



# ELEKTRA SERIES

INDUSTRIAL GRADE ONLINE DOUBLE CONVERSION UPS  
10KVA ~ 3.2MVA (3/3)

Ultimate Power  
Protection for Mission  
Critical & I.T Grade UPS

# INDUSTRIAL GRADE ONLINE DOUBLE CONVERSION UPS (Elektra Series)



## Elektra LF Series (3/3) 10KVA~3.2MVA

Deutsche Power Elektra LF Series UPS is the world's most advance true On-Line Uninterruptable Power System. Elektra LF series adopts Digital Signal Processor (DSP) technology, comprises of high current & high voltage Intelligent Power Module, High Speed IGBT drive IC and professional drive circuit, so it provides 100% Pure Sine Wave output, and it guarantees full safety of your highly sophisticated equipments. This series totally isolates its connected load from every power problem that arises from the mains supply. It ensures 100% protection to the load from the full range of power disturbances including harmonics, common-mode noise and fault conditions on the input bus and vice versa.

## Elektra Industrial Design Series Comprises of output power factor 0.8 / 0.9 / 1

- Three Phase In & Three Phase Out  
(10KVA ~ 900KVA)

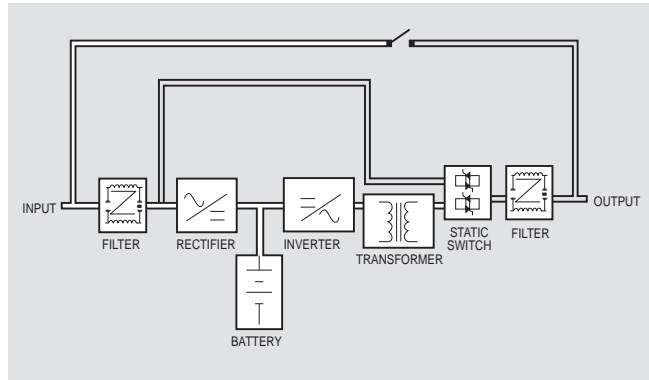
The range of capacity for 3/3 is from 10KVA to 800KVA (Stand Alone). It supports redundant parallel connected up to 8 sets. Each set of UPS will share load automatically. Elektra series delivers an excellent integrated autonomy, reduced footprint, optimum input, output performances and guarantees reliable power by adapting its performances to meet individual load requirements.

This UPS ensures full load protection by combining software solutions, parallel redundancy, safety and disconnecting devices, system bypass switches, and communication solutions, to deliver reliable high-quality AC power. Elektra Series due to its industrial grade nature is flexible enough to meet any power, redundancy, harmonic control and battery backup time requirements and is fully compatible with real-time remote monitoring and diagnostic tools.

## ELEKTRA Low Frequency 3 Phase UPS



# INDUSTRIAL GRADE ONLINE DOUBLE CONVERSION UPS (Elektra Series)



## Leading Technology

Elektra Series adopts DSP, MCU and DDC real time processing all digital vector Control technology which increases power component performance and enable active conditioning of the load. Due to this technology UPS can bear unbalance load and can distribute perfectly in parallel mode

## High Precision SMD Technology

Elektra series UPS replaces traditionally insert electric circuit processing with high precession SMD technology. This innovation not only save the space but also drastically eliminate the distortion of insert components in traditional UPS circuit. What's more, it ensures the integrate circuit a safe operation and enhances its reliability & operation precision.

Elektra series UPS, widely using SMD technology, is heat-resistant, highly accurate and also has an excellent filter, which greatly improves the whole performance of the UPS. It is more durable and its lifetime is prolonged by 80%.

## Class-C Lightning-Proof System

Elektra Series is equipped with Class-C lightning-proof system serves as a protection measurement for the alternative power input into the computer room to prevent external lightning strike or electrical surge voltage from entering the computer room and from any damage to the equipment installed therein. This accessory system should be selected if no Class-C or below lightning proof system is set up in the low voltage power distribution system output terminals, the computer room is

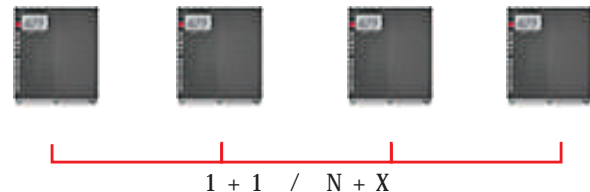
far from low voltage power distribution output or it is the special area liable to lightning strikes. Class-C lightning-proof system is designed for a max 20 KA for current flow and 8/20μs for impulse current wave form.

## Front access Maintenance

An important consideration has been given to allow generous access to the units electronic cards and power components. All the boards are accessible by the front panel for easily maintenance and replacement.

## Parallel Connectivity

Parallel Connectivity is available up to 8 Units, which further improve the reliability and compatibility of the UPS. This system ensures more sensitive and reliable operations of the UPS to continue feeding the load through parallel connectivity even if one unit is out of order the other unit still operate and ensures a continous supply with out any interruption.



## N+X Redundant Design

Controlled circuit of auxiliary power for each provide reliable, stable power protection so that ensure all the control circuit to work properly. To ensure the normal operation of UPS systems play a key role. Elektra Series UPS's auxiliary power adopt 1+1 redundancy design, when one of the auxiliary power failure, can be continued by another auxiliary power supply. UPS continue to operate normally, while the LCD screen displays this warning message. When N + X sets of UPS (up to 8 sets) are working in redundant parallel or capacity-expanded parallel working modes, each set of UPS will automatically share the load. If one set of UPS does not work due to malfunction, the UPS will automatically exit from operation, and the other sets of UPS will share the load. If the system is overloaded, all the UPS system will turn to bypass operation. Parallel working can be classified into many working modes such as normal working mode, battery working mode, bypass power supply mode, maintenance working mode, combined power supply mode, and so on.

# INDUSTRIAL GRADE ONLINE DOUBLE CONVERSION UPS (Elektra Series)

## Power Factor 0.8 / 0.9 / 1

For many years we have measured IT equipment loads with power factors in the range multiple lagging. As a consequence we have designed products with practical ratings in mind and we have standardized on multiple power factor (pf) lag as a means of determining nominal KVA/KW ratings. This rating convention has been adopted almost universally across the industry.

## Touch Screen LCD Display

Elektra series is equipped with Touch Screen LCD allowing enhanced features to be store and display with easy to view, the details of viewing features on the LCD are as follows:-

### UPS Information

- Rectifier Information
- Inverter Information
- Battery Information
- Logging History
- Alarms Information
- Load Information



## Unique Battery Protection Function & Management

The Elektra Series has an advance Battery management function including Battery malfunction test, prediction of backup time after battery discharge, Battery self test etc.

Batteries are connected with UPS by an external battery switch, the battery switch is a "three-stage" DC switch that can be manually closed, and has a control circuit controlled by the UPS electronic tripping device. Effectively reducing the past due to battery leakage or short circuit caused the fire risk for the safe operation of the UPS has provided a guarantee.

UPS is equipped with a emergency stop button, this emergency stop button can be used remotely to shutdown the UPS.

## Applications

Industrial Machines, Large mainframe oriented data centers, Computer rooms; Small mainframe Mini computers, Centralized or clustered servers, Tele communications applications, Medical analysis equipment such as MRI and CAT scanners, Laboratory instrumentation, Mission critical customized applications

## Generator Mode

Set the maximum output power of the generator when a smaller one than needed is employed to extend the battery duration time. in this case, the load is supplied by both the generator battery.

## LBS synchronization

Synchronize the output of the two independent UPS system (singal unit or parallel) even when the two systems are operating on different modes (bypass / inverter) or on battery.

## Multi-protection

Self-diagnosis function will take place before start-up for safty.

Multi-protection: AC input under/over voltage, overload, short-circuit, over-current, over bus voltage, over temprature, fan failure, auxliary power failure, battery under voltage, battery over-charge and so on.

## Optional Features

Special fetures available on demand. Harmonic filter, SNMP adopter, LBS cables, Battery temperature sensor, Bypass current-sharing inductor.

## Reliability

Elektra uses intelligent double conversion technology. This architecture combines the secure power provided by traditional double conversion with the efficiency provided by digital interactive technology. Up to eight Elektra units may be connected in parallel, allowing you to customize and adapt our solution to yours changing load requirements. Elektra is available in the following configurations: Distributed Parallel; increasing power of the supply system whilst controlling costs, Centralized Parallel; using an additional common output cubicle and providing a standby reserve line for the whole system HFC (High Fault Clearance) Parallel; enabling simultaneous switching on of all available standby reserve lines, with a downstream fault clearing capacity that is four times higher.

## Standard

Safety: EN62040-1-1

Conducted Emission: EN50091-2

Radiated Emission: EN50091-2 - EMSEN61000-4-2(ESD)..... Level4

EN61000-4-3 (RS).....Level4

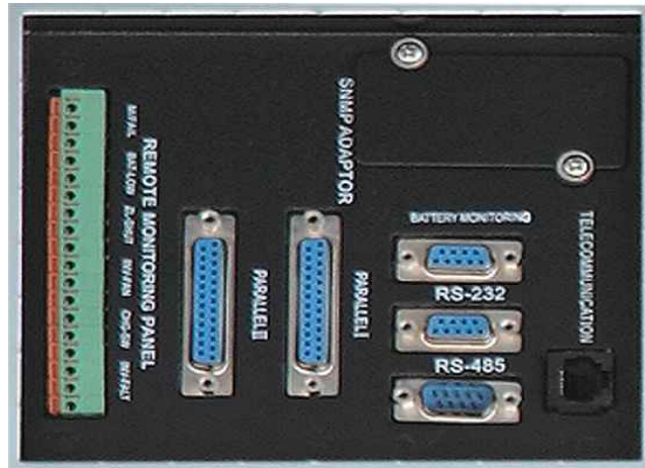
EN61000-4-(EFT).....Level4

EN61000-4-5(Lightning surge).....Level4

EN61000-2-2 (Immunity to low Frequency signal)

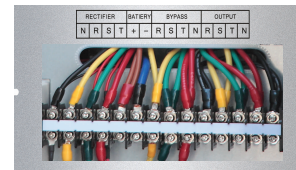
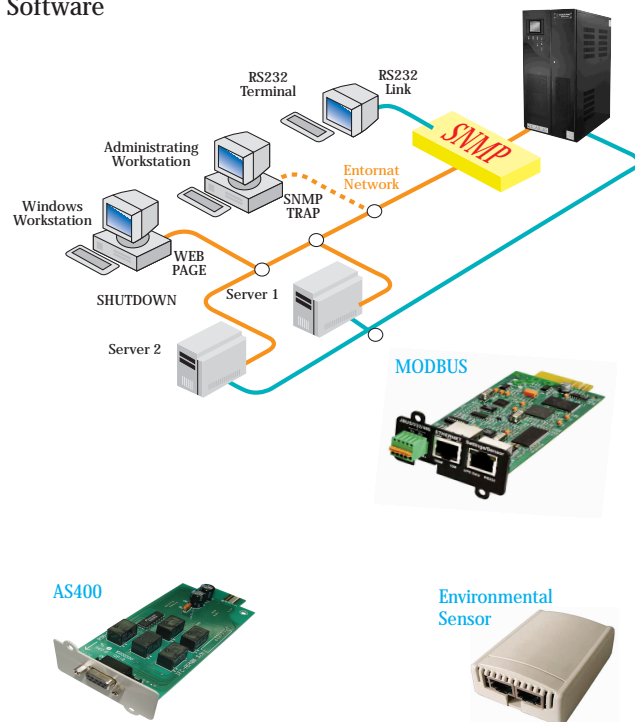


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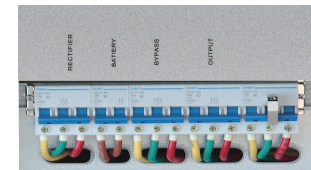


## Communication

SNMP Card | Parallel Card | Dry Contact Card | C-Class Lighting Protection | Battery Temperature Transmitter | JBUS / MODBUS Interface Cards | Telecommunication Port | RS232 / RS485 Environmental Card | GPRS Card | Standard Shutdown Software



Front wiring termination for easy access



Front termination of breakers for easy access

## Easy Maintenance of Structure Design

Using user-friendly control panel modular in-line graphic design, to ensure reliable connection between the plug plates, the connection is configured with a connector locking mechanical "locking" device. Users simply open the cabinet door that can be observed a glance at the control panel of the UPS "self-diagnosis".



## INDUSTRIAL GRADE ONLINE DOUBLE CONVERSION UPS (Elektra Series)

## TECHNICAL SPECIFICATION FOR THREE PHASE IN &amp; THREE PHASE OUT

## MODEL

	ES1033	ES1533	ES2033	ES3033	ES4033	ES6033	ES8033
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## RANGE

	10KVA	15KVA	20KVA	30KVA	40KVA	60KVA	80KVA
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## INPUT

Principal of working	True On-line, Double Conversion, Static Bypass Switch, Output with transformer						
Phase	Three phase + N + G						
Voltage	380/400/415V±20%						
Power Factor	>0.98 (with filter)						
Frequency	45~65Hz						
Soft Start	0-100% 5 Secs						

## BYPASS OUTPUT

Phase	Three Phase + N + G						
Voltage	380/400/415V+20-40% (Adjustable)						
Frequency	±10% (Adjustable)						
Transfer Time	0ms (When Overload)						

## DC SYSTEM

DC Voltage	384V						
Float Chg. Voltage.	432 V				446V		
Battery Cabinet	To be Externally Connected						
Max. Dischg. Current	25	33	40	55	71	102	133
Chg. Current	10-25A (Adjustable)						

## AC OUTPUT

Phase	Three Phase + N + G						
Voltage	380/400/415V±1% (Balance load)						
Frequency	50/60Hz±0.05% (Battery)						
Power Factor	0.8, 0.9 & 1 (as required)						
Wave Form	Sine wave						
Harmonic Distortion	THD<2% Phase Voltage on Linear load, Non-linear load<5%						
Dynamic Respond range	±5% (From 0 to 100%)						
Dynamic Respond time	<10ms (±5%)						
Voltage. Undulation	<±3% (Unbalance Load) <±1% (Balance Load)						
Over Load	105%=load<125%,10min - 125%=load<150%,1min						
Working efficiency	>91%, 95%, ECO						
Communication	RS232/RS485, SNMP (Optional) Dry Contact						
Temperature	0-50°C						
Humidity	<95% when 20°C						
Noise	50dB	60dB	63dB	65dB		68dB	
Dimension (L x W x H)	832 x 430 x 1105mm					715 x 675 x 1405	
Weight (Kg)	217	273	273	316	330	483	525

DP Electronics (Deutsche Power Co. Limited) has a policy of continuous product development and improvement and therefore reserve the right to vary any information without prior notes.

## INDUSTRIAL GRADE ONLINE DOUBLE CONVERSION UPS (Elektra Series)

## TECHNICAL SPECIFICATION FOR THREE PHASE IN &amp; THREE PHASE OUT

## MODEL

	ES10033	ES12033	ES16033	ES20033	ES30033	ES40033	ES50033	ES60033	ES80033
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## RANGE

	100KVA	120KVA	160KVA	200KVA	300KVA	400KVA	500KVA	600KVA	800KVA
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## INPUT

Principal of working	True On-line, Double Conversion, Static Bypass Switch, Output with transformer	
Phase	Three phase + N + G	
Voltage	380/400/415V±20%	
Power Factor	>0.98 (with filter)	>0.85 (with filter)
Frequency	50/60Hz±10%	
Soft Start	0-100% 5 Secs	

## BYPASS OUTPUT

Phase	Three Phase + N + G								
Voltage	380/400/415V+20-40% (Adjustable)								
Frequency	±10% (Adjustable)								
Transfer Time	0ms (When Overload)								

## DC SYSTEM

DC Voltage	384V	
Float Chg. Voltage.	432 V	564V
Battery Cabinet	To be Externally Connected	
Battery Type	Seald Led Acid Mentenance Free/ Gel Type	
Chg. Current	10-25A (Adjustable)	

## AC OUTPUT

Phase	Three Phase + N + G								
Voltage	380/400/415V±1% (Balance load)								
Max. Output current									
Frequency	50/60Hz±0.05% (Battery)								
Power Factor	0.8, 0.9 & 1 (as required)								
Wave Form	Sine wave								
Harmonic Distortion	THD<1% Phase Voltage on Linear load, Non-linear load<5%								
Dynamic Respond range	±5% (From 0 to 100%)								
Dynamic Respond time	<10ms (±5%)								
Voltage. Undulation	<±3% (Unbalance Load) <±1% (Balance Load)								
Over Load	110% /60mins; 125% /10mins; >150% /1mins								
Working efficiency	>91%, 96%, ECO								
Communication	RS232/RS485, SNMP (Optional) Dry Contact								
Temperature	0-50°C								
Humidity	0-95%								
Noise	65db				70dB				
Dimension (L x W x H)	805x1160x1600mm		945x1400x1900mm		1040x1640x1900		1040x2800x1900		1100x3900x1950
Weight (Kg)	800	903	1219	1425	1800	2050	3700	4500	6400

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# DP ELECTRONICS (DEUTSCHE POWER CO., LIMITED)



## Germany Head Office

DP electronics (Deutsche Power Co., Limited) Klon, Germany.

Phone: +49-221-26016266

Fax: +49-221-26016267

Email: [enquiries@deutschepower.de](mailto:enquiries@deutschepower.de)

## Hong Kong Office

RM 1701(057), 17/F, HeNan Building No90, Wan Chai, Hong Kong.

Phone: +86-137-237-44698

Fax: +86-755-82610233

[helenlong@deutschepower.de](mailto:helenlong@deutschepower.de)