

BECAFZAR INDUSTRIAL CHARGERS SPECIFICATION

Mechanical Characteristics

- Protection : IP 21,31,42
(other degrees of protection are option)
- Sheet steel metal cabinet
- Identification plate outside of charger
- Painting : RAL 7035 light gray, RAL7032
(electro-static powder coated painting)
- Cable entry : bottom (top entry is option)
- Standard wiring numbering
- Component labeling (engraved PVC labels)

Electrical Specification

■ Nominal mains voltage :

- single phase: 220V+/-10%
- three phase: 400V+/-10% , 380 V +/-10%
- exceptional variations: +15-20% (optinal)
- frequency 50Hz +/-5%

■ Rectifier output :

- Nominal voltage (Un): 24V , 48V , 110V , 220V , 550V
(on request: 12V , 36V , 60V , 72V , 125V)
- Nominal current (In) : up to 3000 A

■ Voltage regulation:

- Static :0.5% under following conditions:
at float charge DC load variation 0-100%
Input voltage +/- 10%
- Dynamic: 5 % under following conditions:
DC load variation 10%-100% and 100% -10%
Battery connected (capacity 5 times In)

■ Long term stability of Un

■ Load characteristic :

- Constant current /constant voltage (I/U as per IEC 60478-1)

■ Input /output isolation:

- 2000V AC between input/output and electrical earth.
- Insulation resistance: >10M ohm.500 VDC

■ Ripple:

- max 1 % rms of Un (battery connected-5 times the charger rating)

■ Protection :

- Polarity reversal of battery (blows battery fuse)
- AC surge limitation- surge arresters (optional)
- Soft start function 0-100%
- Short circuit
- Current limiter (adjustable 5-120%)
- Internal fuses
- Loss of phase shutdown (three phase systems)
- Phase rotation shutdown (three phase systems)
- Low AC input voltage shutdown
- High AC input voltage shutdown
- High DC voltage shutdown

Environmental

■ Ambient Temperature:

- Operating: 0 to +45 degree centigrade
(higher ambient temp. optional)
- Storage :-25 to 70 c

■ Relative humidity:

- Operation: from 20%to 80% no condensation
- Storage from 15% to 90% (in original packaging)

Acoustic noise:

- typical 45-65 db(A)

Altitude:

- Up to 2000m , from 2000m to 4000m capacity
must consider lower by 7% per 1000m
- Metering & Indicators

Measurements:

- Output voltage
- Output current
- Input voltage (option)
- Input current (option)
- Battery current (option) , -Battery voltage (option)
- Battery voltage (option) ,-Load Voltage (option)

■ System status indicators and alarms :

Mimic Panel Including:

- LED for float charge mode
- LED for boost charge mode
- LED for Initial charge mode
- LED for automatic mode
- LED for mains on
- LED for AC fail alarm
- LED for high DC shutdown
- LED for low DC alarm
- LED for current limit alarm
- LED for charger fail alarm/shutdown (option)
- LED for earth fault alarm (option)

■ Remote alarm (common alarm)

- Common alarm contact
- separate free Potential Contacts for All of alarm (Option)

■ System control :

- Constant voltage/current charging, with
user selectable modes for float ,boost and Initial charging
- Current limiter system with adjustable level
Between 5 to 120% of In for commissioning charge
- Automatic mode selection
(automatic change over between float and boost mode
according power outage time (with adjustable 0-30hr timer)
- Active load sharing circuit. (option-for parallel systems)
- Adjustment of voltage level (adjustable -10% to +10%
separately for each mode)
Output voltage for lead acid batteries :
-2.23 v/cell in float mode
-2.33 v/cell in boost mode
-2.7 v/cell in initialize mode (option)
- For Nickel- Cadmium batteries:**
-1.45 cell in float mode
-1.55 v/cell in boost mode
-1.7 v/cell in initialize mode (option)
- Adjustment of alarm levels.
- Alarm silencer switch (alarm acknowledgment)
- Lamp test pushbutton switch (option)
- Diode dropper system

■ Options:

- Communication with PC via RS232 port
(monitoring software is available)
- Separate remote alarm contacts for each alarm
- Interior light with door mounted switch
- Cabinet heater with thermostat
- EMC filtering
- Over temperature alarm/trip (In case of forced ventilation)
- Lamp test switch
- End of discharge contactor
- Input voltage/current measurement
- Battery /load current measurement
- 12 pulse rectification
- Specific IP
- Top cable entry
- Battery current limiter
- Input Harmonic Filter
- And other options on request

■ Double System :

- Different configurations for redundant systems are available.
- Parallel redundant system.
- Hot standby system(with manual and automatic change over)
- Cold standby system(manual change over)

■ Applicable Standard :

- IEC 60478 stabilized power supply dc output
- IEC 60526 degrees of production
- IEC 60146 semi- conductor converters
- IEC 60439 low voltage distribution devices
- IEC 60255 electrical relays
- IEC 60269 low voltage fuses
- IEC 60947 switches , -IEC 60364 wiring