LEVELUPS T3

SERIES

10-200 kVA 3:3 PHASE

ONLINE UPS

DATA CENTER | MEDICAL | TRANSPORT | INDUSTRY | EMERGENCY

Three LEVEL 3 UPS

kW=kVA

VFI TYPE — UPS ONLINE

TOWER

PF= 1.0 — POWER FACTOR

Service — SERVICE

HIGHLIGHTS

- True Three Level Rectifier and Inverter Technology
- Ultra High Output Galvanic Isolation Transformer Embedded
- Robust and Reliable Design

Highest Reliability with Embedded Isolation Transformer

- LevelUps T3 Series is a true VFI on-line double conversion, three-phase UPS system with Innovative 3 Level Technology and engineered to provide high level of energy efficiency and reliable and robust protection for most demanding industrial and medical environments.
- Three level inverter and rectifier technology and with embedded isolation transformer makes LevelUps T3 Series one of the most reliable systems for data security and other critical applications.

CERTIFICATES

The *LevelUps Series* is certified by TÜV SÜD with regard to product safety (EN 62040-1)

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

POWER FORLIFE

MAKELSAN® Uninterruptible Power Supplies

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Uninterruptible Power Supplies

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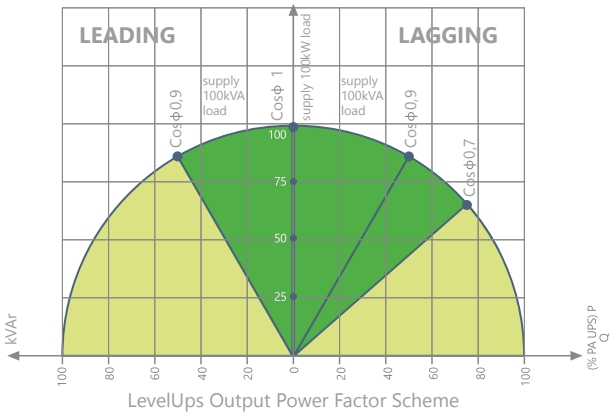
Compact Design
- Designed with an Integrated transformer ensuring galvanic isolation on the output for ultimate safe installation.
- Easy to install and service and can be integrated into harsh commercial and industrial environments.
- Compact footprint and matching battery cabinets.

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 (≥ 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 1
- Output power factor of 1 (kVA=kW) rate provides up to 25% more active power than a traditional UPS.
- 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.



LevelUps Output Power Factor Scheme

Maximum Availability
- Parallel configuration up to 8 units per redundancy (N+1) and power increase.
- Loop connection helps the UPS system to continue the operation when the connection cable is inturrupted.

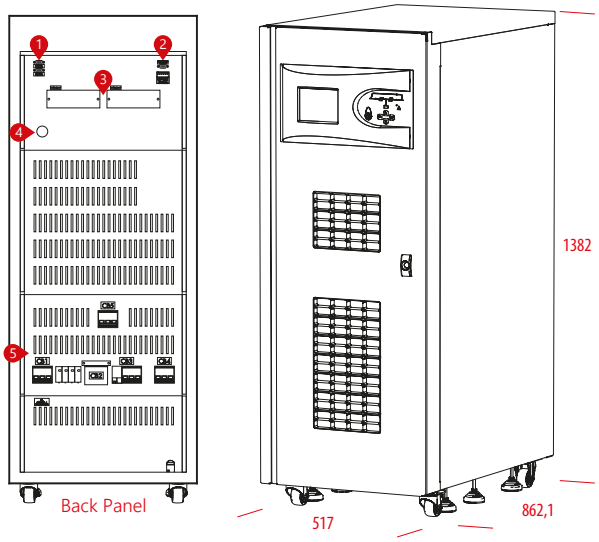
Standard Electrical Features
- Output Galvanic Isolation Transformer Embedded
- Dual Input
- Common Battery
- Frontal Access for Input/Output Cabling
- Backfeed Protection
- Cold Start (Optional)
- Advanced Battery Management
- Short Circuit and Overload Protection
- Parallel Ready
- Redundant Power Supply
- Power Walk-in for Progressive Rectifier Start-up when the Mains is Restored
- Battery Temperature Sensor
- Static & Manual Bypass Operation

Advanced Communication Features
- 500 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
- Modbus RTU (Optional)
- 2 Communication Slots
- 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.

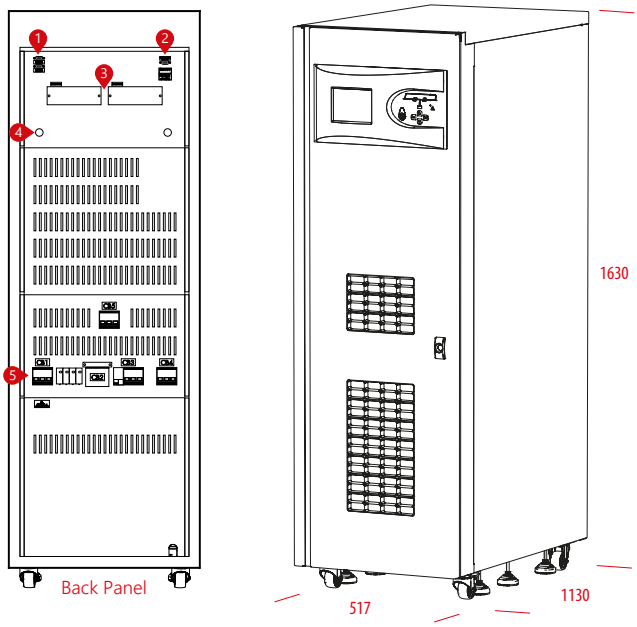
DETAILS

LEVELUPS T3 SERIES 10-15-20 kVA



1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Switch

LEVELUPS T3 SERIES 30-40 kVA



1. Parallel Port Terminal
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4. DC Bus Ramping Up Button
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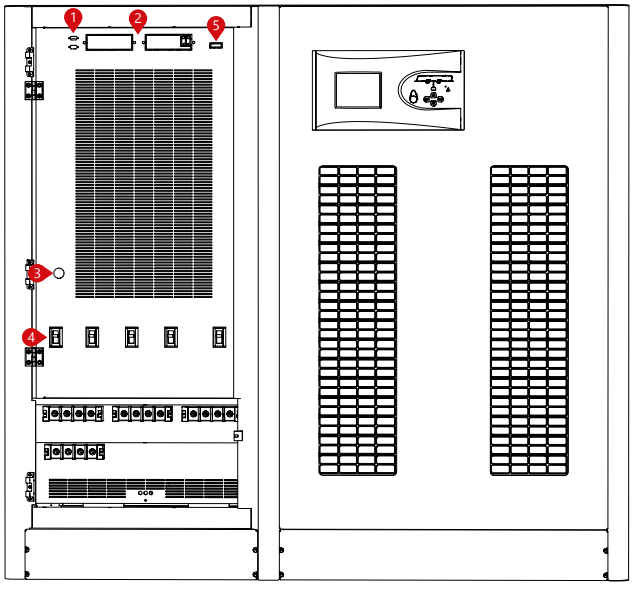
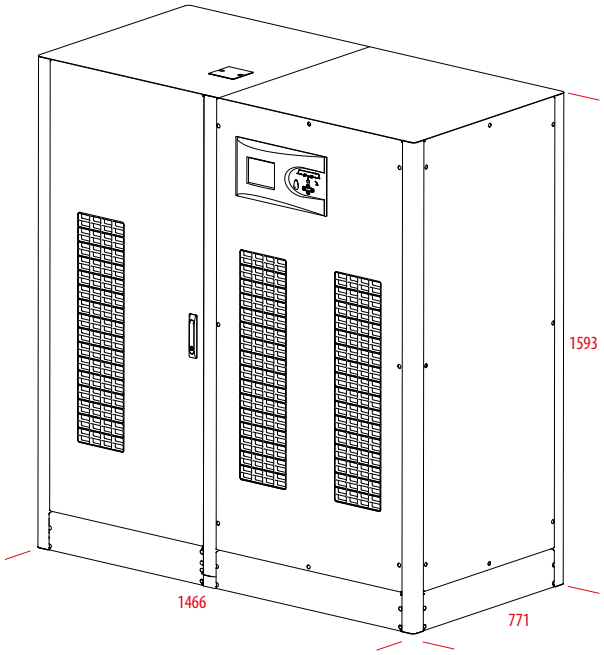
LEVELUPS T3 SERIES 60-80 kVA

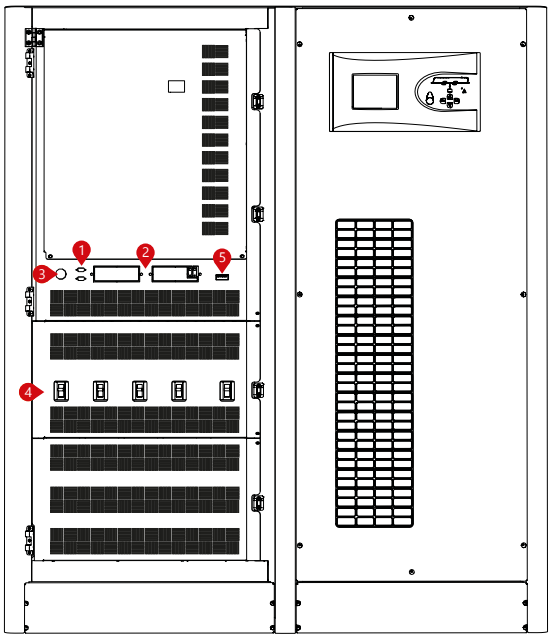




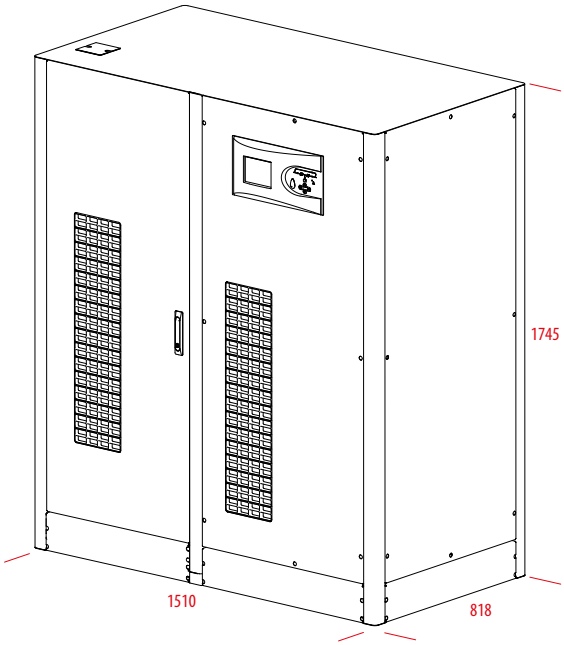
1. RS232 Terminal
2. Optional Card Slots
3. DC Bus Ramping Up Button
4. Switch
5. External Temperature Sensor Output

DETAILS

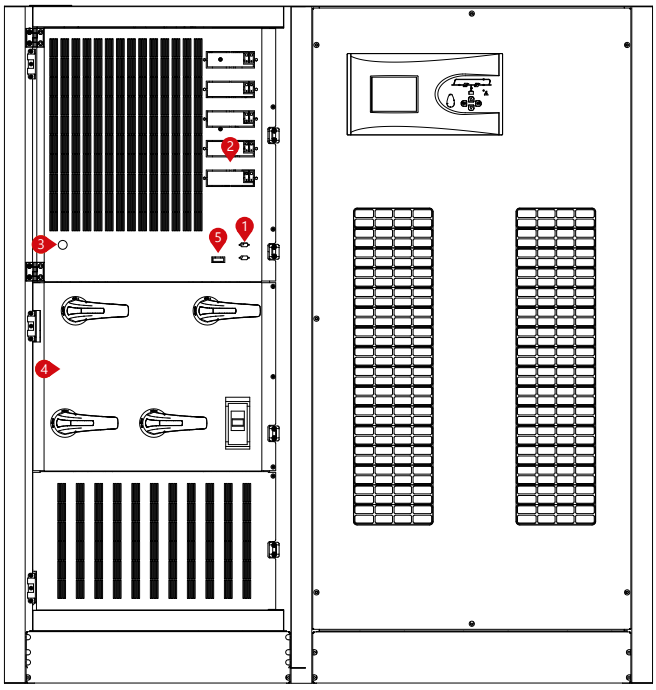
LEVELUPS T3 SERIES 100-120 kVA



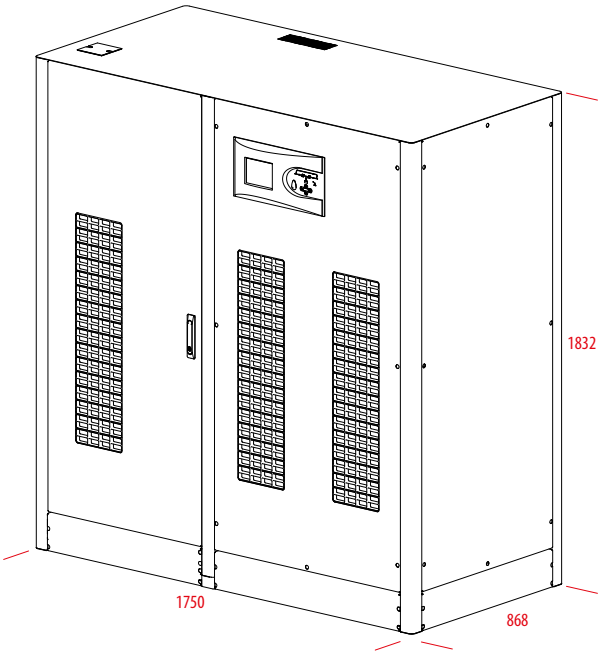
Front Panel



LEVELUPS T3 SERIES 160-200 kVA



Front Panel



1. RS232 Terminal
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MODEL											
Capacity	10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA	160kVA	200kVA
Power Watt	10kW	15kW	20kW	30kW	40kW	60kW	80kW	100kW	120kW	160kW	200kW
INPUT											
Voltage Range	380/400/415 VAC 3 Phase +N (Optional 220/380 VAC -37% +22% 3P+N+PE)										
Power Factor	At Full Load >0.99										
Frequency Range	45 - 65 Hz (Selectable)										
Total Harmonic Distortion (THDi)	<3%										
OUTPUT											
Voltage Range	380/400/415 VAC 3 Phase + N										
Voltage Tolerance	Static ±1, Dynamic ±3										
Efficiency	94.5%										
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										
BATTERY											
Quantity (12V DC VRLA)	60										
Charge Capacity	12,5% of Active Power (Nominal 0,1 C10, Adjustable)										
ENVIRONMENT											
Running 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	<53 dBA		<55 dBA		<60 dBA		<65 dBA			<72 dBA	
COMMUNICATION											
Communication Port	RS232 Standart, RS485 and SNMP Adapter Option										
STANDARDS											
Quality	ISO 9001, ISO 14001, ISO 18001, TSE-HYB										
Performance	EN62040-3 (VFI-SS-111, Bureau Veritas Certified)										
EMC/LVD	EN62040-2, EN62040-1, EN60950, (TÜV SÜD Certified)										
DIMENSIONS & WEIGHT											
Cabinet Dimensions (mm) Width	517			517		1466		1510		1750	
Cabinet Dimensions (mm) Depth	862,1			1130		771		818		868	
Cabinet Dimensions (mm) Height	1382			1630		1593		1745		1832	
Net Weight (kg)	342	345	350	343	452	785	860	935	996	1189	1258
Packaging Dimensions (mm) Width	670			620		1580		1580		1930	
Packaging Dimensions (mm) Depth	900			1180		870		870		970	
Packaging Dimensions (mm) Height	1630			1830		1980		1980		2120	
Gross Weight (kg)	367	370	375	403	512	855	930	1005	1066	1269	1338

* under certain conditions.

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