GREEN CUBES
THE POWER TO PERFORM

Scimitar 1000 & 2000

1kVA & 2kVA Rack-Mount Inverters with Static Transfer Switch

Overview

The SCIMITAR Series are 1kVA & 2kVA sine-wave inverters which are 19" rack-mountable and only 1RU high. They operate from a 12V, 24V or 48VDC source and produce a 115 or 230VAC output.

The tightly regulated low distortion 50 or 60Hz sine wave is produced by DSP controlled power circuits using an advanced high frequency, pulse-width modulation technique which achieves up to 92% efficiency.

A built-in Static Transfer Switch allows connection of a utility or other AC power source which can be switched to the load automatically in the event that the inverter switches off.

In normal operation these inverters isolate the load from wide voltage swings , transients and noise usually present in the AC utility and which can cause equipment reliability problems.

Output voltage and frequency are programmable from the front panel, as well as Baud Rate for the RS232 communications interface which can be used for remote monitoring.

Features

- 19-Inch x 1UR Rack Mounting
- 1000 or 2000 VA Output Capacity
- 115VAC or 230VAC Output
- 50 or 60Hz Low Distortion Sine Wave
- 12, 24 or 48VDC Input
- -20 to +60C Operating Temp. Range
- Static Transfer Switch Built-in
- Programmable Output Voltage and Frequency (Front panel DIP switch)
- Powers Reactive Loads
- LED Status Display
- Relay Alarm Output

Standard Models

Model	Output Power [3]	Output Voltage [1, 2]	Input Voltage	SNMP [5]
INV1210R-N [4]	1kVA @ 0.85PF, 850W @ 1.0PF	115VAC	12VDC	Option
INV2410R-N [4]			24VDC	Option
INV4810R-N [4]			48VDC	Option
INV1210RH-E		230VAC	12VDC	Option
INV2410RH-E			24VDC	Option
INV4810RH-E			48VDC	Option
INV1220R-N [4]	2kVA @ 0.85PF, 1600W @ 1.0PF	115VAC	12VDC	Option
INV2420R-N [4]	2kVA @ 0.85PF, 1700W @ 1.0PF		24VDC	Option
INV4820R-N [4]			48VDC	Option
INV1220RH-E	2kVA @ 0.80 PF, 1600W @ 1 PF	230VAC	12VDC	Option
INV2420RH-E	2kVA @ 0.85 PF, 1700W @ 1 PF		24VDC	Option
INV4820RH-E			48VDC	Option

Notes:
1. 115VAC models are shipped pre-programmed to 60Hz and can be programmed to 100, 110, 115 or 120VAC. 230VAC models are shipped pre-programmed to 50Hz and can be programmed to 200, 220, 230 or 240VAC.
2. 115VAC models have 2 x NEMA 5-15 outlet sockets. 230VAC models have 2 x IEC60320-C13 outlet sockets.
3. If in doubt about load PF (Power Factor) assume that it is 1.0PF.
4. These models are UL Listed, file number E130645.
5. To specify the SNMP option add 'S' to the end of the model number, e.g. INV4810R-NS.

Standard Models

Type	Order Code
Front	775-1525-0000
Rear	775-1526-0000

Note: 19" rack-mount brackets are supplied as standard.

Safety Certification

UL60950-1 (115V units Listed)
CSA22.2, No. 60950-1
EN60950-1

Specifications for 1kVA Models

Model Number	INV1210R-N	INV2410R-N	INV4810R-N	INV1210RH-E	INV2410RH-E	INV4810RH-E
Inverter Section	100-120VAC Models			200-240VAC Models		
Input Voltage Range	10-16VDC	20-32VDC	42-62VDC	10-16VDC	20-32VDC	42-62VDC
Input Current (Max.)	98.8A	48.5A	22.8A	97.7A	47.3A	22.0A
Input Current (NL)	0.75A	0.4A	0.3A	0.7A	0.35A	0.25A
Output Power	1000VA @ ±0.85 power Factor 850W @ Unity Power Factor					
Surge Rating	900W for 1 minute, 950W for 3 seconds, 1000W for 1 second					
Efficiency @ FL	86%	88%	89%	87%	90%	92%
Output Voltage	100/110/115/120VAC ±3% (switch selectable)			200/220/230/240VAC ±3% (switch selectable)		
Output Frequency	50Hz or 60Hz ±0.05% (switch selectable)					
Peak Output Current	15A			9A		
Output Waveform	Pure Sine Wave <3% THD (R Load)					
Protection	Output Overload - Output Short Circuit Input Reverse Polarity (fuse) - Input Undervoltage - Input Overvoltage Over Temperature					
Digital Display	OVP - UVP - OTP - OLP - VAC AMP - WATT - VDC - TEMP - Hz					
Control Port	RS232C Baud Rates - 2400, 4800, 9600, 19200 (switch selectable)					
SNMP (Option)	Operates in conjunction with NetAgent UPS SNMP Agent					

STS Section (By-Pass)		
AC Input Range	90 - 130VAC (110VAC nominal)	180-260VAC (230VAC nominal)
Frequency	47 - 63Hz	
Transfer Time	4 - 6ms	
Alarm Relay	Form-C dry contacts, indicates presence of AC Utility supply (NOTE: Not suitable for direct connection to SELV circuits)	
	THE STS BY-PASS SECTION IS ONLY ACTIVE WHEN A UTILITY OR OTHER AC SOURCE IS CONNECTED. NORMAL OPERATION , WITH OR WITHOUT A UTILITY OR OTHER AC SOURCE IS 'ON-LINE' , WITH THE INVERTER DELIVERING REGULATED AC TO THE OUTLETS.	

General		
Temperature Range	-20°C to +60°C Operating -30°C to +70°C Storage	
MTBF	> 98,000 hrs @ 25°C ambient, nominal output voltage & full load	
Safety	UL60950-1 (Listed - E130645)	EN60950-1
EMC	FCC Class B	EN 55022:1998/ A1:2000/A2:2003(Class B) EN 55024: 1998/ A1:2001/A2:2003 EN 61000-3-2:2000/A2: 2005 EN 61000-3-3:1995/A1: 2001 IEC 61000-4-2:1995/ A1:1998/A2:2000 IEC 61000-4-3:2002/A1:2002 IEC 61000-4-4:2004 IEC 61000-4-5:1995/A1:2000 IEC 61000-4-6:1996/A1:2001 IEC 61000-4-8:1993/A1:2000 IEC 61000-4-11:2004
Dimensions	16.1"(d) x 19"(w) x 1.73"(h) 408.7mm(d) x 484.0mm(w) x 44.0mm(h)	
Mounting	19" rack-mount, 1U high	
Weight	16.5lbs / 7.5Kg	

Specifications for 2kVA Models

Model Number	INV1220R-N	INV2420R-N	INV4820R-N	INV1220RH-E	INV2420RH-E	INV4820RH-E
Inverter Section	100-120VAC Models			200-240VAC Models		
Input Voltage Range	10-16VDC	20-32VDC	42-62VDC	10-16VDC	20-32VDC	42-62VDC
Input Current (Max.)	186.1A	95.6A	45.0A	184.0A	94.5A	44.0A
Input Current (NL)	1.45A	0.7A	0.45A	1.47A	0.8A	0.47A
Output Power	2kVA @ 0.80 PF 1600W @ 1 PF	2kVA @ 0.85 PF 1700W @ 1 PF		2kVA @ 0.80 PF 1600W @ 1 PF	2kVA @ 0.85 PF 1700W @ 1 PF	
Surge Rating	1870W for 1 minute, 2040W for 20 seconds					
Efficiency @ FL	86%	88%	90%	87%	90%	92%
Output Voltage	100/110/115/120VAC ±3% (switch selectable)			200/220/230/240VAC ±3% (switch selectable)		
Output Frequency	50Hz or 60Hz ±0.05% (switch selectable)					
Peak Output Current	25A			11A		
Output Waveform	Pure Sine Wave <3% THD (R Load)					
Protection	Output Overload - Output Short Circuit Input Reverse Polarity (fuse) - Input Undervoltage - Input Overvoltage Over Temperature					
Digital Display	OVP - UVP - OTP - OLP - VAC AMP - WATT - VDC - TEMP - Hz					
Control Port	RS232C Baud Rates - 2400, 4800, 9600, 19200 (switch selectable)					
SNMP (Option)	Operates in conjunction with NetAgent UPS SNMP Agent					

STS Section (By-Pass)		
AC Input Range	90 - 130VAC (110VAC nominal)	180-260VAC (230VAC nominal)
Frequency	47 - 63Hz	
Transfer Time	4 - 6ms	
Alarm Relay	Form-C dry contacts, indicates presence of AC Utility supply (NOTE: Not suitable for direct connection to SELV circuits)	

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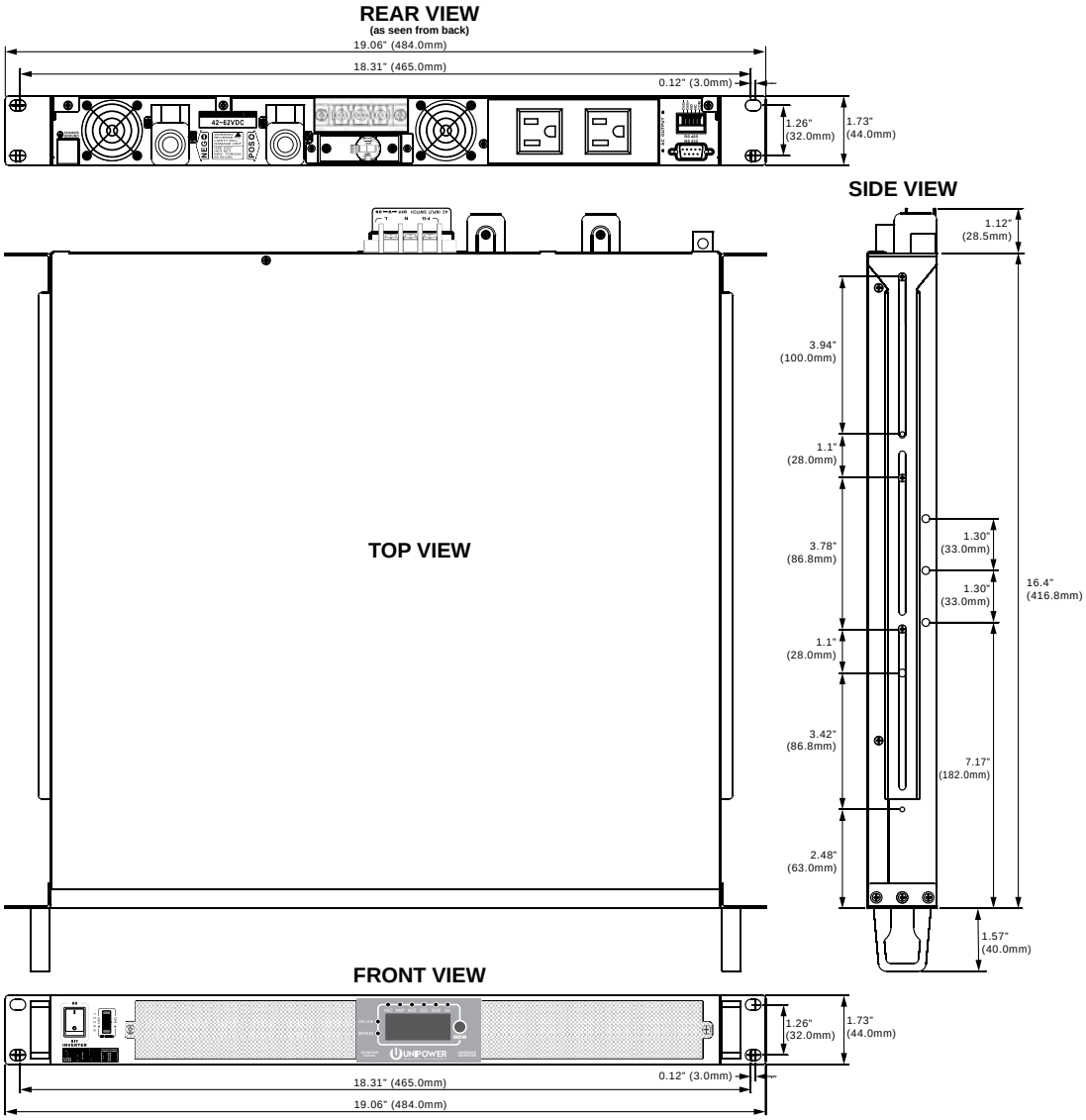
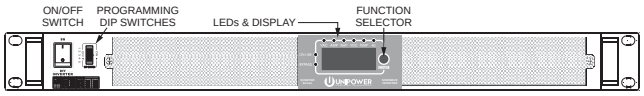
Mounting	19" rack-mount, 1U high	
Weight	19.8lbs / 9Kg	

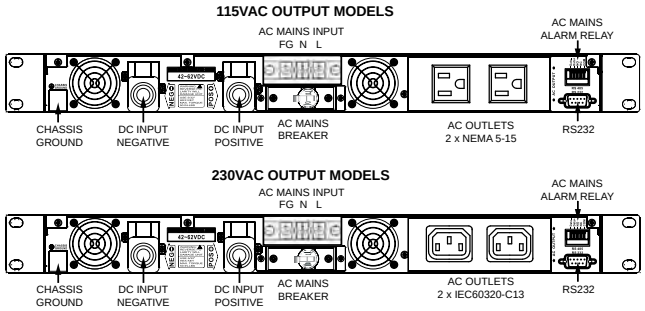
Mechanical Drawing



Front Panel Detail



Rear Panel Detail (standard models)



ABOUT GREEN CUBES TECHNOLOGY

Green Cubes Technology harnesses over 30 years of industry experience to ensure we design, develop and deliver solutions for the most challenging energy needs. We offer battery technology innovation, application design and performance management to drive productivity, scalability and sustainability.

Green Cubes provides complete power systems to the stationary power industry. With the addition of the Guardian and Aspiro Product lines offered under the UNIPOWER brand, these industry proven DC plant systems serve critical applications all around the world. Green Cubes offers complete power solutions including energy storage, power conversion, and seamless integration.

For more information, email **contact@greencubes.com** or visit **greencubes.com**

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