

LTD-Ferro®

Single-Shift Light Industrial Battery Chargers



The quality leader in low cost overnight chargers

- ⚡ Ferroresonant transformer provides line and load regulation for maximum battery protection*
- ⚡ User selectable charge termination*
- ⚡ Automatic Equalize*
- ⚡ Back-up timers for additional battery protection*
- ⚡ AC fail recovery*
- ⚡ Quality-built for years of trouble-free service*
- ⚡ 7-foot AC cord with molded plug*
- ⚡ 8-foot color-coded DC output cables*
- ⚡ Three-year transformer warranty*

AMETEK®
PRESTOLITE POWER

⚡ **Designed for light applications**

The Prestolite LTD-Ferro charger is designed to charge batteries used in light, industrial single-shift applications that have 10-16 hours available for charging. Typical applications include walkie trucks, light-duty narrow aisle trucks, sweepers/scrubbers, personnel carriers, man lifts and other equipment using lead-acid deep-cycle batteries.

⚡ **On-board Utility Applications**

The LTD-Ferro with no additional modifications can be used in on-board applications where the output of the charger is always electrically connected to the battery on-board the utility equipment (Pallet trucks, Golf carts, High-Low lifts, etc.). In this application the truck operator would plug the AC input into a wall outlet when a charge cycle is required.

⚡ **Designed to take charge**

The LTD-Ferro control is fully automatic, featuring four bright LEDs for easy identification of the charging status, and two manual push-buttons, "Equalize" and "Stop," to allow further management of the charging operation.

⚡ **Automatic Start/Stop**

When the battery is connected to the charger, the LTD-Ferro will provide a five-second delay to check for proper connection before it automatically begins the charging operation. When charging is complete, the LTD-Ferro will automatically terminate the operation and the "Charge Complete" LED will illuminate.

⚡ **Automatic Equalize**

The LTD-Ferro automatically provides an equalize charge of three hours beyond a normal charge complete on every 5th cycle.

Pressing the "Equalize" key at any time during an equalize charge cycle will deselect the equalize function for that cycle. When the automatic equalize function is selected, the manual push-button is disabled to prevent unnecessary equalize charges.

⚡ **48-hour refresh charge**

If the battery and charger are left connected for 48 hours after the initial charge has been completed, the LTD-Ferro provides a refresh charge to ensure a fully charged battery when needed.

⚡ **PT/DV/DT charge termination**

The LTD-Ferro utilizes Prestolite's patented charge termination technique, DV/DT, or rate of change of battery voltage with respect to time, with proportional time (PT) to determine when to terminate a charge cycle. The length of time it takes the battery to reach the 80% charged point determines the sampling rate. This termination method ensures a precise charge every time, never under or over charging, even on lightly discharged batteries. This technique used in conjunction with the tapered curve of Prestolite's ferroresonant chargers, ensures that the rate of change for both battery voltage and current always provides an efficient and accurate termination of charge.

Should the user prefer a voltage/time charge termination the LTD-Ferro can be set for this popular termination method by closing the proper dip switch on the PC board.

⚡ **Unaffected by AC power failures**

If AC power is interrupted during a charge cycle, the LTD-Ferro is designed so that when AC power is restored the charge cycle is resumed at the point where it was stopped.

⚡ **Back-up timer protection**

The LTD-Ferro is equipped with two back-up timers for additional battery protection. These back-up timers terminate the charge if (1) the battery is not 80% charged in 13 hours or (2) the charge is not completed within 5 hours after reaching 80% charged. These timers protect the battery from excessive overcharging - and possible permanent damage.

⚡ **Ferroresonant power conversion circuitry**

The Prestolite quality-designed and manufactured ferroresonant transformer is the heart of the efficient charger. The power conversion circuitry is designed to maximize battery life with its constantly tapering charge, automatically regulated by the "on charge" battery voltage. The output current of the charger is determined by the state of discharge of the battery. The battery is precisely charged, based on its depth of discharge.

⚡ **"Battery-friendly" charge rate**

The LTD-Ferro, unlike other single-shift chargers, provides a "battery-friendly" charge rate featuring a finish rate that is typically available only on higher-rated charger. This finish rate ensures that the battery is precisely charged for maximum life.

⚡ **Regulation**

The LTD-Ferro's ferroresonant transformer is line and load regulated to hold the finish rate of the charge within $\pm 1\%$, even with line voltage variations as high as $\pm 10\%$. This protects and properly charges the battery, even when severe input voltage variations exist.

⚡ **Low operating cost**

The LTD-Ferro is inherently efficient due to its ferroresonant circuitry, the most common method of charging lead-acid batteries. In addition, the standard automatic start/stop, pt/dv/dt and voltage/time control properly manages the charge time from start to finish.

⚡ **Safety features**

The LTD-Ferro is protected against short circuit, incorrect battery connection, voltage transients and other unsafe failure modes. An electronic timer on the control shuts off the charger if the battery does not become 80% charged in 13 hours. These safeguards protect the charger and battery, assuring longer life for both.

⚡ **Warranty**

LTD-Ferro battery chargers are warranted to the original purchaser for three years on the power transformer and silicon diodes, and one year on other components.

⚡ **Quality-built for years of trouble free service**

The LTD-Ferro is engineered to meet the daily challenges associated with charging batteries. Unmatched in construction, reliability and value, the LTD-Ferro is subject to intensive quality control and test procedures to ensure many years of trouble-free service.



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LTD-Ferro models										
Specification	Ferro 300-6	Ferro 510-6	Ferro 300-12	Ferro 400-12	Ferro 510-12	Ferro 510-12-240	Ferro 300-18	Ferro 400-18	Ferro 510-18	Ferro 250-24
No. of Battery Cells	6	6	12	12	12	12	18	18	18	24
DC Output Volts	12	12	24	24	24	24	36	36	36	48
DC Output Amps	30	50	30	40	50	50	30	40	50	25
Battery A-H Range	180-380	300-600	180-380	225-450	300-600	300-600	180-380	225-450	300-600	150-350
AC Input Volts	120	120	120	120	120	208/240	120	120*	208/240	120
AC Input Amps	5	8	9.5	11.5	15	8.6/7.5	13	18*	13/11	15
Approx. Shipping Weight (lbs)	51	62	60	80	83	83	83	99	99	82

All units measure 16.5" H x 12.5" W x 12" D. *Requires 20 Amp service.