

# gravitas

ENERGY SYSTEMS



*SABRE Series Inverter Standby System*

[www.unipowertelecom.com](http://www.unipowertelecom.com)

# SABRE Series Inverter Power System

## KEY FEATURES

- Ultimate Power Density
- Hot-Plug N+1 Operation
- Highly Configurable
- Expandable to 24kVA
- “All Master” Dynamic Mechanism
- System Status Display
- Maintenance Bypass
- AC Load Distribution



The Gravitas Energy Systems **SABRE** is an integrated inverter/rectifier power system, including, inverter, rectifier, static transfer switch, controller, and remote communications interface modules.

The modular design and N+1 redundant capability of **SABRE** allows the system to be configured for a variety of complex Telecommunication and Industrial power requirements.

An “All Master” dynamic mechanism prevent interruption to critical loads from one or more inverter/rectifier module failures.

**SABRE**’s static transfer switch provides automatic instantaneous load transfer, ensuring secure uninterrupted operation of sensitive electronic equipment.

The microprocessor controller gives real-time system status via an LCD display and LEDs indicators and also allows settings to be programmed through the front panel. With the Communication Interface Module installed, it is possible control and monitor the system remotely.



## INV1048 / INV1548 INVERTER MODULES

The SABRE Series inverter modules utilize advance power electronic techniques for reduced size, achieving power densities 5.57W/inch<sup>3</sup> for the INV1048 and 8.36W/inch<sup>3</sup> for INV1548.

With dimensions of 1.59"(40.5mm) height x 8.46"(215mm) width x 10.63"(270mm) depth these units install in pairs into a 1U high 19" rack-mountable ETSI 300mm power shelf.



- Pure sine wave
- Hot-swap replacement in shelf
- High efficiency, >89%
- Smart fan speed control
- Wide operation temperature range, -20-70°C
- DSPdesigned
- N+X redundancy system, load sharing < 5%
- Lower audible noise < 55dBA
- High power density
- Emergency Power Off function embedded
- CAN Bus interface embedded
- -48Vdc Telecom system application

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## STS5048 STATIC TRANSFER SWITCH MODULE

The SABRE Series Static Transfer Switch module increases system reliability by automatically switching between the inverter output and the utility supply. The STS5048 can be programmed so that the system operates in a standby backup mode where the utility is the normal source of supply or alternatively the system can be the normal source of supply with automatic switchover to the utility in the event of system failure.

- Universal input range
- Hot-swap replacement in shelf
- Back-feed protection
- Redundant fan design
- Redundant power supply design
- Fast transfer time, typically less than 1/4 cycle
- Wide operation temperature range, -20-70°C
- Lower audible noise <55dBA
- Emergency Power Off function embedded
- No-cross connect
- Optional maintenance bypass switch function
- CAN Bus interface embedded
- Operation Priority Setup of transfer side by setting in Controller Module



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## IFC2000 COMMUNICATIONS INTERFACE MODULE



(shown with SNMP option installed)

The SABRE Series Communications Interface Module provides a variety of means of connecting a computer or network to the system for the purposes of remote monitoring, control or programming. Remote PC based software provides a user friendly GUI interface.

## DSC2048 CONTROLLER MODULE

The SABRE Series Controller, allows the user to monitor real-time system status such as output voltage, output current, alarm status, and also allows system parameters, to quickly be changed with the touch of a few keys on the front panel. With the Communications Interface Module installed remote access can be made with a PC over a variety of interfaces.

- Compact design (IRU Height)
- Dry contact
- RS-232 (with IFC2000)
- RS-485 (with IFC2000)
- SNMP (included in INVR1U2CS-S)
- USB (with IFC2000)
- CAN Bus interface embedded
- Dry contact output is programmable
- Hot swappable
- RealTime Clock embedded
- LCD and LED indicator
- Audible alarm function embedded



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## DPMBS2U MANUAL BYPASS / DISTRIBUTION MODULE

The SABRE Series manual bypass and power distribution module enable the user to manually switch between inverter output or utility output and to override the STS module for maintenance purposes. A mechanical interlock between the DPMBS2U and the STS ensures that AC to the load cannot be inadvertently interrupted.

The DPMBS2U provides two means of distributing AC to the load as standard; as a single bulk output or via eight IEC320 or NEMA outlet sockets with individual Magnetic Circuit Breakers.



- 100A Bypass switch
- Enables hot-swap of STS module
- 100A Bulk output on terminal block
- AC utility can be isolated via MCB
- 100A Master MCB
- 6 x NEMA 5-15 + 2 x NEMA 50-20 outlets (-N)
- 6 x IEC320-C13 + 2 x IEC320-C20 outlets (-E)
- Individual MCBs for each circuit

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## DPAC1U DISTRIBUTION MODULE

For applications where the manual bypass function is not required the DPAC1U provides similar distribution capability to the DPMBS2U; but in only 1U rack height.

- Compact design (IRU Height)
- Bulk Output Terminal Block
- NEMA 5-15 outlets with 15A MCBs (-LN)
- IEC320-C13 outlets with 10A MCBs (-LE)
- 100A overall capacity



## INVERTER MODULE SPECIFICATION

### DC INPUT

Nominal Voltage	48Vdc
Operating Range	40.5Vdc - 58Vdc for 48Vdc System
Input Protection	Reverse Polarity Protection
Psophometric Noise	<1.0mV ITU-T 0.41 (16.66-6000Hz)
Peak to Peak Noise	150mV up to 100MHz

### AC OUTPUT

Output Waveform	Pure sine wave
Output Power	1000 VA/800W - INV1048 & INV1048H
	1500 VA/1200W - INV1548 & INV1548H
Power Factor	0.8 maximum lagging or leading
Nominal Output Voltage	110/115/120Vac - INV1048, INV1548
	208/220/230/240Vac - INV1048H, INV1548H
Output Voltage Variation	Maximum $\pm 2\%$
Frequency	50/60Hz $\pm 0.5\%$ , programmable
Crest Factor	3:1
THD	<3%, linear load
	<5%, non-linear load
Efficiency	>89%
Dynamic response	Maximum $\pm 10\%$
Over load protection	1.5x Inom >20s, 1.25x Inom temperature controlled

## SYSTEM MODULES

MODEL NUMBER	FUNCTIONAL DESCRIPTION
INV1048	Inverter Module - 1000VA/800W, 120VAC/60Hz (programmable to 50Hz using controller)
INV1048H	Inverter Module - 1000VA/800W, 230VAC/50Hz (programmable to 60Hz using controller)
INV1548	Inverter Module - 1500VA/1200W, 120VAC/60Hz (programmable to 50Hz using controller)
INV1548H	Inverter Module - 1500VA/1200W, 230VAC/50Hz (programmable to 60Hz using controller)
INVR1U2	Inverter Shelf - 1RU high x 19"/23" rack-mount
INVR1U2-LN	Inverter Shelf - 1RU high x 19"/23" rack-mount, for standalone use with 2 x NEMA 5-15 outlets
INVR1U2-LE	Inverter Shelf - 1RU high x 19"/23" rack-mount, for standalone use with 2 x IEC60320-C13 outlets
STS5048	Static Transfer Switch Module - 120VAC/230VAC, 50A
DSC2048	System Controller - Provides system monitoring/setup via front panel plus alarm relay outputs
IFC2000	Communications Module - PC communications for DSC2048 over RS232 & USB
INVR1U2CS	Controller/STS/IFC Shelf - 1"U high x 19"/23" rack-mount, holds STS5048, DC2048 & IFC2000
INVR1U2CS-S	Controller/STS/SNMP Shelf - 1"U high x 19"/23" rack-mount, holds STS5048, DC2048 Pre-configured with IFC2000 & SNMP Alarm Trap module (requires DSC2048 for full functionality)
DPMBS2U-N	Manual Bypass/PDU - 2RU high x 19"/23" rack-mount, 100A manual bypass switch, 6 x NEMA 5-15 outlets with 15A MCBs, 2 x NEMA 5-20 outlets with 20A MCBs, bulk output connector, 100A master MCB
DPMBS2U-E	Manual Bypass/PDU - 2RU high x 19"/23" rack-mount, 100A manual bypass switch, 6 x IEC320-C13 outlets with 10A MCBs, 2 x IEC320-C19 outlets with 20A MCBs, bulk output connector, 100A master MCB
DPAC1U-N	PDU Module - 1RU high x 19"/23" rack-mount, 6 x NEMA 5-15 outlets with 15A MCBs, bulk output with 100A MCB
DPAC1U-E	PDU Module - 1RU high x 19"/23" rack-mount, 6 x NEMA 5-15 outlets with 15A MCBs, bulk output with 100A MCB
DPAC1U-B	PDU Module - 1RU high x 19"/23" rack-mount, bulk output with 100A MCB

Detailed specifications for all modules from the SABRE Series can be found in the Installation and Operating Manual, which is available on our WEB site [www.unipowertelecom.com](http://www.unipowertelecom.com)

## ***SABRE Series Inverter Standby System***

**Serving OEMs with:**

**Front-Ends**  
**Single Output Power Supplies**  
**Multiple Output Power Supplies**  
**Customized Power Solutions**



**Serving Communications Customers with:**

**Rectifiers**  
**Distribution Panels**  
**Inverters**  
**DC/DC & Bus Converters**  
**Compact Power Systems**  
**Energy Systems**



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