

■ AC Power for
Business-Critical Continuity

LORAIN® IS 21000
Expandable inverter system





Key Features

- **Modular design** permits expansion of the system in 3.5kVA increments
- **Modules are hot-pluggable** and can be added or removed without shutting down the system
- **Control circuitry built into each inverter** improves system reliability by eliminating the need for a central controller
- **Available slot for spare inverter** provides for system redundancy
- **Flexible AC output options** include single breaker and multiple breakers
- **Cabinet is prewired for system expansion** as AC load requirements increase
- **NEBS Level 3** certified

Modular inverter system provides flexibility for a wide range of AC applications.

Product Overview

The LORAIN® IS 21000 Inverter System provides a pure sine wave 120 VAC, 60 Hertz, 21kVA maximum output from a 48 VDC input. The system is composed of a seven-foot cabinet equipped with wiring to support six 3.5kVA inverters and two inverters for redundancy. The DC input to the bay can be configured to accept multiple feeds or a single input feed. A static switch and maintenance bypass switch are provided for ultimate reliability. The system can be configured with various output distribution options to cover the range of loads encountered in data centers, wireless sites or central office environments.

The modular design of the LORAIN® IS 21000 Inverter System permits easy expansion as AC load requirements increase. System configuration can range from as low as 3.5kVA up to 21kVA max. Each inverter module can be field installed live without system interruption.

Application

The LORAIN® IS 21000 Inverter System is ideal for a data center, wireless site or central office environment where flexible expansion capabilities are necessary.

For additional specification, engineering or installation information, specify model LIS48A1, spec. number 584810100 for the system and model LIA352B, spec. number 485502900 for the 3.5kVA inverter module.



LIS48A1, 584810100

21kVA Redundant, 48 VDC In, 120VAC Out, Inverter System Ordering Information

Model Number	Part Number	Description
LIS48A1	584810100	System Cabinet
LIA352B	485502900	Inverter
STM 150	486664300	Transfer Switch



21kVA Redundant, 48 VDC In, 120VAC Out, Inverter System Specifications

Input	Inverter	Transfer Switch	System Cabinet
Operating Voltage Range	40 to 80VDC	95 to 150 VAC RMS	40 to 60VDC
Frequency Range	N/A	57.5 to 62.5 Hertz AC In	see STM 150
Stopping Voltages	40 & 80VDC	N/A	see inverter
Restart Voltages	46 & 78VDC	N/A	see inverter
Maximum Input Current Nom. Load	<93 Amps DC	175 Amps AC	587A @ 21kW Vin = 40VDC
Inrush Current	<1 nom.	N/A	see inverter
Static Transfer Switch	N	Y	Y
Max AC Input Current	N/A	180 Amps AC	175 Amps AC continuous
Output			
Nominal Output Voltage	108 to 125 VAC adj.	95 to 150 VAC RMS	see inverter
Maximum Voltage Interruption	N/A	60 microsec to 5 ms (2msec typ)	see transfer switch
Total Transient Voltage Duration	N/A	60 microsec to 10 ms (3msec typ)	see transfer switch
Output Voltage Tolerance	+/-3% adj nom	see inverter	see inverter
Output Frequency	60Hz	57.5 to 62.5 Hertz	57.5 to 62.5 Hertz
Total Harmonic Distortion (lin. load)	< or equal to 3% nom. power	see inverter	see inverter
Nominal Output Power	3000W @ unity pf 3500VA @ ≤ .86 lag/lead	21000VA max	21000VA max with STM150 24000VA max w/o STM 150
Overload (5 sec max)	6000VA	6kVA x (No. of inverters)	6kVA x (No. of inverters)
Power Factor	0 to 0.86 lg or ld	see inverter	see inverter
Efficiency	>89%	>99% at Full Load	see inverter/STM 150
Environmental			
Operating Temp. °C	-20 to 50	-20 to 50	0 to 40
Storage Temp. °C	-40 to 80	-40 to 80	-40 to 85
Safety Compliance	UL/cUL1950/EN60950	see inverter	UL1778*
NEBS Compliance	see system cabinet	see system cabinet	GR-1089-CORE* and GR-63-CORE*
Dielectric Strength Input/Output	4000VDC	N/A	see inverter
Dielectric Strength Output/Ground	4000VDC	N/A	see inverter
Dielectric Strength Input/Ground	2000VDC	N/A	see inverter
Cooling	Fan	Forced Convection	Forced Convection
General			
Dimensions (H x W x D)	2U x 438 x 438 (mm) 2U x 17.2 x 17.2 (in.)	3U x 438 x 438 (mm) 3U x 17.2 x 17.2 (in.)	2130 x 600 x 600 (mm) 84 x 23.6 x 23.6 (in.)
Approx. Weight	15 kgs 40 lbs.	9 kgs 19.9 lbs.	160 kgs w/o modules 420 lbs. w/o modules

* Compliance verified by a Nationally Recognized Testing Laboratory (NRTL).