

PRIMAX[®]

T E C H N O L O G I E S

*Let us customize a charging system
to your current needs and Tomorrow's...*

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TECHNOLOGIES

Typical charger:

- Supply the load & After an outage, enough capacity to recharge the battery while supplying the load
- Float the batteries at a preset voltage & Equalize the batteries at a preset voltage for a preset time period & Current limiting device
- Designed to alarm:
 - > HVDC
 - > LVDC
 - > AC Fail
 - > Rectifier Fail
 - > Ground Fault
- Form C contact for annunciation

Popular options:

- Various levels of filtration for the output ripple voltage
- Temperature compensation
- Communication Protocols
- Battery testing

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TECHNOLOGIES

- ◉ When they fail...
 - > Specialized tech required for diagnostic.
 - > Repair is urgent...You are on Battery !
 - > Availability of spare parts ?
 - > Availability of back up chargers ?
- ◉ When they cannot be quickly replaced or repaired
 - > You have an emergency !



Constantly Changing Environment

Today's Industrial and Electrical Utility operators are facing a whole new set of challenges:

- **Budgetary...***Maintenance budgets are scrutinized and slashed on a regular basis*
- **Operational...***The same results need to be achieved with less and less personnel*
- **Regulatory...***NERC 's new minimum maintenance requirements will change the overall picture in the substation maintenance world for years to come.*
- **Professional...***It is getting harder and harder to find competent personnel*

In order to help with this, Primax Technologies has developed a charging system that can be tailored to your exact needs for Today... And the future...

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TECHNOLOGIES

Reduce your maintenance expenditure

Optimize battery life

Increase your system's reliability

Reduce your long term cost of ownership



**5kVA transformers
SCR
vs.
High Frequency**

24 in.



21 in.

**125VDC-30A SCR
vs.
High Frequency**

5U
8 3/4 in.

3.5 in.

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TECHNOLOGIES

Hot-Swap Mounting



Charger Control Module
&
Connectivity

AC and DC Breakers

Up to 5 modules or 175 A
per 19" rack

If necessary
Shielded Isolation
Transformer

125Vdc N+1 Redundant 75
Amp charger
19" Relay rack

- Highest Reliability
- Lowest total cost of ownership

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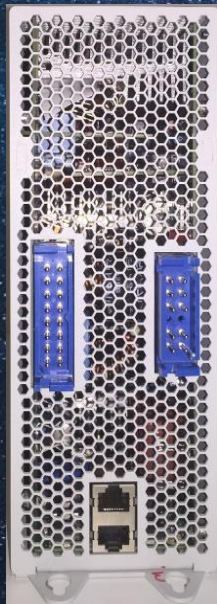
TECHNOLOGIES

EZ-Swap

- 3 standard cabinets:
 - > 19" up to 3 modules
 - > 23" up to 4 modules
 - > Floor mount up to 12 modules
- All connection inside
- 5 minutes module swap



Front



back

P60 basic power unit

Control and alarm board

Secure Front access
through swing door
No need for rear
or side access

Power modules

AC and DC breakers



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◉ What can go wrong:

- > Main board failure
 - Each module still operates in a pre-programmable mode
 - Reverts to the chemical balance Voltage of the battery
 - Reverts to float Voltage
- > Module failure
 - Modules can be swapped in a matter of minutes
 - Hot Swap
 - EZ-Swap

In all cases your loads are fed and your battery is protected

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Standard Features:

- Downloadable Event log that has a 250 events capacity *(Date & Time stamp optional)*
- Current limit adjustable up to 100% of the rated output
- Programmable cyclical charger shutdown based on charger temperature
- Programmable 2 levels of current limit... One for float one for Equalize *(Helps protect older batteries or VRLAs)*
- Programmable display
 - Line frequency
 - Voltage between the negative and the chassis +positive and the chassis
 - Remaining & Elapsed time for equalize
 - Inside charger temperature
- Relay test *(All relays will be energized or de-energized, if you select the fail safe operation option, for 5 seconds; after which the relays will return to their initial status)*
- LED test *(All LEDs will be lit for 5 seconds; after which the LEDs will return to their initial status)*
- Programmable Equalize Start: Manual or Auto. (Auto based on: Time, Low voltage, AC Fail, Current limit.
- Programmable Equalize Termination: Time, Voltage, Amps.

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Standard alarms:

- AC Fail
- Rectifier Fail
- High Voltage DC
- Low Voltage DC (2 Levels)
- Positive Ground Fault;
- Negative Ground Fault;
- High Voltage Cyclical Shutdown
- High Ripple (1% to 5%)
- Rectifier High Voltage
- Rectifier Low Voltage
- Internal high Temperature
- Internal Low Temperature
- Low Output Current
- High Output Current
- Equalize On Alarm
- Frequency out of range (Programmable shutdown)

Each alarm:

- Enabled / Disabled
- Level
- Time delay
- Display Latched / Unlatched
- Relay Latched / Unlatched
- Failsafe on or off *

* Fail-safe is when relay coils are de-energized when associated alarm(s) occurs



Thank you for your time and interest
in
Primax Technologies Inc.

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