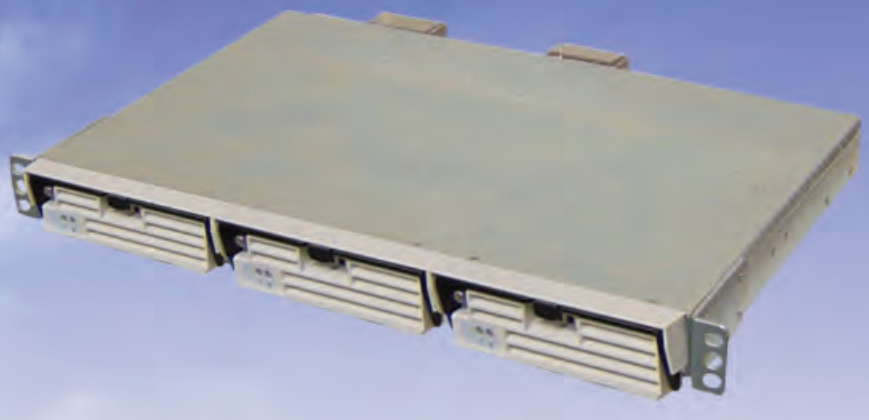
LPE INVERTER SERIES

500VA TO 1500VA IN A 1U PACKAGE!





TDI POWER

DEMANDING APPLICATIONS DEMAND TDI POWER

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The LPE SERIES

...all in a package 1U high!

LPE Hot Swap Inverter Shelf



TDI Power's LPE 500 Series provides the user with true sine wave output, distortion <1% and efficiency >86% ...all in a package 1U high. These inverters are also capable of N+1 redundant, parallel and synchronized operation. Multiple units can be paralleled to provide up to 1500VA per 19-inch equipment-mount shelf, or 1000VA N+1. Multiple shelves can be combined to create higher power solutions.

The LPE series is designed for use in many applications where space is a premium, and true sine wave performance a must! Applications include solar and wind power generators, fuel cell systems & test standards, micro-cell base stations, customer premise equipment, network data centers and utility / facility back-up power systems. When combined with rectifier shelves and batteries, plus TDI Power's static transfer switch capability, the LPE500 series makes the ideal miniature UPS system for almost any application.



FEATURES

- 48V or 24VDC Input
- True Sine Wave Output
- 1U High, 11.7" (297mm) Shelf Depth
- <1% THD (Total Harmonic Distortion)
- RoHS Compliant
- Wide Range Temperature Range:
  -20ºC to +55ºC at Full Power
- Complimentary Static Transfer Switch

Specifications

INPUT

Input Voltage:	24V: nominal (19-30 VDC) 48V: nominal (40.5-60VDC) * Custom Voltages Available
Inrush Current Limited:	ETS 300 132-2, 4.7.1

OUTPUT

Output Voltage:	120 and 230 VAC
Output Frequency:	50/60 Hz
Max Output Power:	400 VA per inverter (24V) 500 VA per inverter (48V)
Output Regulation:	Less than 2.0%
Crest Factor:	Maximum 2.8 : 1
Total Harmonic Distortion:	<1% typical
Efficiency:	86% typical
DC Noise Injection:	dBRNC < 30

PROTECTION

Input and Output Fuse Protected
Input Undervoltage, Input Overvoltage, Output Overload, Output Short Circuit, Overtemperature, Output Overvoltage

FRONT PANEL INDICATORS AND ALARMS

Green LED:	Input Good
Bi-Color Red/Green LED:	Summary Fault / Output Good

ENVIRONMENTAL

Cooling:	Internal, Variable speed fan (front to rear airflow)
Operating Temperature:	-20º to +55ºC
Storage Temperature:	-40º to +65ºC
Humidity:	0-95% non-condensing

AGENCY COMPLIANCE

Safety:	UL60950-1, CE Marked to LVD (EN 60950)
Input EMI:	EN 300 386:2000 (EN 55022:1998 Class B)
Output EMI:	EN 55022 Class A

MECHANICAL

Dimensions:	9.3"x5.6"x1.7" (235mm x 142mm x 43mm)
Weight:	3lbs. (1.36 kg)
Inverter Connector:	FCI Power Blade Hot-Plug Connector (FCI P/N 51935-002) Mates with FCI Part Number 51915-016

The LPE Inverter Shelf
...Specifications



Specifications

MATERIAL & FINISH
Cold Rolled Steel, Zinc Plating

WEIGHT
1U Shelf Empty: 8lbs (3.63kg)

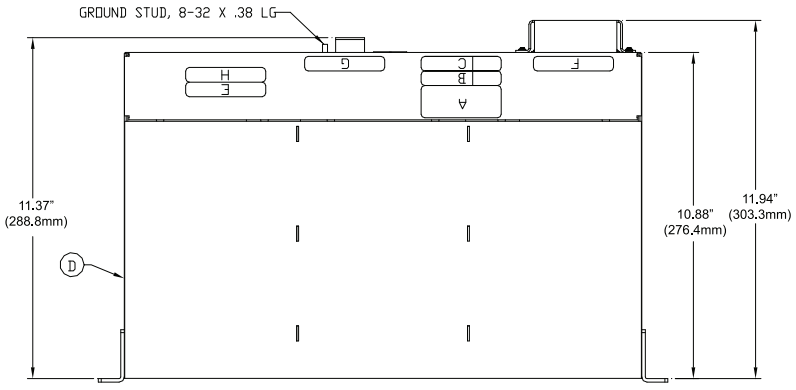
DIMENSIONS
See outline drawing below

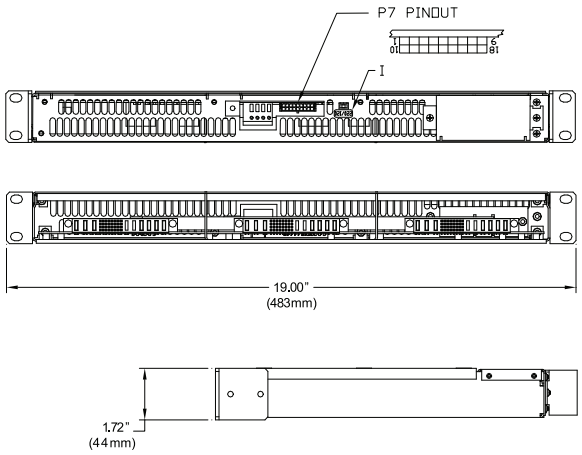
MOUNTING
1U Shelf: Vertical hole spacing 1.25 Inch on Center

INPUT / OUTPUT CONNECTION
DC Input: 2 busbars with #10-32 PEM nuts
AC Output: 2 position terminal block

SIGNALS: Molex Mini Fit Connector (#43045-1800)
Mates with #43025
Open Isolated: Fault Alarm
Input Referenced: Remote Enable/Disable
(accepts dry contact or open collector).

LPE Shelf Outline





Flexible LPE Inverter Solutions...

Stand Alone Modules

The LPE-R and LPE-TS versions provide stand alone solutions. The R version includes 3 IEC C-13 AC outlets and has a 2 position DC Input terminal block. The unit can be rack mounted, or with optional mounting brackets the unit can be mounted virtually anywhere.

The TS version includes a built in transfer switch (<50ms response time) to transfer your load to mains power should the inverter power be lost due to loss of DC input or any other reason. Built in mounting flanges provide flexible fixing options.

LPE R Version

10.7" x 5.6" x 1.5" (272mm x 143mm x 38mm)



LPE TS Version

11.7" x 7.1" x 1.5" (297mm x 180mm x 38mm)



2U Redundant Power System with Built in Hot Swap Transfer Switch

The system simultaneously monitors line voltage and output of the on-board DC-AC inverters. The on-board Static Transfer Switch selects the back-up source within 8mSec and returns to a preferred source automatically when conditions are met.

An on-board manual bypass switch allows the user to perform maintenance safely and conveniently.



FEATURES

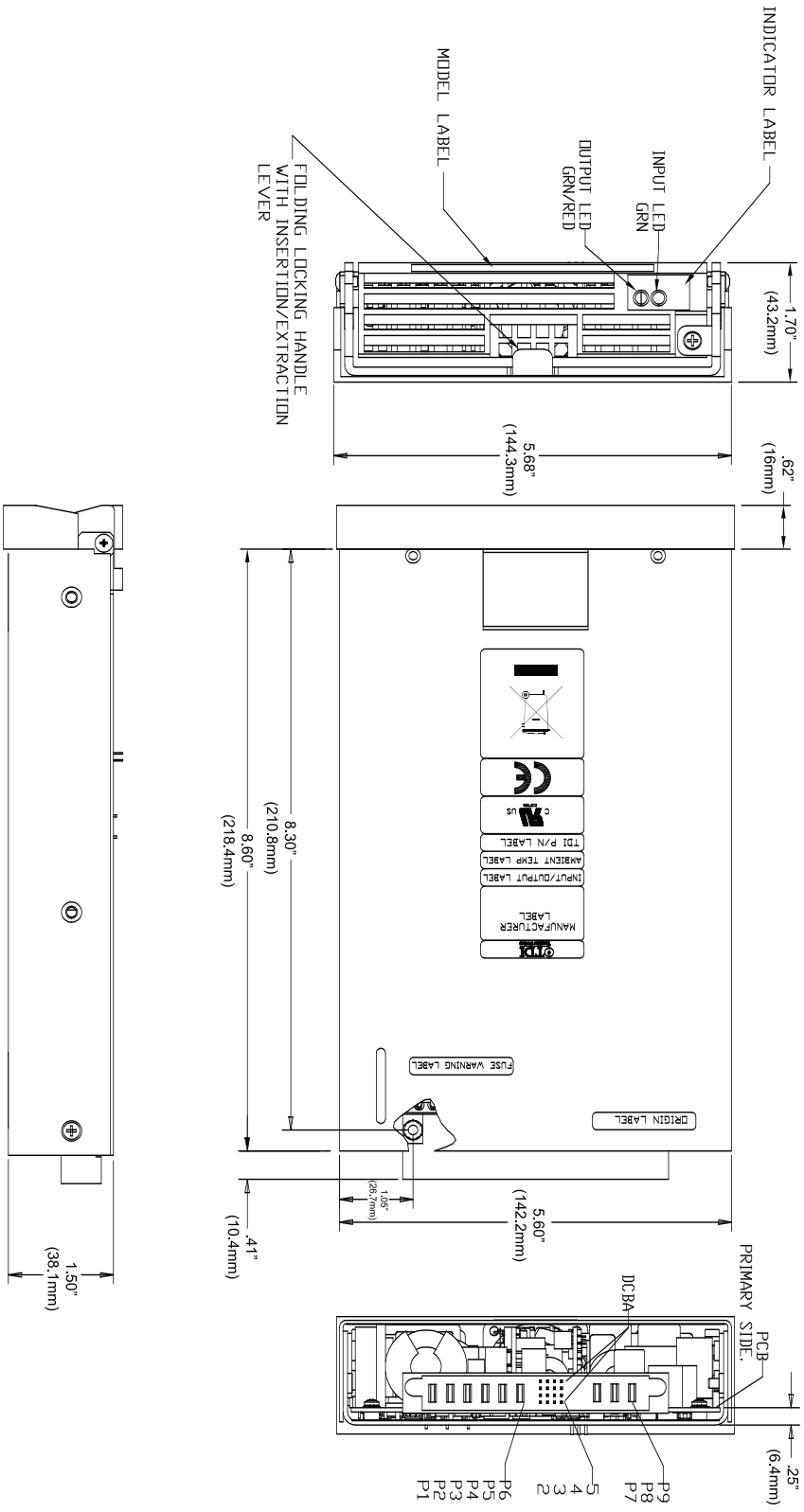
- Incorporates up to four modular 400VA/500VA inverters operating in N+1 parallel redundancy
- Solid state transfer switch connects load to AC line or inverter output
- Maintenance by-pass switch permits servicing system without shutting down host system
- Hot Swap Static Transfer Switching Module
- CANBus programming & monitoring

PRELIMINARY

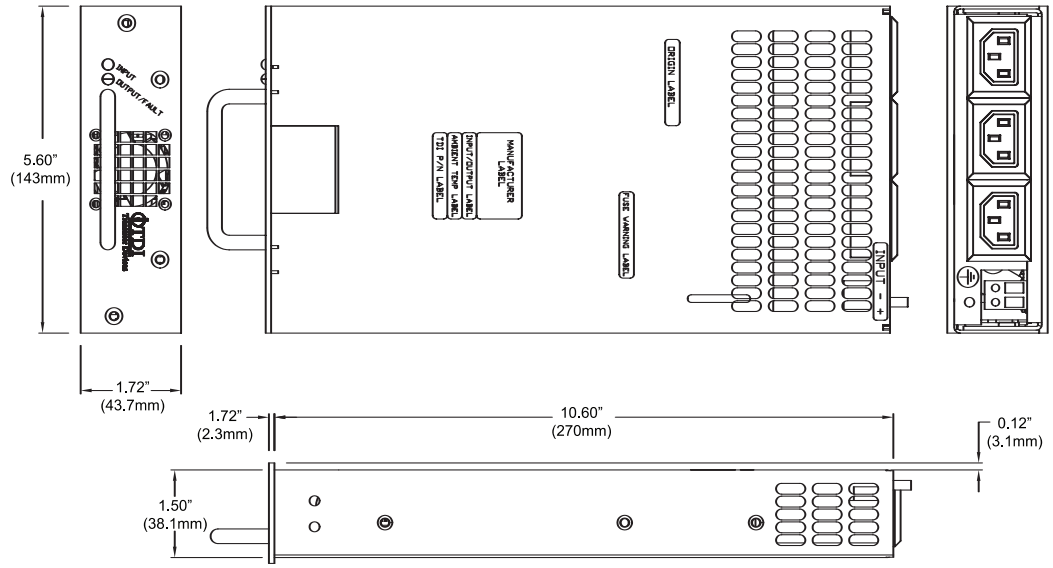
The LPE SERIES

...Outlines

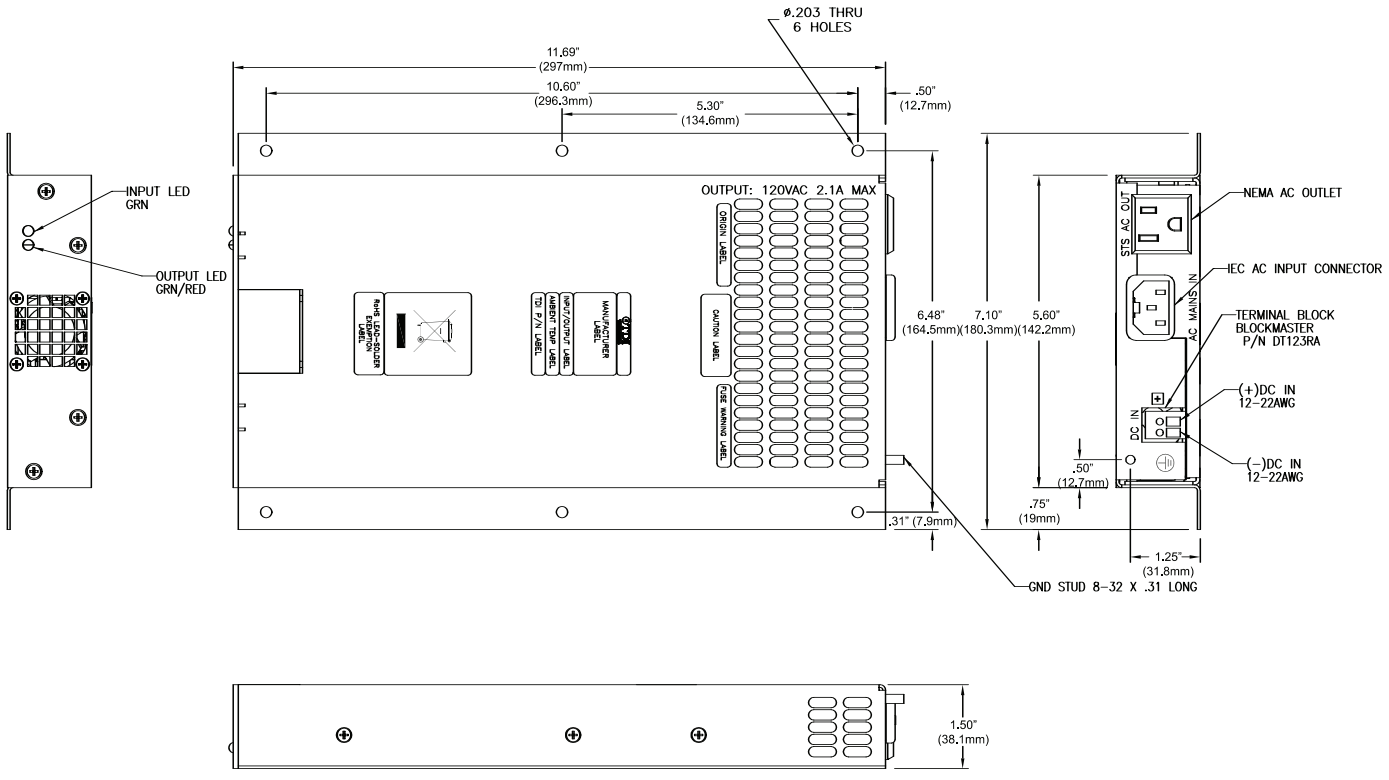
LPE Module Outline



LPE-R Outline



LPE-TS Outline



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Signature LPE Inverter Shelf

400W or 500W Inverters

Features

- **Up to 1,500 Watts**
- **86% Efficient**
- **N+1 Redundant**
- **Hot-Pluggable**
- **Module Alarms**
- **Battery Backed AC**



Uses & Benefits

The Signature LPE Inverter Shelf powers Routers, Switches and any other AC-powered network equipment.

Networks of all types have a growing need for battery-backed AC power; the LPE Inverter Shelf is ideally suited for these applications.

This product can be stacked with other Signature Power System components to create an optimized solution for nearly any application.

Options:
The LPE Inverter Shelf can be used with an Automatic Transfer Switch or Maintenance Bypass Switch. Meters can be installed to monitor the AC Output Voltage, Current and Frequency.

Specifications

INPUT

400W Inverters:	22-29 VDC
500W Inverters:	40-59 VDC

OUTPUT

Voltage:	120 VAC or 220 VAC
Power:	up to 1,500 Watts per Shelf
Efficiency:	86% Typical

ALARMS

Electronic:	DC Input, AC Output, Module Status
Visual Alarm:	LED on Module & Controller

ENVIRONMENTAL

Normal operation	- 20℃ to + 55℃
Storage Temp:	- 40℃ to + 75℃
Humidity:	0-95% non-condensing

MECHANICAL

Weight:	20 Lbs Fully Populated	
Module Dimensions:	Height -	1U
	Width -	17.5”
	Depth -	24”
Mounting:	19” or 23”	

AGENCY COMPLIANCE

EMI:	EN55022, Class A
Safety:	UL60950, IEC60950

Order Information

Part Number	Description	
141607-120	+24/-48 VDC Input Signature LPE Inverter Shelf, 120	VAC Output
141607-220	+24/-48 VDC Input Signature LPE Inverter Shelf, 220	VAC Output

TDI - POWER
36 Newburgh Road, Hackettstown, NJ 07840 • Phone: 908-850-5088 • Fax: 908-850-1607 • www.tdipower.com

LPE-TS Series 24V DC-AC Inverter 400 VA

Features

- The LPE Series of DC-AC Inverters provides one of the cleanest, and most reliable AC power available on the market. The LPE-TS further increases your system's "up-time" by including an built-in transfer switch to transfer your load to mains power should inverter power be lost due to loss of DC Input, Over Temperature, or a myriad of other situations. The LPE-TS provides the dependable AC power you need in very harsh environments.

- The mechanical design allows the inverter to be mounted on any flat surface such as a cabinet door, a side-wall, a filler panel, or wherever your equipment and imagination allow. The standard connections mean you bolt it on, plug it in, and you're ready to go.

- The LPE-TS is the answer for the increased demand for critical ancillary AC equipment running in DC powered cabinets or near other uninterruptible DC sources. In these applications it allows quick and easy access to uninterruptible AC Power and AC mains for maximum availability.



Specifications

Input Voltage: 24 Vdc (19-30 Vdc)
Inrush Current: ETS300 132-2, 4.7.1
Output Voltage: 120 VAC
Output Frequency: 60 Hz
Max Output Power: 400VA
Output Regulation: Less than 2.0%
Crest Factor: Maximum 2.8:1
Total Harmonic Distortion: <1.0%
Efficiency: 86% Typical
DC Noise Injection: dBRNC <30
Protection: Input & Output Fuse Protected, Input Undervoltage, Input Overvoltage, Output Overload, Output Short Circuit, Over temperature

FRONT PANEL INDICATORS AND ALARMS
Green LED: Input Good
Bi-Color Red/Green LED: Summary Fault / Output Good

ENVIRONMENTAL
Cooling: Internal, Variable speed fan (front to rear airflow)
Operating Temperature: -20°C to +55°C
Storage Temperature: -40°C to +65°C
Humidity: 0-95%, non-condensing

AGENCY COMPLIANCE
Safety: UL60950-1, CE Marked to LVD (EN60950-1)
Input EMI: EN300 386:2000 (EN55022:1998 Class A)
Output EMI: EN55022 Class A

MECHANICAL
Dimensions: 11.7 x 7.1 x 1.5 (297mm x 180mm x 38mm)
Weight: 3 lbs. (1.36kg)
DC Input Connection: 2 position terminal block
AC Output Connection: 3 x IEC C-13 receptacles
Ground Connection: 8-32 threaded stud
Transfer Time: 50 mSec to AC mains

Ordering Information

Part no.	Description
LPE400-24-120-TS	400 VA Inverter, 24 Vdc Input, 120 VAC, 60 Hz, Output, Auto Transfer Switch

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LPE-R Series 48V DC-AC Inverter 500 VA



Features

- The LPE-R Series provides the user with true sine wave output, distortion <1% and high efficiency … all in a stand alone package 1U high! The LPE-R fits in your existing space -- eliminating the need for complex system changes or added hardware to host the inverter -- to provide AC power any place where DC already exists.
- The LPE-R also provides three standard IEC receptacles, so it's a breeze to connect. With an internal variable speed fan, just connect DC power, plug in your equipment, and you're ready to go!
- The LPE-R Series is designed for use in any application where space is a premium, and true sine wave performance is a must!
- This datasheet represents a standard unit. Our experienced Engineering team is ready to tailor a solution to the unique requirements of your system.

Specifications

Input Voltage: 48 Vdc (40.5-60 Vdc)
Inrush Current: ETS300 132-2, 4.7.1
Output Voltage: 120VAC
Output Frequency: 60 Hz
Max Output Power: 500VA
Output Regulation: Less than 2.0%
Crest Factor: Maximum 2.8:1
Total Harmonic Distortion: <1.0%
Efficiency: 86% Typical
DC Noise Injection: dBRNC <30
Protection: Input & Output Fuse Protected, Input Undervoltage, Input Overvoltage, Output Overload, Output Short Circuit, Over temperature

FRONT PANEL INDICATORS AND ALARMS
Green LED: Input Good
Bi-Color Red/Green LED: Summary Fault / Output Good

ENVIRONMENTAL
Cooling: Internal, Variable speed fan (front to rear airflow)
Operating Temperature: -20°C to +55°C
Storage Temperature: -40°C to +65°C
Humidity: 0-95%, non-condensing

AGENCY COMPLIANCE
Safety: UL60950-1, CE Marked to LVD (EN60950-1)
Input EMI: EN300 386:2000 (EN55022:1998 Class A)
Output EMI: EN55022 Class A

MECHANICAL
Dimensions: 10.7 x 5.6 x 1.5 (272mm x 143mm x 38mm)
Weight: 3 lbs. (1.36kg)
DC Input Connection: 2 position terminal block
AC Output Connection: 3 x IEC C-13 receptacles
Ground Connection: 8-32 threaded stud

Ordering Information

Part no.	Description
LPE500-48-120-R	500 VA Inverter, 48 Vdc Input, 120 VAC, 60 Hz, Output

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LPE-TS Series 48V DC-AC Inverter 500 VA

Features

- The LPE Series of DC-AC Inverters provides one of the cleanest, and most reliable AC power available on the market. The LPE-TS further increases your system's "up-time" by including an built-in transfer switch to transfer your load to mains power should inverter power be lost due to loss of DC Input, Over Temperature, or a myriad of other situations. The LPE-TS provides the dependable AC power you need in very harsh environments.

- The mechanical design allows the inverter to be mounted on any flat surface such as a cabinet door, a side-wall, a filler panel, or wherever your equipment and imagination allow. The standard connections mean you bolt it on, plug it in, and you're ready to go.

- The LPE-TS is the answer for the increased demand for critical ancillary AC equipment running in DC powered cabinets or near other uninterruptible DC sources. In these applications it allows quick and easy access to uninterruptible AC Power and AC mains for maximum availability.



Specifications

Input Voltage: 48 Vdc (40.5-60 Vdc)
Inrush Current: ETS300 132-2, 4.7.1
Output Voltage: 120 VAC
Output Frequency: 60 Hz
Max Output Power: 500VA
Output Regulation: Less than 2.0%
Crest Factor: Maximum 2.8:1
Total Harmonic Distortion: <1.0%
Efficiency: 86% Typical
DC Noise Injection: dBRNC <30
Protection: Input & Output Fuse Protected, Input Undervoltage, Input Overvoltage, Output Overload, Output Short Circuit, Over temperature

FRONT PANEL INDICATORS AND ALARMS
Green LED: Input Good
Bi-Color Red/Green LED: Summary Fault / Output Good

ENVIRONMENTAL
Cooling: Internal, Variable speed fan (front to rear airflow)
Operating Temperature: -20°C to +55°C
Storage Temperature: -40°C to +65°C
Humidity: 0-95%, non-condensing

AGENCY COMPLIANCE
Safety: UL60950-1, CE Marked to LVD (EN60950-1)
Input EMI: EN300 386:2000 (EN55022:1998 Class A)
Output EMI: EN55022 Class A

MECHANICAL
Dimensions: 11.7 x 7.1 x 1.5 (297mm x 180mm x 38mm)
Weight: 3 lbs. (1.36kg)
DC Input Connection: 2 position terminal block
AC Output Connection: 3 x IEC C-13 receptacles
Ground Connection: 8-32 threaded stud
Transfer Time: 50 mSec to AC mains

Ordering Information

Part no.	Description
LPE500-48-120-TS	500 VA Inverter, 48 Vdc Input, 120 VAC, 60 Hz, Output, Auto Transfer Switch

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