APPLIED ENERGY SOLUTIONS
MADE IN THE U.S.A. FAMILY OF PRODUCTS

THE POWER OF EXCELLENCE

MAVERICK
HIGH FREQUENCY FAST CHARGER

STEED
CFR COLD STORAGE

WORKHORSE
SERIES I

MAVERICK
HIGH FREQUENCY OPPORTUNITY

COLT
BATTERY PACK CHARGER

WORKHORSE
SERIES II

MAVERICK
HIGH FREQUENCY MULTI-PO

WARHORSE
MULTI CIRCUIT

WORKHORSE
SERIES III

MAVERICK
HIGH FREQUENCY CONVENTIONAL

QUARTERHORSE
CFR OPPORTUNITY

PALOMINO
ECONOMY CHARGER

STABLEMATE
CONSTANT CURRENT
The Maverick Multi-Pro
(Multi-Amp, Multi Volt) has a high power factor and is the most efficient charger available, resulting in the lowest operating cost.

Features & Benefits
Includes the TCC 2.0 Controller:
> Delayed start from fifteen minutes to four hours in fifteen minute intervals
> Equalize can be done manually, automatically with day/time setting, or every five cycles
> Automatic refresh charge every 24 hrs
> Programmable charge block out time (peak demand electrical cost control)
> Programmable charge termination when battery voltage reaches the gassing point, to prevent excessive gassing
> Remote Control Interface for use when mounted above arms reach
> Auto start with five second delay
> Selectable start rate of 18 or 25 Amp per 100 Amp Hour
Cool down time displayed
Manual jump start for over-discharged batteries
Automatic Shutdown for the following:
> 80% or final charge exceeds time limit
> Volts per cell outside safe limits
> Charging current too high or too low
> Maximum battery temperature exceeded with optional sensor
> Charger internal temperature outside of specification
LED Charge Status Indicators:
> Gas gauge > Charge complete
> Charging > Fault shutdown
> 80% charged > Equalize
Digital Readout Display:
> Time remaining to 80% & full charge
> Charge current/voltage
> Equalize in process
> Fault codes
> Charge data twenty five cycles (time, AH returned and voltage)
> Charger setup
The Maverick High Frequency Conventional Charger, using Insulated Gate Bipolar Transistors (IGBT), returns more energy at a lower cost than low frequency conventional chargers.

**Features & Benefits**
- Delayed start from fifteen minutes to two hours in fifteen minute intervals
- Equalize can be done manually or every five cycles
- Automatic refresh charge every 12 hours
- Remote Control Interface for use when mounted above arms reach
- Auto start with five second delay
- Automatic Shutdown for the following:
  - > 80% or final charge exceeds time limit
  - > Volts per cell outside safe limits
  - > Charging current too low
  - > Charger internal temperature outside of specification
- Digital Readout Display:
  - > Charge current/voltage
  - > Equalize in process
  - > Fault codes
- LED Charge Status Indicators:
  - > Charging
  - > 80% charged
  - > Charge complete
  - > Equalize
  - > Gas gauge
  - > Charge complete
  - > Fault shutdown
  - > 80% charged
  - > Equalize
  - > Red push button for manual shutdown
- Manual jump start for over-discharged batteries
- Manual and or automatic equalization
- Ten foot long output cables for added flexibility
- Numerous output connectors available as standard

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The perfect combination of performance and economy.

**Features & Benefits**
- Automatic refresh charge every 24 hours
- Charge time of eight hours or less on a normally discharged battery
- Auto start with five second delay
- Battery protection with override timers, wrong battery sensing and negative charge slope termination
- Automatic shutdown for the following conditions:
  - > 80% charge does not occur in nine hours
  - > Final charge is not reached in six hours after 80% (gassing point)
  - > Volts per cell are too high or too low
  - > Charging current is too high or too low
  - > Battery cable is disconnected while charging
- Three position digital display for showing:
  - > Charge current
  - > Fault diagnosis
- LED Charge Status Indicators:
  - > Charging
  - > 80% charged
  - > Charge complete
  - > Equalize
- Red push button for manual shutdown
- Manual jump start for over-discharged batteries
- Manual and or automatic equalization
- Ten foot long output cables for added flexibility
- Numerous output connectors available as standard

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The ideal solution for users to convert to opportunity charging with the safest and most effective method, eliminating battery handling.

**Features & Benefits**
- Highest acceptable return rates without battery modifications
- Easy access for programming all features
- Low electrical noise superior in applications with other electrical equipment and controls
- Remote control interface
- Auto start with five second delay
- Automatic shutdown for the following conditions:
  - > 80% or final charge exceeds time limit
  - > Volts per cell outside safe limits
  - > Charging current too high or too low
  - > Maximum battery temperature exceeded
- Controlled Ferroresonant technology for total charge control over the complete charging cycle
- Digital readout displays:
  - > Time remaining to 80% & full charge
  - > Charge current/voltage
  - > Equalize in process
  - > Fault codes
  - > Charge data 25 cycles (time, AH returned, and voltage)
  - > Charger setup
- LED charge status indicators:
  - > Gas gauge
  - > Charge complete
  - > Fault shutdown
  - > 80% charged
  - > Equalize
- Cool down time displayed
- Manual jump start for over-discharged batteries
Advanced multi-cell constant current charger excels in battery shop, rental and loaner-type installations.

**Features & Benefits**
- Fully integrated microprocessor control for automatic termination depending upon the required profile specific to your battery needs for flooded and VRLA
- Interface jack for remote control and monitoring options
- Automatic refresh charge every twelve hrs.
- Auto start with five second delay
- Selectable delayed start from one to nine hours, in one hour increments
- Battery protection with override timers, wrong battery sensing & negative charge slope termination
- Automatic shutdown for the following:
  - > 80% charge does not occur in nine hrs
  - > Final charge is not reached six hrs after 80% (gassing point)
  - > Volts per cell are too high or too low
  - > Charging current is too low
  - > Battery cable is disconnected while charging
- Ferroresonant tapered charge for optimum battery and charger life
- Selectable 80% voltage of 2.37 or 2.45 volts per cell
- Four position digital display for showing:
  - > Charge current
  - > Equalize in process
  - > Fault diagnostics
- Multi color LED’s indicating charging status, and fault shutdown
- Red push button for manual shutdown
- Manual elapsed timer button
- Supplied with seven foot AC line cord with 20 amp connector (Hard wired on HV models only)
- Eight foot long output cables with dual connectors (SB175 and SB350)

Compact multi-circuit charger fits more than one charger in a single cabinet to cut down on space requirements.

**Features & Benefits**
- Fully integrated microprocessor control for automatic dv/dt or dt/dt termination
- Available in popular ratings incorporating from two to six circuits in a common cabinet
- Interface jack for remote control and monitoring options
- Automatic refresh charge every twelve hrs
- Charge time of eight hours or less on a 100% discharged battery
- Auto start with five second delay
- Selectable delayed start from one to nine hrs
- Battery protection with override timers, wrong battery sensing & negative charge slope termination
- Automatic shutdown for the following:
  - > Maximum or minimum cells are too high or too low
  - > Charging current is too low
  - > Battery cable is disconnected while charging
  - > Elapsed time timer expired
- Ferroresonant constant current charge available in 25 amp or 50 amp output models
- Multi color LED’s indicating charging status, and fault shutdown
- Red push button for manual shutdown
- Manual elapsed timer button
- Supplied with seven foot AC line cord with 20 amp connector (Hard wired on HV models only)
- Eight foot long output cables with dual connectors (SB175 and SB350)

Superior controlled output. Cold storage tough. Capable of recharging fully-depleted VRLA, AGM, and flooded batteries in eight hours or less.

**Features & Benefits**
- Fully integrated and selectable microprocessor control for automatic termination depending upon the required profile specific to your battery needs for flooded and VRLA
- Interface jack for remote control & monitoring options
- Automatic refresh charge every twelve hrs.
- Auto start with five second delay
- Selectable delayed start from one to nine hours, in one hour increments
- Battery protection with override timers, wrong battery sensing & negative charge slope termination
- Automatic shutdown for the following:
  - > 80% charge does not occur in nine hrs
  - > Final charge is not reached six hrs after 80% (gassing point)
  - > Volts per cell are too high or too low
  - > Charging current is too low
  - > Battery cable is disconnected while charging
- Advanced ferroresonant technology for total charge control over the complete charging cycle, for both flooded and VRLA batteries
- Four selectable charge profiles
- Four position digital display for showing:
  - > Charge current
  - > Equalize in process
  - > Fault diagnostics
- LED indicators showing charge status:
  - > Charging
  - > 80% charged
  - > Fault shutdown
  - > Charge complete
- LED test button
- Charge data monitor button provides AH returned, total charge time, avg. volts per cell
- Cool down timer initiates at the end of charge
- Red push button for manual shutdown
- Manual jump start for over-discharged batteries
- Manual and or automatic equalization
- 10ft long output cables for added flexibility
- Numerous output connectors available as standard
Workhorse Series I, the most rugged, single-shift capacity charger where consistency, reliability and efficiency are key factors without the pressure of recharge time.

Features & Benefits
- Fully integrated microprocessor control for automatic dv/dt - di/dt termination
- Selectable refresh charge for 30 minutes every 24 hours
- Ten to sixteen hours charge time.
- Auto start with five second delay
- Selectable one hour time delay
- Memory retention during AC power loss
- Automatic shutdown for the following:
  - > 80% charge does not occur in twelve hrs.
  - Volts per cell are too high or too low
  - Charging current is too low
  - Battery cable is disconnected while charging
- Ferroresonant tapered charge for optimum battery and charger life
- Selectable 80% voltage of 2.37 or 2.45 volts per cell
- Digital display for showing:
  - Charge current
  - Fault codes
- Multi color LED, indicating: charging status, equalization mode and fault shutdown
- Red push button for manual shutdown
- Manual jump start for over-discharged batteries
- Manual equalize button.
- Supplied with seven foot AC line cord and plug (line cord not provided on 12A750, 18A450, 18A600, 18A750, 24A600 @120V AC)
- 10ft. long output cables for added flexibility
- Numerous output connectors available as standard.

Workhorse Series II, horsepower for the long haul. Dependable, heavy duty industrial charger, features ferroresonant technology for single, dual and multi-shift applications.

Features & Benefits
- Fully integrated microprocessor control for automatic dv/dt - di/dt termination
- Interface jack for remote control and monitoring options
- Automatic refresh charge every twelve hours
- Charge time of eight hours or less on a normally discharged battery
- Auto start with five second delay
- Selectable delayed start from one to nine hours
- Battery protection with override timers, wrong battery sensing and negative charge slope termination
- Automatic shutdown for the following:
  - > 80% charge does not occur in nine hrs.
  - Final charge is not reached six hours after 80% (gassing point)
  - Volts per cell are too high or too low
  - Charging current is too low
  - Battery cable is disconnected while charging
- Ferroresonant tapered charge for optimum battery and charger life
- Selectable 80% voltage of 2.37 or 2.45 volts per cell
- Four position digital display for showing:
  - Charge current
  - Equalize in process
  - Fault diagnostics
- LED indicators showing charge status including:
  - Charge complete
  - Charging
  - Fault shutdown
  - 80% charged
- Red push button for manual shutdown
- Manual jump start for over-discharged batteries
- Manual and or automatic equalization
- 10ft. long output cables for added flexibility
- Numerous output connectors available as standard
- No brackets needed for stacking

Workhorse Series III, the most technologically advanced and dependable heavy-duty charger for multi-shift applications requiring a full battery recharge in less than eight hours.

Features & Benefits
- Fully integrated microprocessor control for automatic dv/dt - di/dt termination
- Interface jack for remote control and monitoring options
- Automatic refresh charge every twelve hours
- Charge time of eight hours or less on a fully discharged battery
- Auto start with five second delay
- Selectable delayed start from one to nine hours
- Battery protection with override timers, wrong battery sensing & negative charge slope termination
- Automatic shutdown for the following:
  - > 80% charge does not occur in nine hours
  - Final charge is not reached six hours after 80% (gassing point)
  - Volts per cell are too high or too low
  - Charging current is too low
  - Battery cable is disconnected while charging
- Ferroresonant tapered charge for optimum battery and charger life
- Selectable 80% voltage of 2.37 or 2.45 volts per cell
- Four position digital display for showing:
  - Charge current
  - Equalize in process
  - Fault diagnostics
- LED test button
- Charger data monitor button
- Provides AH returned
- Total charge time
- Average volts per cell
- Cool down timer initiates at the end of charge
- Red push button for manual shutdown
- Manual jump start for over-discharged batteries
- Manual and or automatic equalization
- 10ft. long output cables for added flexibility
- Numerous output connectors available as standard.
Advanced fully integrated SCR microprocessor control with four selectable onboard charging profiles. Automatically refreshes its charge in the flooded profile for 30 minutes every 24 hours.

**Features & Benefits**

- Fully integrated SCR microprocessor control with four selectable onboard charging profiles.
- Automatic refresh charge in the selectable flooded profile for 30 minutes every 24 hours.
- Auto start with five second delay.
- Automatic shutdown for the following:
  - > 80% charge does not occur within sixteen hours
  - > Volts per cell are too high or too low
  - > Charging current is too low
  - > Battery cable is disconnected while charging
- Selectable 80% voltage settings based on chosen profile.
- Digital display for showing:
  - Charge current
  - Fault codes
- Multi color LED's indicating:
  - > Charging status
  - > Equalization mode
  - > Fault shutdown
- Red push button for manual shutdown.
- Manual equalize button.
- Splash resistant top surface.
- Supplied with detachable 120 volt line cord.

**IF YOU WOULD LIKE MORE INFORMATION ABOUT ANY OF OUR PRODUCTS PLEASE SEE OUR WEBSITE TO DOWNLOAD A PRODUCT BROCHURE AT:**

[WWW.APPLIEDENERGYSOL.COM](http://WWW.APPLIEDENERGYSOL.COM)

**THANK YOU FOR READING ABOUT OUR FAMILY OF MADE IN THE U.S.A PRODUCTS**

**SEE FOR YOURSELF WHAT WE MEAN WHEN WE SAY THE POWER OF EXCELLENCE!**

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