



LCE INVERTER SYSTEMS

1 TO 36 KVA

OVERVIEW

Transistor Devices LCE inverter system is designed for modularity and high reliability. With a wide range of standard modules, cabinets, bus bar configurations, shelves and input/output components and modules, the inverter system offers flexibility in design and room for growing power needs. At the heart of the system is the LCE inverter module. The LCE delivers a near perfect sinewave from a variety of DC sources. These low cost, solid state inverters utilize high frequency pulse width modulation technology to “synthesize” a precision regulated sinusoidal output with less than 1% Total Harmonic Distortion (THD).



12 KVA



36KVA

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www.tdipower.com

FEATURES

- Hot Bus Plug-In Modules
- Failsafe-No Single Point Failure
- Powers Any Loads
- Single or Three Phase
- Full Power from -20 to +55°C
- Breaker Protected Shelves Available
- Metering and Alarm Panel with Integral Input/Output
- Static Switch Available
- Custom Input & Output Voltages
- Standard Off-the-Shelf Configurations
- Remote Communication Options
- High Reliability
- True Redundant Design
- Fully Scaleable

APPLICATIONS

- Backup AC Power
- Central Office
- Data Center
- Wireless Telecom
- Fuel Cell/Alternate Energy
- Industrial Railway
- Utility Substation

INVERTER CABINET SYSTEM SPECIFICATIONS

Cabinet Series	IC12	IC18	IC24	IC36
Power Rating	12kVA/12kW	18kVA/18kW	24kVA/24kW	36kVA/36kW
Input Voltage	19-30VDC	38-57VDC Inrush Current Controlled	19-30VDC	38-57VDC
Output Voltage	120VAC/60Hz or 220VAC/50Hz	120VAC/60Hz or 220VAC/50Hz	1120VAC/60Hz or 220VAC/50Hz	120VAC/60Hz or 220VAC/50Hz
DC Content for 120VAC Output	10mV Max.	10mV Max.	10mV Max.	10mV Max.
DC Content for 220VAC Output	20mV Max.	20mV Max.	20mV Max.	20mV Max.
Size (External Dimensions)	19.0"W x 59"H x 25"D (483mm x 1499mm x 635mm)	19.0"W x 59"H x 25"D (483mm x 1499mm x 635mm)	19.0"W x 85"H x 25"D (483mm x 2159mm x 635mm)	19.0"W x 85"H x 25"D (483mm x 2159mm x 635mm)
Weight	~450 lbs (204.1kg)	~450 (204.1kg)	~750 lbs (340.2kg)	~750 lbs (340.2kg)

OUTPUT

Waveform: Sinusoidal

THD: <1% Typical

Voltage: 120VAC/60Hz or 220VAC/50Hz

Frequency: better than 0.01% stability

Fully Isolated: Input to Output

Peak Output Current into Nonlinear Load:

36Apk Max. for 120VAC per Module

18Apk Max. for 220VAC per Module

OUTPUT POWER FACTOR:

Linear – Powers all loads with 0 leading to 0 lagging PF.

Nonlinear – Powers rectified loads with up to 2.8 Crest Factor at full load.

Output Short Circuit

ENVIRONMENTAL

Cooling: Convection

Operating Temp: -20°C to +55°C

Storage Temp: -50°C to +85°C

Humidity: 0-100% non-condensing

Safety Agency: pending

RELIABILITY

MTBF: >1,000,000 hours per module (Demonstrated)

MECHANICAL

Terminations: Integral AC Terminal Block and DC Bus Bar for standard Lugs

TDI

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LCE SERIES INVERTER MODULE



FEATURES

- Hot Bus Plug-In
- Powers any Load from ZeroLad to Zero Lead
- N+1 Parallel Redundant Operation
- High Demonstrated MTBF (>800,000 Hours)

SPECIFICATIONS

- Input Voltage:** Nominal 24VDC (19 to 30VDC)
Nominal 48VDC (38 to 56VDC)
Nominal 367VDC (200 to 400VDC)
- Output Voltage:** 120 or 220VAC Standard
(50 or 60Hz)
- Power/kVA:** 24VDC/1.0kVA
48VDC/1.5kVA
- Surge Rating:** 4kVA for 10 Sec.
- THD:** <1%
- Efficiency:** 83% Min. Half Load to Full Load
- Operating Temp:** -20° to +55°C

LCE SERIES INVERTER SHELF



FEATURES

- 19" Rack/Cabinet Mount
- Integrated Shelf to Shelf Bus Bar Connections
- Input Breaker Protected Versions Available (-B Option)
- Stand alone Operation

SPECIFICATIONS

- Input Voltage:** Nominal 48VDC (38 to 56VDC)
Nominal 24VDC (19 to 30VDC)
- Output Voltage:** 120 or 220VAC Standard
(50 or 60Hz)
- Power/kVA:** 24VDC/3.0kVA fully loaded
48VDC/4.5kVA fully loaded
- Dimensions:** 19"W x 5.25"H x 19"D

SYSTEM AC & DC MONITORING & DISTRIBUTION (iMAP)



FEATURES

- Local Status Display for Voltage, Current, Fault Indication
- Integrated DC Input & AC Output Terminations
- Standard 19-inch rack mount installs directly with IC Series Inverter Cabinets

- Multiple Standard Lug Configurations
- AC Voltage & Current Monitoring
- DC Voltage & Current Monitoring
- Visual Fault Indications
- Digital Display
- Form 1-C Alarm Contact Outputs

AUTOMATIC TRANSFER SWITCH & MAINTENANCE BYPASS (ATS)



FEATURES

- Stand-By Applications
- Parallel Inverter Systems with AC Mains
- Visual Displays
- Selectable Alternate or Primary Source
- Remote Communication

SPECIFICATIONS

- Input Voltage:** 120VAC (95-150VAC),
220VAC (180-275VAC)
- Input Frequency:** 50 or 60Hz
- Maximum Output Current:** 150A Natural Cooling
180A Forced Cooling
- Maximum Voltage Interruption:** 60usec to 5msec
- Total Transient Voltage Duration:** 60usec to 10msec
- Temperature:** 20 to 50°C
- MTBF:** >400,000 Hours

MAINTENANCE BYPASS SWITCH (MBP)



FEATURES

- Keeps critical AC loads running during system maintenance
- Manual power transfer between AC sources
- Wall mount design for multiple applications
- Works with any TDI inverter system
- Field selectable AC voltage

SPECIFICATIONS

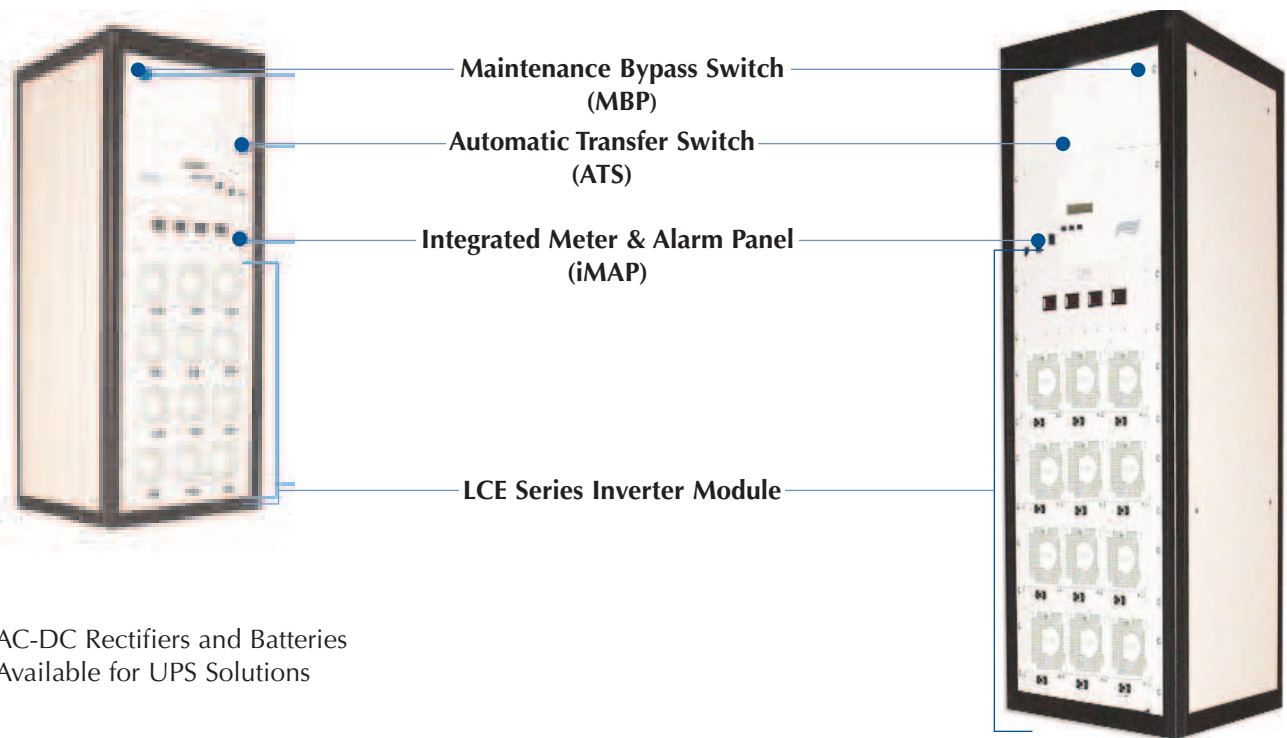
- Voltage:** 120 /220 VAC
- Power:** up to 36kW
- Current:** 400A RMS Steady State
- Frequency:** 50 to 60Hz +/- 1%
- Temperature:** -20 to 50°C

BUILD THE SYSTEM YOU NEED

LCE SERIES INVERTER CABINET CONFIGURATION CHART	
ICXX-XXX-AAA-P-M-B-S	
Product Family (ICXX-XXX): IC36-048 =36kVA Input/48VDC IC18-048 =18kVA Input/48VDC IC24-024 =24kVA Input/24VDC IC12-024 =12kVA Input/24VDC	Automatic Transfer Switch (S): 1=Automatic Transfer Switch 0=No Automatic Transfer Switch
AC Output (AAA): 120=120VAC 220=120VAC ###=XXXVAC	Bypass Switch (B): 1=Maintenance Bypass Switch 0=No Maintenance Bypass Switch
Output Phase (P) / Frequency: 1=Single ϕ / 60Hz 2=Single ϕ / 60Hz with DC Breakers 3=Three ϕ / 60Hz 4=Three ϕ / 60Hz with DC Breakers 5=Single ϕ / 50Hz 6=Single ϕ / 50Hz with DC Breakers 7=Three ϕ / 50Hz 7=Three ϕ / 50Hz with DC Breakers	Monitor & Alarm (M): 1=Meter Alarm Panel w/Integrated I/O Connections (IMAP) 0=No Alarm Panel
<p>* Inverters must be ordered separately. Custom configurations are available</p>	

IC12-12kVA systems/ IC18-18kVA Systems
 • Scalable from 1.0 kVA to 18kVA

IC24-24kVA systems/ IC136-136VA Systems
 • Scalable from 1.0 kVA to 36kVA



* AC-DC Rectifiers and Batteries
 Available for UPS Solutions