Output Power Factor 1

IN-DSP SERIES
30 KVA/KW - 300 KVA/KW
THREE PHASE

- Modular Design
- Redundant UPS System

EN50091 (1,2,3); IEC62040 (1,2,3); IEC/EN/AS60950; (IEC/EN/AS60146 series); IEC/EN/ AS61000 series and 60950

COMPUTER POWER®

The Next Level in Digital Convergence®

Modular UPS System
30 KVA/KW up to 300 KVA/KW
Models For: 380 / 400 / 415 VAC / 60 Hz

- **The UPS that grows with your business.**
  (Grows up to 900 KVA/KW with Three System Cabinets)
- **Ideal for Industrial Applications**

Features:

- Modular Design N+X.
- Hot Swappable Plug-In Electronic Module.
- True On-Line.
- Parallel Capability.
- Redundant Capability.
- Double-conversion Three Level Inverter Topology.
- Green and clean power.
- High efficiency.
- High Input power factor (>0.99).
- Low input THDi (<3%).
- Strong load adaptability for linear and non linear load.
- Intelligent module and system protection design.
- Very low noise system design.
- Double DSP controller for individual power module.
- Digital control for all parts including rectifier, inverter, charger and discharger.
- IGBT modules are applied in the power module.
- Battery cold start function.
- Inbuilt switch for cabinet input, output and maintenance connection.
- Large touch screen LCD with plenty information.
- Independent charger for batteries, intelligent battery management system.
- Digital paralleling technology, very low circulating current between modules.
- Totally front access, top and bottom cable connection.
- Each individual module is configured with independent controller, to avoid single point of failure risk.
- Friendly generator interface.
- Dual Input.
- Smart Sleep function.

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Modular UPS System
Grows from 30 KVA/KW up to 300 KVA/KW

With 3 System Cabinets grows up to 900 KVA/KW

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Computer Power is a modular and online double conversion UPS designed for sensitive equipments. The power rating ranges from 30 KVA to 300 KVA which delivers the best combination of reliability, functionality, flexibility and features, hot-swappable and flexibility at a competitive price. It is designed specially for datacenters, computer systems or critical equipments. As the result of state of art design, this innovative and reliable power system absolutely meets the market requirements.

Computer Power modular UPS combines latest IGBT three-level technology together with DSP control. Along with high input power factor, low THDi and high system efficiency, this product achieves very high adaptability for all kinds of loads. The modular design ensures reliable and trouble free operation for critical loads. Power expansion is very easy to achieve by adding modules to the system to reach 300 KVA power in a single frame. It is possible to connect three frames in parallel in order to reach maximum 900 KVA.

Modular Construction Design

Each power module is designed to be hot swappable which makes the power expansion and system maintenance easier. Each module is independently self controlled, thus avoiding single point failure risk. If any module fails or disconnects, the system keeps operating and supplying power without interruption. It ensures a high level of reliability and protection.

Intelligent Battery Management

Each UPS module is built in with a super charger and the charging power reaches 6000 W.
With 10 installed UPS modules, the total charging power rating is 60 KW. The charger is controlled by DSP with intelligent digital arithmetic to prolong the lifespan of the batteries.

Easy Operation and Installation

This products offers flexibility during installation time. Consequently, it is very easy to maintain and control which provides the highest reliability and best protection for supplying power. With the large touch screen LCD panel, the user can easily access information of the power modules and system.

Intelligent Protection System

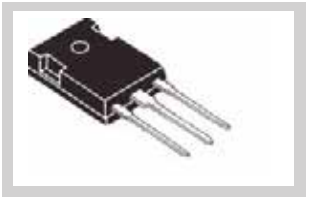
All the power modules and the system are protected simultaneously by hardware and software. All kinds of protection functions are included: under and over current and voltage, temperature, overload and short circuit. The reliability of the power module and the system reaches an incredible high level through all of these technologies.

High Reliability Design

The Integrated IGBT Modules used in the Electronic Power Modules of the IN-DSP product line, (shown in drawing), is a great technical improvement compared with Discrete Chips (shown in the drawing), because of the component reliability and manufacture consistency. Among other technical benefits, important Low-Loss integrated three-level IGBTs modules help increase system efficiency, plus reliability is increased due to lower temperatures on IGBTs and their heatsinks.

In the case of Discrete IGBTs, more chips need to be paralleled to obtain high current ratings. In those cases, Clamped Diodes have to be placed around IGBTs which brings risks, due to voltage/current stresses and difficulty perils in the manufacturing process.

Integrated IGBT module used in IN-DSP Series Modular UPS



Discrete IGBT chip used in other modular UPSs

Optional Components

- SNMP / Web communication card
- Battery temperature compensation module
- Dust-Proof net
- Parallel kit for second cabinet
- ModBus

DSP Controlled IGBT Three Level Topology:

DSP controlled IGBT Three Level inverter provides the highest quality output power, ensures the cleanest output voltage sinewave to protect connected loads. It also produces the highest efficiency in the market.

High Efficiency and Low Cost of Ownership:

Computer Power IN-DSP Series UPS consumes less energy to supply the loads with its high efficiency up to 96%.

Thanks to this high efficiency rate, the percentage of energy that is produced as heat becomes minimum. As a result power loss becomes very low and users can reduce their electricity consumption and air conditioning requirement.

Also with reduced THDi <3% and 0,99 power factor correction Computer Power IN-DSP UPS enables to save money by reducing generator size requirements.

Reverse Energy Tolerance for Regenerative Loads:

The Computer Power IN-DSP Series UPS can be used with regenerative loads, such as asynchronous motors. The regenerative loads pumps the energy back to mains. Traditional UPS systems burn this feedback energy. This causes lower efficiency. Computer Power IN-DSP Series UPS with IGBT rectifier can absorb intermittent load generated power. Additionally, this reverse power tolerance permits important system operations like closed transitions transfers of the UPS load directly to an engine generator source.

Advanced Battery Management:

Computer Power IN-DSP Series UPS guarantees enhanced battery life and maximizes battery performance, life, and reliability through intelligent, precision charging.

Temperature Compensated Battery Charging monitors external and internal battery temperature changes and adjusts the charge current rate accordingly. The UPS adjusts charge parameters automatically when the battery capacity is entered through LCD panel.

Advanced battery management provides real-time information about battery capacity and back up time. This information can be seen from LCD panel. The UPS tests the batteries at adjustable periods by users without switching off the system.

The tests can be done automatically or manually. Computer Power IN-DSP Series UPS with its hot-swap feature allows battery charge without disconnecting the unit.

With Advanced battery management capability of Computer Power IN-DSP Series UPS you can have confidence that your batteries are managed for maximum performance and life time and are always ready for critical role they play in your power protection system.

Static & Manual Maintenance Bypass:

Computer Power IN-DSP Series includes standard static and manual bypass.

Static bypass provides safe transfer to mains if the UPS is overloaded or develops a fault condition. Where EMI filters are used to help neutralize spikes and electrical noise, the load may be routed through these on bypass to provide further protection.

Manual bypass function is intended for maintenance work. A manually controlled, maintenance bypass supply is incorporated into the Computer Power UPS design. It is used to power down the UPS without interrupting the power to the load. It is thus possible to work in a faulty UPS in complete safety.

Modular UPS System:

TOUCH SCREEN DISPLAY

MONITORING MODULE

In the Standard Battery Cabinet the size and Amp/Hour of the batteries are configured in accordance to the required back up time, in single or preferably multiple strings.

Parallel and Redundant Operation:

Computer Power IN-DSP Series features easy and simple scalability and redundancy. It is ready to grow with your business demands.

Power increase: The UPSs can be connected in parallel to increase the total capacity of the system up to 900 KVA/KW with three system cabinets.

Redundancy: In redundant operation N number of units supply the load and one more unit (N+1) remains as redundant. All units in this system share the loads equally. If one of the UPSs goes out of order because of failure or maintenance, the remaining UPS modules continue feeding the critical loads without interruption.

Advanced User Interface:

Computer Power IN-DSP Series UPS has a large and user friendly graphic display which provides operating information. Thanks to this user friendly advanced display, all parameters can be monitored and controlled.

TOUCH SCREEN DISPLAY

Provides graphical and text based information of alarms, status data, instructions that users can have a more friendly and safer operation.

Single or Dual Input Operation:

Computer Power IN-DSP Series can operate for either single or dual power inputs. Dual input feature increases availability by allowing the UPS to be connected to two different power sources. In dual configuration, the rectifier is fed from utility (main source), and the static and maintenance bypass is fed from a secondary source.

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TECHNICAL SPECIFICATIONS

IN-DSP SERIES	EACH CABINET SYSTEM GROWS FROM 30 KVA/KW UP TO 300 KVA/KW
Phase	Three Phase + N + G , IN / Three Phase + N + G , OUT
Capacity	Grows from 30 to 300 KVA/KW
Electronic Power Modules	30 KVA/KW
Power Factor	Unity (1)
INPUT	
Input Nominal Voltage	380 / 400 / 415 VAC (line to line) 3P+N+G
Input Voltage Range	-20 % to +25%
Input Power Factor	At Full Load > 0.99
Input Frequency Range	40 - 70 Hz
Rectifier	PWM IGBT Technology PFC
Total Harmonic Distortion (THDi)	< 3%
OUTPUT	
Output Nominal Voltage	220/230/240 VAC (L-N) ; 380/400/415 VAC (L-L) ± 1 % (at balanced load)
Output Frequency	50 - 60 Hz
Power Factor	1
Total Harmonic Distortion (THDv)	Linear Load < 1 % ; Non-linear Load < 3 %
Crest Factor (CF)	3:1
Efficiency	96% ; (ECO Mode 99%)
Transfer Time	Zero
Inverter	Pure Sinewave Three Level Topology
Overload Capacity	At 105% Long Time Operation, at 110% Load 60 min, 125% Load 10 min, at 150% Load 1 min; > 150% Load 200ms.
BATTERY	
Quantity (12 VDC VRLA)	2 x 20 per string
Type of Battery	12VDC Sealed Lead Acid Batteries
Nominal Voltage	± 240VDC
Charge Power	0-20% of the Device Power (Selectable)
Backup Time	Standard 10 minutes / Other configurations available
COMMUNICATION & MANAGEMENT	
Communication Ports	RS-232, RS-485, SNMP, EPO, Generator Interface, ModBus (opt)
Compatibility	Supports Windows® 2000/2003/XP/Vista/2008, Windows®7, Linux, Unix, and MAC
Display	Graphic LCD + LED, Color Touch Screen and Keyboard
Dry Contacts	Included
GENERAL	
Dimensions UPS Cabinet & UPS Modules (WxDxH) (mm)	600 x 1100 x 2000 mm - 10 Slots Cabinet
	460 x 790 x 134 mm 30 KVA/KW Electronic Module
Weight UPS Cabinet & UPS Modules (Kg)	220 Kg
	34 Kg each 30 KVA / KW Electronic Module
Running Humidity & Temperature	0 - 95 % RH (Non-Condensing) @ 0~40°C
Storage Temperature	For UPS - 40~70°C; for Batteries -20~30°C
Acoustic noise level at 1 meter	< 65 dB
Altitude (meters above sea level)	< 3000 meters
Protection Class	IP20
Parallel Operation	Parallel Power increase up to 900 KW/KVA with 3 Cabinets
EPO (Emergency Power Off)	Standard
Insolation Transformer	Optional
STANDARDS & CERTIFICATIONS	
Quality	ISO 9001 ; CE
Compliance	EN50091 (1,2,3); IEC62040 (1,2,3); IEC/EN/AS60950; IEC/EN/AS60146 series; IEC/EN/ AS61000 series

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