

TM33E SERIES PF 1.0 Power range: 10kVA~40kVA

3:3



Features

- Smallest Footprint Design
- DSP-controlled Technology
- Parallel Redundancy up to 4 units
- Input current harmonic: <3%
- Unity Power Factor and Low Input Distortion
- ECO Mode for energy saving
- Optimization battery group, the quantity of battery
10~30kVA: 16/18/20pcs (30~50pcs supportable)
40kVA: 30~50pcs
- Built-in Batteries models
- Dual input source (Optional for standard unit)
- Matching Battery Packs
- 3-level Intelligent Charge Modes with Smart Charge Current Adjustment
- Powerful Charger up to 20A
- Superior Overload Capability
- Emergency Power Off
- DC Start function
- Multiple communication interface: USB, RS232, RS485, Parallel port, Dry contact, Intelligent slot, SNMP card(Optional), Relay card (Optional), Battery temperature sensor (Optional)



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TM33E
Transform-less Online Tower UPS

TMC3310 SE/HE | TMC3315 SE/HE | TMC3320 SE/HE | TMC3330 SE/HE | TMC3340 SE/HE

TM33E Technical Specifications:

	TM33E				
Model	TM3310SE/HE	TM3315SE/HE	TM3320SE/HE	TM3330SE/HE	TM3340SE/HE
Capacity	10kVA/ 10kW	15kVA/ 15kW	20kVA / 20kW	30kVA/ 30kW	40kVA/40kW
INPUT					
Nominal voltage	380/400/415Vac (3PH+N+PE)				
Operating voltage range	208-478Vac				323-478Vac
Operating frequency range	45-55Hz at 50Hz/54-66Hz at 60Hz (auto sensing)				
Power factor	≥0.99				
Harmonic distortion (THDi)	≤3% (100% non-linear load)				
Bypass voltage range	Max.voltage: 220V: +25% (Optional +10%, +15%, +20%) 230V: +20% (Optional +10%, +15%) 240V: +15% (Optional +10%) Min.voltage: -45% (Optional -20%, -30%) Frequency synchronize tracing range: ±10%				
Generator input	Support				
OUTPUT					
Output voltage	380/400/415Vac (3Ph+N+PE)				
Voltage regulation	±1%				
Power factor	1				
Output frequency	Line Mode: synchronize with input; when input frequency > ±10%(±1%/±2%/±4%/±5% optional), output (50/60±0.1)Hz Battery Mode: (50/60±0.1)Hz				
Crest factor	3:1				
Harmonic distortion (THD)	≤2% with linear load ≤5% with non linear load				
Efficiency	≥93.5%			≥94.5%	
SYSTEM FEATURES					
Transfer time	Utility to Battery: 0ms; Utility to bypass: 0ms				
Overload	Line Mode	Load≤110%: last 60min, ≤125%: last 10min, ≤150%: last 1min, ≥150% to bypass			
	Bat. Mode	Load≤110%: last 10min, ≤125%: last 1 min, ≤150%: last 10S, ≥150% shut down UPS immediately			
	Bypass Mode	Breaker 20A	Breaker 32A	Breaker 40A	Breaker 63A
Alarm	overload, utility abnormal, UPS fault, battery low, etc.				
Protection	short circuit, overload, over temperature, battery low, fan fault alarm				
Communication	USB, RS485, Parallel port, Coupler dry contact, Intelligent slot, SNMP card (optional), Relay card (optional)				
ENVIRONMENTAL					
Operating temperature	0°C~40°C				
Storage temperature	-25°C~55°C				
Humidity range	0~95% (Non condensing)				
Altitude	<1500m, derating required when >1500m				
Noise level	<55dB			<58dB	
STANDARDS					
Safety	IEC/EN 62040-1, IEC/EN 60950-1				
EMC	IEC/EN 62040-2 (IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8)				

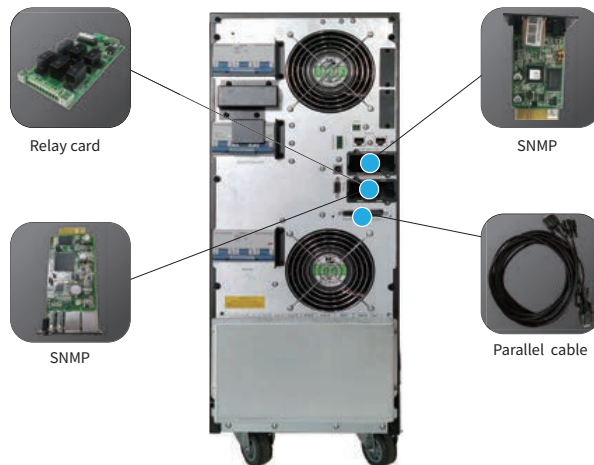
TM33E Technical Specifications:

	Standard Unit				
Model	TM3310SE	TM3315SE	TM3320SE	TM3330SE	TM3340SE
Weight	95kgs	147kgs		225kgs	
Dimension W*H*D(mm)	250*868*900				
Battery DC Voltage	+/-120Vdc**				+/- 180Vdc
Built-in Charger	1.35A	2.70A		4A	2.7A
Built-in Battery Quantity	20pcs 12V/9AH(Max. 40pcs)	40pcs 12V/9AH		60pcs 12V/9AH	

	Long Backup Unit				
Model	TM3310HE	TM3315HE	TM3320HE	TM3330HE	TM3340HE
Weight	42kgs	45kgs		66kgs	73kgs
Dimension W*H*D(mm)	250*868*900				
Battery DC Voltage	+/-96V / +/-108V / +/-120V				+/- 192V / +/- 204V / +/-216V / +/-228V / +/-240V
Built-in Charger	10A			20A	
Built-in Battery Quantity	N/A				

	Matching Battery Pack	
Model	TC 080120N	
Weight	243kgs	
Dimension W*H*D(mm)	250*868*900	
Built-in Battery Quantity	80pcs 12V/9AH	

Specifications subject to change without prior notice.
*PF=0.9 models also available



TM33E SERIES PF 1.0 Power range: 50kVA~200kVA

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Features

- Wide input voltage range 138-485Vac (Phase voltage 80-280Vac), no derating when input voltage > 305Vac
- Smallest Footprint Design
- 3-level inverter-controlled technology
- Output Power Factor at 1.0
- System Efficiency up to 95.5%
- Unity Power Factor and Low Input Distortion
- ECO Mode for energy saving
- Programmable battery voltage from +/-180Vdc to +/-300Vdc
- Superior Overload Capability
- Support parallel expanded operation: maximum is 8 units
- Support sharing batteries for the UPS in parallel
- DC Start function
- Powerful charger up to 60A
- Dual Input source
- 3-level intelligent Charge Modes with Smart Charge Current Adjustment
- Emergency Power Off
- LBS function can realize 2 independent UPS system work in synchronization, and it enhances the reliability of the system
- Multiple communication interface: USB, RS232, RS485, Parallel port, Dry contact, Intelligent slot, SNMP card(Optional), Relay card (Optional), Battery temperature sensor (Optional)



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TM33E
Transform-less Online Tower UPS

TM3350-E | TM3360-E | TM3380-E | TM33100-E | TM33120-E | TM33160-E | TM33200-E

TM33E Technical Specifications

		TM33E						
Model	50kVA	60kVA	80kVA	100kVA	120kVA	160kVA	180kVA	200kVA
Capacity(Watts)	50kW	60kW	80kW	100kW	120kW	160kW	180kW	200kW
INPUT								
Nominal voltage	380/400/415Vac, (3Ph+N+PE)							
Operating voltage range	138-485Vac							
Operating frequency range	40Hz-70Hz							
Power factor	≥0.99							
Harmonic distortion (THDi)	≤3% (100%non-linear load)							
Bypass voltage range	220Vac Max.voltage: +25%(optional +10%,+15%,+20%) 230Vac Max.voltage: +20%(optional +10%,+15%) 240Vac Max.voltage: +15%(optional +10%) Min. voltage: -45% (optional -20%,-30%) Frequency synchronize tracing range: ±10%							
Icc	10kA							
Generator input	Support							
OUTPUT								
Output voltage	380/400/415Vac (3Ph+N+PE)							
Voltage regulation	±1%							
Power factor	1							
Output frequency	1.Line Mode: synchronize with input; when input frequency > ±10% (±1%/±2%/±4%/±5% optional) 2.Battery Mode:50/60*(1±0.02%)Hz							
Crest factor	3:1							
Harmonic distortion (THD)	≤2% with linear load ≤4% with non linear load							
Efficiency	95.50%							
BATTERY								
Battery Voltage	Optional Voltage: ±180V/±192V/±204V/±216V/±228V/±240/±252/±264/±276/±288/±300Vdc(30/32/34/36/38/40/42/44/46/48/50pcs optional) 360Vdc-600Vdc (30-50 pcs, 30 pcs define, 36- 50 pcs no power derating; 32-34 pcs output power factor 0.9;30 pcs output power factor 0.8.)							
Charge Current(A) (charge current can be set according to battery capacity installed)	Max. current 20A			Max. current 40A				Max. current 60A
SYSTEM FEATURES								
Transfer Time	Utility to Battery : 0ms; Utility to bypass: 0ms							
Overload	Load ≤110%: last 60min, ≤125%: last 10min, ≤150%: last 1min							Load ≤110%: last 60min, ≤125%: last 1min, ≤150%: last 1.2s
Alarm	overload, utility abnormal, UPS fault, battery low, etc.							
Backfeed	Support							
Protection	short circuit, overload, over temperature, battery low, fan fault alarm.							
Communication	USB, RS232, RS485, Parallel port, REPO port, LBS port, Backfeed port, Intelligent slot, SNMP card (optional), Relay card(optional)							
ENVIRONMENT								
Operating Temperature	0°C~40°C							
Storage Temperature	-25°C~55°C(no battery)							
Humidity Range	0~95%(non condensing)							
Altitude	<1500m.When>1500m,lower the rated power for use							
Noise Level	<58dB	<60dB	<61dB	<62dB	<63dB	<66dB		<68dB
PHYSICAL								
Dimension W*H*D(mm)	250*868*828				442*1200*850			
Net Weight(kg)	80	83	144	147	155	190	215	230
STANDARDS								
Safety	IEC/EN 62040-1, IEC/EN 60950-1							
EMC	IEC/EN 62040-3, IEC61000-4-2,IEC61000-4-3, IEC61000-4-4,IEC61000-4-5, IEC61000-4-6, IEC61000-4-8							

Specifications subject to change without prior notice.
*PF=0.9 models also available



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HORUS SERIES PF 1.0 Power range: 150kVA~1200kVA

3:3



Features

- True Online Double Conversion with 3-level Inverter Topology
- N+ X Parallel Redundancy
- Dual Energy Control Modules Design
- 3-level Intelligent Charging Modes
- TFT Touch-screen display for user's friendly operation
- Output Power Factor 1.0
- Parallel up to 6 units.
- Up to 96% system efficiency
- Featured with Redundancy Auxiliary Power Supply and Fan
- Mains-friendly with low Input Harmonics
- Load Bus Synchronization
- Superior MTBF and MTTR
- Emergency Power Off
- Automatic Firmware Upgrade Via LCD Display
- Programmable Battery Voltage form 30 to 50 blocks
- Near-unity Powerfactor at partial and full loads
- Powerful charger built in UPS frame
- Versatile communication interfaces provided for different applications
- Backfeed Protection
- Advanced PFC



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Horus Series Three-level Online Tower UPS

HT33150 | HT33200 | HT33250 | HT33300 | HT33400
HT33500 | HT33600 | HT33800 | HT331000 | HT331200

Horus Series Technical Specifications

		Horus Series									
Model		HT33150	HT33200	HT33250	HT33300	HT33400	HT33500	HT33600	HT33800	HT331000	HT331200
Capacity(VA/Watts)		150VA/150W	200VA/200W	250VA/250W	300VA/300W	400VA/400W	500VA/500W	600VA/600W	800VA/800W	1000VA/1000W	1200VA/1200W
INPUT											
Nominal voltage		380/400/415Vac, (3Ph+N+PE)									
Operating voltage range		138~305Vac Linear derating; 305~485Vac for 100% Load;									
Operating frequency range		40Hz-70Hz									
Power factor		≥0.99									
Harmonic distortion (THDi)		≤3% (100%non-linear load)									
Bypass voltage range		220Vac Max.voltage: +25%(optional +10%,+15%,+20%) 230Vac Max.voltage: +20%(optional +10%,+15%) 240Vac Max.voltage: +15%(optional +10%) Min. voltage: -45% (optional -10%,-20%,-30%) Frequency synchronize tracing range: ±10%									
Generator input		Support									
OUTPUT											
Output voltage		380/400/415Vac (3Ph+N+PE)									
Voltage regulation		±1%									
Power factor		1									
Output frequency		1.Line Mode: ±1%/±2%/±4%/±5%/±10% of the rated frequency(optional) 2.Battery Mode:(50/60±0.1%)Hz									
Crest factor		3:1									
Harmonic distortion (THD)		≤1% with linear load ≤3% with non linear load									
Efficiency		96.0%									
BATTERY											
Battery Voltage		Optional Voltage: ±180V/±192V/±204V/±216V/±228V/±240V/±252V/±264V/±276V/±288V/±300Vdc (30/32/34/36/38/40/42/44/46/48/50pcs); 360Vdc~600Vdc(30~50pcs, 36 pcs default, 36~50 pcs output power factor 1.0; 32~34pcs output power factor 0.9,30 pcs output power factor 0.8)									
Charge Current(A) UPS cabinet		60A(Max.)	80A(Max.)	100A(Max.)	100A(Max.)	140A(Max.)	180A(Max.)	200A(Max.)	280A(Max.)	340A(Max.)	400A(Max.)
SYSTEM FEATURES											
Transfer Time		Utility to Battery : 0ms; Utility to bypass: 0ms									
Overload		Line Mode: 110% for 60 min., 125% for 10min., 150% for 1 min., then transfer to bypass Bypass Mode: 135% overload for long term; >1000% overload for 100ms									
Overheat		Line Mode: Switch to Bypass; Backup Mode: Shut down UPS immediately									
Low battery voltage		Alarm and Switch off									
Self-diagnostics		Upon Power On and Software Control									
Backfeed protection		Support									
EPO(optional)		Shut down UPS immediately									
Battery		Advanced Battery Management									
Noise suppression		Complies with EN62040-3									
Audible & Visual alarms		Line Failure, Battery Low, Overload, System Fault									
Reading on the LCD display		Input, Output, Battery, Command, Setting, Maintenance									
Communication interface		CAN, RS485, NET, Parallel, Dry contact port, Relay card(optional), SNMP card(optional),Battery temperature sensor(optional)									
ENVIRONMENT											
Operating Temperature		0°C~40°C									
Storage Temperature		-25°C~55°C									
Humidity Range		0~95%(non condensing)									
Altitude		<1500m									
Noise Level		<62dB	<63dB	<65dB	<65dB	<70dB	<70dB	<70dB	<73dB	<73dB	<73dB
PHYSICAL											
Dimension W*H*D(mm)	UPS cabinet(S*) UPS cabinet(F*)	600*1200*850	600*1600*850	600*1600*850	600*2000*850	600*2000*850	1200*2000*850	1200*2000*850	2000*2000*850	2000*2000*850	2400*2000*850
STANDARDS											
Safety		IEC/EN 62040-1, IEC/EN 60950-1									
EMC		IEC/EN 62040-2, IEC61000-4-2,IEC61000-4-3, IEC61000-4-4,IEC61000-4-5, IEC61000-4-6, IEC61000-4-8									

Specifications subject to change without prior notice.

*PF=0.9 models also available

S:Only with maintenance switch

F:With mains input, bypass input, maintenance and output switch



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TM33-ET SERIES Transformer - based UPS



Online double conversion

- Online Double Conversion design helps to output a pure sine wave, which is immune from the UPS input, so that the load can run steadily
- UPS transfers among different working mode without output interruption, thereby powering the load uninterruptedly

Full DSP control

- Double DSP control makes the whole system more stable and reliable

High power factor

- The output power factor up to 0.9 better matches the load
- The input power factor 0.97 with filter helps to improve the efficiency, reduce the harmonic pollution to the Grid and lower the UPS running cost

Optimized battery management

- Intelligent battery management system and advanced battery auto float/boost charge technology, reduces the frequency of battery maintenance, greatly improves the battery efficiency and extends battery life
- Battery discharge time prediction: The system will display the backup time of battery calculated by discharge current and voltage
- Battery self-test: Battery is automatically tested at regular intervals
- Flexible battery voltage configuration

N+X parallel redundancy

- N+X parallel redundant design, up to 6 units available, makes the configuration more flexible
- Any unit in parallel system fails, the faulty one will automatically cut off the output, and the load will be powered by the remained units

TM33-ET SERIES Transformer - based UPS

- It is easy to configure the parallel system just by connecting the parallel cables and doing proper settings
- Non-fixed Master-Slave relationship: Among several UPS in parallel, the unit startup first is Master UPS, the others are Slave. The master and slave may be exchanged

Wide input adaptability

- The range of AC input voltage is (380/400/415Vac) (-25%/+20%), minimizing transfer to battery mode, thereby greatly prolonging the battery life
- Wide input frequency ranging from 45Hz to 65Hz, ensures stability of UPS while generator connected

Power walk in

- Specially designed power walk in function, in which rectifier of each unit in parallel system will be turned on in sequence at intervals to avoid the sudden load on the generator, thereby reducing the cost of the generator required

Generator mode

- Set the maximum output power of the generator when a smaller one than needed is employed to extend the battery duration time. In this case, the load is supplied by both the generator and battery

LBS synchronization

- Synchronize the output of the two independent UPS systems (Single unit or parallel) even when the two systems are operating on different modes (Bypass/Inverter) or on battery

Multi-protection

- Self-diagnosis function will take place before start-up for safety
- Multi-protection: AC input under/over voltage, overload, short-circuit, over-current, over bus voltage, over-temperature, fan failure, auxiliary power failure, battery under voltage, battery over-charge and so on

EPO function

- A concave red EPO button with transparent cover is embodied in the LCD control panel for emergency power off

User-friendly network management

- Chinese/English LCD and LED mimic diagram: Real time operation parameters and status (7 inch touch screen optional)
- RS232 & RS485 communication ports: For local monitor with corresponding software, both can support MODBUS rotocol
- SNMP adapter (Optional): For remote monitor through network
- Dry contacts (10-160kVA optional) for additional monitoring:
 - a) UPS on Inverter
 - b) Mains input failure
 - c) Remote EPO
 - d) Battery low voltage alarm
 - e) UPS fault
 - f) UPS alarm
 - g) UPS on battery
 - h) UPS on bypassNote:d)--h) optional

Technical Specifications:

	TM33-ET									
Model	ET10	ET20	ET30	ET40	ET60	ET80	ET100	ET120	ET160	
Capacity	10kVA/9kW	20kVA/18kW	30kVA/27kW	40kVA/36kW	60kVA/54kW	80kVA/72kW	100kVA/90kW	120kVA/108kW	160kVA/144kW	
INPUT										
Operating voltage range	380/400/415Vac (−25%/+20%), (3Ph+PE)									
Operating frequency range	50/60Hz (±5%)									
Power factor	≥0.97*									
OUTPUT										
Output voltage	380/400/415Vac (±1%), (3Ph+N+PE)									
Output frequency	50/60Hz (±0.05%)									
Harmonic distortion (THDv)	≤2% (Linear load)						≤1% (Linear load)			
Crest factor	3:1 (Max)									
Efficiency	88%	89%	90%	90.5%	92%	92.5%				
BYPASS										
Rated voltage	380/400/415Vac, (3Ph+N+PE)									
Rated frequency	50/60Hz									
Voltage protection range	Upper limit: +20% (+10%, +15%, +20% adjustable) Lower limit: −40% (−10%, −20%, −30%, −40% adjustable)									
Frequency protection range	±10% (±2.5%, ±5%, ±10%, ±20% adjustable)									
BATTERY										
Battery voltage	384Vdc (360~384Vdc)									
SYSTEM FEATURES										
Transfer time	0 ms (Line mode→ Battery mode)									
Overload	Load≤110%/60min; ≤125%/10mins; ≤150%/1 min, to Bypass									
LED display	Input, Inverter, Bypass, Battery, Output, Status									
LCD display	I/O voltage, frequency, power, power factor, battery voltage, current, battery status, load percentage, UPS status, history record									
Communication interface	RS232, RS485, EPO, Dry contact (Optional), SNMP card (Optional)									
Optional	Harmonic filter, SNMP adapter, LBS cables, battery temperature sensor, Bypass current-sharing inductor									
ENVIRONMENTAL										
Operating temperature	0~40°C									
Storage temperature	-25~55°C									
Humidity range	0~95% (Non-condensing)									
Altitude	<1500m									
Noise level	<58dB					<68dB				
PHYSICAL										
Dimension W×D×H (mm)	350×650×1050			430×830×1100			720×690×1400	720×690×1400 (6P) 1515×830×1600 (12P)	890×790×1600 (6P) 1515×830×1600 (12P)	890×790×1600 (6P) 1400×1000×1900 (12P)
Net weight (kg)	145	165	204	255	320	450	556 (6P)/ 1300 (12P)	693 (6P)/ 1450 (12P)	780 (6P)/ 1645 (12P)	
Shipping weight (kg)	160	180	225	280	345	485	591 (6P)/ 1370 (12P)	738 (6P)/ 1520 (12P)	825 (6P)/ 1775 (12P)	
STANDARDS										
Safety	IEC/EN 62040-1; IEC 62477-1									
EMC	IEC/EN 62040-2 (IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, IEC 61000-2-2)									
Performance	IEC/EN 62040-3									

* With optional filter

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- Data above are typical values for reference only, not as a basis for engineering design

Technical Specifications:

	TM33-ET					
Model	ET200	ET300	ET400	ET500-12P	ET600-12P	ET800-12P
Capacity	200kVA/180kW	300kVA/270kW	400kVA/360kW	500kVA/450kW	600kVA/540kW	800kVA/720kW
INPUT						
Operating voltage range	380/400/415Vac (-25%/+20%), (3Ph+PE)					
Operating frequency range	50/60Hz (±5%)					
Power factor	≥0.97 *					
OUTPUT						
Output voltage	380 / 400 / 415Vac (±1%), (3Ph+N+PE)					
Output frequency	50 / 60Hz (±0.05%)					
Harmonic distortion (THDv)	≤1% (Linear load)					
Crest factor	3:1 (Max)					
Efficiency	92.5%	93%		93.5%		94%
BYPASS						
Rated voltage	380/400/415Vac, (3Ph+N+PE)					
Rated frequency	50/60Hz					
Voltage protection range	Upper limit: +20% (+10%, +15%, +20% adjustable) Lower limit: -40% (-10%, -20%, -30%, -40% adjustable)					
Frequency protection range	±10% (±2.5%, ±5%, ±10%, ±20% adjustable)					
BATTERY						
Battery voltage	384Vdc (360~408Vdc)			480Vdc	600Vdc	
SYSTEM FEATURES						
Transfer time	0 ms (Line mode → Battery mode)					
Overload	Load ≤110%/60min; ≤125%/10mins; ≤150%/1 min, to Bypass					
LED display	Input, Inverter, Bypass, Battery, Output, Status					
LCD display	I/O voltage, frequency, power, power factor, battery voltage, current, battery status, load percentage, UPS status, history record, settings					
Communication interface	RS232, RS485, EPO, Dry contact, SNMP card (Optional)					
Optional	Harmonic filter, SNMP adapter, LBS cables, battery temperature sensor, Bypass current-sharing inductor					
ENVIRONMENTAL						
Operating temperature	0~40°C					
Storage temperature	-25~55°C					
Humidity range	0~95% (Non-condensing)					
Altitude	<1500m					
Noise level	<72dB				<75dB	
PHYSICAL						
Dimension W×D×H (mm)	1200×800×1600 (6P) 1400×1000×1900 (12P)	1400×1000×1900 (6P) 1640×1000×1900 (12P)		2580×1000×1900	2800×1040×1900	3280×1040×1900
Net weight (kg)	1030 (6P)/1715 (12P)	1560 (6P)/2395 (12P)	1640 (6P)/2510 (12P)	3510	3950	4950
Shipping weight (kg)	1130 (6P)/1845 (12P)	1690 (6P)/2545 (12P)	1770 (6P)/2665 (12P)	3730	4250	5245
STANDARDS						
Safety	IEC/EN 62040-1; IEC 62477-1					
EMC	IEC/EN 62040-2 (IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, IEC 61000-2-2)					
Performance	IEC/EN 62040-3					

* With optional filter

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TM66E

Modular Series

Modular design

- All units adopt modular design, including power module, bypass module, monitoring module, can be easily integrated in MDC or customized cabinet
- Power module, Bypass module, Monitoring module, ECU control module, all these modules are hot-swappable

High reliability

- Wide input voltage range, line voltage range is 138-485V, UPS will derate to 40% when input voltage is below 305V
- UPS adopts multiple digital bus and redundancy parallel control system, making sure the whole system keep online if any single circuit fail
- The UPS will keep on single or parallel working, if any module fail
- Thickened conformal coating, applicable for harsh environment such as high heat, high humidity, dust, salt spray

Green and power saving

- High input power factor, it is up to 0.99
- 3-level topology design, efficiency is up to 95.8%
- THDi < 3% (100% linear load)
- The UPS will work in sleeping mode when the load is very small

LBS function

- LBS function can realize 2 independent UPS system work in synchronization, and it enhances the reliability of the system

Parallel redundancy function

- Support parallel expanded operation: maximum is 8 units
- Support sharing batteries for the UPS in parallel

Build-in battery design

- Integrated solution, no additional battery cabinet is required, saving construction costs
- Maximum 6 groups of internal batteries, selectable according to autonomy time requirement

Strong load capability

- Output power factor is 1.0, UPS can supply power to 100% unbalanced load
- High adaptability for load, it can connect full inductive load or capacitive load

Intelligent management

- With 7 inches (Standard) and 10 inches (Optional) colorful touch LCD screen
- Support recording and exporting history logs and fault logs
- Support SNMP, RS232, RS485, Dry contact interface
- Support upgrading FW&SW on line
- EPO & REPO function

Compatible with generator

- Power Walk In function, it can reduce the start current impact to system, and it can reduce the capacity of generator

TM66E Modular Series

Technical Specifications

		TM66E				
Cabinet Model		TM66E-30	TM66E-45	TM66E-50	TM66E-60	TM66E-75
Cabinet capacity		30kVA	45kVA	50kVA	60kVA	75kVA
Module Model		TM66E-RM-10/15	TM66E-RM-15	TM66E-RM-10/25	TM66E-RM-20/30	TM66E-RM-15/25
Module capacity		10kVA/15kVA	15kVA	10kVA/25kVA	20kVA/30kVA	15kVA/25kVA
Max. number*		3+2/2+3	3+2	5/2+3	3+2/2+3	5/3+2
INPUT						
Nominal voltage		380/400/415Vac, (3Ph+N+PE)				
Operating voltage range		138~305Vac for 40% load; 305~485Vac for 100% load				
Operating frequency range		40Hz~70Hz				
Power factor		≥0.99				
Harmonic distortion (THDi)		≤3% (100% linear load)				
Bypass voltage range		Max. voltage: 220V: +25% (Optional+10%, +15%, +20%) 230V: +20% (Optional+10%, +15%) 240V: +15% (Optional+10%) Min. voltage: -45% (Optional-10%, -15% -20%, -30%)				
Bypass frequency range		Frequency protection range: ±10%				
Power walk in		Support				
Generator input		Support				
OUTPUT						
Rated voltage		380/400/415Vac, (3Ph+N+PE)				
Power factor		1.0				
Voltage regulation		±1%				
Output frequency	Line mode Bat. mode	Synchronize with input, when the input frequency > ±10% (±1%/±2%/±4%/±5% optional), output 50/60 (±0.1Hz) (50/60±0.1%)Hz				
Crest factor		3:1				
Harmonic distortion (THDv)		≤2% with linear load; ≤4% with nonlinear load				
Efficiency		up to 95.8%				
BATTERY						
Battery voltage		±240Vdc (6×40pcs 9Ah/12V)				
Power module charge current		18A (Max.)				
SYSTEM FEATURES						
Transfer time		Utility to Battery: 0ms; Utility to Bypass: 0ms				
Overload	Inverter mode Bypass mode	≤110% 60min, ≤125% 10min, ≤150% 1min, >150% 1.2s shut down inverter 30°C: 135% for long term; 40°C: 125% for long term; >1000%, 100ms Line Mode: Switch to Bypass; Backup Mode: Shut down UPS immediately				
Overheat		Alarm and Switch off				
Low battery voltage		Upon Power On and Software Control				
Self-diagnostics		Support				
Backfeed protection		Shut down UPS immediately (Turn to bypass optional)				
EPO (Optional)		Advanced Battery Management				
Battery		Complies with EN62040-3				
Noise suppression		Line Failure, Battery Low, Overload, System Fault				
Audible & visual alarms		Line Mode, Bypass Mode, Battery Low, Battery Fault, Overload & UPS Fault				
Status LED & LCD display		Input, Output, Battery, Command, Setting, Maintenance				
Reading on the LCD display		RS232, RS485, Parallel, LBS, Dry contact port, Relay card (Optional), SNMP card (Optional), Battery temperature sensor (Optional)				
Communication interface						
ENVIRONMENTAL						
Operating temperature		0°C~40°C				
Storage temperature		-25°C~55°C				
Humidity range		0~95% (Non condensing)				
Altitude		<1500m, derating required when >1500m				
Noise level		<58dB		<61dB		
PHYSICAL						
Dimension	UPS cabinet	600×1000×2000mm				
W×D×H	Power module	440×620×86mm (2U)				
Net weight	UPS cabinet (Without battery)	310kg (MAX.)				
	Power module	10kVA: 19kg; 15~30kVA: 21kg				
STANDARDS						
Safety		IEC/EN 62040-1, IEC/EN 62477-1				
EMC		IEC/EN 62040-2 (IEC 61000-2-2, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11)				

* 3+2 means 2 power modules are used as redundancy module

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TM66E 100kVA Modular Series



Modular design

- All units adopt modular design, including power module, bypass module, monitoring module, can be easily integrated in MDC or customized cabinet
- Power module, Bypass module, Monitoring module, ECU control module, all these modules are hot-swappable

High reliability

- Wide input voltage range, line voltage range is 138-485V, UPS will derate to 40% when input voltage is below 323V
- UPS adopts multiple digital bus and redundancy parallel control system, making sure the whole system keep online if any single circuit fail
- The UPS will keep on single or parallel working, if any module fail
- Thickened conformal coating, applicable for harsh environment such as high heat, high humidity, dust, salt spray

Green and power saving

- High input power factor, it is up to 0.99
- 3-level topology design, online efficiency up to 97.1%
- THDi<3% (100% linear load)
- The UPS will work in sleeping mode when the load is very small

HECO mode

- High performance mode, system efficiency up to 99%
- Inverter is in working state and has reactive power compensation and active power filter functions, improving input power factor and quality
- Automatic adjustment of inverter control mode to power the load when bypass is abnormal

VRLA&Lithium battery supportable

- VRLA battery number of each group can be selected from 30pcs to 50pcs (Continuously adjustable)
- Match with Kstar KLi series lithium battery rack, providing higher power density, lower footprint and longer cycle life
- Configuration of VRLA or Lithium can be chose from LCD
- Two wire connection, simplify the construction on site and save the cost of battery neutral cable

Parallel redundancy function

- Support parallel expanded operation: maximum is 8 units
- Support sharing batteries for the UPS in parallel

Strong load capability

- Output power factor is 1.0, UPS can supply power to 100% unbalanced load
- High adaptability for load, it can connect full inductive load or capacitive load

Intelligent management

- With 7 inches (Standard) and 10 inches (Optional) colorful touch LCD screen
- Support recording and exporting history logs and fault logs
- Support SNMP, RS232, RS485, BMS, Dry contact interface
- Support upgrading FW&SW on line
- EPO & REPO function
- Support wave recording when any fault occurs
- Support key components lifecycle management

Compatible with generator

- Power Walk In function, it can reduce the start current impact to system, and it can reduce the capacity of generator

LBS function

- LBS function can realize 2 independent UPS system work in synchronization, and it enhances the reliability of the system

TM66E Modular Series

Technical Specifications

		TM66E-RM-100		
Cabinet Model		TM66E-400	TM66E-500	TM66E-600
Cabinet capacity		400kVA	500kVA	600kVA
Module capacity			100kVA	
Max. number		4	5	6
INPUT				
Nominal voltage		380/400/415Vac, (3Ph+N+PE)		
Operating voltage range		138~322Vac for 40% Load; 323~485Vac for 100% Load;		
Operating frequency range		40Hz-70Hz		
Power factor		≥0.99		
Harmonic distortion (THDi)		≤3% (100% linear load)		
Bypass voltage range		Max. voltage: 220V: +25% (Optional +10%, +15%, +20%) 230V: +20% (Optional +10%, +15%) 240V: +15% (Optional +10%) Min. voltage: -45% (Optional -10%, -15%, -20%, -30%)		
Bypass frequency range		Frequency protection range: ±10%		
Generator input		Support		
OUTPUT				
Rated voltage		380/400/415Vac, (3Ph+N+PE)		
Power factor		1.0		
Voltage regulation		±1%		
Output frequency	Line mode	Synchronize with input, when the input frequency > ±10% (±1%/±2%/±4%/±5% optional), output 50/60 (±0.1Hz)		
	Bat. mode			
Crest factor		3:1		
Harmonic distortion (THDv)		≤1% with linear load; ≤3% with nonlinear load		
Efficiency		up to 97.1%		
BATTERY				
Battery voltage	VRLA battery	360Vdc~600Vdc (30~50pcs continuously adjustable, 40~50pcs no power derating, 36~39pcs output power factor 0.9, 32~35pcs output power factor 0.8, 30/31pcs output power factor 0.7)		
	Lithium battery			
Power module charge current		410Vdc/512Vdc(Default)/614Vdc 100A (Max.)		
SYSTEM FEATURES				
Transfer time		Utility to Battery: 0ms; Utility to bypass: 0ms		
Overload	Inverter mode	≤110% 60min, ≤125% 10min, ≤150% 1min, >150% 1.2s shut down inverter		
	Bypass mode			
Overheat		30°C: 135% overload for long term; 40°C: 125% overload for long term; >100% overload for 100 ms		
Low battery voltage		Line Mode: Switch to Bypass; Backup Mode: Shut down UPS immediately Alarm and Switch off		
Self-diagnostics		Upon Power On and Software Control		
Backfeed		Support		
EPO (Optional)		Shut down UPS immediately (Turn to bypass optional)		
Battery		Advanced Battery Management		
Noise suppression		Complies with EN62040-3		
Audible & visual alarms		Line Failure, Battery Low, Overload, System Fault		
Status LED & LCD display		Line Mode, Bypass Mode, Battery Low, Battery Fault, Overload & UPS Fault		
Reading on the LCD display		Input, Output, Battery, Command, Setting, Maintenance		
Communication interface		RS232, RS485, Parallel, LBS, BMS, Dry contact port, Relay card(Optional), SNMP card(Optional), Battery temperature sensor(Optional)		
ENVIRONMENTAL				
Operating temperature		0°C~40°C		
Storage temperature		-25°C~55°C		
Humidity range		0~95% (Non condensing)		
Altitude		<1500m, derating required when >1500m		
Noise level		<70dB		
PHYSICAL				
Dimension W×D×H	UPS cabinet (S)	800×1000×2000mm		
	UPS cabinet (F)			
	Power module			
Net weight	UPS cabinet (S)	340kg	380kg	430kg
	UPS cabinet (F)	360kg	400kg	450kg
	Power module			
				56kg
STANDARDS				
Safety		IEC/EN 62040-1, IEC/EN 62477-1		
EMC		IEC/EN 62040-2 (IEC 61000-2-2, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11)		

S: Without or only with one maintenance bypass breaker

F: With mains, bypass, maintenance bypass and output breakers

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