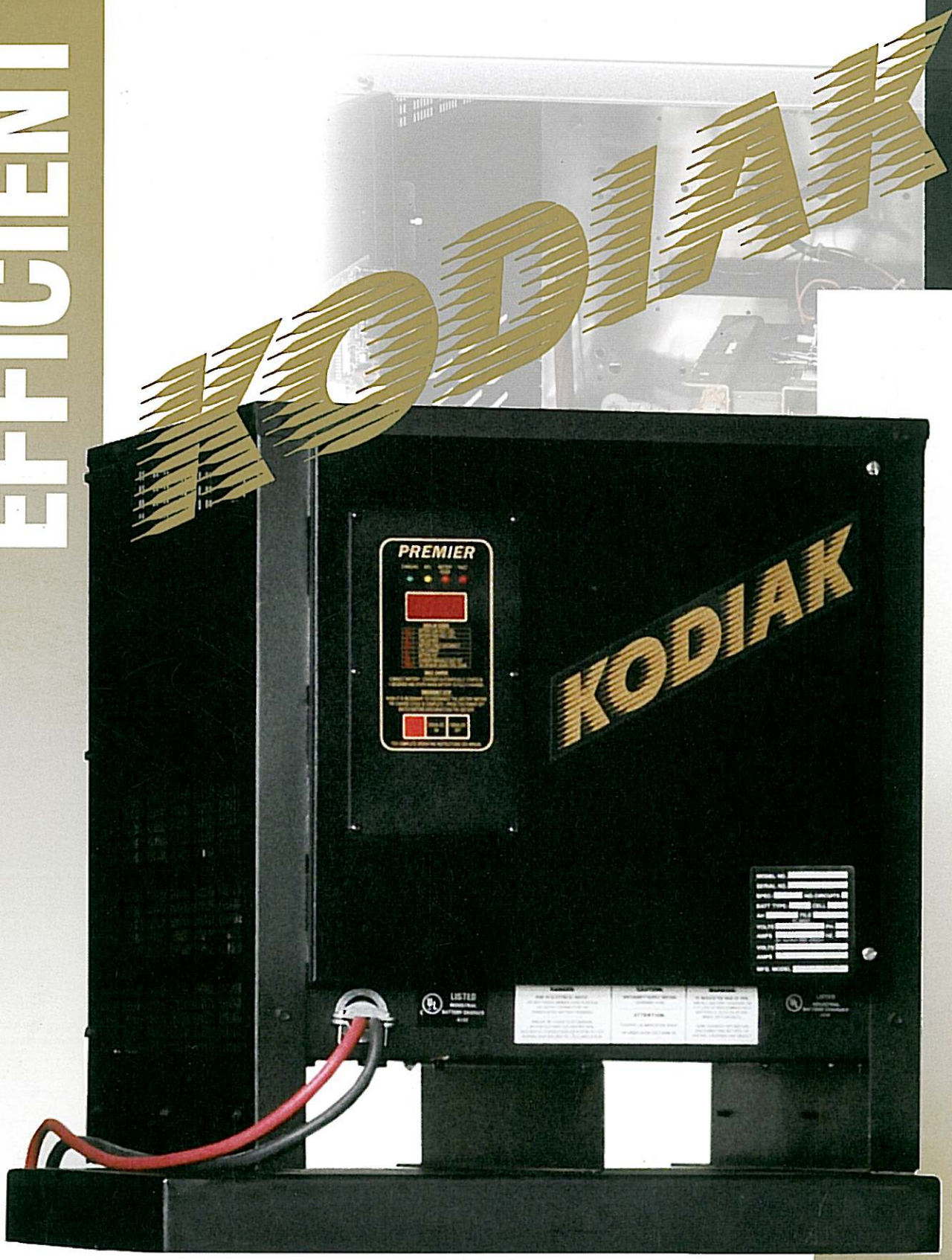
EFFICIENT



INTELLIGENT

DEPENDABLE

Your Reliable Source of *Power*

Standard Kodiak Features

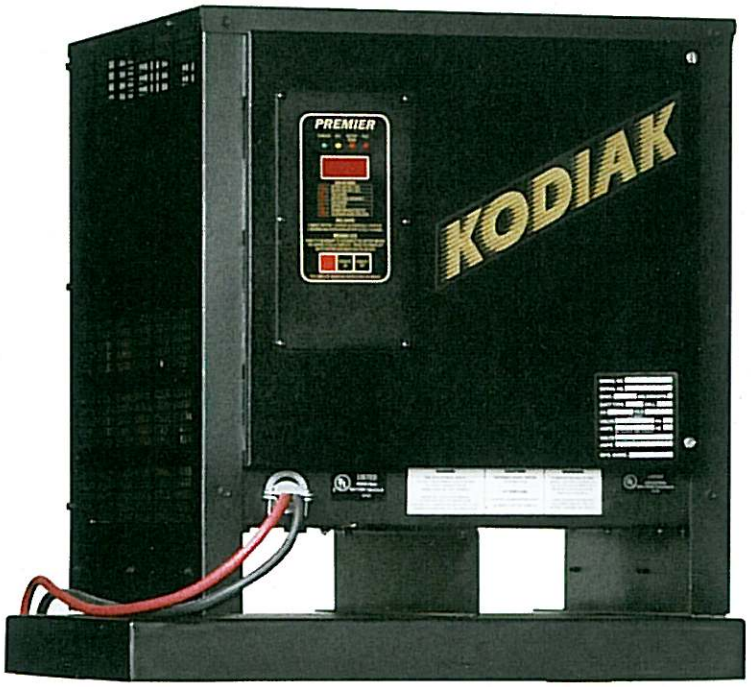
- Battery protecting Kodiak–Ferro resonant design
- No maintenance required
- Adjustable output taps– allow for compensation for aged batteries or particular finish rates prescribed by battery manufacturers
- UL and cUL Listed
- Built to BCI Standards
- High Power factor and high efficiency
- Convection cooled cabinet
- Ten foot battery cable with connector
- Cabinets are stackable

KODIAK–Ferro Resonant Technology

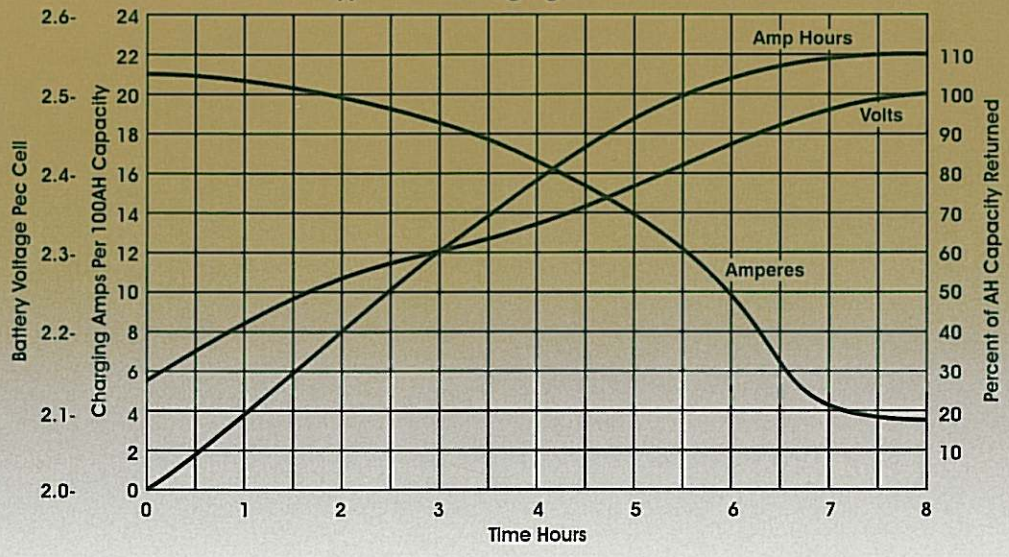
KODIAK–Ferro resonant transformer technology is the most widely used charger design in the North American industrial truck market. It affords maximum protection of the battery utilizing a taper charge curve that is built into the transformer design, and is not susceptible to control board or electronic component failures. This also means that any failure that may occur to the charger, will always result in no or low output to the battery– rather than locking the charger at a high output rate.

Kodiak Specifications

- Efficiency: 86% typical
- Power Factor: 95% typical
- Rated Output Current: 100% of nameplate rating at 2.13 V/Cell
- Regulation: +/- 1% at finish with an AC line variation of +/- 10%



Typical Recharging Characteristics



Control Options Ensuring

KODIAK– "THIS IS ONE REMARKABLE CHARGER"

Premier Control

Fully automatic, utilizes dv/dt-di/dt termination of charge
The control will start charging approximately 5 seconds after the battery is connected. Charge cycle termination is controlled by the slope of the battery's voltage with relationship to time. The nearer to fully charged, the flatter the charge voltage curve.

Wrong battery voltage-discrimination If a battery with too many or too few cells is connected, the charger will not start.

Jump-start for dead batteries will allow manual initialization of the charge cycle.

Thermal runaway protection (hot battery shutdown) If a battery starts to overheat, its voltage will drop, and at the same time, the charge current will increase. This will be sensed by the control, and the charge cycle will terminate under fault.

Watchdog circuit for microprocessor or time faults. If the microprocessor fails, or if it takes too long to reach certain milestones during the charge cycle, the control will terminate the charge.

High DC voltage shutdown is set at the factory for 3.00 volts-per-cell and can be reprogrammed as necessary.

Timed delay start (0-9 hours) Prevents opportunity charging, or delays charge until after AC Peak Demand Periods

Zero DC current shutdown (disconnected battery) If the battery is disconnected during the charge cycle, the loss of current flow is sensed and the charger is de-energized.

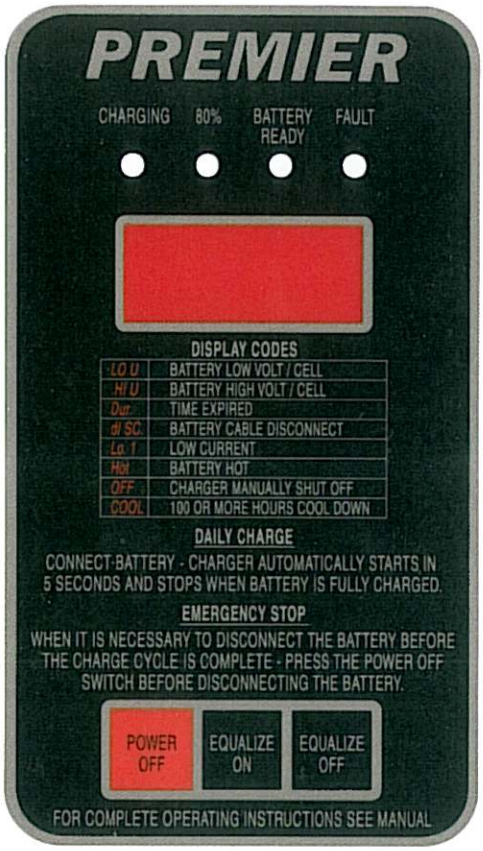
Manual equalize and auto equalize (by number of cycles or day of week) is field adjustable from 0 to 15 cycles via the control's keypad. The factory default setting every 7-charge cycles.

Charging cycle adjustment (cold storage, etc.) allows adjustment of the charge-cycle time.

Adjustable hysteresis loop (automatic recharge cycling) Allows the charger to cycle on and off based on a preset self-discharge point.

Membrane Keypad Buttons (Eliminate broken switches)

Battery-Cool-Down is programmable to count up or down after the charge cycle



Display Capabilities

- LED display test at start-up
- Digital LED output ammeter
- On, 80%, Battery ready, and Equalize LED's
- Fault LED indicating "watch dog" abnormal shutdowns
- Digital Fault LED read out indicating ten fault codes
- AC Power Loss indication
- Battery cool down indicator
  Charging mode indicator

KODIAK

Longer Battery Life

Cub Single Shift Chargers

Cub chargers have been designed as a cost effective solution for single-shift, light-duty applications.
Features of the Cub series:

- ✓ Fully automatic DV/DT charge termination monitors battery condition
- ✓ Equalizing function to allow operator to extend normal charge time
- ✓ Back up timer to eliminate thermal runaway in abnormal charge cycles
- ✓ Automatic re-start after AC power interruption
- ✓ Used for walkies, sweepers, scrubbers, transporters, etc.
- ✓ 120 Volt input for ease of use on most models
- ✓ Can be mounted to our heavy duty charger cart w/9 inch tires

Model	Input Voltage	DC Amp Output	Amp Draw
Cub 630	120	30	5.4
Cub 640	120	40	7.2
Cub 650	120	50	9.0
Cub 660	120	60	10.8
Cub 675	120	75	13.5
Cub 1230	120	30	10.8
Cub 1240	120	40	14.4
Cub 1250	120	50	18.0
Cub 1260	208/240	60	12.5/10.8
Cub 1830	120	30	16.2
Cub 1840	120	40	21.6
Cub 1850	208/240	50	15.6/13.5
Cub 1860	208/240	60	18.7/15.2
Cub 2425	120	25	18.0
Cub 2440	240	40	14.4

Kodiak Multicell Chargers

Kodiak Multicell chargers are designed for shop usage, loaners and short term rental applications.
Features of the Kodiak Multicell:

- ➢ Versatile charger that allows you to charge 12, 24, 36 or 48 volt batteries.
- ➢ Easy voltage changeover
- ➢ Ferroresonant charger
- ➢ Can be mounted to our heavy duty charger cart w/9 inch tires

Model	Input Voltage	DC Amp Output	Amp Draw
Multicell 50	120	50	18.9
Multicell 90	208/240	90	20.9

Ease of Installation & Serviceability

The Kodiak charger has been designed with service and installation needs in mind. With this cabinet design the charger runs cooler and more efficiently. This will minimize the need for service while allowing complete access for service when necessary.

Serviceability/ Installation Advantages

1. A.C. fuses located in the right front corner
2. Line contactor located in the right front corner
3. D.C. fuse located in front left corner for easy access.
4. Easy transformer tab settings for voltage change
5. Door is easily removed for total access through the front of the charger
6. A.C. line connection located in the right front corner for easy installation.
7. Diode mounting plate is easily accessed to allow replacement of diodes without removal of top or other case components
8. Transformer tap settings for voltage change located in the center front of the cabinet.

CABINET DIMENSIONS			
	WIDTH	DEPTH	HEIGHT
1 PHASE	17.3	14.1	20.5
3 PHASE	24.2	24.6	26
	32.8	25.4	32

WARRANTY

The KODIAK Charger has a 5 year warranty on control board.
Main transformer and diodes have a 10 year warranty.

Optional Features for all KODIAK Charger Designs

- Dual and Multi–Voltage Chargers
- Premier Control Retro–Fit Kits
- Mine Chargers and Other Special Application Chargers
- Modular Designed Gang Cases for multiple circuits (up to eight individual charger circuits in one cabinet) This saves precious charging room floor space or area above battery racks
- Remote Charge Control Mounting– for applications where the charger is above the battery rack and cannot be reached
- Extra long Charging Cables, Series or Parallel Charging Harness
- AC Live Cord/Plug for 120 VAC models
- Charger Stands and Wall Mount Brackets and Cabinet Lifting Eyes
- Special Paint Colors
- JIC door flange mounted disconnect switch (not available on some smaller case designs)
- Export Packing and 50Hz Units
- Freezer Packaging for cold storage operation

HOW TO ORDER

Example: 18K750B3

18.....Indicates number of cells
K.....Indicates KODIAK
750.....Indicates Amp hour capacity
B.....Indicates cabinet style
3.....Indicates 3 phase

Other Information Needed

Control.....Premier
AC Input .....120 VAC
.....208 VAC
.....240 VAC
.....480 VAC
.....575 VAC

Distributed By: