

KEOR XPE 1500



1500kW

- 1. TECHNICAL FEATURES..... 1
- 2. BLOCK DIAGRAM..... 2
- 3. OPTIONS TO CONFIGURE 2
- 4. SOFTWARE ENABLED FUNCTIONS 2

1. Technical Features

1. General Features	
Power (KVA)	1500
UPS Topology	ON LINE – Double Conversion
Architecture	Scalable, Configurable, Hot Serviceable
Power Unit (kW)	300
No. Power Unit : syst N (Syst N+1 Redundant)	5 (5 +1)
Nominal Active Power (kW Cosφ 1.0)	1500
Efficiency (AC ÷ AC) (%)	
@25% load	Up to 95%
@50% load	Up to 96%
@75% load	Up to 96%
@100% load	Up to 95,5%
Efficiency (AC ÷ AC) (Eco Mode)	>99%
Heat dissipation at rated load, VFI, voltage (kW)	70
UPS Ambient Temperature (°C)	0 ÷ 40
BATTERY ambient temperature (°C)	0 ÷ +25
UPS storage temperature (°C)	-10 ÷ +70
BATTERY storage temperature (°C)	-15 ÷ +40
Relative humidity %	< 95% (not condensing)
Altitude m	<1000 (Above Sea level)
Power derating for altitude > 1000 m	According to "IEC62040-3", 0,5% every 100m
Ventilation	Forced
Audible noise level (IEC EN 62040-3)	< 78dBa
Protection Degree	IP20 (IP21 Optional)
Electromagnetic Compatibility	According to "IEC EN 62040-2" (CE marking)
Safety	IEC EN 62040-1
Test and performance	IEC EN 62040-3
Colour	RAL9005 (Black) RAL9003 (White)
Accessibility	Front Access
Installation	Against the Wall, Line, Back to Back, L or U Shape
Dimensions (mm): System N (WxDxH)	6250x980x2100
Weight (kg) : System N without battery	5200
Input/output connection	Cables/Busbar entry bottom/top
Transport	Base provided for forklift handling
Reference standards	EN 62040-1 - EN62040-2 - EN62040-3 ISO 9001:2008 - ISO 14001
Front panel	10" Touch-screen
Voltage-free contact interface	signalisations / alarms Standard: RS232 - USB
Serial interface	RS485 (Mod-Bus RTU protocol)
Estimated content of circular economy derived materials	20% (approx)
Recyclability rate calculated using the method described in technical report IEC/TR 62635*	60% (approx)

2. Input: rectifier and battery charger	
Power (KVA)	1500
Input	Three-phase + Neutral
Nominal input voltage (Vac)	400
Input voltage range (%)	-20/+15
Input frequency (Hz)	45 to 65
Input frequency range (%)	Adjustable from ±5 to ±10
Input power factor	>0,99
Input current THD at nominal voltage and THDV <0,5% (%)	
@25% load	< 8
@50% load	< 3
@75% load	< 2
@100% load	< 2
DC output voltage accuracy (%)	±1
DC output voltage ripple (%)	<1 (RMS)
Battery recharging characteristic	Intermittent charging with prevailing state of complete rest and control of the battery status IU (DIN 41773)
Maximum recharging current (A)	
- at nominal load	200
- with DCM function (max current)	500
AC-DC converter type	IGBT-based PFC
Input protection	Fast Fuses
Nominal current absorbed from mains at nominal load and battery charged (A)	2275
Maximum current absorbed from mains at nom. load, nom. voltage and max. recharging current (A)	2490
Rectifier soft-start (walk-in) (sec)	Settable from 5" to 30"
Rectifier sequential start-up (hold-off) (sec)	Settable from 1" to 300"

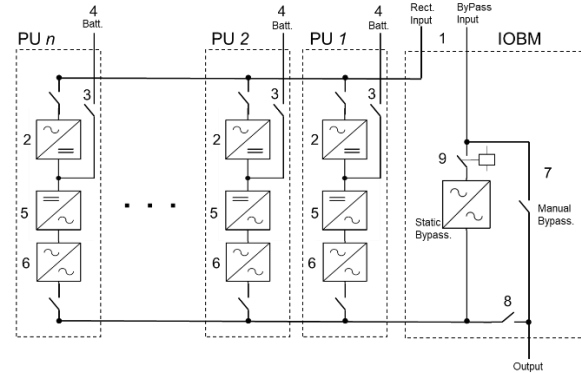
3. Batteries	
Power (KVA)	1500
Topology	Distributed battery = one battery per Power Unit
Battery cable entry	Bottom in each Power Unit
Technology	Sealed lead acid, Li-Ion, Ni-Cd
Number of 2V Cells	360 – 372
Floating Voltage at 25°C	812 - 840
Minimum Discharge Voltage Vdc	620 - 632
Power drawn by the inverter (at rated load cosφ = 1) (KW)	1530
Current drawn by the inverter at rated load and minimum battery voltage (A)	2470
Battery Protection	Fast Fuses
Battery Test	Provided as Standard

*This value is based on data collected from a technological channel operating on an industrial basis. It does not pre-validate the effective use of this channel for end-of-life of this product.

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4. Output Inverter	
Power (KVA)	1500
Inverter Bridge	3-Level IGBT (High Frequency PWM)
Nominal Apparent Output Power (kVA Cosφ 1.0)	1500
Nominal Active Output Power (kW Cosφ 1.0)	1500
Efficiency (DC ÷ AC) (%)	
@25% load	Up to 97
@50% load	Up to 98
@75% load	Up to 98
@100% load	Up to 98
Output	3 Phase / 4 Wires
Rated Output Voltage (selectable) (Vac)	380-400-415
Output Voltage Stability	
- Static (Balanced Load) (%)	± 1
- Static (Unbalanced Load) (%)	± 2
- Dynamic (Step Load 20%÷ 100% ÷20%) (%)	± 5
- Output Volt. Recovery Time(after step load) (ms)	< 20
- IEC EN 62040-3	VFI-SS-111
Phase Angle Accuracy (°)	
- Balanced Load	± 1
- 100% Unbalanced Load	± 1
Output Frequency (selectable) (Hz)	50 / 60
Output Frequency Stability	
- Free Running Quartz Oscillator (Hz)	± 0,001
- Inverter Sync. with Mains (Hz)	± 2 (other on request)
- Slew rate (Hz/s)	< 1
Nominal Output Current (@ 400 Vac output) (A)	2175
Overload Capability	5mn up to 125% 30 s up to 150% 100 ms >150%
Short Circuit Current (A)	5250
Short Circuit Characteristic	Current limited with electronic protection Automatic stop after 5 seconds
Output Waveform	Sinewave
Output Harmonic Distortion (%)	
- Linear Load	< 1
- Non Linear Load	< 5
- IEC EN 62040-3	Fully compliant
Max Crest Factor without derating	3 : 1

2. Block Diagram



PU: Power Unit

IOBM: In Out Bypass Module

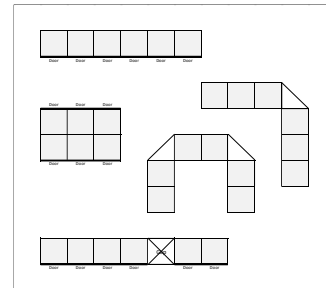
1. Dual Mains input for rectifier and bypass
2. Rectifier battery-charger
3. Battery switch
4. External Battery cabinet (Distributed/Centralized)
5. Inverter
6. Inverter static switch (SSI)
7. Maintenance bypass Line
8. Output switch
9. Back-feed protection
10. By pass disconnector

3. Options to configure

Redundancy N+1: Yes / No	Connection Type: Cable/Busbar
Future scalability: Yes / No	lcw kit 100kA: Yes / No
Hot Scalability: Yes / No	Cabinets Layouts
Manual Bypass: Yes / No	By pass disconnector: Yes / No
Grounding System: TNC/TNS	
Connection Entrance: Bottom/Top	

Some of Possible Layouts:

Linear, L Shape, Back to Back, U Shape, Linear with Gap



1250-1500kW

4. Software Enabled Functions

- Diesel Mode Operation
- Rectifier Walk-In Time
- Rectifier Delay On Startup (Hold-Off Time)
- Dynamic Charging Mode (Dcm)
- Vfi / Vfd (Eco) Operating Mode Management
- Frequency Converter

5. Bypass	
Input	Three-phase + Neutral
Nominal input voltage (Vac) 3Ph + N	380 – 400 - 415
Input voltage range (%)	±10
Input frequency (Hz)	50 - 60
Input frequency range (%)	±10
Automatic static by-pass	Electronic Thyristor Switch Transfer mode without break
Transfer: inverter - automatic bypass	In case of: - Short-circuit - Battery discharged - Inverter test - Inverter failure
Transfer: automatic bypass - inverter	- Automatic - Block on bypass after 6 transfers within 2 minutes, reset by front panel
Nominal Current In (A)	2175
Static by pass overload current – 20 ms	16 In
Max lcw	65kA as per IEC 62040-1 (100kA Optional)
Manual By-Pass	- Electronically controlled - No-break assisted re-start procedure
Back-feed protection	Internal disconnector