

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



#### **Features**

- Smallest Footprint Design
- DSP-controlled Technology
- Parallel Redundancy up to 4 units
- Input current harmonic: <3%</li>
- 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 Technical Specifications:**

				ТМЗЗЕ				
Model		TM3310SE/HE	TM3315SE/HE	TM3320SE/HE	TM3330SE/HE	TM3340SE/HE		
Capacity		10kVA/ 10kW	15kVA/ 15kW	20kVA / 20kW	30kVA/ 30kW	40kVA/40kW		
INPUT								
Nominal volta	age			380/400/415Vac (3PH+N+PE)				
Operating vol	ltage range		208~	478Vac		323~478Vac		
Operating fre	quency range		45-55H	z at 50Hz/54-66Hz at 60Hz (auto	sensing)			
Power factor				≥0.99				
Harmonic dis	stortion (THDi)			≤3% (100% non-linear load )				
Bypass voltag	ge range		Min.	:: 220V: +25% (Optional +10%, 230V: +20% (Optional +10%, 240V: +15% (Optional +10%) voltage: -45% (Optional -20%, uency synchronize tracing range	+15%) -30%)			
Generator inp	out			Support				
OUTPUT								
Output voltag	ge			380/400/415Vac (3Ph+N+PE)				
Voltage regul	ation	±1%						
Power factor		1						
Output frequ	ency	Line Mode: synchronize with input; when input frequency $>\pm 10\%(\pm 1\%/\pm 2\%/\pm 4\%/\pm 5\%$ optional), output (50/60 $\pm 0.1$ )Hz Battery Mode: (50/60 $\pm 0.1$ )Hz						
Crest factor		3:1						
Harmonic dis	stortion (THD)	≤2% with linear load ≤5% with non linear load						
Efficiency		≥93.5%	≥93.5%					
SYSTEM FEAT	TURES							
Transfer time			Utilin	y to Battery: Oms; Utility to bypa	ss: 0ms			
	Line Mode		Load≤110%: last 60mir	n, ≤125%: last 10min, ≤150%: la	st 1min, ≥150% to bypass			
Overload	Bat. Mode				150% shut down UPS immediately			
	Bypass Mode	Breaker 20A	Breaker 32A	Breaker 40A	Breaker 63A	Breaker 80A		
Alarm				utility abnormal, UPS fault, batt	•			
Protection		short circuit, overload, over temperature, battery low, fan fault alarm						
Communicati		USB, RS485, Parallel port, Coupler dry contact, Intelligent slot, SNMP card (optional), Relay card (optional)						
ENVIRONMEI								
Operating ter				0°C∼40°C				
Storage temp				−25°C~55°C				
Humidity ran	ge		,,	0∼95% (Non condensing)	1500			
Altitude				500m, derating required when>		<504D		
Noise level			<55dB			<58dB		
STANDARDS				IEC/EN (2040 1 IEC/EN (2052)	1			
Safety			(FN C2040 2 /JE2 24222 4 7 17 17	IEC/EN 62040-1, IEC/EN 60950-		0)		
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	ТМ3330НЕ	ТМ3340НЕ		
Weight	42kgs	45kgs		66kgs	73kgs		
Dimension W*H*D(mm)			250*868*900				
Battery DC Voltage		+/-96V / +/-108V / +/-120V +/-228V / +/-228V /					
Built-in Charger		10A		2	0A		
Built-in Battery Quantity		N/A					

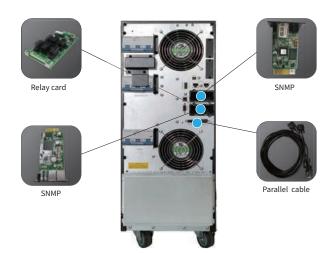
	Matching Battery Pack
Model	TC 080120N
Weight	243kgs
Dimension W*H*D(mm)	250*868*900
Built-in Battery Quantity	80pcs 12V/9AH

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













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



#### **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 Technical Specifications**

	TM33E								
Model	50kVA	60kVA	80kVA	100kVA	120kVA	160kVA	180kVA	200kVA	
Capacity(Watts) INPUT	50kW	60kW	80kW	100kW	120kW	160kW	180kW	200kW	
Nominal voltage				380/400/415V	ac, (3Ph+N+PE)				
Operating voltage range					485Vac				
Operating frequency range					z-70Hz				
Power factor				>	0.99				
Harmonic distortion (THDi)									
Bypass voltage range	≤3% (100%non-linear load)  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%								
lcc				10	OkA				
Generator input					port				
OUTPUT				34,	эрогс				
Output voltage				200/400/415\	/ac (3Ph+N+PE)				
Voltage regulation					:1%				
0 0				Ξ.	1%				
Power factor					1				
Output frequency		1.Line Mo	de: synchronize witl	n input; when input f 2.Battery Mode:5	requency >±10%(: 0/60*(1±0.02%)Hz		'±5% optional)		
Crest factor				3	3:1				
Harmonic distortion (THD)					ı linear load on linear load				
Efficiency				95.	50%				
BATTERY									
Battery Voltage	Optional Voltage: $\pm 180V/\pm 192V/\pm 204V/\pm 216V/\pm 228V/\pm 240/\pm 252/\pm 264/\pm 276/\pm 288/\pm 300V dc (30/32/34/36/38/40/42/44/46/48/50 pcs optional)$ 360V dc $-600V$ dc $-$								
Charge Current(A)		00vac (30~50 pcs, .	30 pcs define, 36~ 50						
Charge Current(A) (charge current can be set according to battery capacity installed)		current 20A	30 pcs define, 36~ 50					wer factor 0.8;)	
(charge current can be set according to battery capacity installed)			30 pcs define, 36~ 50	) pcs no power derat			.9;30 pcs output pov	wer factor 0.8;)	
(charge current can be set according to battery capacity installed) SYSTEM FEATURES				) pcs no power derat	ng; 32~34 pcs outp	ut power factor 0.	.9;30 pcs output pov	wer factor 0.8;)	
(charge current can be set according to battery capacity installed)  SYSTEM FEATURES  Transfer Time			Ĺ	pcs no power derati	ng; 32~34 pcs outp	ut power factor 0.	.9;30 pcs output pov	wer factor 0.8;)	
(charge current can be set according to battery capacity installed) SYSTEM FEATURES Transfer Time Overload			l Load≤11	Max. current 40A	ing; 32~34 pcs outp s; Utility to bypass: %: last 10min,≤15	out power factor 0.  Oms  Ow: last 1min	.9;30 pcs output pov	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: la:	
(charge current can be set according to battery capacity installed) SYSTEM FEATURES Transfer Time Overload			l Load≤11	Max. current 40A  Utility to Battery: 0m:  0%: last 60min,≤125  pad, utility abnormal	ing; 32~34 pcs outp s; Utility to bypass: %: last 10min,≤15	out power factor 0.  Oms  Ow: last 1min	.9;30 pcs output pov	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: la:	
(charge current can be set according to battery capacity installed) SYSTEM FEATURES Transfer Time Overload Alarm Backfeed			Load≤11( overle	Max. current 40A  Utility to Battery: 0m:  0%: last 60min,≤125  pad, utility abnormal	ing; 32~34 pcs outp s; Utility to bypass: %: last 10min,≤15 l, UPS fault, battery	oms  Oms  low, etc.	.9;30 pcs output pov	wer factor 0.8;) DA Load≤110%: las 60min,≤125%: la 1min,≤150%: la	
(charge current can be set according to battery capacity installed) SYSTEM FEATURES Transfer Time  Overload  Alarm Backfeed Protection	Max.	current 20A	Load≤11( overl short circuit,	Max. current 40A  Utility to Battery : 0m:  0%: last 60min,≤125  bad, utility abnormal  Sup	ing; 32~34 pcs outp s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery poort erature, battery low	Oms Ow: last 1min low, etc.	.9;30 pcs output pov	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: la 1.2s	
(charge current can be set according to battery capacity installed) SYSTEM FEATURES Transfer Time  Overload  Alarm Backfeed Protection Communication	Max.	current 20A	Load≤11( overl short circuit,	Max. current 40A  Stility to Battery : 0m: 0%: last 60min,≤125  pad, utility abnormal Sur overload, over tempe	ing; 32~34 pcs outp s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery poort erature, battery low	Oms Ow: last 1min low, etc.	.9;30 pcs output pov	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: la 1.2s	
(charge current can be set according to battery capacity installed) SYSTEM FEATURES Transfer Time Overload Alarm Backfeed Protection Communication ENVIRONMENT	Max.	current 20A	Load≤11( overl short circuit,	Max. current 40A  Stillity to Battery: 0m:  0%: last 60min,≤125  Doad, utility abnormal Sup overload, over tempe t, LBS port, Backfeed	ing; 32~34 pcs outp s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery port erature, battery low d port, Intelligent sl	Oms Ow: last 1min low, etc.	.9;30 pcs output pov	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: la 1.2s	
(charge current can be set according to battery capacity installed)  SYSTEM FEATURES  Transfer Time  Overload  Alarm  Backfeed  Protection  Communication  ENVIRONMENT  Operating Temperature	Max.	current 20A	Load≤11( overl short circuit,	Max. current 40A  Utility to Battery: 0m:  0%: last 60min,≤125  0ad, utility abnormal Sup  overload, over temper t, LBS port, Backfeed	s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery port d port, Intelligent sl	Oms Ow: last 1min low, etc.	.9;30 pcs output pov	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: la 1.2s	
(charge current can be set according to battery capacity installed) SYSTEM FEATURES Transfer Time  Overload  Alarm Backfeed Protection Communication ENVIRONMENT Operating Temperature Storage Temperature	Max.	current 20A	Load≤11( overl short circuit,	Max. current 40A  Utility to Battery: 0m: 0%: last 60min,≤125  pad, utility abnormal Sup overload, over tempe t, LBS port, Backfeed  0°C  -25°C ~55°C	s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery pport erature, battery low d port, Intelligent sl -40°C C(no battery)	Oms Ow: last 1min low, etc.	.9;30 pcs output pov	wer factor 0.8;)  DA  Load≤110%: la: 60min,≤125%: la: 1min,≤150%: la 1.2s	
(charge current can be set according to battery capacity installed)  SYSTEM FEATURES  Transfer Time  Overload  Alarm Backfeed Protection Communication ENVIRONMENT Operating Temperature  Storage Temperature Humidity Range	Max.	current 20A	Load≤11( overl short circuit, rallel port, REPO poi	Max. current 40A  Stility to Battery: 0m: 0%: last 60min,≤125  pad, utility abnormal Sup overload, over temp t, LBS port, Backfeed  0°C~ -25°C~55° 0~95%(nor	ing; 32~34 pcs outp s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery poort erature, battery low d port, Intelligent sl ~40°C C(no battery) ccondensing)	Oms  Oms  low, etc.  r, fan fault alarm.  ot, SNMP card (op	.9;30 pcs output pov	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: la 1.2s	
(charge current can be set according to battery capacity installed) SYSTEM FEATURES Transfer Time  Overload  Alarm Backfeed Protection Communication ENVIRONMENT Operating Temperature Storage Temperature Humidity Range Altitude	Max. USB	current 20A , RS232, RS485, Par	Load≤11( overlo short circuit, rallel port, REPO por	Max. current 40A  Stillity to Battery: 0m:  0%: last 60min,≤125  pad, utility abnormal Sup overload, over tempe tt, LBS port, Backfeed  0°C  -25°C~55° 0~95%(nor  0m.When>1500m,lov	s; Utility to bypass: %: last 10min,≤15 b, UPS fault, battery poort erature, battery low d port, Intelligent sl -<40°C ((no battery) b) condensing) wer the rated power	Oms Oms low, etc. r, fan fault alarm. ot, SNMP card (op	9;30 pcs output pov Max. current 60 stional), Relay card(	wer factor 0.8;)  DA  Load≤110%: la: 60min,≤125%: la: 1min,≤150%: la: 1.2s  optional)	
(charge current can be set according to battery capacity installed)  SYSTEM FEATURES  Transfer Time  Overload  Alarm  Backfeed  Protection  Communication  ENVIRONMENT  Operating Temperature  Storage Temperature  Humidity Range  Altitude  Noise Level	Max.	current 20A	Load≤11( overl short circuit, rallel port, REPO poi	Max. current 40A  Stility to Battery: 0m: 0%: last 60min,≤125  pad, utility abnormal Sup overload, over temp t, LBS port, Backfeed  0°C~ -25°C~55° 0~95%(nor	ing; 32~34 pcs outp s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery poort erature, battery low d port, Intelligent sl ~40°C C(no battery) ccondensing)	Oms Oms low, etc. r, fan fault alarm. ot, SNMP card (op	.9;30 pcs output pov	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: la 1.2s	
(charge current can be set according to battery capacity installed)  SYSTEM FEATURES  Transfer Time  Overload  Alarm  Backfeed  Protection  Communication  ENVIRONMENT  Operating Temperature  Storage Temperature  Humidity Range  Altitude  Noise Level  PHYSICAL	Wax. USB <58dB	current 20A , RS232, RS485, Par <60dB	Load≤11( overlo short circuit, rallel port, REPO por	Max. current 40A  Stillity to Battery: 0m:  0%: last 60min,≤125  pad, utility abnormal Sup overload, over tempe tt, LBS port, Backfeed  0°C  -25°C~55° 0~95%(nor  0m.When>1500m,lov	s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery pport erature, battery low d port, Intelligent sl ~40°C C(no battery) c condensing) ver the rated powe <63dB	Oms Oms Ow: last 1min low, etc. v, fan fault alarm. ot, SNMP card (op	9;30 pcs output pov Max. current 60 stional), Relay card(	wer factor 0.8;)  DA  Load≤110%: la: 60min,≤125%: la: 1min,≤150%: la: 1.2s  optional)	
(charge current can be set according to battery capacity installed)  SYSTEM FEATURES  Transfer Time  Overload  Alarm  Backfeed  Protection  Communication  ENVIRONMENT  Operating Temperature  Storage Temperature  Humidity Range  Altitude  Noise Level  PHYSICAL  Dimension W*H*D(mm)	VSB <58dB	current 20A  , RS232, RS485, Par  <60dB	Load≤11( overl short circuit, rallel port, REPO poi <150 <61dB	Max. current 40A  Utility to Battery: 0m: 0%: last 60min,≤125  Dad, utility abnormal Sup overload, over tempe t, LBS port, Backfeed  0°C25°C~55°( 0~95%(nor 0m.When>1500m,lov <62dB	s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery pport erature, battery low d port, Intelligent sl  -40°C C(no battery) o condensing) ver the rated powe  <63dB	Oms Oms Ow: last 1min low, etc. v, fan fault alarm. ot, SNMP card (op	9;30 pcs output pov  Max. current 60  otional), Relay card(	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: las 1.2s  optional)	
(charge current can be set according to battery capacity installed)  SYSTEM FEATURES  Transfer Time  Overload  Alarm  Backfeed Protection Communication ENVIRONMENT Operating Temperature Storage Temperature Humidity Range Altitude Noise Level PHYSICAL Dimension W*H*D(mm) Net Weight(kg)	Wax. USB <58dB	current 20A , RS232, RS485, Par <60dB	Load≤11( overlo short circuit, rallel port, REPO por	Max. current 40A  Stillity to Battery: 0m:  0%: last 60min,≤125  pad, utility abnormal Sup overload, over tempe tt, LBS port, Backfeed  0°C  -25°C~55° 0~95%(nor  0m.When>1500m,lov	s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery pport erature, battery low d port, Intelligent sl ~40°C C(no battery) c condensing) ver the rated powe <63dB	Oms Oms Ow: last 1min low, etc. v, fan fault alarm. ot, SNMP card (op	9;30 pcs output pov Max. current 60 stional), Relay card(	Load≤110%: las 60min,≤125%: la 1min,≤150%: la 1.2s	
(charge current can be set according to battery capacity installed) SYSTEM FEATURES Transfer Time  Overload  Alarm Backfeed Protection Communication ENVIRONMENT Operating Temperature Storage Temperature Humidity Range Altitude Noise Level PHYSICAL Dimension W*H*D(mm) Net Weight(kg) STANDARDS	VSB <58dB	current 20A  , RS232, RS485, Par  <60dB	Load≤11( overl short circuit, rallel port, REPO poi <150 <61dB	Max. current 40A  Stillity to Battery: 0m:  0%: last 60min,≤125  pad, utility abnormal Sup overload, over tempe t, LBS port, Backfeed  0°C  -25°C~55° 0~95%(nor  0m.When>1500m,lov <62dB	s; Utility to bypass: %: last 10min,≤15 b, UPS fault, battery poort erature, battery low d port, Intelligent sl <-40°C C(no battery) c condensing) wer the rated powe <63dB 44: 155	Oms Oms Ow: last 1min low, etc. v, fan fault alarm. ot, SNMP card (op	9;30 pcs output pov  Max. current 60  otional), Relay card(	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: la 1.2s  optional)  <68dB	
(charge current can be set according to battery capacity	VSB <58dB	current 20A  , RS232, RS485, Pai  <60dB  )*868*828  83	Load≤110 overlow short circuit, rallel port, REPO port <150 <61dB	Max. current 40A  Stillity to Battery: 0m:  0%: last 60min,≤125  pad, utility abnormal Sup overload, over tempe t, LBS port, Backfeed  0°C  -25°C~55° 0~95%(nor  0m.When>1500m,lov <62dB	s; Utility to bypass: %: last 10min,≤15 , UPS fault, battery port erature, battery low d port, Intelligent sl -40°C C(no battery) to condensing) wer the rated powe <63dB  44: 155	Oms Oms Ow: last 1min low, etc. v, fan fault alarm. ot, SNMP card (op	9;30 pcs output pov  Max. current 60  vitional), Relay card(	wer factor 0.8;)  DA  Load≤110%: las 60min,≤125%: la 1min,≤150%: las 1.2s  optional)	

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









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



#### **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

## **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
Nominal voltage					380/400/415Va	c. (3Ph+N+PE)				
Operating voltage range				138~305Va	c Linear derating;		100% Load;			
Operating frequency range					40Hz-		•			
Power factor					≥0	.99				
Harmonic distortion (THDi)					≤3% (100%nc	n-linear load)				
Bypass voltage range				230Vac 240' Min. v	ax.voltage: +25%(o Max.voltage: +20° Vac Max.voltage: + voltage: -45% (opt uency synchronize	%(optional +10% 15%(optional + onal -10%,-20% e tracing range:	%,+15% ) 10%) o,-30%)			
Generator input OUTPUT					Supp	oort				
Output voltage					380/400/415Va	ic (3Ph+N+PE)				
Voltage regulation					±1					
Power factor					1					
Output frequency			1.Line	e Mode: ±1%/±	2%/±4%/±5%/= 2.Battery Mode:(			tional)		
Crest factor					3:					
Harmonic distortion (THD)					≤1% with   ≤3% with no	inear load				
Efficiency					96.0					
BATTERY										
Battery Voltage		(30/3		2/44/46/48/50p	V/±204V/±216V/ cs); 360Vdc~600Vc utput power facto	lc(30~50pcs, 36	pcs default, 36~	50 pcs output po		
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					y to Battery : 0ms					
Overload			Ву	pass Mode: 135	in., 125% for 10m % overload for lor	ig term; >1000%	overload for 10	)ms		
Overheat			Lin	e Mode: Switch	to Bypass; Backup		wn UPS immedia	ately		
Low battery voltage					Alarm and					
Self-diagnostics				U	pon Power On an		rot			
Backfeed protection					Sup					
EPO(optional)					Shut down UP					
Battery					Advanced Batte Complies wit					
Noise suppression Audible & Visual alarms				Line Fo			om Fault			
Reading on the LCD display					ilure, Battery Low tput, Battery, Com					
Communication interface		CAN PS/185	NET Parallel Dr		Relay card(option			temperature ser	ntor(ontional)	
ENVIRONMENT		CAN, N3403,	ive i, i arattet, Di	y contact port, i	telay card(options	at), Sivini Cara(C	ptionat,,battery	temperature ser	itor(optionat)	
Operating Temperature					0°C~	√40°C				
Storage Temperature					-25°C′					
Humidity Range					0~95%(non					
Altitude					<15	0.				
Noise Level	<62dB	<63	dB	<65dB	<70			<7	/3dB	
PHYSICAL										
Dimension UPS cabinet(S*) UPS cabinet(F*)	600*1200*850		600*1600*850		600*2000*850	1200*2	.000*850	2000*2000*850	2400*2	2000*850
STANDARDS					JEC/EN COOKS	IEC/EN COOSS				
Safety EMC			EC/EN C2046 2	FCC1000 4 2 :=:	IEC/EN 62040-1,			4.6.15661000		
FIVE			EC/EN 62040-2.	EC01000-4-2.IE0	C61000-4-3, IEC61	UUU-4-4.IEC610	JU-4-5, IEC61000	1-4-6, 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











#### 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 egular 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 bypass

Note:d)--h) optional



## **Technical Specifications:**

					ТМ33-Е	Т			
Model	ET10	ET20	ET30	ET40	ET60	ET80	ET100	ET120	ET160
Capacity	10kVA/9kW	20kVA/18kW	30kVA/27kW	40kVA/36kW	60kVA/54	kW 80kVA/72kW	100kVA/90kW	120kVA/108kW	160kVA/144kV
NPUT									
Operating voltage range				380/400/4	115Vac (-25%/	+20%), (3Ph+PE)			
Operating frequency range					50/60Hz (±	:5%)			
Power factor					≥0.97				
DUTPUT									
Output voltage				380/4	00/415Vac (±1	6), (3Ph+N+PE)			
Output frequency				,	50/60Hz (±0				
Harmonic distortion (THDv)				≤2% (Linear lo	ad)			≤1% (Li	near load)
Crest factor					3:1	(Max)			
Efficiency	88%	8	39%		90%	90.5%	92	2%	92.5%
BYPASS									
Rated voltage				380	)/400/415Vac, (3	Ph+N+PE)			
Rated frequency					50/60H	Z			
Voltage protection range			L		20% (+10%, +	15%, +20% adjustabl , -30%, -40% adjus			
Frequency protection range				±10% (±2.	5%, ±5%,±10°	%, ±20% adjustable)			
BATTERY						, ,			
					384Vdc (360~3	84Vdc )			
Battery voltage						,			
, ,		_							
SYSTEM FEATURES			_	0 ms	(Line mode→ I	Sattery mode)			
SYSTEM FEATURES  Transfer time		_	10		s (Line mode→ I		lynass		
Battery voltage SYSTEM FEATURES Transfer time Overload			Lo	oad≤110%/60mir	n; ≤125%/10mi	ns; ≤150%/1 min, to E	lypass		
SYSTEM FEATURES Transfer time Overload LED display		I/O voltage frequ		oad≤110%/60mir Input, Inve	n; ≤125%/10mi rter, Bypass, Ba	ns; ≤150%/1 min, to E tery, Output, Status	,	atus history record	d
SYSTEM FEATURES  Transfer time  Overload  LED display  .CD display		I/O voltage, frequ	uency, power, pow	oad≤110%/60mir Input, Inve er factor, battery v	n; ≤125%/10mi rter, Bypass, Ba voltage, current	ns; ≤150%/1 min, to E tery, Output, Status , battery status, load p	ercentage, UPS st	atus, history record	d
SYSTEM FEATURES  Transfer time  Overload  LED display  .CD display  Communication interface			uency, power, pow	oad≤110%/60mir Input, Inve er factor, battery v 232, RS485, EPO,	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op	ns; $\leq$ 150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Op	ercentage, UPS st		d
SYSTEM FEATURES  Transfer time  Overload  LED display  CD display  Communication interface  Optional			uency, power, pow	oad≤110%/60mir Input, Inve er factor, battery v 232, RS485, EPO,	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op	ns; ≤150%/1 min, to E tery, Output, Status , battery status, load p	ercentage, UPS si		d
SYSTEM FEATURES  Transfer time  Overload  LED display  CD display  Communication interface  Optional  ENVIRONMENTAL			uency, power, pow	oad≤110%/60mir Input, Inve er factor, battery v 232, RS485, EPO,	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op les, battery tem	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Op perature sensor, Bypa:	ercentage, UPS si		d
SYSTEM FEATURES  Transfer time  Overload  LED display  .CD display  Communication interface  Optional  ENVIRONMENTAL  Operating temperature			uency, power, pow	oad≤110%/60mir Input, Inve er factor, battery v 232, RS485, EPO,	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op les, battery tem 0~40%	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Op perature sensor, Bypa:	ercentage, UPS si		d
Transfer time  Overload  LED display  COD display  Communication interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature			uency, power, pow	oad≤110%/60mir Input, Inver er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op les, battery tem 0~40%	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Op perature sensor, Bypa:	ercentage, UPS si		d
Transfer time  Overload  LED display  COD display  Communication interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature  Humidity range			uency, power, pow	oad≤110%/60mir Input, Inver er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10min; crter, Bypass, Ba voltage, current Dry contact (Op les, battery tem 0~40° -25~55	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Op perature sensor, Bypa: C C ndensing)	ercentage, UPS si		d
Transfer time  Overload  LED display  COD display  Communication interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature  Humidity range  Altitude		Hari	uency, power, pow RS monic filter, SNMP	oad≤110%/60mir Input, Inver er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op les, battery tem 0~40%	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Op perature sensor, Bypa: C C ndensing)	ercentage, UPS st otional) ss current-sharing in		d
Transfer time  Overload  LED display  CO display  Communication interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature  Humidity range  Altitude  Noise level		Hari	uency, power, pow	oad≤110%/60mir Input, Inver er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10min; crter, Bypass, Ba voltage, current Dry contact (Op les, battery tem 0~40° -25~55	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Op perature sensor, Bypa: C C ndensing)	ercentage, UPS si		d
Transfer time  Overload  LED display  CO display  Communication interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature  Humidity range  Altitude  Noise level		Hari	uency, power, pow RS monic filter, SNMP	oad≤110%/60mir Input, Inver er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10min; crter, Bypass, Ba voltage, current Dry contact (Op les, battery tem 0~40° -25~55	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Op perature sensor, Bypa: C C ndensing)	ercentage, UPS st otional) ss current-sharing in	iductor	d
SYSTEM FEATURES  Transfer time  Overload  LED display  COMMUNICATION  COMMUNICATI		Hari	uency, power, pow RS monic filter, SNMP	oad≤110%/60mir Input, Inver er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10min; crter, Bypass, Ba voltage, current Dry contact (Op les, battery tem 0~40° -25~55	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Op perature sensor, Bypa: C C ndensing)	ercentage, UPS st stional) ss current-sharing in	ductor 890×790×1600 (6P)	890×790×1600 (0
Transfer time  Overload  LED display  COD display  Communication interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature  Humidity range  Altitude	145	Harr	uency, power, pow RS monic filter, SNMP	oad≤110%/60mir Input, Inver er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10min; crter, Bypass, Bavoltage, current Dry contact (Options, battery tem 0~40% -25~55 0~95% (Non-co	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Op perature sensor, Bypas C C indensing)	ercentage, UPS st stional) ss current-sharing in <68dB	ductor 890×790×1600 (6P)	890×790×1600 (6
SYSTEM FEATURES  Fransfer time  Overload  LED display  COD display  COMMUNICATION Interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature  Humidity range  Altitude  Noise level  OPHYSICAL  Dimension W×D×H (mm)	145 160	Harr <5 350×650×1050	uency, power, pow RS monic filter, SNMP	oad≤110%/60mir Input, Inver er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op les, battery tem 0~40% -25~55 0~95% (Non-co <1500r	ns; ≤150%/1 min, to E ttery, Output, Status battery status, load p tional), SNMP card (Op perature sensor, Bypa: C ndensing)  720×690×1400	ercentage, UPS st stional) ss current-sharing in <68dB 720×690×1400 (6P) 1515×830×1600 (12P) 556 (6P)/	890×790×1600 (6P) 1515×830×1600 (12P) 693 (6P)/	890×790×1600 (d 1400×1000×1900 ( 780 (6P)/
Transfer time  Overload  LED display  COD display  COD munication interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature  Humidity range  Altitude  Hoise level  PHYSICAL  Dimension W×D×H (mm)  Net weight (kg)		Harr <5 350×650×1050	nency, power, pow RS monic filter, SNMP 8dB	oad≤110%/60mir Input, Invei er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op les, battery tem 0~40% -25~55 0~95% (Non-co <1500r	ns; ≤150%/1 min, to E tery, Output, Status , battery status, load p tional), SNMP card (Op- perature sensor, Bypas C C indensing)	<pre>ercentage, UPS st stional)  &lt;68dB  720×690×1400 (6P) 1515×830×1600 (12P) 556 (6P)/ 1300 (12P) 591 (6P)/</pre>	890×790×1600 (6P) 1515×830×1600 (12P) 693 (6P)/ 1450 (12P) 738 (6P)/	890×790×1600 (1400×1000×1900) 780 (6P)/ 1645 (12P) 825 (6P)/
SYSTEM FEATURES  Fransfer time  Overload  LED display  COD display  Communication interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature  Humidity range  Altitude  PHYSICAL  Dimension W×D×H (mm)  Net weight (kg)  Shipping weight (kg)		Harr <5 350×650×1050	nency, power, pow RS monic filter, SNMP 8dB	oad≤110%/60mir Input, Inver er factor, battery v 232, RS485, EPO, adapter, LBS cable 0 430×8 255	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op les, battery tem 0~40% -25~55 0~95% (Non-co <1500r	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Opperature sensor, Bypas C C ndensing) 1 720×690×1400 450	<pre>ercentage, UPS st stional)  &lt;68dB  720×690×1400 (6P) 1515×830×1600 (12P) 556 (6P)/ 1300 (12P) 591 (6P)/</pre>	890×790×1600 (6P) 1515×830×1600 (12P) 693 (6P)/ 1450 (12P) 738 (6P)/	890×790×1600 ( 1400×1000×1900 780 (6P)/ 1645 (12P) 825 (6P)/
SYSTEM FEATURES  Transfer time  Overload  LED display  C.CD display  Communication interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature  Humidity range  Altitude  Noise level  PHYSICAL  Dimension W×D×H (mm)	160	Han <5 350×650×1050 165 180	RS monic filter, SNMP	oad≤110%/60mir Input, Invei er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op les, battery tem  0~40°,  -25~55 0~95% (Non-co  <1500r  830×1100  320  345  C/EN 62040-1; I	ns; ≤150%/1 min, to E ttery, Output, Status , battery status, load p tional), SNMP card (Opperature sensor, Bypas C C ndensing) 1 720×690×1400 450	<pre>ercentage, UPS st stional)  &lt;68dB  720×690×1400 (6P) 1515×830×1600 (12P) 556 (6P)/ 1300 (12P) 591 (6P)/ 1370 (12P)</pre>	890×790×1600 (GP) 1515×830×1600 (12P) 693 (6P)/ 1450 (12P) 738 (6P)/ 1520 (12P)	890×790×1600 (1400×1000×1900) 780 (6P)/ 1645 (12P) 825 (6P)/ 1775 (12P)
SYSTEM FEATURES  Fransfer time  Overload  LED display  COD display  Communication interface  Optional  ENVIRONMENTAL  Operating temperature  Storage temperature  Humidity range  Altitude  Noise level  PHYSICAL  Dimension W×D×H (mm)  Net weight (kg)  Shipping weight (kg)  STANDARDS  Safety	160	Han <5 350×650×1050 165 180	RS monic filter, SNMP	oad≤110%/60mir Input, Invei er factor, battery v 232, RS485, EPO, adapter, LBS cabl	n; ≤125%/10mi rter, Bypass, Ba voltage, current Dry contact (Op les, battery tem  0~40°,  -25~55 0~95% (Non-co  <1500r  830×1100  320  345  C/EN 62040-1; I	ns; ≤150%/1 min, to Ettery, Output, Status , battery status, load p tional), SNMP card (Operature sensor, Bypas  C C ndensing)  720×690×1400  450  485  EC 62477-1  4-5, IEC 61000-4-6, IEC	<pre>ercentage, UPS st stional)  &lt;68dB  720×690×1400 (6P) 1515×830×1600 (12P) 556 (6P)/ 1300 (12P) 591 (6P)/ 1370 (12P)</pre>	890×790×1600 (GP) 1515×830×1600 (12P) 693 (6P)/ 1450 (12P) 738 (6P)/ 1520 (12P)	890×790×1600 ( 1400×1000×1900 780 (6P)/ 1645 (12P) 825 (6P)/ 1775 (12P)

## **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 (-2	25%/+20%), (3Ph+PE)				
Operating frequency range			50/60	Hz (±5%)				
Power factor			≥	0.97 *				
OUTPUT								
Output voltage			380 / 400 / 415Vac	(±1%), (3Ph+N+PE)				
Output frequency			50 / 60H	z (±0.05%)				
Harmonic distortion (THDv)			≤1% (L	inear load)				
Crest factor			3:1	(Max)				
Efficiency	92.5%	93	1%	93.	.5%	94%		
BYPASS								
Rated voltage			380/400/415	/ac, (3Ph+N+PE)				
Rated frequency			50	/60Hz				
Voltage protection range				%, +15%, +20% adjustable) 20%, -30%, -40% adjustable	·)			
Frequency protection range			±10% (±2.5%, ±5%,	±10%, ±20% adjustable)				
BATTERY								
Battery voltage		384Vdc (360~408Vdc)		48	0Vdc	600Vdc		
SYSTEM FEATURES								
Fransfer time			0 ms (Line mod	e → Battery mode)				
Overload		Lo	ad≤110%/60min; ≤125%/	10mins; ≤150%/1 min, to By	ypass			
_ED display			Input, Inverter, Bypas	s, Battery, Output, Status				
.CD display	I/O voltage	, frequency, power, power fa	ctor, battery voltage, currer	nt, battery status, load perce	ntage, UPS status, history re	cord, settings		
Communication interface			RS232, RS485, EPO, Dry co	ontact, SNMP card (Optional	)			
Optional		Harmonic filter, SNMP a	adapter, LBS cables, battery	temperature sensor, Bypass	s current-sharing inductor			
ENVIRONMENTAL								
Operating temperature			0^	-40°C				
Storage temperature			-25·	~55°C				
Humidity range				n-condensing)				
Altitude				500m				
Noise level		<72dB		<75dB				
PHYSICAL								
Dimension W×D×H (mm)	1200×800×1600 (6P) 1400×1000×1900 (12P)		0×1900 (6P) 0×1900 (12P)	2580×1000×1900	2800×1040×1900	3280×1040×190		
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 6204	D-1; IEC 62477-1				
EMC		IEC/EN 62040-2 (IEC 61000-4-2, IE			0-4-8, IEC 61000-4-11, IEC 61000-2	-2)		
Performance		,		l 62040-3	,			
With optional filter								



 $<sup>\</sup>overset{\cdot}{\text{1.}}$  Specifications are subject to change without prior notice

<sup>2.</sup> Data above are typical values for reference only, not as a basis for engineering design





# **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 intenal 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			
abinet capacity	y	30kVA	45kVA	50kVA	60kVA	75kVA			
Iodule Model		TM66E-RM-10/15	TM66E-RM-15	TM66E-RM-10/25	TM66E-RM-20/30	TM66E-RM-15/25			
Module capacit	tv	10kVA/15kVA	15kVA	10kVA/25kVA	20kVA/30kVA	15kVA/25kVA			
lax. number*	.y	3+2/2+3	3+2	5/2+3	3+2/2+3	5/3+2			
NPUT		3.2/2.3	3.2	3/2.3	3.2/2.3	3/312			
ominal voltag	ge			380/400/415Vac, (3Ph+N+PE)					
perating volta	age range		138~305	Vac for 40% load; 305~485Vac for 1	00% load				
perating frequ	uency range			40Hz~70Hz					
ower factor				≥0.99					
armonic dist	ortion (THDi)			≤3% (100% linear load)					
Bypass voltage	e range		, and the second se	: 220V: +25% (Optional+10%, + 230V: +20% (Optional+10% 240V: +15% (Optional+ -45% (Optional-10%, -15%	o, +15%) 10%)				
Bypass freque	ncy range			requency protection range: ±10					
ower walk in				Support					
Senerator inpu				Support					
UTPUT									
Rated voltage				380/400/415Vac, (3Ph+N+PE)					
ower factor				1.0					
oltage regula	tion			±1%					
utput	Line mode	Synchronize	with input, when the input fre	equency $> \pm 10\% (\pm 1\%/\pm 2\%/\pm$	4%/±5% optional), output 50/6	60 (±0.1Hz)			
requency	Bat. mode	•	Synchronize with input, when the input frequency $>\pm10\%$ ( $\pm1\%$ / $\pm2\%$ / $\pm4\%$ / $\pm5\%$ optional), output 50/60 ( $\pm0.1$ Hz) ( $50/60\pm0.1\%$ )Hz						
rest factor				3:1					
armonic dist	ortion (THDv)		≤2% w	rith linear load; ≤4% with nonlin	ear load				
fficiency		up to 95.8%							
ATTERY									
lattery voltage				±240Vdc (6×40pcs 9Ah/12V)					
ower module	charge current			18A (Max.)					
YSTEM FEATU	JRES								
ransfer time				to Battery: 0ms; Utility to Bypas					
Overload	Inverter mode			% 10min, ≤150% 1min, >150% 1					
Overheat	Bypass mode			ng term; 40°C: 125% for long term					
	14		Line Mode: Switch t	o Bypass; Backup Mode: Shut do	wn UPS immediately				
ow battery vo Self-diagnostic				Alarm and Switch off					
Backfeed prote			Uţ	oon Power On and Software Cont	rol				
PO (Optional				Support					
Battery	)		Shut dowr	UPS immediately (Turn to bypas	ss optional)				
Noise suppres	sion			Advanced Battery Management					
Audible & visu			(*e.	Complies with EN62040-3	e. b				
Status LED & L				lure, Battery Low, Overload, Syst					
Reading on the				lode, Battery Low, Battery Fault,					
Communicatio	. ,	DS222 DS405 Da		ut, Battery, Command, Setting, Nelay card (Optional), SNMP card (		concor (Ontional)			
NVIRONMENT		K3232, K3403, Fa	ratter, EBS, Dry Contact port, Re	etay card (Optional), Siving card (	optionally, Battery temperature s	sensor (Optional)			
perating tem				0°C~40°C					
torage tempe				-25°C∼55°C					
lumidity rang				0∼95% (Non condensing)					
ltitude			<15	00m, derating required when >1	500m				
ittituue			<58dB	, derdeing required which / 1	<61dB				
					.0140				
oise level				600×1000×2000mm					
loise level PHYSICAL	UPS cabinet								
loise level PHYSICAL Dimension	UPS cabinet Power module			440×620×86mm (2U)					
Noise level PHYSICAL Dimension V×D×H	Power module UPS cabinet								
loise level PHYSICAL Dimension	Power module UPS cabinet (Without battery)			310kg (MAX.)					
HYSICAL imension J×D×H	Power module UPS cabinet								
loise level HYSICAL imension I×D×H	Power module UPS cabinet (Without battery)			310kg (MAX.)					

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

  1. Specifications are subject to change without prior notice

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#### 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

- $\bullet$  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				
NPUT								
Iominal voltage			380/400/415Vac, (3Ph+N+PE)					
perating voltage			138~322Vac for 40% Load; 323~485Vac for 100% Load;					
			40Hz-70Hz					
perating freque	ilicy range		≥0.99					
ower factor	· /TUD'\		≥0.99 ≤3% (100% linear load)					
Harmonic distort	ion (THUI)							
		Ma	x. voltage: 220V: +25% (Optional +10%, +15%, +20%	o)				
Bypass voltage ra	ange		230V: +20% (Optional +10%, +15%)					
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0		240V: +15% (Optional +10%)					
		Mi	n. voltage: −45% (Optional −10%, −15%, −20%, −30	1%)				
Bypass frequency	/ range		Frequency protection range: ±10%					
Generator input	range		Support					
OUTPUT			συρμοτι					
			390/400/41EV/c = /30b + N+DEV					
Rated voltage			380/400/415Vac, (3Ph+N+PE)					
Power factor			1.0					
/oltage regulation			±1%					
Dutput	Line mode	Synchronize with input, when the	ne input frequency $> \pm 10\% (\pm 1\%/\pm 2\%/\pm 4\%/\pm 5\%)$ o	ptional), output 50/60 (±0.1Hz)				
requency	Bat. mode		(50/60±0.1%)Hz					
Crest factor			3:1					
Harmonic distorti	ion (THDv)		≤1% with linear load; ≤3% with nonlinear load					
Efficiency			up to 97.1%					
BATTERY								
Battery voltage	VRLA battery		tinuously adjustable, 40~50pcs no power derating, 36~ ocs output power factor 0.8, 30/31pcs output power fac					
battery voltage	Lithium battery	52 55	410Vdc/512Vdc(Default)/614Vdc	101 0.17				
	,							
Power module ch			100A (Max.)					
SYSTEM FEATUR	ES		turity a Barrier and Turity and Turity					
Transfer time		Z.1.0./ 00	Utility to Battery: 0ms; Utility to bypass: 0ms					
Overload	Inverter mode		nin, ≤125% 10min, ≤150% 1min, >150% 1.2s shut do					
	Bypass mode		or long term; 40°C: 125% overload for long term; >1000					
Overheat		Line Mod	e: Switch to Bypass; Backup Mode: Shut down UPS imr	nediately				
Low battery volta	ige		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	n		Complies with EN62040-3					
Audible & visual a			Line Failure, Battery Low, Overload, System Fault					
Status LED & LCD		Line Mode	e, Bypass Mode, Battery Low, Battery Fault, Overload &	UPS Fault				
Reading on the LO			nput, Output, Battery, Command, Setting, Maintenance					
Communication i			ontact port, Relay card(Optional), SNMP card(Optional)					
NVIRONMENTA		,,,,,,,,,,,		, , , , , , , , , , , , , , , , , , , ,				
Operating tempe			0°C~40°C					
Storage temperat			-25°C~55°C					
Humidity range			0∼95% (Non condensing)					
Altitude			<1500m, derating required when >1500m					
			<1500m, derating required when >1500m <70dB					
loise level			\10UB					
PHYSICAL	LIDC - Li (0)							
Dimension	UPS cabinet (S)		800×1000×2000mm					
V×D×H	UPS cabinet (F)							
	Power module		440×755×130mm (3U)					
	UPS cabinet (S)	340kg	380kg	430kg				
let weight	UPS cabinet (F)	360kg	400kg	450kg				
	Power module		56kg					
TANDARDS								
TANDARDS afety			IEC/EN 62040-1, IEC/EN 62477-1					

- S: Without or only with one maintenance bypass breaker
  F: With mains, bypass, maintenance bypass and output breakers
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