

10KVA - 80KVA

Thor Series

Industrial Type True Double Conversion Online UPS

The Thor series is a tower type design with a true double conversion online three-phase UPS system. The UPS comes with a parallel redundant configuration that allows four units to operate in parallel.

All Thor series UPS system is equipped with a galvanic isolation transformer that can withstand a wide range of loads. Digital Signal Processor (DSP) control technology is used to improve the system's performance and reliability. All internal PCBAs are coated to withstand harsh environmental conditions. Redundant fan design and independent ventilation to improve operation.

The Thor series system is the ideal solution to mission-critical applications and equipment.

Features

- True Online Double Conversion with DSP Control
- Robust Electrical Performance
- Screwless Cabinet Design
- Full PCBAs Coating to Withstand Harsh Environment
- Unique Ventilation Design for Effective Heat Dissipation
- Available in Power Factor 0.8 / 0.9
- Flexible Battery Configuration Adapts Different Applications
- Accepts Dual-Mains Input
- Parallel Capability up to 4 units
- Comes with Modbus RS-232/RS 485, Dry Contacts, SNMP Slots & Power Management Software



160KVA - 200KVA



Automotive Industry



Manufacturing



Oil & Gas Industry



Power Plant

Key Advantages

Robust Electrical Performance

This UPS is designed to accept wide input voltage and frequency range to cope with the worst utility conditions. It can eliminate harmful distortion from utility power and withstand all kinds of severe impacts from various loads. It is capable of supporting heavy-duty equipment, production equipment and DCS (Distributed Control System) systems.

Screwless Cabinet Design & Fully Coating PCBAs to Withstand Harsh Environment

The outside cabinet is designed only with locks without any screws and all PCBAs are coated for anti-moisture, anti-electrical leakage, anti-dust and anti-corrosion. Its robust design is suitable for high temperature, high humidity, dense dust, salt or strong vibration.

Unique Ventilation design for Effective Heat Dissipation

Unique ventilation design allows heat flowing to top as natural convection. Therefore, the UPS cabinets can be added in parallel side by side for space saving.



Flexible Battery Configuration adapts different Applications

Battery numbers can be adjusted flexibly according to different power demands.

Accepts Dual-Main Inputs

This UPS Series is allowed to connect two separate power inputs to increase operation reliability.

Front Access Makes Maintenance & Replacement Easy

An important consideration has been given to allow access to the unit's electronic cards and power components. All the boards are accessible by the front panel for easy maintenance and replacement.



High Short-Circuit and Overload Capabilities

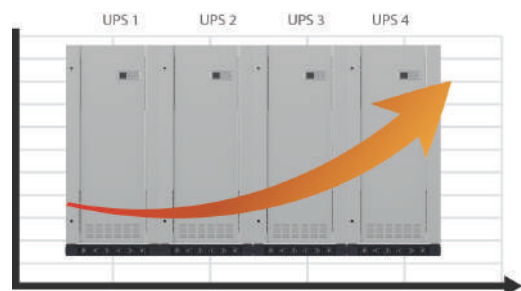
UPS is built-in with high short-circuit protection. Once short-circuit occurs, this protection device will be activated. The load will stay protected and the UPS will remain intact. High overload protection supports 110% for 60 minutes and 125% for 10 minutes.

Easy Integration Into Existing Electrical Networks or Generator

This UPS allows either top or bottom wiring connection depending on various environment conditions. This UPS is fully compatible with generator.

Parallel Capability up to 4 units

Up to 4 units in parallel can be operated without adding additional hardware, increasing system capacity as well as operation reliability for power redundancy.



Technical Specification:

MODEL	THOR T+ 10KS	THOR T+ 15KS	THOR T+ 20KS	THOR T+ 30KS	THOR T+ 40KS	THOR T+ 60KS	THOR T+ 80KS
CAPACITY (KVA/KW)	10KVA / 8KW	15KVA / 12KW	20KVA / 16KW	30KVA / 24KW	40KVA / 32KW	60KVA / 48KW	80KVA / 64KW
INPUT							
NOMINAL VOLTAGE	3 x 380VAC/400VAC/415VAC (3P + N or 3P + N + G)						
ACCEPTABLE VOLTAGE RANGE	304VAC ~ 456VAC						
FREQUENCY RANGE	50Hz ±5 Hz (±10%)						
PHASE	3-Phase in / 3-phase out						
INPUT CONNECTION TYPE	Hard Wire 4-wire (3Ph + G), Hard Wire 5-wire (3Ph+N+G)						
OUTPUT							
NOMINAL VOLTAGE	3 x 380VAC/400VAC/415VAC (Selectable)						
OUTPUT POWER FACTOR	0.8						
FREQUENCY	50Hz ±1%						
FREQUENCY SYNCHRONISATION RANGE	±5Hz (Equal to bypass working range)						
FREQUENCY SYNCHRONISATION SPEED	1 ~ 2 Hz/s						
OUTPUT VOLTAGE STABILITY	STEADY STATE	±1%					
	TRANSIENT STATE	±5%					
WAVEFORM	Pure Sinewave						
LOAD CREST FACTOR	3 : 1						
TOTAL HARMONIC DISTORTION (THDV)	<2% (Linear Load) ; <4% (Non-linear Load)						
DYNAMIC IN-RUSH VOLTAGE RANGE	0%~>100%~>0% (R Load) <±5% ; 20%~>100%~>20% (R Load) ±3%						
DYNAMIC RECOVERY TIME (III Grade)	0%~100% RCD load : <60 ms recover to 90% of nominal voltage						
PHASE DISPLACEMENT	120° ±1% (balanced load) ; 120° ±2% (imbalances 50% of the load)						
TRANSFER TIME	0 ms						
OVERLOAD CAPABILITY	0% ~ 110% continuous running; 110% ~ 150% for 10 min~1 min; >160% for 200ms						
SHORT CIRCUIT CAPABILITY	60~100ms						
TRANSIENT RESPONSE TIME	< 5ms						
OUTPUT CONNECTION	Hardwire 5-wire (3P+N+G)						
BYPASS							
CONNECTION TYPE	Hardwire 5-wire (3P+N+G)						
INPUT VOLTAGE RANGE	220VAC ± 25%						
OVERLOAD CAPABILITY	1.5 In~1.8 In 1h~30s						
SHORT CIRCUIT CAPABILITY	1.8 In ~ >2.0 In 30s~200ms						
BATTERY & CHARGER							
RECTIFIER	TYPE	6 Pulse					
	RATED OUTPUT VOLTAGE	384 VDC					
	CHARGER VOLTAGE	395VDC - 435VDC (Adjustable)					
	CHARGING CURRENT (Max)	20A					40A
BATTERY	TYPE	Sealed Lead Acid Maintenance Free Battery					
	NUMBERS	12VDC x 32 pcs (29~32 pcs adjustable)					
	REVERSE DIODE	No					
	COLD START	Yes					
SYSTEM							
EFFICIENCY (At Linear Load)	90%		91%			92%	
ECO MODE (Non-Parallel Models)	Yes						
EPO FUNCTION	Yes						
STANDARD	IEC 61000-4-5 Protection surge, IEC 62040-2 EMC/EMI, IEC62040-1 Safety						
COMMUNICATION							
POWER MANAGEMENT SOFTWARE	Support Window Family, Linux and MAC						
INTERFACE	Modbus RS-232/RS485						
DRY CONTACTS	6 Outputs and 2 Inputs						
SNMP SLOT	Yes						
ENVIRONMENT							
OPERATING TEMPERATURE	0~ 35°C continuous running, 40°C 8-hour running at nominal input voltage, recharging batteries and no overload, 45°C derating to 85% with linear load						
HUMIDITY	0~90% (non-condensing)						
NOISE LEVEL	< 70dB @ 1 Meter						
PHYSICAL							
IP PROTECTION	IP20 (default), IP21/IP31 (Option)						
DIMENSION (D x W x H mm)	800 x 800 x 1800						
WEIGHT (KG)	350	370	420	450	480	730	790
SAFETY STANDARD							
PROTECTION	IP 20; IP21 or IP 21 (Optional)						
UPS SAFETY	IEC/ EN 62040-1						
EMC	IEC/ EN 62040-2						
SURGE PROTECTION	IEC 61000-4-5						
UPS PERFORMANCE TEST	VFI-SS-111 in accordance with IEC / EN 62040-3						
UPS COMPLIANCE	CE						
WARRANTY							
UPS WARRANTY	2 Years Full Warranty Include Parts, Labour & Battery						

*Specification subjects to change without prior notice



Technical Specification:

MODEL	THOR T+ 100KS	THOR T+ 120KS	THOR T+ 160KS	THOR T+ 200KS	THOR T+ 250KS	THOR T+ 300KS	THOR T+ 400KS
CAPACITY (KVA/KW)	100KVA / 80KW	120KVA / 96KW	160KVA / 128KW	200KVA / 160KW	250KVA / 200KW	300KVA / 240KW	400KVA / 320KW
INPUT							
NOMINAL VOLTAGE	3 x 380VAC/400VAC/415VAC (3P + N or 3P + N + G)						
ACCEPTABLE VOLTAGE RANGE	304VAC ~ 456VAC						
FREQUENCY RANGE	50Hz ±5 Hz (±10%)						
PHASE	3-Phase in / 3-phase out						
INPUT CONNECTION TYPE	Hard Wire 4-wire (3Ph + G), Hard Wire 5-wire (3Ph+N+G)						
OUTPUT							
NOMINAL VOLTAGE	3 x 380VAC/400VAC/415VAC (Selectable)						
OUTPUT POWER FACTOR	0.8						
FREQUENCY	50Hz ±1%						
FREQUENCY SYNCHRONISATION RANGE	±5Hz (Equal to bypass working range)						
FREQUENCY SYNCHRONISATION SPEED	1 ~ 2 Hz/s						
OUTPUT VOLTAGE	STEADY STATE	±1%					
STABILITY	TRANSIENT STATE	±5%					
WAVEFORM	Pure Sinewave						
LOAD CREST FACTOR	3 : 1						
TOTAL HARMONIC DISTORTION (THDV)	<2% (Linear Load) ; <4% (Non-linear Load)						
DYNAMIC IN-RUSH VOLTAGE RANGE	0%->100%->0% (R Load) <±5% ; 20%->100%->20% (R Load) ±3%						
DYNAMIC RECOVERY TIME (III Grade)	0%~100% RCD load : <60 ms recover to 90% of nominal voltage						
PHASE DISPLACEMENT	120° ±1% (balanced load) ; 120° ±2% (imbalances 50% of the load)						
TRANSFER TIME	0 ms						
OVERLOAD CAPABILITY	0% ~ 110% continuous running; 110% ~ 150% for 10 min~1 min; >160% for 200ms						
SHORT CIRCUIT CAPABILITY	60~100ms						
TRANSIENT RESPONSE TIME	< 5ms						
OUTPUT CONNECTION	Hardwire 5-wire (3P+N+G)						
BYPASS							
CONNECTION TYPE	Hardwire 5-wire (3P+N+G)						
INPUT VOLTAGE RANGE	220VAC ± 25%						
OVERLOAD CAPABILITY	1.5 In~1.8 In 1h~30s						
SHORT CIRCUIT CAPABILITY	1.8 In ~ >2.0 In 30s~200ms						
BATTERY & CHARGER							
RECTIFIER	TYPE	6 Pulse					
	RATED OUTPUT VOLTAGE	384 VDC					
	CHARGER VOLTAGE	395VDC - 435VDC (Adjustable)					
	CHARGING CURRENT (Max)	40A	50A				70A
BATTERY	TYPE	Sealed Lead Acid Maintenance Free Battery					
	NUMBERS	12VDC x 32 pcs (29~32 pcs adjustable)					
	REVERSE DIODE	No					
	COLD START	Yes					
SYSTEM							
EFFICIENCY (At Linear Load)	92%					93%	
ECO MODE (Non-Parallel Models)	Yes						
EPO FUNCTION	Yes						
STANDARD	IEC 61000-4-5 Protection surge, IEC 62040-2 EMC/EMI, IEC62040-1 Safety						
COMMUNICATION							
POWER MANAGEMENT SOFTWARE	Support Window Family, Linux and MAC						
INTERFACE	Modbus RS-232/RS485						
DRY CONTACTS	6 Outputs and 2 Inputs						
SNMP SLOT	Yes						
ENVIRONMENT							
OPERATING TEMPERATURE	0~ 35°C continuous running, 40°C 8-hour running at nominal input voltage, recharging batteries and no overload, 45°C derating to 85% with linear load						
HUMIDITY	0~90% (non-condensing)						
NOISE LEVEL	< 70dB @ 1 Meter					< 72dB @ 1 Meter	
PHYSICAL							
IP PROTECTION	IP20 (default), IP21/IP31 (Option)						
DIMENSION (D x W x H mm)	800 x 1200 x 1800		800 x 1600 x 1800			850 x 1630 x 1900	900 x 1700 x 1900
WEIGHT (KG)	1000	1300	1400	1700	1900	2300	2500
SAFETY STANDARD							
PROTECTION	IP 20; IP21 or IP 21 (Optional)						
UPS SAFETY	IEC/ EN 62040-1						
EMC	IEC/ EN 62040-2						
SURGE PROTECTION	IEC 61000-4-5						
UPS PERFORMANCE TEST	VFI-SS-111 in accordance with IEC / EN 62040-3						
UPS COMPLIANCE	CE						
WARRANTY							
UPS WARRANTY	2 Years Full Warranty Include Parts, Labour & Battery						

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Technical Specification:

MODEL	Thor 9 + 100KS	Thor 9 + 120KS	Thor 9 + 160KS	Thor 9 + 200KS	Thor 9 + 250KS
CAPACITY (KVA/KW)	100KVA / 90KW	120KVA / 108KW	160KVA / 144KW	200KVA / 180KW	250KVA / 225KW
INPUT					
NOMINAL VOLTAGE	3 x 380VAC/400VAC/415VAC (3P + N or 3P + N + G)				
ACCEPTABLE VOLTAGE RANGE	304VAC ~ 456VAC				
FREQUENCY RANGE	45Hz ~ 65Hz				
PHASE	3-Phase in / 3-phase out				
OUTPUT					
NOMINAL VOLTAGE	3 x 380VAC/400VAC/415VAC (Selectable)				
OUTPUT POWER FACTOR	0.9				
CREST FACTOR	3: 1				
FREQUENCY	50 Hz or 60 Hz (Selectable)				
FREQUENCY STABILITY	± 0.05%				
FREQUENCY SYNCHRONISATION RANGE	±5Hz (Equal to bypass working range)				
FREQUENCY SYNCHRONISATION SPEED	1 ~ 2 Hz/s				
OUTPUT VOLTAGE STABILITY	±1%				
STABILITY	±5%				
WAVEFORM	Pure Sinewave				
TOTAL HARMONIC DISTORTION (THDV)	<1% (Linear Load); <3% (Non-linear Load)				
DYNAMIC IN-RUSH VOLTAGE RANGE	0% -> 100% -> 0% load : ≤1%				
DYNAMIC RECOVERY TIME (III Grade)	0%~100% RCD load : <20 ms recover to 90% of nominal voltage				
PHASE DISPLACEMENT	120° ±1%				
TRANSFER TIME	0 ms				
OVERLOAD CAPABILITY	110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute, 200% for 7 seconds				
SHORT CIRCUIT CAPABILITY	180% for 1 second				
TRANSIENT RESPONSE TIME	< 10ms				
OUTPUT CONNECTION	Hardwire 5-wire (3P+N+G)				
BYPASS					
CONNECTION TYPE	Hardwire 5-wire (3P+N+G)				
INPUT VOLTAGE RANGE	220VAC ± 15% (setting range ±10% ~ ±25%)				
OVERLOAD CAPABILITY	110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute				
SHORT CIRCUIT CAPABILITY	1 second (Rated*7), 500 ms (Rated*8), 200 ms (Rated*9), 100 ms (Rated*10), 100 ms (Rated*14)				
BATTERY & CHARGER					
RECTIFIER	TYPE	IGBT			
	RATED OUTPUT VOLTAGE	480VDC			
	CHARGER VOLTAGE	524VDC ~ 576VDC (Adjustable)			
	CHARGING CURRENT (Max)	20A	24A	32A	40A
BATTERY	TYPE	Support VRLA Battery			
	NUMBERS	40 pcs (40 ~ 43 adjustable)			
	REVERSE DIODE	No			
	COLD START	Yes			
SYSTEM					
EFFICIENCY (At Linear Load)	93%		93.50%		
ECO MODE (Non-Parallel Models)	Yes				
EPO FUNCTION	Yes				
STANDARD	IEC 60529, IEC 60664, IEC 60755				
COMMUNICATION					
POWER MANAGEMENT SOFTWARE	Support Window Family, Linux and MAC				
INTERFACE	Modbus RS-232/RS485				
DRY CONTACTS	3 Outputs and 2 Inputs				
SNMP SLOT	Yes				
ENVIRONMENT					
OPERATING TEMPERATURE	0~ 35°C continuous running, 40°C 8-hour running at nominal input voltage, recharging batteries and no overload, 45°C derating to 85% with linear load				
HUMIDITY	0~90% (non-condensing)				
NOISE LEVEL	Less than 65 - 70dB @ 1 Meter				
PHYSICAL					
IP PROTECTION	IP20				
DIMENSION (D x W x H mm)	850 x 800 x 1900		850 x 1000 x 1900		
WEIGHT (KG)	656	700	800	910	1000
SAFETY STANDARD					
PROTECTION	IP 20; IP21 or IP 21 (Optional)				
UPS SAFETY	IEC/ EN 62040-1				
EMC	IEC/ EN 62040-2				
SURGE PROTECTION	IEC 61000-4-5				
UPS PERFORMANCE TEST	VFI-SS-111 in accordance with IEC / EN 62040-3				
UPS COMPLIANCE	CE				
WARRANTY					
UPS WARRANTY	2 Years Full Warranty Include Parts, Labour & Battery				

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Technical Specification:

MODEL	Thor 9 + 300KS	Thor 9 + 400KS	Thor 9 + 500KS	Thor 9 + 600KS	Thor 9 + 800KS
CAPACITY (KVA/KW)	300KVA / 270KW	400KVA / 360KW	500KVA / 450KW	600KVA / 540KW	800KVA / 720KW
INPUT					
NOMINAL VOLTAGE	3 x 380VAC/400VAC/415VAC (3P + N or 3P + N + G)				
ACCEPTABLE VOLTAGE RANGE	304VAC ~ 456VAC				
FREQUENCY RANGE	45Hz ~ 65Hz				
PHASE	3-Phase in / 3-phase out				
OUTPUT					
NOMINAL VOLTAGE	3 x 380VAC/400VAC/415VAC (Selectable)				
OUTPUT POWER FACTOR	0.9				
CREST FACTOR	3: 1				
FREQUENCY	50 Hz or 60 Hz (Selectable)				
FREQUENCY STABILITY	± 0.05%				
FREQUENCY SYNCHRONISATION RANGE	±5Hz (Equal to bypass working range)				
FREQUENCY SYNCHRONISATION SPEED	1 ~ 2 Hz/s				
OUTPUT VOLTAGE STABILITY	STEADY STATE	±1%			
	TRANSIENT STATE	±5%			
WAVEFORM	Pure Sinewave				
TOTAL HARMONIC DISTORTION (THDV)	<1% (Linear Load) ; <3% (Non-linear Load)				
DYNAMIC IN-RUSH VOLTAGE RANGE	0%->100%>0% load : ≤1%				
DYNAMIC RECOVERY TIME (III Grade)	0%~100% RCD load : <20 ms recover to 90% of nominal voltage				
PHASE DISPLACEMENT	120° ±1%				
TRANSFER TIME	0 ms				
OVERLOAD CAPABILITY	110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute, 200% for 7 seconds				
SHORT CIRCUIT CAPABILITY	180% for 1 second				
TRANSIENT RESPONSE TIME	< 10ms				
OUTPUT CONNECTION	Hardwire 5-wire (3P+N+G)				
BYPASS					
CONNECTION TYPE	Hardwire 5-wire (3P+N+G)				
INPUT VOLTAGE RANGE	220VAC ± 15% (setting range ±10% ~ ±25%)				
OVERLOAD CAPABILITY	110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute				
SHORT CIRCUIT CAPABILITY	1 second (Rated*7) , 500 ms (Rated*8) , 200 ms (Rated*9) , 100 ms (Rated*10) , 100 ms (Rated*14)				
BATTERY & CHARGER					
RECTIFIER	TYPE	IGBT			
	RATED OUTPUT VOLTAGE	480VDC			
	CHARGER VOLTAGE	524VDC ~ 576VDC (Adjustable)			
	CHARGING CURRENT (Max)	50A	70A	135A	
BATTERY	TYPE	Support VRLA Battery			
	NUMBERS	40 pcs (40 ~ 43 adjustable)			
	REVERSE DIODE	No			
	COLD START	Yes			
SYSTEM					
EFFICIENCY (At Linear Load)	93%				94.50%
ECO MODE (Non-Parallel Models)	Yes				
EPO FUNCTION	Yes				
STANDARD	IEC 60529, IEC 60664, IEC 60755				
COMMUNICATION					
POWER MANAGEMENT SOFTWARE	Support Window Family, Linux and MAC				
INTERFACE	Modbus RS-232/RS485				
DRY CONTACTS	3 Outputs and 2 Inputs				
SNMP SLOT	Yes				
ENVIRONMENT					
OPERATING TEMPERATURE	0~ 35°C continuous running, 40°C 8-hour running at nominal input voltage, recharging batteries and no overload, 45°C derating to 85% with linear load				
HUMIDITY	0~90% (non-condensing)				
NOISE LEVEL	Less than 65 - 70dB @ 1 Meter				<72dB @ 1Meter
PHYSICAL					
IP PROTECTION	IP20				
DIMENSION (D x W x H mm)	1000 x 1500 x 1900		1000 x 2100 x 1900		1000 x 3200 x 1900
WEIGHT (KG)	1400	1700	2100	2400	3950
SAFETY STANDARD					
PROTECTION	IP 20; IP21 or IP 21 (Optional)				
UPS SAFETY	IEC / EN 62040-1				
EMC	IEC / EN 62040-2				
SURGE PROTECTION	IEC 61000-4-5				
UPS PERFORMANCE TEST	VFI-SS-111 in accordance with IEC / EN 62040-3				
UPS COMPLIANCE	CE				
WARRANTY					
UPS WARRANTY	2 Years Full Warranty Include Parts, Labour & Battery				

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