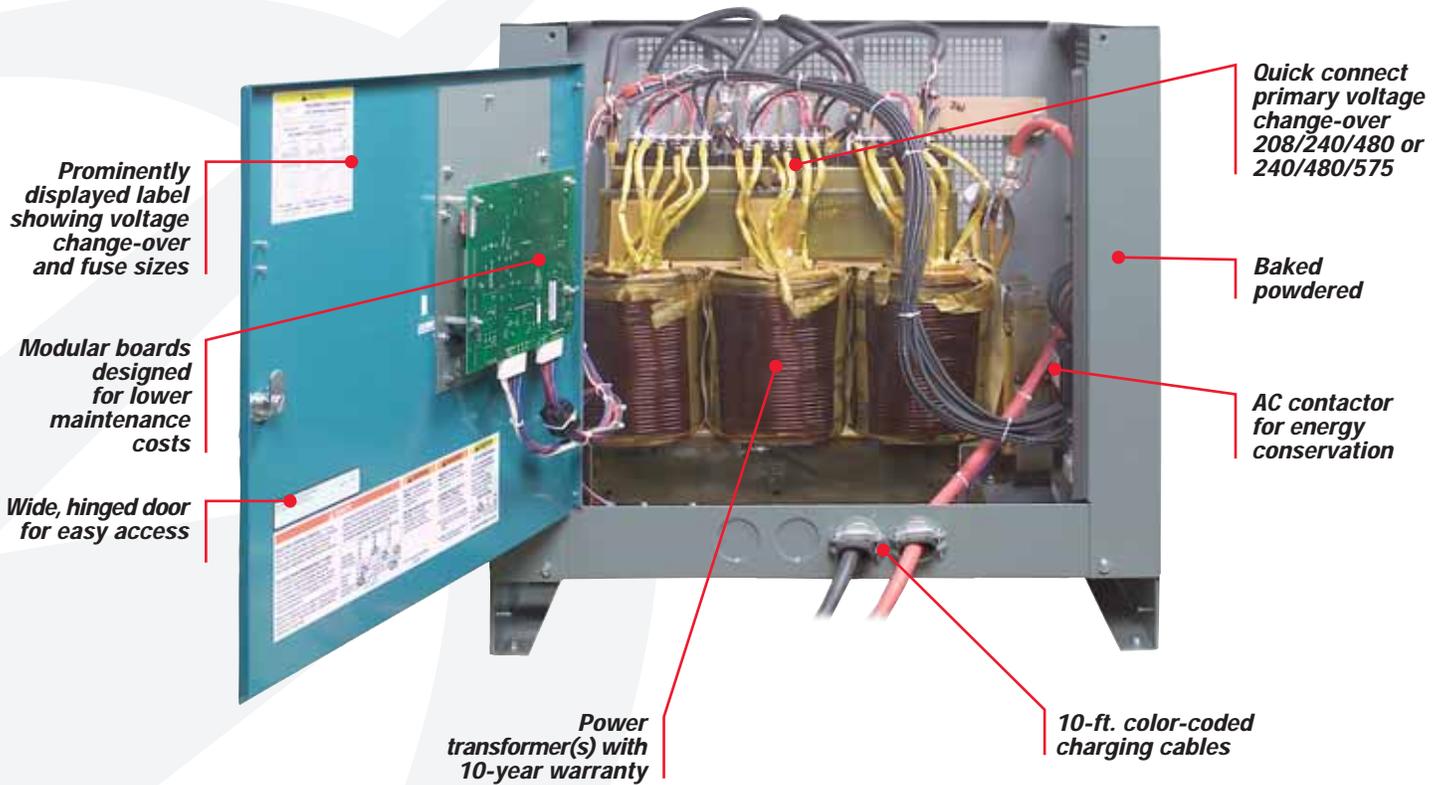
Keypad/display provides user-friendly interface with the charger through one-touch access to charging information. The 40-character alphanumeric display provides bright, easy-to-read messages in plain English. The control's durable membrane keypad is impervious to moisture and mechanical shock, and four highly visible LEDs laminated into the keypad convey charge status at a glance, even from a distance and over a wide viewing angle.

Review function conveys information on the most recent charge cycle and charger setup configuration. It permits up to 57 items of charge cycle information to be retrieved and displayed. One-button access is available at any time for the following nine items of charge information:

1. Ampere-hours returned
2. Total charge time
3. Time-80% to charge complete
4. Battery open-circuit voltage
5. Start amps
6. Start volts
7. Finish amps
8. Finish volts
9. Termination method

Archive function allows 21 items of information per charge cycle to be stored, retrieved and displayed. The operator may select a specific cycle or all stored cycles for review. The information from the 99 most recent charge cycles is stored in the archive records.

Programming function configures the charger for the user's specific application. All programming is performed with the keypad on the front of the charger, and its 40-character display indicates the selected function and verifies that the programming was accepted.



The UC2000 Control Features Outstanding Programming Options Which Include:

Security – Dual levels of security protect settings from unauthorized changes. The first password prompt occurs as soon as the programming function is selected. Programming functions that affect the values of the charger's output curve are protected by a second password to ensure safe charging of your batteries.

Start Modes – Six programmable options allow you to select the start mode that offers your operation the greatest safety and savings. Choose from automatic start, push to start, delayed start, time of day, time-of-day block out and elapsed time.

Automatic or Manual Equalize Operation – An equalize charge of three hours beyond a normal DV/DT charge termination can be selected manually or be set to occur automatically.

Automatic equalization can be programmed by day of week or bid cycles from 1 to 30 by number of charge cycles from 1 to 30. When any automatic equalize function is selected, the equalize button on the keypad is disabled to prevent unnecessary equalize charges. The ability to automatically equalize batteries provides an exact schedule of equalize charges for better battery maintenance and longer battery life.

Battery Cool Down – Battery cool down allows the battery to cool down completely before use, which allows for increased control of battery rotation, resulting in increased battery efficiency and longer life. Battery cool down can be programmed from the Ultra Charge keypad from 0-8 hours in one hour increments. After the recharge is complete the display will read "battery cool down" until the predetermined cool down period has ended at which time the charge complete LED is illuminated.

Energy Saving Features

Charging batteries during off-peak hours using DELAYED START or TIME-OF-DAY START features of the UC2000 control can yield up to 50% in energy cost savings. The UC2000 also offers BLOCK OUT TIME to lower utility bills and reduce peak demand by blocking out a period of charging time on one or more chargers.

Warranty/10-3-1

For the original purchaser, repair costs are minimized through a ten-year warranty on power transformers and silicon controlled rectifiers, plus three years on electronic PC boards and one year on other components.

Keypad Display

One touch access to charge cycle information

All programming performed with keypad



Ultra Charge Models

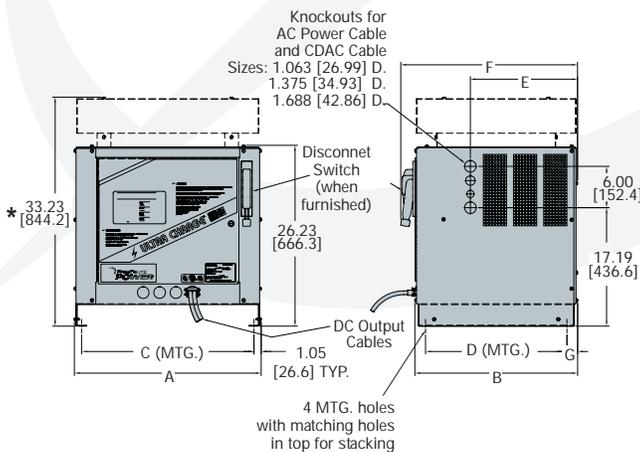
Application		Output	Model Number		AC Input Amperes		Weight, lbs.
Maximum A-H size in 8 hours	Cell size	DC output amperes	1-phase S case	3-phase T case	1-phase 60 Hz 208/240/480 VAC	3-phase 60 Hz 208/240/480/575 VAC	Approximate shipping weight
300	6, 9, 12	49	300S1-12		14/12/6		170
500	6, 9, 12	82	500S1-12		21/19/9		200
750	6, 9, 12	122	750S1-12		33/29/14		265
500	6, 9, 12	82		500T3-12		11/10/5/4	225
750	6, 9, 12	122		750T3-12		16/14/7/6	260
1050	6, 9, 12	171		1050T3-12		22/19/10/8	285
600	6, 9, 12, 18	98	600S1-18		39/34/17		275
750	6, 9, 12, 18	122		750T3-18		27/24/12/10	285
1050	6, 9, 12, 18	171		1050T3-18		31/27/14/11	325
1200	6, 9, 12, 18	196		1200T3-18		41/35/18/15	340
1400	6, 9, 12, 18	228		1400T3-18		42/36/18/15	365
500	6, 9, 12, 18, 24	82	500S1-24		41/36/18		285
650	6, 9, 12, 18, 24	106		650T3-24		27/24/12/10	285
750	6, 9, 12, 18, 24	122		750T3-24		34/29/15/12	320
1050	6, 9, 12, 18, 24	171		1050T3-24		46/40/20/17	355
1200	6, 9, 12, 18, 24	196		1200T3-24		48/42/21/17	415
550	12, 18, 24, 36, 40*	90		550T3-40		42/36/18/15	405
850	12, 18, 24, 36, 40*	139		850T3-40		NA/NA/29/24	455

*Control does not auto select between 36 and 40 cells

Dimensions "T" case shown

Cabinet Designation (Case)	A (width)	B (depth)	C (mtg.)	D (mtg.)	E (ko's)	F (disc. sw.)	G (mtg.)
S	21.47 [545.3]	20.47 [519.9]	19.38 [492.1]	17.75 [450.9]	12.54 [318.5]	22.50 [571.5]	1.36 [34.5]
T	27.09 [688.2]	23.59 [599.3]	25.00 [635.0]	20.50 [520.7]	15.54 [394.7]	25.63 [650.9]	1.55 [39.4]

S and T Case Height is the same.



*Outdoor enclosure only

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Data Sheet: 1308 11/08 5M Printed in U.S.A.
Replaces: 12/06



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