

Power Management Instruments

Online UPS

Industrial UPS

DC Battery Charger

Electronic pf Corrector Systems

Microprocessor Controlled Voltage Stabilizers

Inverter

DC CHARGER / RECTIFIER



HIGH PROTECTION

GESS DC chargers are SCR controlled AC/DC rectifier with automatic constant voltage and constant current ability. All operations are controlled and processed by micro controller. The load is protected against the failures of the DC charger since the load is fully isolated from the system. Current module is

used instead of shunt resistor so the output ripple is low and fully isolated. Input and output can be switched by circuit breakers individually. It has self-protection against to over temperature. The alarm contacts can be used for external system in the case of any anomaly.

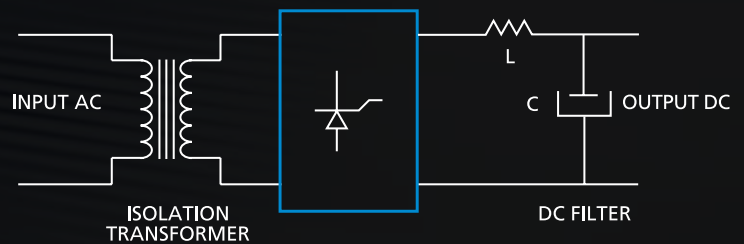




FEATURES AT A GLANCE

- Thyristor Controlled and Full Automatic Systems with Isolated Input Transformer
- Useable as DC Current Source or DC Battery Charger
- Microcontrolled
- Adjustable Output Current
- Adjustable Output Voltage
- Adjustable Float and Boost Charging Voltage
- Adjustable Timer for Boost Charging
- Individual Output for Battery and Load Electronic Over - Under Voltage, Reverse Voltage Protection
- Over Temperature, Short Circuit Protection
- Parallel (n+1) or Serial Connection
- Dry Contact Indicators and RS232 Communication option

FULLY CONTROLLED THYRISTOR RECTIFIER MODULE



COMPLETE ISOLATION

GESS DC Chargers are fully isolated since an isolation transformer is placed in between the input and output and because the DC current is controlled by a DC current module. Therefore, the load is always safe even at high input voltage and congested mains conditions. In addition, the failure risk is minimized as semi-conductors are used for the rectifier. Standard L-C filters at the output maintain safe charging of the battery groups.

DC RIPPLE < 1%

Input and output are protected with MCBs and all settings like boost charge, floating charge and battery charge current can be adjusted via front panel touchpad digitally. DC output is filtered by L/C, so DC ripple at full load always lower than 1% to increase battery life. All rectifiers have standards low-battery and rectifier failure alarm.

PARALLEL/SERIAL CONNECTION

The Charger has a modular design to provide service and maintenance simplicity. The outputs of the Battery Chargers can be connected in parallel or in series based on the requirement (N+1).

AUTOMATIC BOOST/FLOAT CHARGING

Output current, boost and Float Charge Voltages are adjustable on the control panel easily. The Timer is a decrementing counter by one minute. The Charger output gives the boost charging voltage by setting the timer to any value larger than zero. The Charger returns to floating voltage level when the timer value reaches to zero.

AUTOMATION ALARM CONTACTS

Mains switch failure, battery switch failure, load switch failure, low battery failure, low output voltage, over output voltage, mains failure, charger failure, over load, over temperature and earth fault alarms are among the ones that are available to be used in automation systems.

WIDE RANGE OF USE

DC chargers are ideal for transformer energy distribution centers, gas oil energy distribution centers, natural gas energy distribution centers, mining industry security and lighting, building automation systems and for special telecommunication applications.

DC CHARGER / RECTIFIER

GENERAL		
Model	Monophase Input	Threephase Input
Topology	6 Pulse Thyristor controlled AC/DC Rectifier with input isolation transformer Optional 12 Pulse Thyristor controlled AC/DC Rectifier with input isolation transformer	
INPUT		
Nominal Voltage	110 VAC / 115VAC /208 VAC / 220 VAC / 230 VAC / 240 VAC ±15%	190 VAC / 200 VAC /380 VAC / 400 VAC / 415 / 480 VAC ±15%
Nominal Frequency	50 / 60 Hz ±5%	
Power Factor	>0.8 (>0.95 with 12 Pulse Rectifier)	
Transformer	Galvanically isolated	
ITHD	<30% (standard); <10% (with 12 Pulse Rectifier)	
Input Protection	Thermic Magnetic Overcurrent protection MCB, Overvoltage protection	
OUTPUT		
Floating Output Voltage	12/24 VDC±1% / 48 VDC±1% / 110 VDC±1% / 220 VDC ±1%	
Output Voltage Adjustment	12/24VDC output 10VDC to 30VDC, 48VDC output 40VDC to 60VDC, 110VDC output 90VDC to 150VDC, 220VDC output 190VDC to 290VDC	
Output Current Adjustment	0-100% of Nominal Output Current	
Boost Charge Voltage	100% to 120% of Floating Output Voltage	
Boost voltage (V/C)	2,4 lead acid battery 1,55 NiCd Battery	
Float voltage (V/C)	2,23 lead acid battery 1,40 NiCd battery	
Equalize voltage (V/C)	2,7 lead acid battery 1,7 NiCd battery with reduced current	
Nominal Output Current	25A / 50A / 100A / 200A / 300A / 400A	
Maximum Output Current	110% of nominal output current	
Output Ripple	1% RMS AC of Output Voltage	
Dynamic Response (w/out battery group)	±5% of Output Voltage (25% load change at 50% load)	
Dynamic Response (with battery group)	±2% of Output Voltage (100% load change)	
Battery Charging Principle	Constant Current/ Constant Voltage	
Output Protection	Short Circuit, MCB and Overvoltage protection	Short Circuit, Overvoltage protection, MCB and Phase Sequence Protection
Filtering	L-C Filter	
GENERAL		
Boost Timer	0 - 600 minutes adjustable by 1 minute accuracy	
Cooling	Forced fans with smart fan controlling system	
Isolation Voltage	2500VAC input/chassis and output/chassis	
Efficiency at full load	>90%	>92%
MTBF	100,000 Hrs. (w/out battery group)	
Operating Temperature	-10 / + 50 °C	
Protection Level	IP20 (Standard); IP54 (Optional)	
Enclosure Material	Mild Steel, Zinc-phosphate coated; 100 µm electrostatic paint; 1.5 mm thickness	
Cable Entry	Front Bottom	
Access to Batteries	Batteries and rectifier in the same cabinet with front access (optional)	
Relative Humidity	5% to 90% non condensing	
Circuit Breakers	Input: Magnetic circuit breakers; Output: Magnetic circuit breakers upto 60 A - NH type fuse over 60A (std), optional MCB over 60A	
Silicon Dropper	Available on request (For load output)	
DISPLAY PANEL		
Measurements	Two 3 digits 7 Segment Displays for Output Voltage and Current	
Indicators - Standard Type	Boost Charging, Float Charging, Charger Failure, Overload, Over temperature, Low battery and Input Power OK	
Indicators - Full Automation Type	"Boost Charging, Float Charging, Charger Failure, Overload, Over temperature and Input Power OK, Mains switch failure, Battery switch failure, Load switch failure, Battery ending, Low battery, Low output voltage, Output overvoltage, Mains failure, Charger failure, Overload, Over temperature , Earth fault, Low electrolyte level (Optional)	
Buttons	Timer Setting, Boost Voltage Setting, Float Voltage Setting and Output Current Setting, Reset Button	



ALARM CONTACTS

Charger Failure	Open or closed free contacts
Low Battery	Open or closed free contacts
Earth Fault	Open or closed free contacts

ENVIRONMENT

Operating Temperature	-10 / +50 °C
Relative Humidity	5 - 90 %
Operating Altitude	Max. 3000 Mt.
Noise Level	Max. 60 db
Electrical Standards	EN 50091-1 (Security) / EN 50091-2 (EMC)

COMMUNICATION & PARALLELING

Optional Communication	Key parameters (input AC voltage, input AC current, output DC voltage, output DC current) can be monitored over Local Area Network & Internet
Paralleling	N+1 (No need for extra part for paralleling)

MONO PHASE INPUT

Output Voltage	Output Current	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)
12 / 24 V DC	10 AMP.	410	220	330	15
12 / 24 V DC	30 AMP.	410	220	330	36.5
12 / 24 V DC	60 AMP.	570	390	410	51.5
12 / 24 V DC	100 AMP.	660	380	480	95
48 V DC	10 AMP.	410	220	330	20
48 V DC	30 AMP.	570	390	410	40
48 V DC	60 AMP.	660	380	480	65
48 V DC	100 AMP.	730	450	530	85
110 V DC	10 AMP.	570	390	410	45
110 V DC	30 AMP.	570	390	410	65.5
110 V DC	60 AMP.	730	450	530	80
110 V DC	100 AMP.	730	450	530	190

THREE PHASE INPUT

Output Voltage	Output Current	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)
12 / 24 V DC	30 AMP.	570	390	410	45
12 / 24 V DC	60 AMP.	660	380	480	73
12 / 24 V DC	100 AMP.	660	380	480	90
12 / 24 V DC	200 AMP.	730	450	530	120
48 V DC	30 AMP.	570	390	410	55
48 V DC	60 AMP.	660	380	480	65
48 V DC	100 AMP.	730	450	530	90
48 V DC	200 AMP.	770	510	710	120
110 V DC	10 AMP.	570	390	410	65
110 V DC	30 AMP.	660	380	480	78.5
110 V DC	60 AMP.	700	450	530	92
110 V DC	100 AMP.	770	510	710	169
110 V DC	200 AMP.	1100	650	600	210
220 V DC	10 AMP.	660	380	480	78
220 V DC	30 AMP.	660	380	480	90
220 V DC	60 AMP.	770	510	710	110
220 V DC	100 AMP.	770	510	710	235
220 V DC	150 AMP.	770	510	710	365

* Available up to 220VDC 500Amp



Power Management Instruments

GROUP COMPANIES

Ortadođu Elektronik Sanayi Ltd. Őti.
Karmet Makina Elektronik Tasarım A.S.
PMI Elektrik Sistemleri Dis Tic. Ltd. Sti

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PMI/OES reserves the right to make alterations on technical specifications.



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