

CFD

Controlled Ferro

OPPORTUNITY FAST CHARGING



INDUSTRIAL CHARGER

Designed for Standard Lead Acid Batteries

• Superior Quality • Reliable Performance • Dependable Service

CONTROLLED FERRO-RESONANT FAST CHARGER DESIGNED FOR STANDARD LEAD ACID BATTERIES

You have carefully selected a reliable battery for your needs. It only makes sense to protect your investment with a charger that not only maintains peak performance, but prevents needless damage to your battery. The importance of this charger is the fact that the ferro-resonant transformer is **Controlled**. By controlling the output of the transformer, higher regulation is obtained, and the charge cycle can be customized to accommodate all varieties of flooded as well as sealed battery technologies. The **Ferro-resonant** transformer design also has a unique fail-safe capability. If for any reason the transformer or its associated circuitry should fail, your battery is protected. The output to the battery will either go to a *no* or *low* output condition. Few designs possess this ability. The remarkable thing about this feature is that protection is built into the transformer itself. "Simple but Safe Design"

CONSTRUCTION

Steel cabinet with baked polyester finish
 Front door access to fuses and AC input taps
 Removable top, door and side panels for servicing
 Convection cooled-drip proof design

AVAILABLE FACTORY OPTIONS

Parallel charging harness
 Special connectors or extra cable
 Watering valve for single point watering
 JIC panel mounted disconnect switch
 TOBi PI Battery Modules
 Thermistor – battery mounted temperature probe

CABINET DIMENSIONS

Style	Height		Width		Depth	
	in	cm	in	cm	in	cm
500	20.5	52.0	17.3	44.0	14.8	37.6
501	26	66.0	24.3	61.7	24.6	65.5
502	28	71.1	38.3	97.2	27.6	70.1

FEATURES AND BENEFITS:

- **Superior Quality:** UL and cUL Listed, meets OSHA, NEMA, and BCI standards.
- **Heaviest Duty Rating:** A 100% discharged battery of matched amp-hour size can be charged within 2 hours. With a start rate of 50 amps per hundred amp-hour size of the battery, the charger is an ideal solution to opportunity fast charging applications.
- **Fail Safe Design:** No mode of charger failure will result in a high charge rate...Ferro-resonant design protects against battery overcharge, AC line voltage variations, incorrect battery connections, and miss-adjustment.
- **Fully Automatic Operation:** Requires only connecting the battery. The TOBi® control is designed to meet your broadest application and battery requirements.
- **Fully Regulated:** AC line and load regulated to control finish rate within ±1% with line voltage variation of +10/-6%.
- **Efficient, Low Maintenance Design:** High power factor and efficiency...Low AC input current Convection cooled, low audible noise and no fans/filters to maintain...Cabinets are stackable to save floor space.
- **Superior Warranty:** 10 Year limited warranty on power transformers, rectifier diodes and resonating capacitor parts. 5 years parts and labor on other components (excluding fuses).
- **Nationwide Sales and Service:** Factory trained and authorized service network.

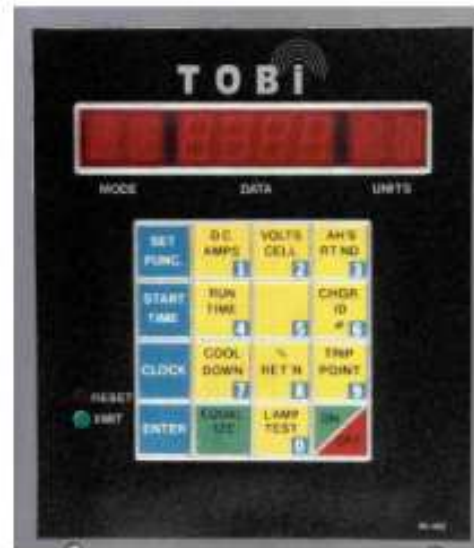
Your authorized Dealer will design a charging layout that meets your work cycle requirements. Years of power system experience will be behind their recommendations. Once your Extreme Power chargers are installed, factory trained personnel will be ready to keep them at optimum operating efficiency.

TOBi®Control

The demand on your battery is not always the same. For this reason, Ferro Magnetics has developed the TOBi® (Total On-Board Information) Control. The control utilizes $dV/dt-dI/dt$ to determine how much recharge is necessary to bring your discharged battery back to maximum capability. This is accomplished without damage to the battery from excessive charge or needless waste of energy. The combination of Controlled Ferro-resonant technology and the capabilities of the TOBi® Control, to adjust the charge output based on battery module feedback or pre-programming, result in unmatched charging performance. TOBi® goes beyond just being an intelligent control, with built in serial communications capability and an automatic watering relay on the board. Now all your charging history can be stored directly to the optional TOBi® Battery Management System computer. Ask your Ferro Representative for the exciting details.

Charging

- Automatic Start-Stop (just connect the battery), when a dual charging harness is utilized the SBX connector is keyed to prevent charging unless both output cables are connected to the battery.
- Microprocessor control with $dV/dt-dI/dt$ program calculates amount of charge needed by the battery, based on preprogrammed algorithms.
- Digital Ammeter display with Alpha-Numeric displays of Modes, Values, and Charge indicators.
- Time-of-day delayed start with on-board memory of time and date (backed up by ten year life lithium battery).
- Fault diagnostics (for battery and charging issues)
- Built in relay for activating an automatic watering system (if installed)
- Tactile Keypad buttons
- Universal board design
- Safe 24 VAC control circuit
- Simple yet Smart



Opportunity Charging

- If programmed for opportunity charging, the charger will deliver 50 amps per hundred amp-hours of battery capacity and will automatically shut off if the battery reaches the 80% state of charge point (2.38 VPC).
- Equalize charge can be manually selected during the charge cycle which will complete the charge cycle in a normal fashion and add 3 hours to the cycle.
- Automatic equalize can be programmed for a specific day of week. A battery connected to the charger on that day will automatically receive a full charge cycle along with the addition of 3 hours charge time
- Control monitors for and adjusts the output current via the TOBi PI's (battery module) integrated thermistor.
- The use of a TOBi PI on each battery in the facility allows the charger to deliver the appropriate output current for several amp-hour size batteries. See the battery module brochure for full details.

