

เครื่องสำรองไฟฟ้า

CLEANLINE[®]

UPS

True On-Line Double Conversion Design



Tower Model

T-80K33L	80kVA/72kW
T-100K33L	100kVA/90kW
T-120K33L	120kVA/108kW
T-160K33L	160kVA/144kW
T-200K33L	200kVA/180kW

KEY Features:

- **True double conversion technology with DSP control**
Double conversion between input/output, battery and bypass are totally isolated power line noise, spike and transients, keeping power failure away from your critical loads.
- **Output power factor 0.9**
For critical applications, this 3-phase online UPS with output power factor 0.9 ensures higher efficiency and advanced performance.
- **Active power factor correction in all phases**
Power factor correction is active in all phases and it can improve the efficiency of input.
- **50Hz/60Hz frequency converter mode**
Lock output frequency at 50Hz or 60Hz to suit power sensitive equipments.
- **ECO mode operation for energy saving**
ECO mode improves the efficiency up to 98% to cut energy usage & cost. In this mode, loads are supplied by the mains directly. While mains failure, the UPS will constantly supply the power to the connected device without any interruption.
- **Emergency power off function (EPO)**
In case of any emergency and fire, the EPO control mechanism can instantly shut down the system.
- **Optional parallel operation**
The system can be operated in parallel, increasing the capacity and performance.
- **Smart battery charger design to optimize battery performance**
This UPS is equipped with 3-stage charger for optimize battery performance. This feature extends the useful service life of battery and optimizes battery recharge time.
- **Maintenance bypass available**
Designed for systems which uptime is critical, the maintenance bypass allows seamless transfer of an electrical load from UPS power to mains.
- **Adjustable battery design**
The number of connected batteries can be adjusted flexibly based on different power demands. This feature can allow UPS to keep running even when some battery packs are damaged.
- **Adjustable charging current only available for 100K and up models**
Users can adjust charging current via LCD setting based on applications. It's available for 100K and up models.

Online UPS Seletion Guide

MODEL		T-80K33L	T-100K33L	T-120K33L	T-160K33L	T-200K33L
PHASE		3-phase input / 3-phase output				
TOTAL CAPACITY		80kVA/72kW	100kVA/90kW	120kVA/108kW	160kVA/144kW	200kVA/180kW
TOPOLOGY		True On-line Double Conversion				
INPUT						
Nominal Voltage		380/400/415 VAC (3-Ph+N)				
Voltage Range		190-520 VAC @ 50% load 304-478 VAC @ 100% load, (-20%,+25%)	208-478 VAC @ 70% load 304-478 VAC @ 100% load, (-20%,+25%)			
Frequency Range		46-54Hz or 56-64Hz	40-70Hz			
Power Factor		≥ 0.99 @ 100% load				
OUTPUT						
Output Voltage		380/400/415 VAC (3-Ph+N)				
Voltage Regulation (Steady state)		≤ ±1% Typical (balanced load); ≤ ±2% Typical (unbalanced load)				
Voltage Recvoery Time		±1% at 10 ms				
Frequency Range (Synchronized Range)		50Hz or 60Hz ±1%, ±2%, ±4%, ±8% (adjustable)				
Frequency Range (Batt. Mode)		50Hz + 0.1Hz or 60Hz + 0.1Hz				
Current Crest Ratio		3:1 (max.)				
Harmonic Distortion		≤ 2% THD (Linear Load); ≤ 4% THO (Non-linear load)				
Transfer Time	AC Mode to Batt. Mode	Zero				
	Inverter to Bypass	Zero				
Waveform (Batt. Mode)		Pure Sine wave				
Overload	AC Mode	110% for 10 min, 130% for 1 min,	110% for 1 hr, 125% for 10 min, 150% for 1 min,			
	Battery Mode	110% for 30 sec, 130% for 10 sec,	110% for 1 hr, 125% for 10 min, 150% for 1 min,			
Parallel Capacity		up to 3 units in parallel	up to 2 units in parallel			
EFFICIENCY						
AC Mode		94.0%	94.5%			
ECO Mode		97.0%	98.0%			
Battery Mode		93.5%	94.5%			
BATTERY						
Typical Recharge Time		9 hours recover to 90% capacity				
Charging Current (max.)		8A	24A	32A	40A	48A
Charging Voltage		+/-13.65V x N (N =16-20)	+/-13.7V x N (N =16-20)			
INDICATORS						
LCD Display		5.7" monochrome LCD or 10" Touch Type color LCD (option) UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions				
ALARM						
Battery Mode		Sounding every 4 seconds	Sounding every 2 seconds			
Low Battery		Sounding every second	Sounding every 0.5 second			
Overload		Sounding twice every second	Sounding every second			
Fault		Continously sounding	continuously sounding			
PHYSICAL						
Dimension, D x W x H (mm)		790 x 360 x 1010	940 x 567 x 1000		1040 x 567 x 1442	
Net Weiight (kgs)		113	194	229	301	335
ENVIRONMENT						
Operation Temperture / Humidity		0-40°C / < 95% and non-condersing				
IP Class		IP 20				
Noise Levell		Less than 75dB @ 1 Meter	Less than 70dB @ 1 Meter		Less than 73dB @ 1 Meter	
MANAGEMENT						
Smart RS-232 / USB		Supports Windows* 2000/2003/XP/Vista/2008, Windows®7/8/10, Linux and MAC				
Optional SNMP		Power management from SNMP manager and web browser				
STANDARDS						
Safety		IEC/EN 62040-1				
EMC		IEC/EN 62040-2 IEC/EN 62040-3				
Accessories and Optional		Isolation Transformers, SNMP-Adapter				

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