

# **Online Transformerless UPS Series**

- Medium to large power capacity -





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### HPM3300E Subrack Modular Series

# Online Transformerless UPS series Mode: 3 phase input and 3 phase output Power range : 40~150kVA (3-Level PF: 1.0) Module: 40/50/60kVA C La la serie and 0 0 -

#### 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 96%
- ·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

#### VRLA&Lithium battery supportable

- •VRLA batteriy 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
- $\cdot$  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 capacity

- 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

Standard colorful touch screen
Support recording and exporting history logs and fault logs
Support SNMP, RS232, RS485, BMS, Dry contact interface
Support upgrade of CAN of power module inside of cabinet

#### Compatible with generator

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

# HPM3300E Subrack Modular Series

#### **Technical Specifications:**

Module Mode	ι	HPM330	00E-RM-40	HPM3300	HPM3300E-RM-60					
Cabinet Model		HPM3300E-80	HPM3300E-120	HPM3300E-100	HPM3300E-150	HPM3300E-120				
Cabinet capacity	(VA)	40k~80k	40k~120k	50k~100k 50k~150k		60k~120k				
Module capacity			40k 120k	500 1000		60k				
Max. number	(,	2+1	3	2+1	3	2+1				
INPUT			-							
Iominal voltage				380/400/415Vac, (3Ph+N+PE)						
Dperating voltag			138~305Va		100% load					
perating freque		138~305Vac for 40% load; 305~485Vac for 100% load 40Hz~70Hz								
ower factor	, ,	>0.99								
larmonic distor	tion (THDi)			≤3% (100% linear load)						
ypass voltage r	anga	Max. voltage : 2	220V: +25% (optional+10%, +15			6 (optional +10%)				
ypass voltage i	ange		Min. voltage	e : -45% (optional-10%, -15%, ·	20%, -30%)					
ypass frequenc	y range			±10%						
ower walk in				Support						
ienerator input				Support						
UTPUT										
ated voltage				380/400/415Vac, (3Ph+N+PE)						
ower factor				1.0						
oltage regulatio				±1%						
utput	Line mode	Synchronize	with input, when the input freq		±4%/±5% optional), output	50/60 (±0.1Hz)				
equency	Bat. mode			(50/60±0.1%)Hz						
rest factor		3:1								
larmonic distor	tion (THDv)	≤2% with linear load, ≤4% with nonlinear load								
fficiency				96%						
ATTERY										
attery voltage	VRLA battery	360Vdc~600Vdc (30~50pcs continuously adjustable, 30pcs default, 36~50pcs no power derating; 32~35pcs output power factor 0.9; 30/31pcs output power factor 0.8)								
, 0	Lithium battery	512Vdc								
ower module cha		20A (Max.)								
YSTEM FEATU										
ransfer time		Utility to Battery : 0ms; Utility to Bypass : 0ms								
verload	Inverter mode	$\leq$ 110% 60min, $\leq$ 125% 10min, $\leq$ 150% 1min, $>$ 150% 1.2s shut down inverter								
	Bypass mode	30°C : 135% for long term; 40°C: 125% for long term; >1000%, 100ms								
verheat		Line Mode: Switch to Bypass; Backup Mode: Shut down UPS immediately								
ow battery volt	age			Alarm and Switch off						
elf-diagnostics		Upon Power On and Software Control								
ackfeed protec	tion	Support								
attery		Advanced Battery Management								
oise suppressi		Complies with EN62040-3								
udible & visual		Line Failure, Battery Low, Overload, System Fault								
tatus LED & LCI eading on the I		Line Mode, Bypass Mode, Battery Low, Battery Fault, Overload & UPS Fault Input, Output, Battery, Command, Setting, Maintenance								
ommunication		DC222 DC405 Daral				aturo concor(ontional)				
OMMUNICATION		RS232, RS485, Parallel, LBS, BMS, Dry contact port, Relay card(optional), SNMP card(optional), Battery temperature sensor(optional)								
perating temp				0°C~40°C						
torage tempera		0°C∼40°C -25°C∼55°C								
lumidity range				0~95% (non condensing)						
lititude		<ul><li>&lt;1500m, derating required when &gt;1500m</li></ul>								
loise level		<57dB		3dB		2dB				
HYSICAL				-						
				405 \ 4050 \ 405						
Dimension UPS cabinet				485×850×620						
	Power module			440×620×130						
let weight (kg)	UPS cabinet		103	11		110				
	Power module		33	3	4	35				
ANDARDS										
afety				IEC/EN62040-1, IEC/EN62477-						
MC		IEC/EN62040-2 (IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8)								

Specifications are subject to change without prior notice.

### HPM3300E Modular Series

Online Transformerless UPS series Power range : 50~1200kVA (3-Level PF: 1.0)

#### Mode: 3 phase input and 3 phase output Module: 50/60kVA (3U)



#### 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
- $\cdot$  3-level topology design, efficiency is up to 96%
- ·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

#### VRLA&Lithium battery supportable

- VRLA batteriy 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
- $\cdot$  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
- $\cdot$  Support recording and exporting history logs and fault logs
- $\cdot$  Support SNMP, RS232, RS485, BMS, Dry contact interface
- Support upgrade of CAN of power module inside of cabinet • 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

# HPM3300E Modular Series

#### Technical Specifications:

Module Mode		HPM3300E-RM-50								
Cabinet Mode	ι	HPM3300E-200	HPM3300E-300	HPM3300E-400	HPM3300E-500	HPM3300E-600	HPM3300E-800	HPM3300E-100		
Cabinet capacity (VA)		200k	300k	400k	500k	600k	800k	1000k		
Module capacity	(VA)		-		50k					
Max. number		4	6	8	10	12	16	20		
Nominal voltage Operating voltage range Operating frequency range Power factor Harmonic distortion (THDi)		380/400/415Vac, (3Ph+N+PE) 138~305Vac for 40% Load; 305~485Vac for 100% Load; 40Hz-70Hz ≥0.99 ≪3% (100% linear load) Max. voltage : 220V : +25% (optional+10%, +15%) : 240V : +15% (optional +10%)								
Bypass voltage ra	-		Ū,	Min. voltage : -45	% (optional-10%, -1	5%, -20%, -30%)		*		
Bypass frequency	tracking range				±10%					
Power walk in Generator input					Support Support					
Rated voltage				380/	400/415Vac, (3Ph+N+	PE)				
Power factor				5007	1.0					
Voltage regulatio					±1%					
Output	Line mode	Syncl	hronize with input, wh	nen the input frequenc		%/±4%/±5% optio	nal), output 50/60 ( $\pm$	0.1Hz)		
frequency Crest factor	Bat. mode	(50/60±0.1%)Hz 3:1								
Harmonic distor	ion (THDv)			≤2% with line	ar load; ≤4% with n	onlinear load				
Efficiency		≪270 with mean load, ≪470 with holimitean load								
BATTERY										
	VRLA battery	360Vdc~600Vdc (30~50pcs continuously adjustable, 30pcs default, 36~50pcs no power								
Battery voltage	,	derating; 32~35pcs output power factor 0.9; 30/31pcs output power factor 0.8)								
	Lithium battery				512Vdc					
Power module cha	0				20A (Max.)					
SYSTEM FEATU Transfer time	RES			Litility to Bat	tery : 0ms; Utility to I	whass Oms				
	Inverter mode		≤1100	% 60min, ≤125% 10m			nverter			
Overload	Bypass mode	30°C : 135% for long term; 40°C : 125% for long term; >1000%, 100ms								
Dverheat		Line Mode : Switch to Bypass; Backup Mode : Shut down UPS immediately								
Low battery volta Self-diagnostics	age	Alarm and Switch off Upon Power On and Software Control								
Backfeed protect	tion	Upon Power Un and Software Control Support								
EPO (optional)		Support Shut down UPS immediately (turn to bypass optional)								
Battery		Advanced Battery Management								
Noise suppressio		Complies with EN62040-3								
Audible & visual Status LED & LCE			11		attery Low, Overload		E. D.			
Reading on the L		Line Mode, Bypass Mode, Battery Low, Battery Fault, Overload & UPS Fault Input, Output, Battery, Command, Setting, Maintenance								
Communication		mput, output, satuery, comand, setung, maintenance RS232, RS485, Parallel, LBS, BMS, Dry contact port, Relay card(optional), SANP card(optional), Battery temperature sensor(optional)								
ENVIRONMENT										
Operating tempe					0°C~40°C					
Storage tempera	ture	-25°C~55°C								
Humidity range Altitude					95% (non condensir	0,				
Altitude Noise level		<65dB	<66dB	<1500m, a <68dB	erating required whe 70>		-7	3dB		
PHYSICAL		0000	-0000	JUGUD	<10		<1	545		
	UPS cabinet (S)			600×850×2000						
Dimension	UPS cabinet (F)	600×85	50×2000	1200×850×2000	1200×8	50×2000	2000×8	350×2000		
W×D×H (mm)	Power module				440×620×130					
	UPS cabinet	270	290	310/470	650	720	980	1080		
Net weight (kg)		210	250	010/410		120	500	1000		
	Power module				34					
STANDARDS										
Safety					N62040-1, IEC/EN624					

Specifications are subject to change without prior notice. S: Without or only with one maintenance bypass breaker F: With mains, bypass, maintenance bypass and output breakers

# HPM3300E Modular Series

#### Technical Specifications:

Module Model Cabinet Model		HPM3300E-RM-60							
		HPM3300E-300   HPM3300E-480   HPM3300E-600   HPM3300E-840   HPM3300E-108							) HPM3300E-1200
Cabinet capacity (VA)		300k	480k		600k		840k	1080k	1200k
/lodule capacity /lax. number	/ (VA)	5	8		10	50k	14	18	20
IPUT		5	0		10		11	10	20
ominal voltage	2				380/400/415		,		
perating voltag				138~3			485Vac for 100% Loa	d;	
perating freque	ency range	40Hz-70Hz ≥0.99							
armonic distor	rtion (THDi)	≥0.99 ≤3% (100% linear load)							
vpass voltage r	ange	Max. voltage	: 220V : +25% (option					+15% ); 240V : +15% (opti	onal +10%)
	-			Min.		nal-10 10%	0%, -15%, -20%, -30%	b)	
/pass frequency ower walk in	/ tracking range					pport			
enerator input						pport			
UTPUT									
ated voltage					380/400/415	/ac, (3	Ph+N+PE)		
ower factor						1.0 :1%			
oltage regulatio utput	on Line mode	Synchroniz	a with input when th	o in n			04/+204/+404/+E04	optional), output 50/60	(+0.14-)
equency	Bat. mode	Synchroniz	e with input, when ti	ie inpi	(50/60			optional), output 50/60	(±0.1Π2)
est factor	Battimode					3:1	-/		
armonic distor	rtion (THDv)	$\leqslant$ 2% with linear load; $\leqslant$ 4% with nonlinear load							
ficiency					up t	:o 96%	5		
ATTERY				(0.0 -					
attery voltage	VRLA battery	360Vdc~600Vdc (30~50pcs continuously adjustable, 30pcs default, 36~50pcs no power derating; 32~35pcs output power factor 0.9; 30/31pcs output power factor 0.8)							
ittery voltage	Lithium battery		deruting, 52	. oopt		2Vdc	30/31pc3 output por		
wer module cha		20A (Max.)							
STEM FEATU	IRES								
ansfer time	In the second se	Utility to Battery : 0ms; Utility to bypass: 0ms ≤110% 60min, ≤125% 10min, ≤150% 1min, >150% 1.2s shut down inverter							
/erload	Inverter mode Bypass mode								
verheat	bypuss mode	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							
w battery volt	tage	Alarm and Switch off							
elf-diagnostics		Upon Power On and Software Control							
ackfeed protec	tion	Support							
°O (optional) attery		Shut down UPS immediately (turn to bypass optional) Advanced Battery Management							
oise suppressi	on	Advanced Battery Management Complies with EN62040-3							
udible & visual	alarms	Line Failure, Battery Low, Overload, System Fault							
atus LED & LCI		Line Mode, Bypass Mode, Battery Low, Battery Fault, Overload & UPS Fault							
eading on the I		Input, Output, Battery, Command, Setting, Maintenance RS232, RS485, Parallel, LBS, BMS, Dry contact port, Relay card(optional), SNMP card(optional), Battery temperature sensor(optional)							
ommunication		rəzəz, rə400, pdi	allel, LDS, DMS, DTy C	Ontac	t port, Relay card(op	liona	), SIMMP Card(Optiona	al), ballery temperature s	ensor(optional)
NVIRONMENT perating temp					0°C	~40°(	-		
orage tempera		-25°C							
umidity range		0~95% (non condensing)							
titude				70.15	<1500m, derating re	equire	d when >1500m	70.10	
oise level		<66dB		<70dE	5			<73dB	
HYSICAL									
imension	UPS cabinet (S) UPS cabinet (F)	600×850×2000	12002	×850>	<2000		2000×8	50×2000	2200×850×200
$\times$ D $\times$ H (mm)	Power module				440×6	520×	130		
		290	650				980	1080	1200
et weight (kg)	UPS cabinet	290	000		720		300	1080	1200
	Power module					34			
ANDARDS									
fety					IEC/EN62040-1	L, IEC/	'EN62477-1		

EMC IEC/EN62040-2 (IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8)

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# HPM3300E-T Series

#### Online Transformerless UPS series Power range : 200~1200kVA (3-Level PF: 1.0)

#### Mode: 3 phase input and 3 phase output



#### High reliability

- Wide input voltage range, line voltage range is 138-485V, UPS will derate to 40% when input voltage is below 305V
- •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 96%
- •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

#### Compatible with generator

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

#### Intelligent management

- $\cdot$  With 7 inches (standard) and 10 inches (optional) colorful
- touch LCD screen
- $\cdot$  Support recording and exporting history logs and fault logs
- · Support SNMP, RS232, RS485, BMS, Dry contact interface

#### VRLA&Lithium battery supportable

- VRLA batteriy 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
- $\cdot$  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
- $\cdot$  Support sharing batteries for the UPS in parallel

#### Strong load capacity

- 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

# HPM3300E-T Series

#### Technical Specifications:

Model	1	HPM3300E-200-T	HPM3300E-250-T	HPM3300E-300-T	HPM3300E-400-T					
Capacity (VA)	i i i i i i i i i i i i i i i i i i i	200k	250k	300k	400k					
INPUT										
Nominal voltage	2		380/400/415Va	ac, (3Ph+N+PE)						
Operating voltag			138~305Vac for 40% Load;	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
Operating freque			40H2-70Hz							
Power factor	,		≥0	0.99						
Harmonic distor	tion (THDi)		≤3% (100%	linear load)						
Bypass voltage r		Max. voltage : 220V : +25%	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	tracking range			.0%						
Power walk in			Sup	port						
Generator input			Sup							
OUTPUT										
Rated voltage			380/400/415Va	ac (3Ph+N+PF)						
Power factor			1							
/oltage regulatio	an			1%						
onage regulatio Dutput	Line mode	Synchronize with input		(±1%/±2%/±4%/±5% optional),	$autput 50/60 (\pm 0.1 Hz)$					
requency	Bat. mode	Synchronize with input,		(0.1%)Hz	output 30/00 (±0.1112)					
Crest factor	bat. mode			:1						
Frest factor Harmonic distor	tion (THDy)			.⊥ ≨4% with nonlinear load						
Efficiency				96%						
· · · · ·			up to	5070						
BATTERY		2001/1-	(00)/de (20, E0e ee et eu et et et	instable 20mes default 20 50						
	VRLA battery	360Vdc~600Vdc (30~50pcs continuously adjustable, 30pcs default, 36~50pcs no power derating; 32~35pcs output power factor 0.9; 30/31pcs output power factor 0.8)								
Battery voltage	,	der	0. 1 1 1		J.8)					
	Lithium battery		512							
ower module c		80A (Max.)	100A	(Max.)	140A (Max.)					
SYSTEM FEATU	RES									
Fransfer time				; Utility to bypass: 0ms						
Overload	Inverter mode	≤110% 60min, ≤125% 10min, ≤150% 1min, >150% 1.2s shut down inverter								
	Bypass mode		30°C : 135% for long term; 40°C : 125% for long term; >1000%, 100ms							
Overheat		Li		Mode : Shut down UPS immediatel	у					
ow battery volt	age		Alarm and Switch off							
Self-diagnostics		Upon Power On and Software Control								
Backfeed protec	tion		Support							
PO (optional)			Shut down UPS immediately (turn to bypass optional)							
Battery		Advanced Battery Management								
voise suppressi	on			th EN62040-3						
Audible & visual	alarms		Line Failure, Battery Low	, Overload, System Fault						
Status LED & LCI		Li		v, Battery Fault, Overload & UPS Faul	lt					
Reading on the l	CD display		Input, Output, Battery, Command, Setting, Maintenance							
Communication	1 2	RS232, RS485, Parallel, LBS, BN	RS232, RS485, Parallel, LBS, BMS, Dry contact port, Relay card(optional), SNMP card(optional), Battery temperature sensor(optional)							
INVIRONMENT										
Operating temp			0°C~	~40°C						
Storage tempera				~55°C						
lumidity range			-25 C 0~95% (non							
, 0			<1500m, derating red	0,						
Altitude Noise level		<63d		<65dB	<70dB					
		~030	0	-0300	~100b					
PHYSICAL										
Dimension	S									
$V \times D \times H (mm)$	F		600×85	0×2000						
. ,	F									
Net weight (kg)		406	440	460	548					
STANDARDS										
Safety			IEC/EN62040-1.	IEC/EN62477-1						
EMC		IFC/FN62040-2		000-4-4, IEC61000-4-5, IEC61000-4-6,	IEC61000-4-8)					
		120/21102040-2								

IEC/EN62040-2 (IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8) EMC

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### HPM3300E-T Series

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#### Technical Specifications:

Model		HPM3300E-500-T	HPM3300E-600-T	HPM3300E-800-T	HPM3300E-1000-T	HPM3300E-1200-T				
Capacity (VA)		500	600	800k	1000k	1200k				
INPUT										
Nominal voltage				380/400/415Vac, (3Ph+N+PE)	)					
Operating voltag	ge range		138~305Vac	for 40% Load; 305~485Vac fo	r 100% Load;					
Dperating frequ	ency range			40Hz-70Hz						
Power factor				≥0.99						
Harmonic distor	rtion (THDi)			≤3% (100% linear load)						
Bypass voltage r	ange	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%) ±10%								
ypass frequency ower walk in	/ tracking range			Support						
Generator input				Support						
				Support						
UTPUT				200 / 400 / 41 EV (201 - 11 - DE)						
ated voltage				380/400/415Vac, (3Ph+N+PE)	)					
ower factor				1.0 ±1%						
oltage regulation						50/00/10000				
Output	Line mode	Synchronize w	rith input, when the input freq		$\pm$ 4%/ $\pm$ 5% optional), output	50/60 (土0.1Hz)				
requency	Bat. mode			(50/60±0.1%)Hz						
rest factor	(TUD.)			3:1 Is listed of 400 with seal	in new local					
armonic distor	tion (THDV)		≤2% wit	h linear load; ≤4% with nonli	inear load					
fficiency				up to 96%						
ATTERY										
attery voltage	VRLA battery	360Vdc~600Vdc (30~50pcs continuously adjustable, 30pcs default, 36~50pcs no power derating; 32~35pcs output power factor 0.9; 30/31pcs output power factor 0.8)								
	Lithium battery			512Vdc						
ower module c	harge current	180A (Max.)	200A (Max.)	280A (Max.)	360A (Max.)	400A (Max.)				
YSTEM FEATU	IRES									
ransfer time			Utility t	o Battery : 0ms; Utility to bypa	ass: Oms					
verload	Inverter mode	$\leq$ 110% 60min, $\leq$ 125% 10min, $\leq$ 150% 1min, $>$ 150% 1.2s shut down inverter								
Ventoad	Bypass mode	30°C : 135% for long term; 40°C : 125% for long term; >1000%, 100ms								
verheat		Line Mode : Switch to Bypass; Backup Mode : Shut down UPS immediately								
ow battery volt	age			Alarm and Switch off						
elf-diagnostics		Upon Power On and Software Control								
ackfeed protec	tion	Support								
PO (optional)		Shut down UPS immediately (turn to bypass optional)								
attery		Advanced Battery Management								
loise suppressi	on			Complies with EN62040-3						
udible & visual	alarms		Line Failu	ire, Battery Low, Overload, Sy	stem Fault					
tatus LED & LCI	D display		Line Mode, Bypass Mo	de, Battery Low, Battery Fault	t, Overload & UPS Fault					
leading on the I	LCD display			t, Battery, Command, Setting						
ommunication	interface	RS232, RS485, Paralle			ard(optional), Battery tempera	ature sensor(optional)				
NVIRONMENT	TAL									
perating temp				0°C~40°C						
torage tempera				-25°C~55°C						
lumidity range				$0 \sim 95\%$ (non condensing)						
ltitude			<1500	)m, derating required when >.	1500m					
oise level		<70dB	<73dB	,	<74dB					
HYSICAL										
imension	S									
$V \times D \times H (mm)$	5	1200×8	50×2000	2000×8	350×2000	2200×850×2000				
	F									
let weight (kg)		956	1060	1422	1658	1880				
TANDARDS										
afety				EC/EN62040-1, IEC/EN62477-						
EMC		C IEC/EN62040-2 (IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8)								

IEC/EN62040-2 (IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8) EMC

Specifications are subject to change without prior notice. S : Without or only with one maintenance bypass breaker F : With mains, bypass, maintenance bypass and output breakers



#### **Product features**

• Professional lithium pack team and automated product line, providing more reliable products and delivering higher adaptability to UPS operating characteristics

• Three-level intelligent BMS with multiple protection and communication functions, ensuring reliability and meeting the requirements for remote real-time monitoring

- $\cdot$  Equipped with intelligent monitoring present to display battery real-time information
- · Two-level fire protection of cabinet and module ensures the safety of data center
- · Prolonged service life up to 15 years, more than 3500 cycles of cycle life
- · Modular design, with most models supporting the parallel use of multiple modules, parallel cabinet number up to 12,
- offering more flexible autonomy time selection
- · Maintenance free, reducing maintenance costs

#### **Comparison of LFP and VRLA**

ltems Battery Type	Volume	Footprint	Weight	Cycle life	Operating temperature	Intelligent monitoring
LFP	3m³	1.5m <sup>2</sup>	2500kg	>2000	-20~65°C	Three-level BMS
VRLA	10m <sup>3</sup>	6m²	10000kg	<500	0∼40°C	Need extra battery monitoring module

\*Volume, footprint and weight are beased on 400kW load@20mins backup time.

# KLi Lithium-ion Battery System

#### **Technical Specifications:**

MODEL	KLi-512100C01	1	KLi-512100C04			
CELL PARAMETERS						
Cell material		LiFeO4				
Nominal voltage (Vdc)		3.2				
Nominal capacity (Ah)	100		25			
BATTERY SYSTEM PARAMETERS						
Nominal voltage (Vdc)		512				
Nominal capacity (Ah)		100				
Cell series/parallel connections	160S1P		160S4P			
Nominal energy (Wh)		51200				
Maximum continuous discharge current (A)	100		400			
Peak discharge current (A)	160A/3S		450A/3S			
Maximum continuous charge current (A)		100				
Recommended charge current (A)		≤50				
Maximum continuous output power (kW)	51.2		204			
Normal charge voltage (Vdc)		584				
Float charge voltage (Vdc)		544				
End-of-discharge voltage (Vdc)		432				
Typical calendar life	5-15 years, depend	5-15 years, depending on surrounding environment and use				
Typical cycle life	2000 cycles (80% DOD), 3500 cycles	(50% DOD), depending (	on surrounding environment and use			
Protection function	High/low cell voltage protection, high/low b protection, high/low charge temperature pr protection, equilibrium temperature; etc.		protection, charge/discharge over-current harge temperature protection, short-circuit			
Communication interface	ł	RS485, Dry contact, CAN	4			
Indicator	Alarm, operat	tion, relay status, charg	e level display			
Heat management method	Natural heat dissipation	Na	tural heat dissipation&Fan heat dissipation			
ENVIRONMENTAL						
Operating temperature (°C)	Charge : 0 ~ 45; discharge: -20 ~ 65		Charge : 0 ~ 55; discharge: -20 ~ 65			
Operating humidity (%)	Relative	numidity 0~90 (no cond	ensation)			
Storage temperature (°C)	-20 ~45 (short-term storag	ge),-10~25 (long-term sto	orage), @50% charge level			
Storage humidity (%)	Relative	humidity 0~90 (non con	idensing)			
Altitude requirement (m)		≤2000				
PHYSICAL						
System dimension W×D×H (mm)		600×850×2000				
System weight (kg)	780		845			
COMPLIANCE						
Referential standards	IEC62619, IEC62133, UL1	642, Battery Directive 2	013/56/EU, UN38.3, RoHS			
Safety		IEC/EN62477-1				
EMC	IEC/EN61000					



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