

# LEVELUPS T4

SERIES

80-200 kVA

3:3  
PHASE

ONLINE UPS



DATA CENTER



MEDICAL



TRANSPORT



INDUSTRY



EMERGENCY



UPS ONLINE



TOWER



POWER FACTOR



SERVICE



## HIGHLIGHTS

- Built In Inverter Transformer for DC-AC Galvanic Protection
- DSP Vector Control at Input and Output
- Innovative Smart IGBT Control
- Programmable Input Power
- Entire Efficiency Control System

## Highest Reliability and Robust Protection for Industrial Loads

- LEVELUPS T4 Series is a true VFI on-line double conversion, three-phase UPS system and engineered to provide high level of energy efficiency and reliable and robust protection for most demanding industrial and medical environments.
- DSP Vector Control Technology and Inverter Transformer makes LEVELUPS T4 Series one of the most reliable systems for data security and other critical applications.

## CERTIFICATES



The LEVELUPS Series is attested by Bureau Veritas with regard to performance (EN 62040-3)



POWER  
FORLIFE

MAKELSON®  
Uninterruptible Power Supplies

## Compact Design

- Designed with an Integrated transformer on the inverter output ensuring galvanic isolation on the output for ultimate safe installation.
- Easy to install and service and can be integrated into harsh commercial and industrial environments.
- Compact footprint and matching battery cabinets.



## Low Total Cost of Ownership

- Less energy consumption to supply the loads thanks to high efficiency.
- Reduced energy loss.
- Reduced electricity usage and air conditioning requirements.
- Reduction in operating cost of UPS.
- IGBT based power factor correction technology provides input power factor close to 1 ( $\geq 0,99$ ). The high input power leads to reduced electricity pay-out, minimizes cable, switchboard, fuse and generator requirements, thus reducing investment cost.
- Low input current total harmonic distortion (THDi) less than 3% helps to avoid the disturbance and expensive harmonic filters.
- Small footprint and easy maintenance

## High Output Power Factor 0.9

- Output power factor of 0.9 rate.
- Suitable for modern power supply application with unit or capacitive power factor (e.g. new servers generation).
- No reduction in active power from 0,9 leading to 0,9 lagging.

## Maximum Availability

- Intelligent parallel operation up to 8 units per redundancy (N+X) and power increase.

## Standard Electrical Features

- Parallel-Redundant (N+X) Systems
- Co-Aging
- Transformer Based Technology
- Dual Input
- Common Battery
- Frontal Access for Input/Output Cabling
- Backfeed Protection
- Cold Start (Optional)
- Advanced Battery Management
- Short Circuit and Overload Protection
- Parallel Ready
- Redundant Power Supply (Optional)
- Power Walk-in for Progressive Rectifier Start-up when the Mains is Restored
- Battery Temperature Sensor
- Static & Manual Bypass Operation

## Advanced Communication Features

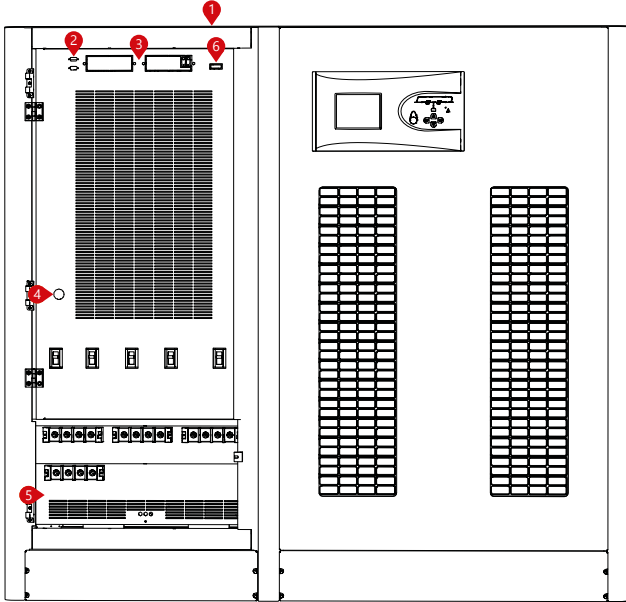
- 1500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- 2 Communication Slots
- ModBUS RTU / ModBUS TCP (Optional)
- Remote Emergency Power Off (Optional)
- Remote Display Panel (Optional)
- Dry Contact (Optional)
- SNMP (Optional)
- Profibus (Optional)

## Flexibility

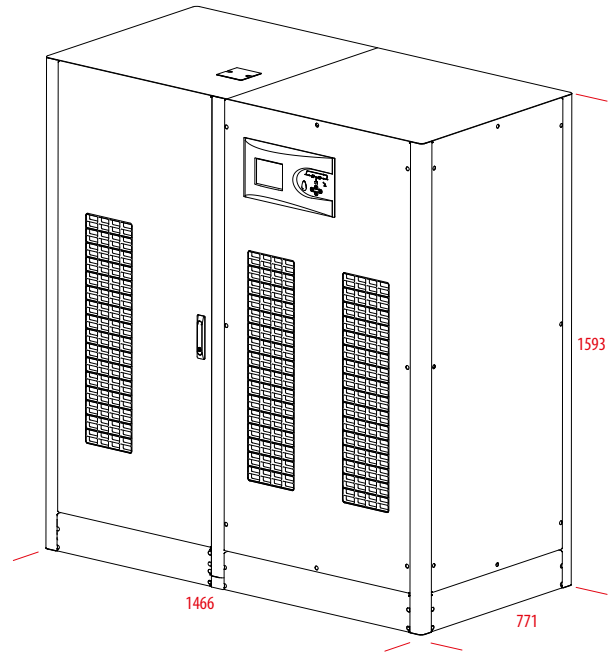
- Optional IP31, IP41, Protection degree for harsh environments.
- Optional tropicalization and anti-corrosion protection for electronic boards.
- Optional temperature sensor for external battery cabinets for extended runtimes.
- External battery cabinets for different sizes of batteries to provide extended runtimes.
- Adaptability to the mains without neutral.

DETAILS

**LEVELUPS T4** SERIES 80 kVA

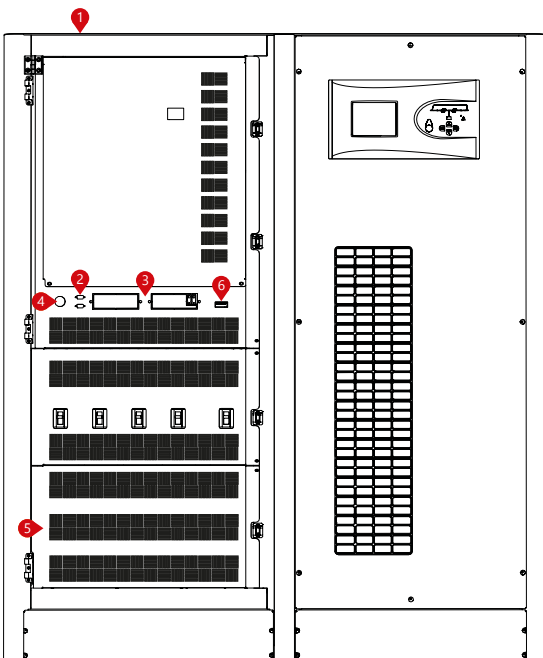


Front Panel

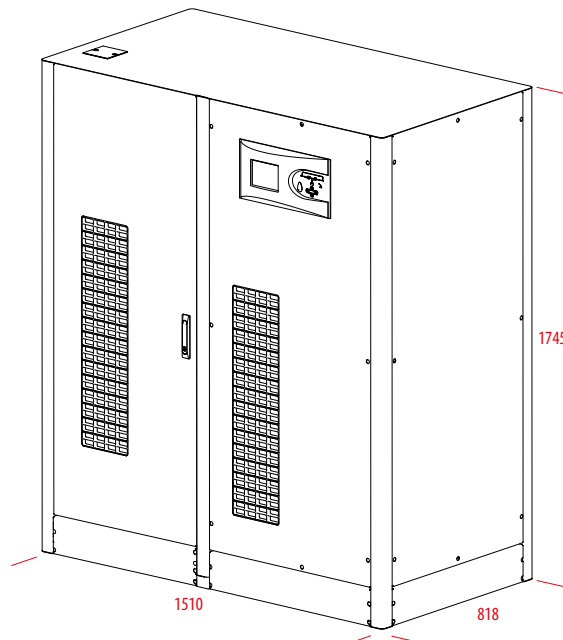


1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Connection Terminal
6. External Battery Temperature Sensor Terminal

**LEVELUPS T4** SERIES 100-120 kVA

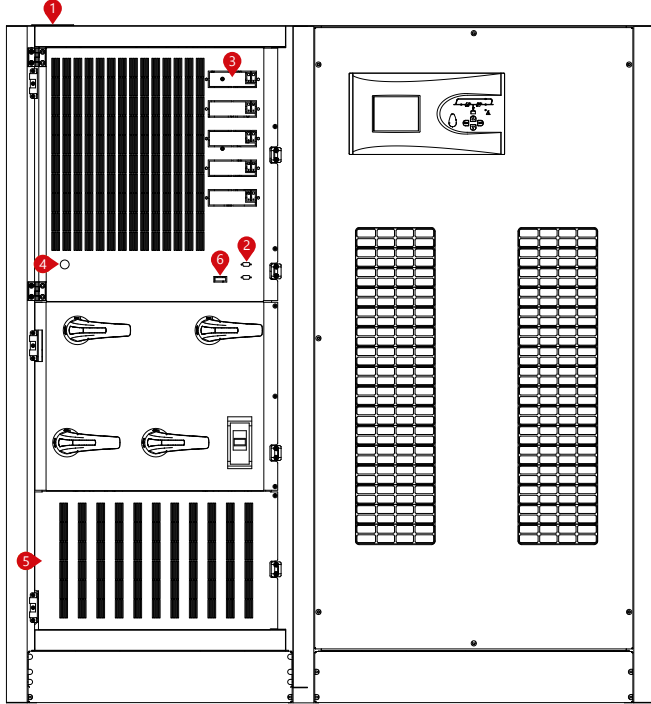


Front Panel

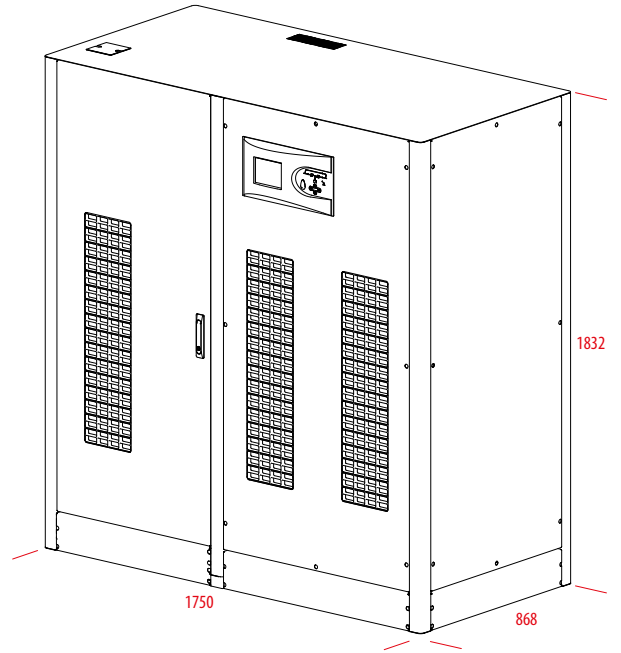


DETAILS

**LEVELUPS T4** SERIES 160-200 kVA



Front Panel



- 1. Parallel Port Terminal
- 2. RS232 Terminal
- 3. Optional Card Slots
- 4. DC Bus Ramping Up Button
- 5. Connection Terminal
- 6. External Battery Temperature Sensor Terminal

MODEL						
Capacity		80kVA	100kVA	120kVA	160kVA	200kVA
Power Watt		72kW	90kW	108kW	144kW	180kW
<b>INPUT</b>						
Voltage Range		380/400/415 VAC 3 Phase (Optional 220/380 VAC -37% +22% 3P+PE)				
Power Factor		At Full Load >0.99				
Frequency Range		45 - 65 Hz				
Total Harmonic Distortion (THDi)		<3%				
<b>OUTPUT</b>						
Voltage Range		380/400/415 VAC 3 Phase + N				
Voltage Tolerance		Static ±1, Dynamic ±3				
Efficiency		92%				
Frequency Tolerance		50Hz / 60Hz ±0,01% (Battery Mode)				
THD (THDv)		Linear Load <2% Non-Linear Load <5%				
Crest Factor (CF)		3:1				
Overload Capacity*		At 125% Load 10min, at 150% Load 1min				
<b>BATTERY</b>						
Quantity (12V DC VRLA)		50				
Charge Capacity		12,5% of Active Power (Nominal 0,1 C10, Adjustable)				
<b>ENVIRONMENTAL</b>						
Operating Temperature		For UPS 0°C/+40°C For Battery +15°C/+25°C				
Storage Temperature		For UPS -15°C/+45°C For Battery 0°C/+30°C				
Protection Class		IP20				
Humidity		0-95% Without Condensation				
Altitude		<1000m, Correction Factor 1. <2000m, Correction Factor >0.92, <3000m; Correction Factor >0.84				
Noise Level		<65 dBA		<72 dBA		
<b>COMMUNICATION</b>						
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option				
<b>STANDARDS</b>						
Quality		ISO 9001, ISO 14001, ISO 45001, ISO 10002, CE, TSE, TSE-HYB				
Performance		EN62040-3 (VFI-SS-111, Bureau Veritas Certified)				
EMC/LVD		EN62040-2, EN62040-1, TS EN ISO/IEC 17025 Accredited Test Report				
<b>DIMENSIONS &amp; WEIGHT</b>						
Cabinet Dimensions (mm)	Width	1466	1510	1510	1750	
	Depth	771	818	818	868	
	Height	1593	1745	1745	1832	
Net Weight (kg)		860	935	996	1189	1258
Packaging Dimensions (mm)	Width	1580	1580	1580	1930	
	Depth	870	870	870	970	
	Height	1980	1980	1980	2120	
Gross Weight (kg)		930	1005	1066	1269	1338

\* under certain conditions.

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