

LEVELUPS T3

SERIES

10-60 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 attested by Bureau Veritas with regard to performance (EN 62040-3)



POWER
FORLIFE

MAKELSAN®
Uninterruptible Power Supplies

Compact Design

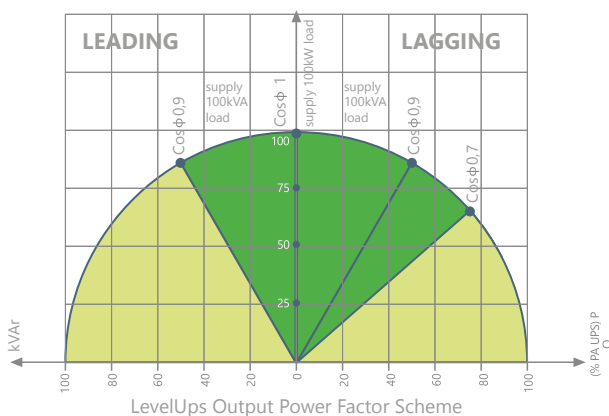
- Designed with an Integrated transformer ensuring galvanic isolation on the output for ultimate safe installation.
- Easy to install and service and can be integrated into harsh commercial and industrial environments.
- Compact footprint and matching battery cabinets.

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 factor 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

- Parallel-Redundant (N+X) Systems
- Co-Aging
- 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

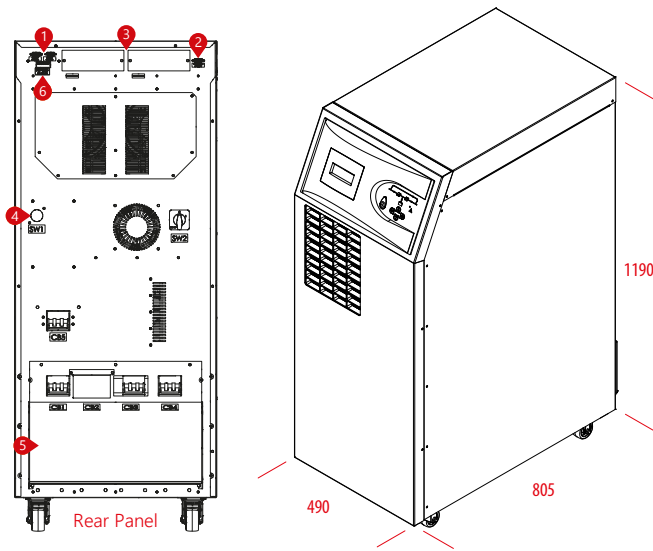
- 1500 Real Time Event Log with Detailed Parameters
- User Friendly Multilingual 320x240 Graphic Display Provides Operation Information
- Monitoring and Shutdown Software
- RS232 Serial and RS485 Ports
- 2 Communication Slots
- ModBUS RTU / ModBUS TCP (Optional)
- Remote Emergency Power Off (Optional)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

Flexibility

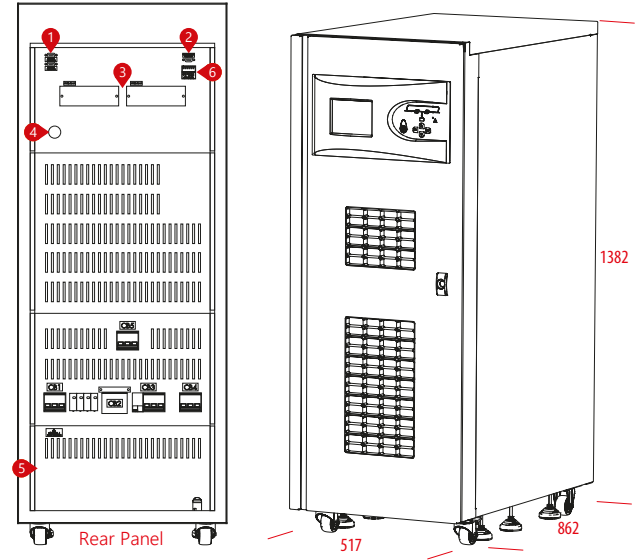
- Optional IP31, IP41, Protection degree for harsh environments.
- Optional tropicalization and anti-corrosion protection for electronic boards.
- Optional temperature sensor for external battery cabinets for extended runtimes.
- External battery cabinets for different sizes of batteries to provide extended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

DETAILS

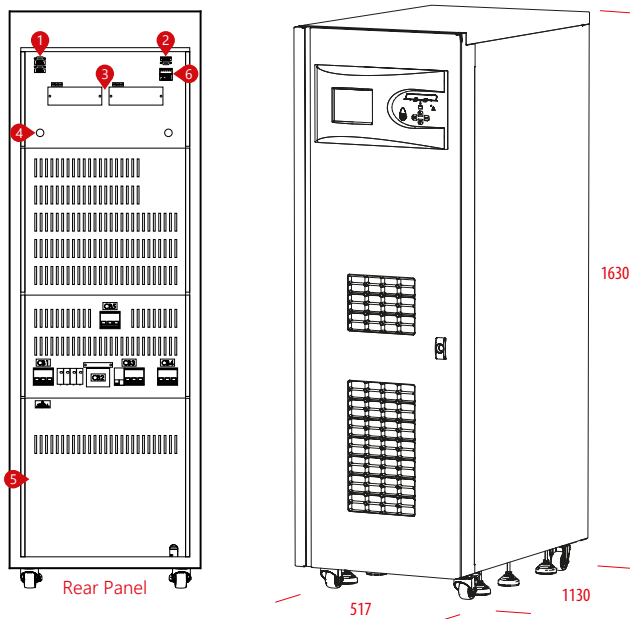
LEVELUPS T3 SERIES 10-15 kVA



LEVELUPS T3 SERIES 20 kVA



LEVELUPS T3 SERIES 30-40-60 kVA



- 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		10kVA	15kVA	20kVA	30kVA	40kVA	60kVA
Power Watt		10kW	15kW	20kW	30kW	40kW	60kW
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)					
ENVIRONMENTAL							
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		<53 dBA		<55 dBA		<60 dBA	
COMMUNICATION							
Communication Port		RS232 Standart, RS485 and SNMP Adapter Option					
STANDARDS							
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					
DIMENSIONS & WEIGHT							
Cabinet Dimensions (mm)	Width	490		517		517	
	Depth	805		862		1130	
	Height	1190		1382		1630	
Net Weight (kg)		235	260	350	343	452	785
Packaging Dimensions (mm)	Width		600		670		620
	Depth		900		900		1180
	Height		1400		1630		1830
Gross Weight (kg)		260	285	375	403	512	855

* under certain conditions.

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