ELECTRICAL

›Inverter Module
DC input:
Nominal voltage: 48Vdc
Operating range: ....40.5Vdc ~ 58Vdc
Input protection:..............Reverse polarity protection
Psophometric
noise voltage: ....≤1.0mV ITU-T O.41 (16.66~6000Hz)

AC output:
Power rating: 1500VA/1200W
Waveform:.......................Pure sine wave
Power factor:...................0.8
Nominal output voltage: ..110/115/120Vac, 208/220/230/240Vac
Voltage variation:.............Max ±2%
Output frequency: 50/60Hz
Crest factor: 3:1
THD:...............................<3%, linear load
　　　　　　　　　　　　　<5%, non-linear load
Efficiency:.......................Min 88%
Isolation AC-enclosure: ...Basic isolation (Pri-Gnd) 2121Vdc/1min
Dynamic response: ....<±10%
Over load protection:.......1.5*Inom >20s
　　　　　　　　　　　　　1.25*Inom temperature controlled

›STS Module
Input:
Over voltage threshold:
• Adjustable between 127 to 138Vac for 120Vac systems,
　the default value is 132Vac
• 233 to 252Vac for 220Vac systems, the default value is 242Vac

Under voltage threshold:
• Adjustable between 100 to 114Vac for 120Vac systems,
　the default value is 108Vac
• 176 to 209Vac for 220Vac systems, the default value is 198Vac

Backfeed protection:.......Comply with safety requirement
Redundant power: ....Startup power-on by priority
Design:............................Source or alternative

Output:
Nominal output voltage: ..Same as utility or the output of
　　　　　　　　　　　　　inverter modules
Permissible
frequency area: ....Max. +/-2.5% (inverter synchronization)
Transfer time: ....Typical ¼ cycle
Rated power: ....50A and 100A options & 208/220/230/240Vac
Operation methods: ....Inverter priority/mains priority

ENVIRONMENTAL

Operating temperature:...-20 to 70°C (-4 to 158°F)
　　　　　　　　　　　　　-5 to 58°C (23 to 122°F) with full performance
Storage temperature:......-40 to 85°C (-40 to 185°F)
Humidity: ....90% RH non-condensing
Audible noise: 55dB

CONTROLLER MODULE

Input:
Nominal voltage: 48Vdc
Operating range: ....30Vdc ~ 72Vdc
Over current protection:　2A fuse
Human interface:
LCD:................................Resolution (line X array)
　　　　　　　　　　　　　4 X 16 charactor
LED indicator: ....3 colored indicators for normal, warning
　　　　　　　　　　　　　and fault display
Alarm: ....Audio alarm when inverter, STS, controller
　　　　　　　　　　　　　module operate abnormally
System parameter:
Baud Rate: ....Setting controller com port baud rate
Keypad tones: ....Setting keypad tones
Time & date: ....Setting current time and date
Setting password: ....Setting system password
Brightness:......................Setting LCD brightness
Default: ....Change current system parameters to
　　　　　　　　　　　　　default value

MECHANICAL

›Inverter Module
Dimensions: ....mm: 270D x 215W x 43.8H
　　　　　　　　　　　　　　　　　　inches: 10.63D x 8.46W x 1.72H
Weight:...3.0kg (6.61lbs)

›STS Module
50A Dimension:....................................mm: 270D x 215W x 43.8H
　　　　　　　　　　　　　　　　　　inches: 10.63D x 8.46W x 1.72H
Weight:...2.0kg (4.4lbs)

100A Dimension:..................................mm: 265D x 215W x 84H
　　　　　　　　　　　　　　　　　　inches: 10.5D x 8.46W x 3.3H
Weight:...4.2kg (9.2lbs)

›Controller Module
Dimensions: ....mm: 277D x 87.9W x 43.5H
　　　　　　　　　　　　　　　　　　inches: 10.9D x 3.46W x 1.71H
Weight:...1.0kg (2.2lbs)

›Hot-swap Chassis
19/23" mounting brackets
Inverter chassis dimension:.................mm: 329.5D x 440W x 44H
　　　　　　　　　　　　　　　　　　inches: 13D x 17.32W x 1.73H
Weight:...2.5kg (5.5lbs)

STS & controller chassis dimension:...mm: 329.5D x 440W x 44H
　　　　　　　　　　　　　　　　　　inches: 13D x 17.32W x 1.73H
Weight:...3.4kg (7.5lbs)

COMMUNICATION INTERFACE

RS-232×1: ....Communicate with PC
RS-485×2: ....Communicate with supervision
Dry contact×5: ....Communicate with external monitor
USB×1:.............................Communicate with PC

AGENCY COMPLIANCE

Safety:...............................EN 60950-1, UL 60950-1, IEC 60950-1,
　　　　　　　　　　　　　CSA C22.2 No. 60950-1
EMC: ....EN 55022:1998
Certifications:...................UL, CE
RoHS:...............................Compliant

For more information visit www.alpha.ca

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INEX System
48V Modular Inverter System

alpha TECHNOLOGIES™
Your Power Solutions Partner

› Versatile modular inverter system provides flexible power for different applications

› Expandable capacity up to 18kVA with N+1 redundancy configuration

› "All master" dynamic mechanism eliminates single point failure to optimize reliability

› Hot-swappable operation allows module addition or removal without powering down

› High power density and high efficiency

The INEX inverter series is an integrated telecommunications power system, including inverter, static switch, LCD display controller and interface modules. With a versatile "building block" design and N+1 redundant configuration, the INEX inverter system satisfies complex telecommunications and industrial power demands, and provides ultimate flexibility for your current and future power requirements.

N+1 parallel redundancy allows power capacity expandable up to 18kVA. INEX "all master" dynamic mechanism automatically shares and re-organizes critical loads to prevent interruption should any inverter module fail. The DSP-microprocessing controller gives real-time system status through a comprehensive LCD display, and allows programmable settings through the display panel. With a communication interface module installed, you can further control and monitor the system remotely.

Power

INVERTER MODULE

The INEX inverter module provides pure sine wave AC power output for critical telecommunications equipment. Adopting N+1 redundancy design, the INEX inverter can operate up to 12 units in parallel. The INEX inverter module is specially designed with a compact size, maximizing power density that can reach up to 8.36W/inch3 for INEX1500. A 1U height design allows the module to be installed onto a standard ETSI 300mm rack. The INEX module is a revolutionary telecom power solution in terms of maximum flexibility and reliability.

- Pure sine wave
- Hot-swap replacement in shelf
- High efficiency >88%
- DSP design for higher system reliability
- Low audible noise <55dBA
- Smart fan speed control
- N+1 redundancy system, load sharing difference <5%
- -48Vdc Telecom system application
- Wide operation temperature range, -20 to 70℃

INV-4810E

STS MODULE

The INEX STS (Static Transfer Switch) module increases system reliability by enabling automatic power transfer between the inverter output and the AC mains. By setting up the priority of operation mode, users can change the system status of "on line mode" or "off line mode". The on line mode will keep the input power provided by the inverter line and when the inverter fails, the line will switch to AC utility line. In off line mode, the system power is always connected to the AC utility line and will switch to inverter power line when AC utility fails. The transfer time is less than a quarter cycle which prevents power interruption. The reliable performance of INEX STS module will provide the maximum protection to the connected telecommunication equipment against possible damage caused by the system power failure.

- Universal input range
- Back-feed protection
- Redundant fan design
- Operation Priority Setup of transfer by setting in Control Module
- Fast transfer time, typically less than ¼ cycle
- Wide operation temperature range, -20 to 70℃
- Lower audible noise <55dBA
- No-cross connect
- Optional maintenance bypass switch function

STS-50A

STS-100A

CONTROLLER MODULE

The INEX controller module allows users to monitor the system status in real time. Its superior design enables users to manage the inverter and STS module status including voltage, current, frequency, capacity and temperature. With a user-friendly interface design, users can easily manage the inverter and STS module settings including voltage, frequency, redundancy (for inverter module), and priority (STS module). The controller module can also record the alarm history which can help to understand the operating status while maintaining the system or making further adjustments to improve system performance.

- CAN Bus protocol for module communication
- Relay contact output for customized alarms
- Hot swappable design
- Embedded real time clock
- Comprehensive LCD & LED for status display
- Audible alarm function

INEX MBSDU

The INEX MBSDU maintenance bypass switch plus AC distribution unit allows user to perform maintenance service to systems without shutdown. The integrated AC distribution manages output power connections with NEMA or IEC outlets and bulk output terminals with breaker protection.

MBSDU-50 NEMA panel
- MBS switch 50A capacity
- 4 x 15A branch breakers with 5-15R NEMA outlets
- 2 x 20A branch breakers with 5-20R T-Blade NEMA outlets
- AC bulk input and output termination
- 2RU height, 19" panel 120Vac

MBSDU-100 panel
- MBS switch 100A capacity
- AC bulk input and output termination
- 2RU height, 19" panel 120Vac

MBSDU-50 IEC panel
- MBS switch 50A capacity
- 4 x 20A branch breakers with 2 x C13 IEC sockets per breaker
- AC bulk input and output termination
- 2RU height, 19" panel 230Vac

NEMA panel being shown

COMMUNICATION INTERFACE

The communication interface includes several options for diverse applications and facilitates the remote managing of the system. The standard ports include relay contacts, RS-232, RS-485 and USB. Relay contacts provide five programmable settings to display customized information. RS-232 & USB ports provide the serial connection to the PC for software monitoring. RS-485 provides a long distance connection for direct monitoring. The communication interface provides powerful monitoring and management solutions to the system manager.

- Relay contacts
- RS-232
- RS-485
- USB

WINPOWER MONITORING SOFTWARE

WinPower is a monitoring software which supports either a stand alone computer or network connected computers.

- Real time monitoring of each module in the inverter system
- Panoramic views of all the related information; utility power, system status and STS status
- Auto search function with any inverter power modules in LAN.
- Password security protection
- Comprehensive installation (and uninstall) process

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