

DC Supply, DC UPS Industrial 110 Volt, 220 Volt / 100 Amper Charger



Input: 400V50Hz or 230V50Hz

Output: NiCd Charger 110 Volt, 220 Volt / 50Amper, 70Amper, 100Amper

- Full Automatic Charger & High Frequency PWM Newest Technology
- Thyristor Technology or IGBT Technology 1 Millisecond R. Time
- Micro Chip Controlled, Fast and Precisely, Efficient
- Perfect DC Supply for the Batteries
- 2 Years Warranty & 10 Years Spare Part Availability
- High Efficiency up to 96%
- Thyristor or IGBT Switch Mode Optional
- Wide Input Voltage Range for Usage in Rural Areas
- Advanced Protection and Data Logging for Industrial Usage
- Short Circuit, Overload, Over Voltage & Over Temperature Protection
- Unlimited Number of Paralleled Modules
- Selectable Output Voltage Values "Lower Than Ordered Unit"
- 6 Pulse, 12 Pulse or Switch Mode Technology
- European 230V / 400V or 108V / 220V & 50Hz / 60Hz Options
- Constant Voltage or Current Option
- Small Footprint, Easy Maintenance & Robust & Anti Rust Cabinet
- Easy Monitoring Voltage, Current, from Screen
- Warning LEDs and Dry Contact as Optional
- Wall Mount or Stand Alone or With Wheel Optional
- Customized Production, Higher Voltage & Current Values
- 24V – 220V / 20Amper - 2000Amper
- Industrial DC UPS with Dropper



Industrial Applications



Petrol Platform Chargers



Power Plant Chargers

*12Volt – 24Volt – 48Volt – 72Volt – 108Volt - 110Volt – 220Volt / * 20Amper – 50Amper – 80Amper – 100Amper – 150Amper – 200Amper – 400Amper - 600Amper



CH-GER Industrial Chargers

DC UPS Solutions 110Volt, 125Volt, 220Volt



www.germarels.de



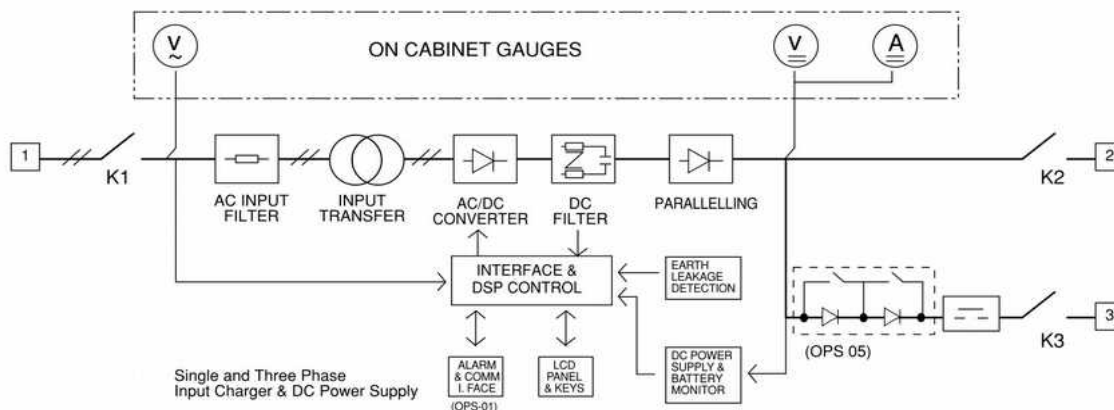
In One Cabinet One Charger or 2 Charger in One Cabinet

CH-GER series battery chargers and DC UPS are developed for charging high capacity batteries used in forlifts, GEL batteries, traction batteries electrical earth movers etc... and designed for both individual for your electrical vehicles or industrial use. User friendly control panel and easy operating system is very practical to connect, control. Since the battery charger is electrically smart micro chips controlled charging operation is very safe, easy and extends your NiCd or lead acid battery life. Day-off charging function enables the battery fully charged when it is not used and increase the life time of the battery. There is no need for any adjustments with Plug and play function and charging starts automatically when the battery is connected.

The charger consists of economic, environment-friendly, and reliable DC power supplies that use the resonant converter technology, operating at high frequencies. They have a high input power factor along with very low output voltage ripples. They have a high input power factor along with very low output voltage ripples. They are used extensively for charging lead-acid and as customized nickel cadmium batteries; at telecom and power distribution sites, or wherever DC power is needed.

Useable Areas:

- Telecom systems,
- Ni-Cd and Lead,
- Acid batteries charger,
- Energy distribution stations,
- Power stations,
- Emergency lighting systems,
- Natural gas distribution control stations
- DC uninterruptible power systems



CH-GER Industrial Chargers

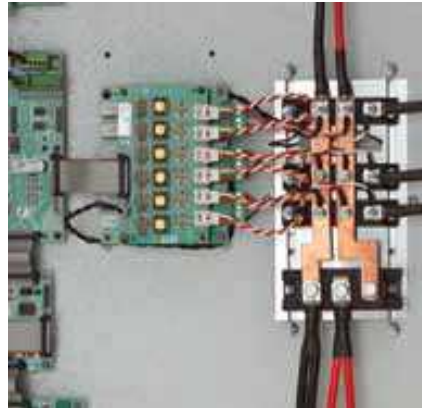
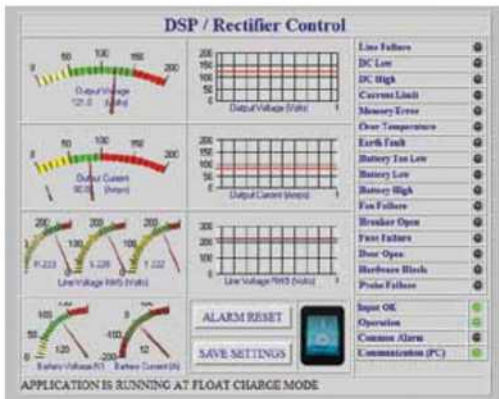
DC UPS 110Volt, 125Volt, 220Volt



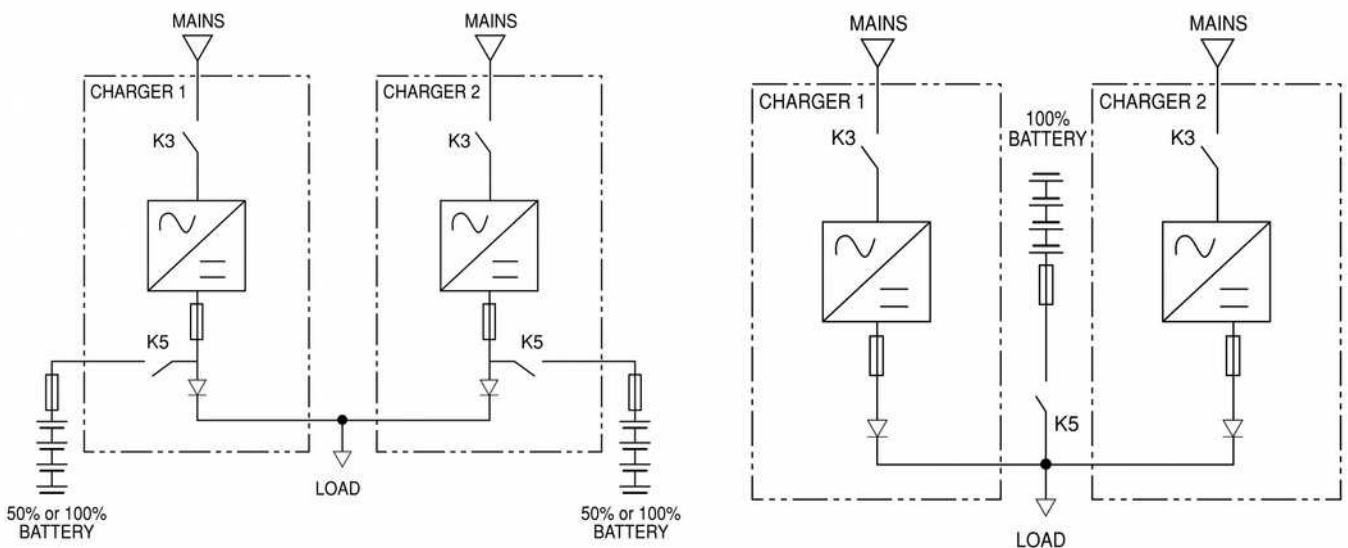
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Single Line Diagram of the DC UPS Sample



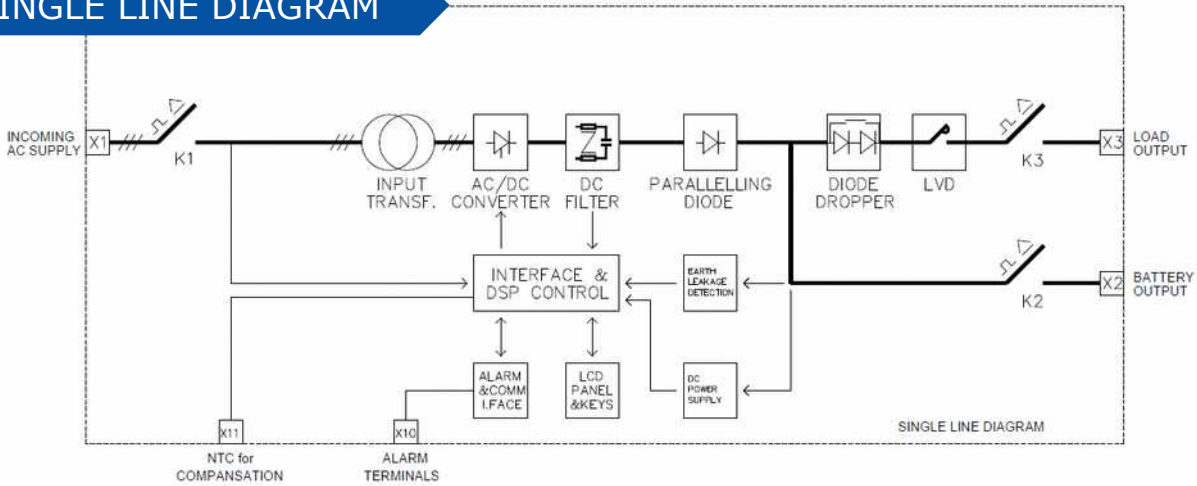
Communication Interface



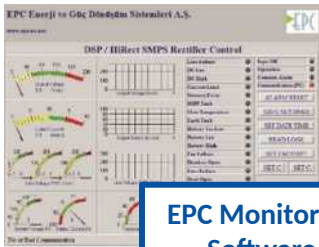
Technical Details and Options



SINGLE LINE DIAGRAM



COMMUNICATION INTERFACES



EPC Monitoring Software



RS485 Converter



Touch Panel



SNMP

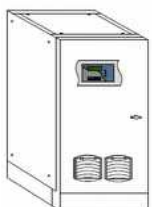


LCD + LED Panel



TCP/IP

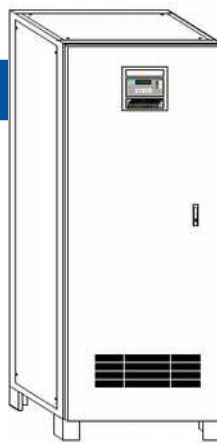
STANDARD CABINET SIZES



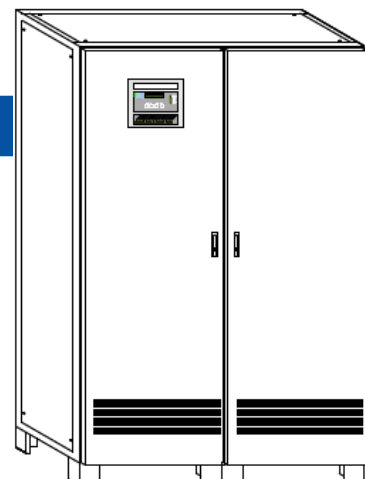
500*450*1000mm



600*600*1300mm



600*600*1900mm



1200*800*2100mm

Technical Advantages of UPS-GER Uninterruptible Power Supply

Products	<input checked="" type="checkbox"/> DC UPS Industrial <input type="checkbox"/> DC Supply <input type="checkbox"/> Charger Commercial <input type="checkbox"/> Charger Industrial
Usage Area	<input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor <input type="checkbox"/> Marine
Power Watt	<input checked="" type="checkbox"/> 0.8PF <input type="checkbox"/> 0.9PF <input type="checkbox"/> 1.0PF
INPUT	
Input Voltage	Selectable <input type="checkbox"/> 208V <input checked="" type="checkbox"/> 380V <input checked="" type="checkbox"/> 400V <input checked="" type="checkbox"/> 415V <input type="checkbox"/> 440V <input type="checkbox"/> 480V
Input Voltage Range	<input checked="" type="checkbox"/> -%10 / +%10 (%100Load) <input checked="" type="checkbox"/> -%15 / +%10 (%90Load) <input checked="" type="checkbox"/> -%20 / +%10 (%85Load) <input checked="" type="checkbox"/> -%25 / +%10 (%75Load)
Input Isolation Transformer	Selectable <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Input P.F. & Cable Connection	At Full Load >0.99 & <input checked="" type="checkbox"/> Bottom Cable Connection <input type="checkbox"/> Top Cable Connection <input type="checkbox"/> Backside Cable Connection
Input Frequency	<input checked="" type="checkbox"/> 50Hz(44Hz-66Hz) <input type="checkbox"/> 60 HZ "44Hz - 66Hz"
Input Connection	<input checked="" type="checkbox"/> STAR 3P+N+PE <input type="checkbox"/> Delta 3P+PE
Input Connection	<input type="checkbox"/> Dual Input <input checked="" type="checkbox"/> Single Input
Input Protection	Phase Sequence Protection & MCCB and Fast Fuse SCR Protection
Technology	<input type="checkbox"/> Full Bridge <input checked="" type="checkbox"/> 6Pulse-12Pulse <input type="checkbox"/> Switchmode Technology PWM
Rectifier & Harmonic Distortion THD	<input type="checkbox"/> %1 <input type="checkbox"/> %3 <input type="checkbox"/> %5 <input checked="" type="checkbox"/> %11 <input type="checkbox"/> %30
OUTPUT	
Output Voltage	%80-%140Adjustable <input type="checkbox"/> 24V <input type="checkbox"/> 28V <input type="checkbox"/> 48V <input checked="" type="checkbox"/> 110V <input type="checkbox"/> 220V <input type="checkbox"/> 600V
Output Cable Connection	<input checked="" type="checkbox"/> Bottom Cable Connection <input type="checkbox"/> Top Cable Connection <input type="checkbox"/> Backside Cable Connection
Output Volt. & Current Regulation	<input checked="" type="checkbox"/> %0,5 Voltage <input checked="" type="checkbox"/> %2 Current
Output Current	<input type="checkbox"/> 100Amper <input checked="" type="checkbox"/> 50Amper <input checked="" type="checkbox"/> Charger 50Amper Total 100Amper
Output Connection	<input checked="" type="checkbox"/> Single Output <input checked="" type="checkbox"/> Battery Discharger Connection Dropper (Control)
Output Ripple & Output Protection	1% & "Output Current Limitation" & Battery Charging with Temperature Control LVD
Recovery & Auto Start & Isolation	Immediately & Auto Start Adjustable From Screen & 1500-2000V-3000VAC Input Output Chassis
Efficiency	<input checked="" type="checkbox"/> Till %89 for Pulse Solutions <input type="checkbox"/> Till %93 <input type="checkbox"/> >%94 for %50Load & >%95 for %100 Load
Charging Current Details	For Lead Acid, OPZS %10 / For NiCd %20 of the Battery Current Amper Value (Adjustable)
Overload Capacity & Output Side	At 125% Load 10min, at 150% Load 1min at >%150 300ms & %170 Direct Off/ 0.7PF Lagging – 0.8 Leading
COMMUNICATION	
Options	<input checked="" type="checkbox"/> RS232 Standard <input type="checkbox"/> RS485/ Modbus <input type="checkbox"/> SNMP <input checked="" type="checkbox"/> Dry Contact Card <input type="checkbox"/> External Screen <input type="checkbox"/> GPRS- GSM Control
Protocol	SEC, TELNET, MODBUS (Customized all)
Communication Alerts & Logging	500 Event Logs & 180 Parameters for Each Log "As Excel Sheet" "Optional Parallel"
BATTERY	
Quantity & Type & Charge Value	For NiCd 110V 92 Pieces & NiCd & 1,56Volt – Boosting 1,70Volt (92x1,70Volt = 156Volt)
Battery Consumption & Cabinet	50% of The Device Power & Standard Battery Cabinet & Optional Batteries OPZS – VRLA (2,25 Volt Boost)
Back Up Time & "Booster Time"	5 Hours (Depends on the Machine And Machine And Project) & "20Hours Adjustable"
GENERAL	
Cooling & Running Temperature	Forced Air (Option AirCon&Natural) <input type="checkbox"/> 0°C~40°C <input checked="" type="checkbox"/> 0°C~50°C <input type="checkbox"/> -5°C~55°C <input type="checkbox"/> -10°C~40°C
Electrical Protection	Aux.TripContact / Over&Low Volt / TMS-MCCB / Low&Over Current / Over Temp. Protection / AC-DC Earth Fault / Dropper DCDC
Protection Class	<input type="checkbox"/> IP20 <input checked="" type="checkbox"/> IP21 <input type="checkbox"/> IP22 <input type="checkbox"/> IP31 <input type="checkbox"/> IP44 <input type="checkbox"/> IP55 <input type="checkbox"/> IP65 with AirCon
Chassis & Humidity & Noise	Anti-Static Anti Rust Coated Painting 20years AntiRust & Protection & 0-95% & 65 Db Maximum
Screen	Mimic Diagram Languages English, German <input type="checkbox"/> 2x16 <input checked="" type="checkbox"/> 4x20 <input type="checkbox"/> 320mmx240mm(Touchscreen) <input checked="" type="checkbox"/> Mimic Diagram LED
Altitude	@40°C & after 1000Meter for each hundred meter %1 Loss <input checked="" type="checkbox"/> Till 1000m <input type="checkbox"/> Till 1500m <input type="checkbox"/> Till 2000m <input type="checkbox"/> > 2000m
Cabinet Color	<input type="checkbox"/> Ral 7060 <input type="checkbox"/> Ral 7035 <input checked="" type="checkbox"/> Ral 7032 <input type="checkbox"/> Ral 7016 <input type="checkbox"/> Ral 1014 <input type="checkbox"/> Black
Parallel Operation	<input type="checkbox"/> Single <input type="checkbox"/> Redundant till 3s transfer time & Hot Paralleling Sycn. Tech. => <input checked="" type="checkbox"/> 2pcs <input type="checkbox"/> 3pcs <input type="checkbox"/> 4pcs <input type="checkbox"/> 6pcs <input type="checkbox"/> 8pcs
EPO (Emergency Power Off)	<input checked="" type="checkbox"/> Standard for IP20 <input type="checkbox"/> Optional for Outdoor with external screen
Certification	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> SGS <input type="checkbox"/> SASO <input checked="" type="checkbox"/> IEC <input type="checkbox"/> BV Marine <input type="checkbox"/> BV General <input type="checkbox"/> Soncap
Vibration & Earthquake design	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Vibration Reduce <input type="checkbox"/> Seismic Standard <input type="checkbox"/> Seismic Customized
Dimensions (WxDxH (cm) UPS	<input type="checkbox"/> 2x(100X80x140 / 240kg) <input checked="" type="checkbox"/> 60X60x130 / (253kg) <input type="checkbox"/> 360x220x240 / (3670kg) <input type="checkbox"/> 2435x825x2003 / (1990kg)
Standard & Performance	EN60146-1-12009 : Semi Conductor Converters – Specific of Basic Requirements & EN60335 HouseHold and similar appliances
Standard & Performance	EN61204 : Low-Voltage Power Supply Devices , DC Output Performance Characteristics, EN61100-6-2/4 , EN50178, EN60529
Dimensions (WxDxH (cm) Batt. Cab:	Please Check the Additional Document at your mail
Isolation Resistance & Quality	200Mega Ohm & "& Electrical parts made in Korea, Europe & Turkey"

Technical Advantages of UPS-GER Uninterruptible Power Supply

Products	<input checked="" type="checkbox"/> DC UPS Industrial	<input type="checkbox"/> DC Supply	<input type="checkbox"/> Charger Commercial	<input type="checkbox"/> Charger Industrial
Usage Area	<input checked="" type="checkbox"/> Indoor	<input type="checkbox"/> Outdoor	<input type="checkbox"/> Marine	
Power Watt	<input checked="" type="checkbox"/> 0.8PF	<input type="checkbox"/> 0.9PF	<input type="checkbox"/> 1.0PF	
INPUT				
Input Voltage	Selectable	<input type="checkbox"/> 208V	<input checked="" type="checkbox"/> 380V	<input checked="" type="checkbox"/> 400V
Input Voltage Range	<input checked="" type="checkbox"/> -%10 / +%10 (%100Load)	<input checked="" type="checkbox"/> -%15 / +%10 (%90Load)	<input checked="" type="checkbox"/> -%20 / +%10 (%85Load)	<input checked="" type="checkbox"/> -%25 / +%10 (%75Load)
Input Isolation Transformer		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Input P.F. & Cable Connection	At Full Load >0.99 & &	<input checked="" type="checkbox"/> Bottom Cable Connection	<input type="checkbox"/> Top Cable Connection	<input type="checkbox"/> Backside Cable Connection
Input Frequency		<input checked="" type="checkbox"/> 50Hz(44Hz-66Hz)	<input type="checkbox"/> 60 HZ "44Hz - 66Hz"	
Input Connection		<input checked="" type="checkbox"/> STAR 3P+N+PE	<input type="checkbox"/> Delta 3P+PE	
Input Connection		<input type="checkbox"/> Dual Input	<input checked="" type="checkbox"/> Single Input	
Input Frequency Range		Wide Input Frequency Range "45Hz - 66Hz"		
Technology	<input type="checkbox"/> Full Bridge	<input checked="" type="checkbox"/> 6Pulse-12Pulse	<input type="checkbox"/> Switchmode Technology PWM	
Rectifier & Harmonic Distortion THDI		<input type="checkbox"/> %1	<input type="checkbox"/> %3	<input type="checkbox"/> %5
		<input checked="" type="checkbox"/> %11	<input type="checkbox"/> %30	
OUTPUT				
Output Voltage	%80-%140Adjustable	<input type="checkbox"/> 24V	<input type="checkbox"/> 28V	<input type="checkbox"/> 48V
Output Cable Connection		<input checked="" type="checkbox"/> Bottom Cable Connection	<input type="checkbox"/> Top Cable Connection	<input type="checkbox"/> Backside Cable Connection
Output Volt. & Current Regulation		<input checked="" type="checkbox"/> %0,5 Voltage	<input checked="" type="checkbox"/> %2 Current	
Output Current		<input type="checkbox"/> 100Amper	<input checked="" type="checkbox"/> 50Amper	<input checked="" type="checkbox"/> Charger 50Amper Total 100Amper
Output Connection		<input checked="" type="checkbox"/> Single Output	<input checked="" type="checkbox"/> Battery Discharger Connection	
Output Ripple & Output Protection		1% & "Output Current Limitation"		
Recovery & Auto Start & Isolation		Immediately & Auto Start Adjustable From Screen & 1500-2000V-3000VAC Input Output Chassis		
Efficiency	<input checked="" type="checkbox"/> Till %89 for Pulse Solutions	<input type="checkbox"/> Till %93	<input type="checkbox"/> >%94 for %50Load & >%95 for %100 Load	
Charging Current Details		For Lead Acid, OPZS %10 / For NiCd %20 of the Battery Current Amper Value (Adjustable)		
Overload Capacity & Output Side		At 125% Load 10min, at 150% Load 1min at >%150 300ms & %170 Direct Off/ 0.7PF Lagging – 0.8 Leading		
COMMUNICATION				
Options	<input checked="" type="checkbox"/> RS232 Standard	<input type="checkbox"/> RS485/ Modbus	<input type="checkbox"/> SNMP	<input checked="" type="checkbox"/> Dry Contact Card
Protocol		<input type="checkbox"/> External Screen	<input type="checkbox"/> GPRS- GSM Control	
Communication Alerts & Logging		500 Event Logs & 180 Parameters for Each Log "As Excel Sheet" "Optional Parallel"		
BATTERY				
Quantity & Type & Charge Value		For NiCd 110V 92 Pieces & NiCd & 1,56Volt – Boosting 1,70Volt (92x1,70Volt = 156Volt)		
Battery Consumption & Cabinet		50% of The Device Power & Standard Battery Cabinet & Optional Batteries OPZS – VRLA (2,25 Volt Boost)		
Back Up Time & "Booster Time"		5 Hours (Depends on the MachineAnd Machine And Project) & "20Hours Adjustable"		
GENERAL				
Cooling & Running Temperature	Forced Air (Option AC & Natural)	<input type="checkbox"/> 0°C~40°C	<input checked="" type="checkbox"/> 0°C~45°C	<input type="checkbox"/> -5°C~55°C
Electrical Protection		Over & Low Frequency / Over & Low Voltage / Over Current / Over Temperature Protection Degradation		
Protection Class		<input type="checkbox"/> IP20	<input checked="" type="checkbox"/> IP21	<input type="checkbox"/> IP22
Chassis & Humidity & Noise		<input type="checkbox"/> IP31	<input type="checkbox"/> IP44	<input type="checkbox"/> IP55
Screen	Mimic Diagram Languages English, German	<input type="checkbox"/> 2x16	<input type="checkbox"/> 4x20	<input checked="" type="checkbox"/> 320mmx240mm(Touchscreen)
Altitude	@40°C & after 1000Meter for each hundred meter %1 Loss	<input checked="" type="checkbox"/> Till 1000m	<input type="checkbox"/> Till 1500m	<input type="checkbox"/> Till 2000m
Cabinet Color		<input type="checkbox"/> Ral 7060	<input type="checkbox"/> Ral 7035	<input checked="" type="checkbox"/> Ral 7032
Parallel Operation		<input type="checkbox"/> Ral 7016	<input type="checkbox"/> Ral 1014	<input type="checkbox"/> Black
EPO (Emergency Power Off)		<input type="checkbox"/> Single	<input type="checkbox"/> Redundant till 3s transfer time & Hot Paralleling Sycn. Tech. =>	<input checked="" type="checkbox"/> 2pcs
Certification		<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> SGS	<input type="checkbox"/> SASO
Vibration & Earthquake design		<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Vibration Reduce	<input type="checkbox"/> Seismic Standard
Dimensions (WxDxH (cm) UPS		<input type="checkbox"/> 2x(100X80x140 / 240kg)	<input checked="" type="checkbox"/> 60X60x130 / (253kg)	<input type="checkbox"/> 360x220x240 / (3670kg)
Standard & Performance & Quality		<input type="checkbox"/> 2435x825x2003 / (1990kg)	EN62040-3 (VFI-SS-111) & EN62040-2 and-1 & EN60950 & ISO9001 - 14001 - 18001 & Electrical parts made in Korea, Europe & Turkey	
Dimensions (WxDxH (cm) Batt. Cab:		2 Pieces x (For Each Ups x 2 "150mmX120mmx195mm / 520kg" & 2 x (NiCd 183 Cells x 1,2V x 375Ah) , TOTAL306x16,8kg		
Total Dimensions (WxDxH (cm):		Battery Cabinet= 12 Pieces x UPS= 2x(100X80x140 / 240kg		

REFERENCE PHOTOS

DC SUPPLY & BATTERY CABINET Solution



REFERENCE PHOTOS

DC SUPPLY Solution



REFERENCE PHOTOS

DC SUPPLY Solution

