

LEVELUPS T3

SERIES

10-200 kVA

3:3
PHASE

ONLINE UPS



DATA CENTER



MEDICAL



TRANSPORT



INDUSTRY



EMERGENCY



UPS ONLINE



TOWER



POWER FACTOR



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)



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.

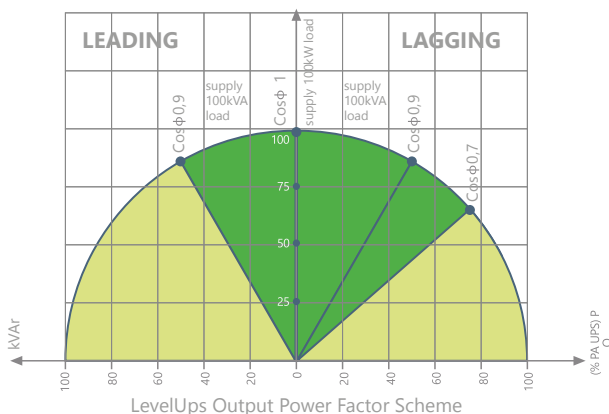


Low Total Cost of Ownership

- 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 ($\geq 0,99$). 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 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.



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 interrupted.

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
- Overload and Short Circuit Protection
- Static & Manual Bypass Operation

Advanced Communication Features

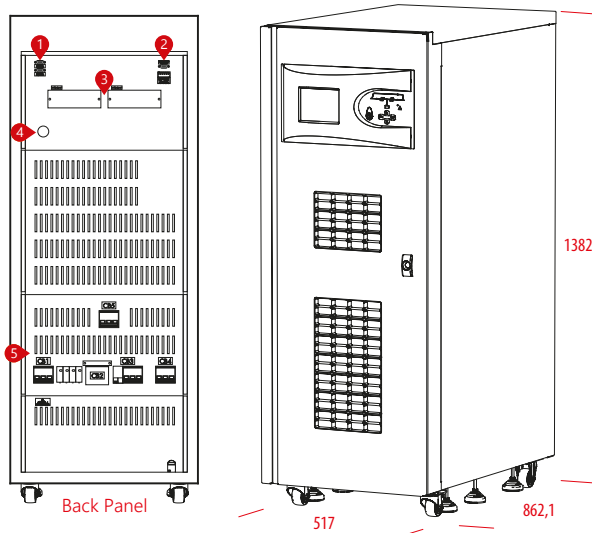
- 500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- Modbus RTU (Optional)
- 2 Communication Slots
- Remote Emergency Power Off (Optional)
- Remote Display 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.

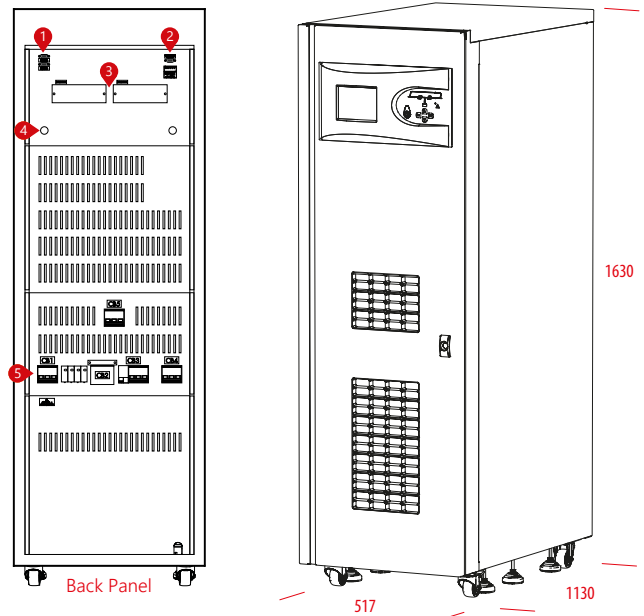
DETAILS

LEVELUPS T3 SERIES 10-15-20 kVA



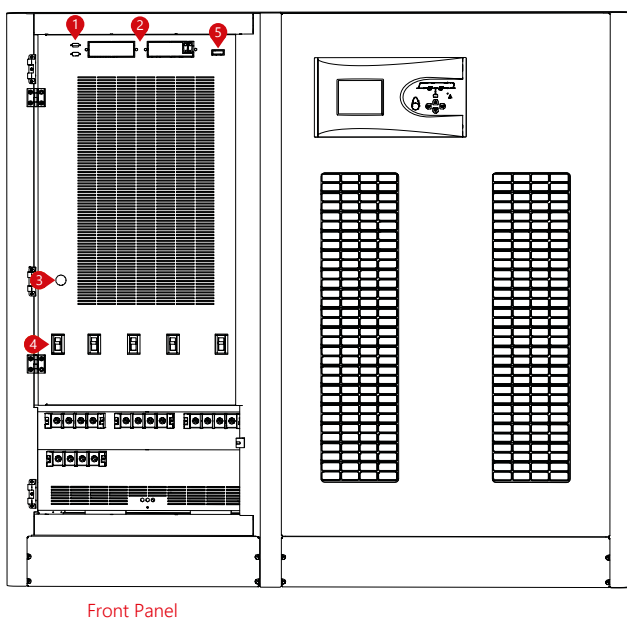
1. Parallel Port Terminal
2. RS232 Terminal
3. Optional Card Slots
4. DC Bus Ramping Up Button
5. Switch

LEVELUPS T3 SERIES 30-40 kVA



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

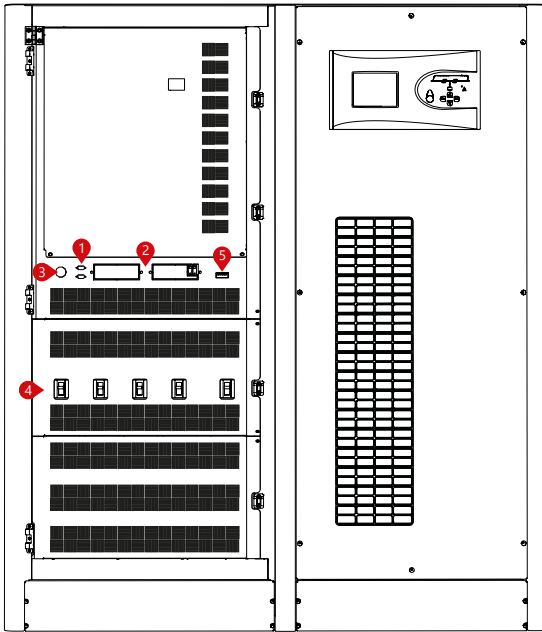
LEVELUPS T3 SERIES 60-80 kVA



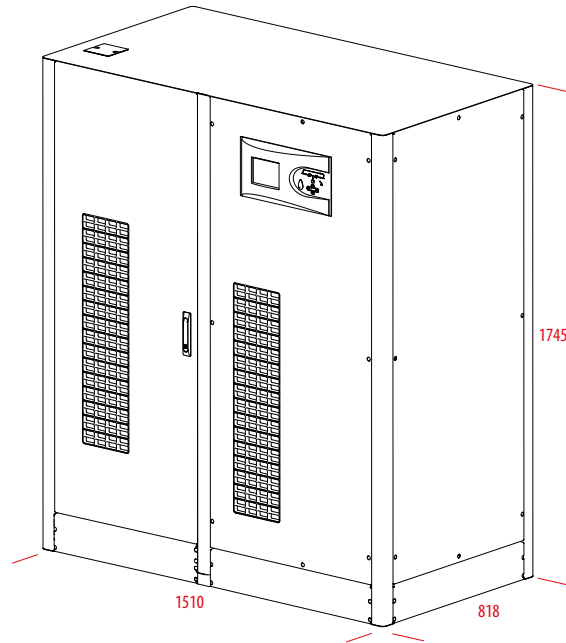
1. RS232 Terminal
2. Optional Card Slots
3. DC Bus Ramping Up Button
4. Switch
5. External Temperature Sensor Output

DETAILS

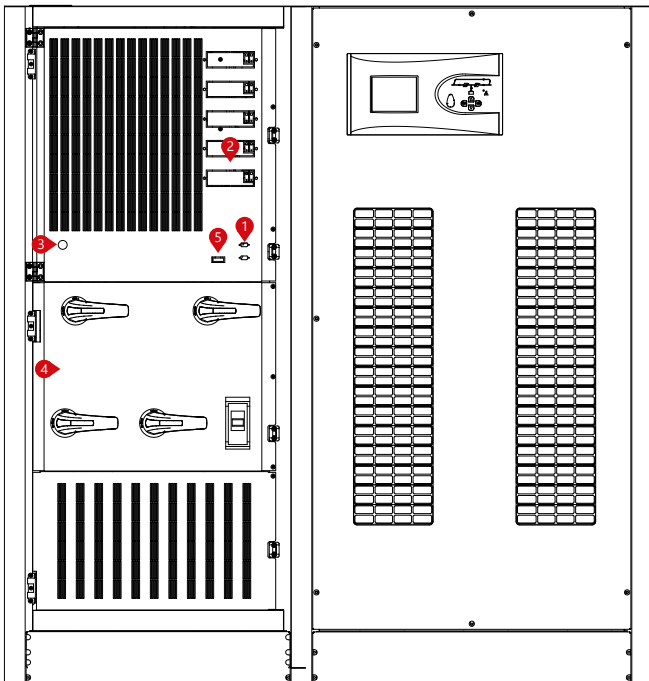
LEVELUPS T3 SERIES 100-120 kVA



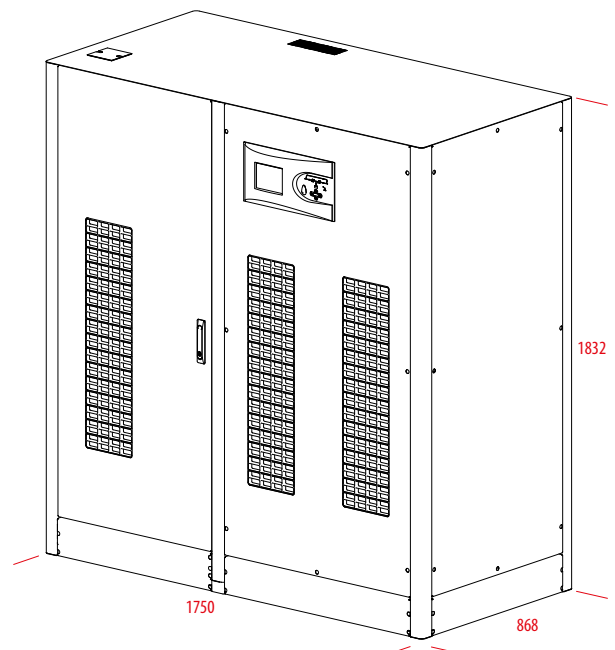
Front Panel



LEVELUPS T3 SERIES 160-200 kVA



Front Panel



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

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)														
STANDARDS																
Quality		ISO 9001, ISO 14001, ISO 18001														
Performance		EN62040-3 (VFI-SS-111)														
EMC/LVD		EN62040-2, EN62040-1, EN60950														
ENVIRONMENT																
Running Temperature		For UPS 0°C~40°C For Battery 0°C~25°C														
Storage Temperature		For UPS 15°C~45°C For Battery -10°C~60°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		
	Depth	862,1			1130			771			818			868		
	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		
	Depth	900			1180			870			870			970		
	Height	1630			1830			1980			1980			2120		
Gross Weight (kg)		367	370	375	403	512	855	930	1005	1066	1269	1338				

* under certain conditions.

Makelsan reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Makelsan products previously or subsequently sold. Makelsan does not guarantee the items of the accuracy and completeness.