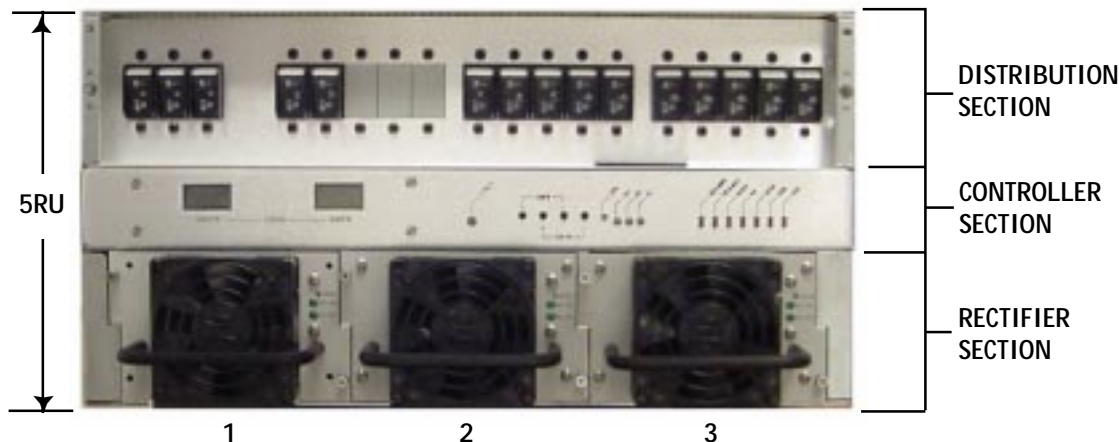


COMPACT INTEGRATED 24VDC, 300A POWER SYSTEM



KEY FEATURES

- ◆ +24VDC, Up to 300A
- ◆ Compact, 5RU High
- ◆ Fully Integrated System
- ◆ Flexible Configuration
- ◆ Hot-Swap Rectifier Modules
- ◆ Easy Installation

SAFETY CERTIFICATIONS

AGENCY	STANDARD
UL	UL1950
CUL	CSA22.2, No. 950
DEMKO	EN60950

TWO-YEAR WARRANTY



DESCRIPTION

Gravitas X300 is a compact, integrated, DC power system. It consists of up to three high power-density, hot-swap rectifier modules which can produce up to 300 amperes at +24VDC. In 2+1 redundant operation the output current up to 200 amperes.

The system has a DC distribution panel with up to 10 load circuits which are protected by circuit breakers, GMT fuses or a combination of the two. Three AC breakers are optional, with one breaker for each rectifier input. Also optional is a low-voltage battery disconnect. Battery breakers for four battery strings are provided.

There are two choices for the system controller. A basic controller has LED visual alarms, Form C relay alarms, test points and set-point adjustments including over- and under-voltage adjustments. There is also a temperature compensation option and digital voltage and current display option. An optional intelligent controller provides all these features in keypad format with an alphanumeric display and remote data access options.

The complete Gravitas X300 is only 5RU high (8.65 inches or 220mm) and is easily installed by a qualified technician. All connections are at the rear to DIN-rail terminal blocks. A comprehensive operating manual explains all the details of operation and installation. The unit may be mounted in a 19- or 23-inch rack.

GRAVITAS X300 SUMMARY FEATURES

- ◆ Hot-Swap Rectifiers
- ◆ 230VAC Input
- ◆ Power Factor Corrected
- ◆ AC Line Breakers Option
- ◆ Class B EMI Input Filter
- ◆ Up to 300A at +24VDC
- ◆ Up to 200A for 2+1 Redundant
- ◆ Up to 10 DC Circuit Breakers or Fuses
- ◆ 4 Battery Strings
- ◆ 4 Battery String Breakers
- ◆ LV Battery Disconnect Option
- ◆ Basic or Intelligent Controller
- ◆ Communication Options
- ◆ Distribution Section Cover
- ◆ Distribution Section Wallet
- ◆ Quick, Easy Installation
- ◆ Modular Design
- ◆ Only 5RU (8.65 Inches) High

SYSTEM CONFIGURATION

SYSTEM CAPABILITY	X300-24R/300
System Voltage	+24VDC
System Max. Current	300A
System Current, 2+1	200A
Input Range, VAC	170-264
Rectifier Model	RRS24/100
Rectifiers Required	3 max.
Input Breakers, AC ¹	3 optional
Battery String Breakers	4 standard
Low Voltage Disconnect ²	optional
Total No. of DC Loads	10
1-50A Breakers	4
1-20A Breakers	6
½-12A GMT Fuses	10
Control Features	
Alarm Outputs	7 standard
Temp. Compensation	optional
Communications	
LAN	optional
Modem	optional
Local RS232	optional
Rack Height	5RU
Rack Width, Inches ³	19

NOTES:

1. One per rectifier module.
2. Battery disconnect.
3. 23-Inch mounting brackets can be supplied.



X300 SYSTEM WITH COVER

RRS24/100 RECTIFIER MODULE SPECIFICATIONS

INPUT

Voltage Range _____ 170-264VAC
 Power Factor _____ 0.98
 Total Harmonic Distortion, Max. _____ 5%
 Frequency _____ 47-63Hz
 Inrush Current Limiting _____ 25A Peak
 EMI Filter, Conducted _____ FCC20780 pt. 15J Curve B
 _____ EN55022 Curve B
 Input Immunity, Conducted
 Fast Transients, Line-Line $\pm 2kV$ (EN61000-4-4 Level 3)
 Surges, Line-Line _____ $\pm 1kV$ (EN61000-4-5 Level 2)
 Surges, Line-Ground _____ $\pm 2kV$ (EN61000-4-5 Level 3)

OUTPUT

Output Voltage Set, 24V Nom. _____ 27.2VDC
 Voltage Adjustment Range, 24V Nom. _____ 22.5-29VDC
 Output Current _____ 100A
 Total Regulation, Max. _____ 1.0%
 Holdup Time _____ 20msec.
 Overvoltage Protection _____ 29V

Filtering: Wideband Noise, 20Mhz BW

24V Out, P-P _____ 250mV
 Voice Band Noise _____ <32dBnC
 Current Limit _____ 105% Rated Current
 Efficiency _____ 87%

SAFETY STANDARDS UL 1950, CSA22.2-950, EN60950

STATUS INDICATORS

AC Good _____ Green LED
 DC Good _____ Green LED

ENVIRONMENTAL

Operating Temp. Range _____ 0°C to +70°C
 Output Current Derating _____ 2.5%/°C, 50°C to 70°C
 Storage Temp. Range _____ -40°C to + 85°C
 Humidity _____ 0% to 95%, Non-Condensing
 ESD _____ Bellcore GR-1089-Core and EN61000-4-2
 Cooling _____ Internal Fans

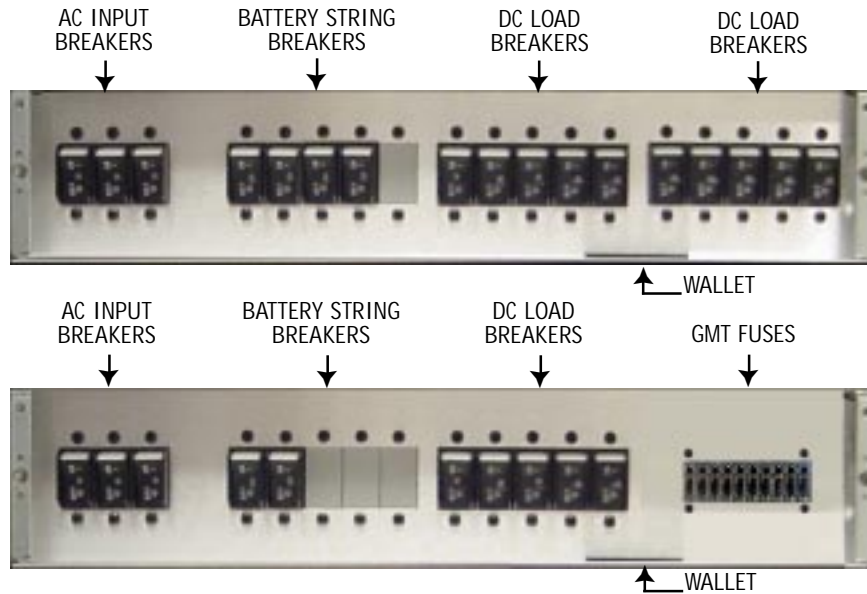
BASIC CONTROLLER (Standard)

This basic controller controls the system rectifier, monitors the system parameters and has alarms for system failures. There are seven red LED alarms which also have Form C relay outputs to indicate a failure: Rectifier-Major, Rectifier-Minor, AC Input, Fuse or Circuit Breaker, Low Voltage Disconnect, Overvoltage and Undervoltage. Four front-panel voltage-set adjustments are for Float Voltage, Battery Overvoltage, Battery Undervoltage and Temperature Compensation. Test points for load voltage and current permit external measurement of these values. Options for this controller include digital meters for continuously monitoring battery voltage and load current and a temperature probe which provides a temperature compensated output from the rectifier.

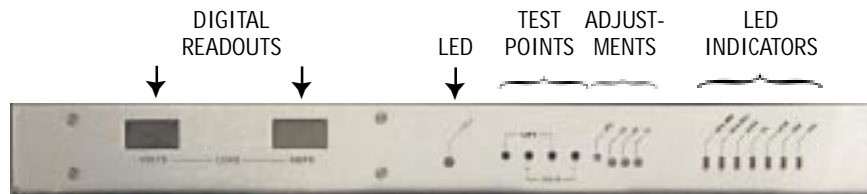
INTELLIGENT CONTROLLER (Option)

This full-featured controller is a control and supervisory unit that communicates directly with the rectifier to monitor and control its function. The digital controller features a keypad and a back-lit 2x24 character alphanumeric display. All system parameters can be controlled by the keypad. Alternatively, the system can be controlled by software from a remote PC by means of a standard RS232 port or via an optional modem or Ethernet LAN. This controller also has an optional temperature probe for temperature compensated output from the rectifier.

DISTRIBUTION SECTION



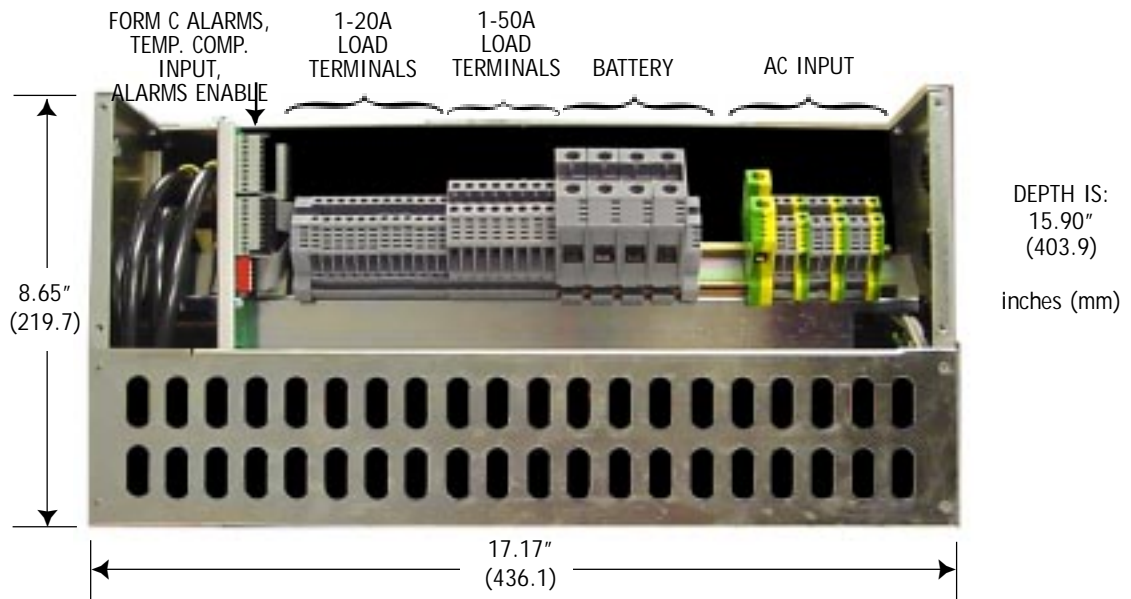
CONTROLLER SECTION
BASIC CONTROLLER



INTELLIGENT CONTROLLER



REAR VIEW



CONFIGURATION GUIDE

SYSTEM MODEL NO.	SYSTEM OUTPUT, MAX.	INPUT, VAC	RECTIFIER MODULES	NO. MODULES ORDERED			
<input checked="" type="checkbox"/> X300-24R/300	+24VDC@300A	170-264VAC	RRS24/100	_____			
Check the System Model No. and indicate the number of Rectifier Modules ordered, including spares. Maximum number of operating rectifier modules per system is three.							
INPUT PROTECTION (OPTION)							
<input type="checkbox"/> Circuit Breakers (1 per Rectifier)							
BATTERY PROTECTION							
<input checked="" type="checkbox"/> 4 Battery String Breakers (standard)							
<input type="checkbox"/> Low-Voltage Battery Disconnect (Option)							
DC DISTRIBUTION (OPTIONS)							
<input type="checkbox"/> OPTION A: Up to 10 Breakers Total							
1. Breaker ___ A (1-50A) 5. Breaker ___ A (1-20A) 9. Breaker ___ A (1-20A)							
2. Breaker ___ A (1-50A) 6. Breaker ___ A (1-20A) 10. Breaker ___ A (1-20A)							
3. Breaker ___ A (1-50A) 7. Breaker ___ A (1-20A)							
4. Breaker ___ A (1-50A) 8. Breaker ___ A (1-20A)							
<input type="checkbox"/> OPTION B: Up to 10 GMT Fuses & Up to 4 Breakers (Total of 10 Max.)							
1. Breaker ___ A (1-50A) 4. Breaker ___ A (1-50A)							
2. Breaker ___ A (1-50A) 5. Breaker ___ A (1-50A)							
3. Breaker ___ A (1-50A) 6-15. 10 Position GMT Fuse Block (80A Max.)							
BREAKERS & FUSES AVAILABLE							
Breakers: 1, 2.5, 5, 10, 15, 20, 25, 30, 40, & 50A (Enter in Option A or B)							
GMT Fuses: Order the number required. Maximum total current is 80A.							
AMPS	BUSSMAN NO.	COLOR	NO. REQ'D	AMPS	BUSSMAN NO.	COLOR	NO. REQ'D
0.5A	GMT- 1/2	Red		3	GMT- 3	Blue	
0.75	GMT- 3/4	Brown		5	GMT- 5	Green	
1	GMT - 1	Gray		10	GMT - 10	Red-White	
1.33	GMT-1 1/3	White		12	GMT- 12	Green-Yel	
2	GMT-2	Orange		0	GMT-Dummy	Orange	
CONTROLLER & OPTIONS							
<input type="checkbox"/> Basic Controller (Standard)							
<input type="checkbox"/> Temperature Compensation (Option)							
<input type="checkbox"/> Digital Voltage & Current Displays (Option)							
<input type="checkbox"/> Intelligent Controller with Keypad, Display and RS232 (Option)							
<input type="checkbox"/> Remote Access Modem (Option)							
<input type="checkbox"/> Remote Access Ethernet LAN (Option)							
<input type="checkbox"/> Temperature Compensation (Option)							
BLANK COVERS (FOR UNUSED RECTIFIER SLOTS)							
Cover Position: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (left to right)							
MOUNTING BRACKETS							
<input type="checkbox"/> 19-Inch <input type="checkbox"/> 23-Inch							

x300-revB-07-26-02.pdf