

# THREE PHASE PURE SINE WAVE INVERTER / UPS (TP Series)

THREE PHASE OUTPUT

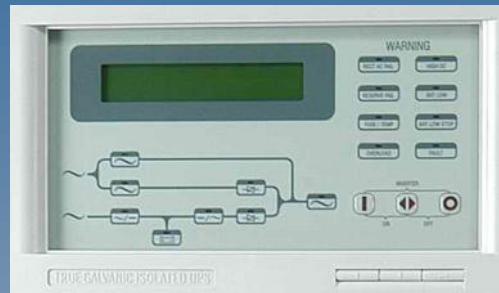
LCD DISPLAY

10~400KVA CUSTOMIZABLE

MULTI-CPU CONTROL

TRUE ONLINE UPS

TRUE GALVANIC ISOLATION



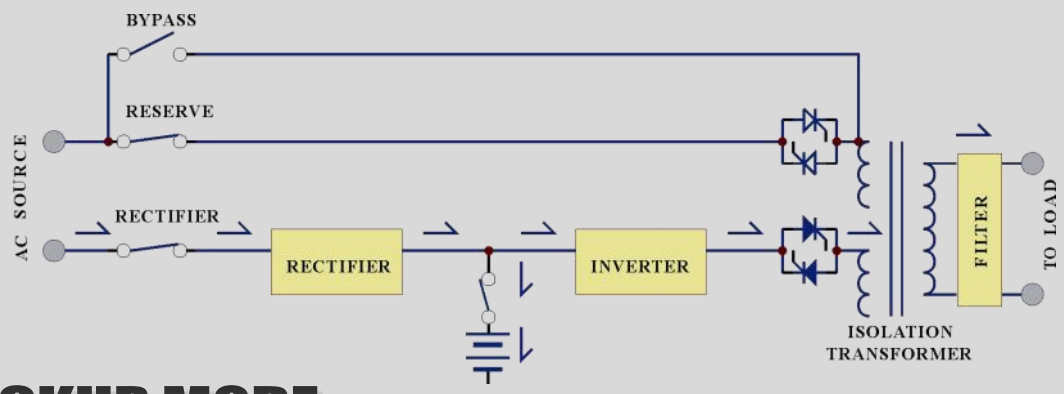
## MAIN FEATURES:

- Three phase UPS/Inverter, fully digitalized & multi-CPU control.
- Low frequency design with advanced IGBT to power conversion.
- Available from 10kva ~ 400kva — fully customizable specification made to order.
- Available in either Three-Phase input/output or Three-Phase input/Single-phase Output.
- True galvanic isolation design to avoid ground current leakage.
- Robust design allows use in harsh conditions and 24/7 continuous application.
- Up to 95% peak efficiency.
- Reliable input surge protection and EMI suppression.
- Plug-n-Play modular design allows easy maintenance & parallel operation.
- Cold start function (DC-start) functionality allows unit to operate with only battery.
- Inherent protection against human operational error.
- Intelligent high power battery charger and battery testing.
- Redundant power supply.
- Wide variety of communication interface:
  - ◆ 8 terminals of dry contact
  - ◆ 2 pairs of CNR16 terminals
  - ◆ 4 ports of RS485
  - ◆ 1 port of RS232
- Optional accessories:
  - ◆ Battery cabinet
  - ◆ Emergency power-off switch (EPO)
  - ◆ Remote Control Panel—UPSCAN
  - ◆ PC monitoring software—UPSCOM
  - ◆ Emergency phone dialing module—UPSCALL
  - ◆ Battery monitoring module—DCMAN

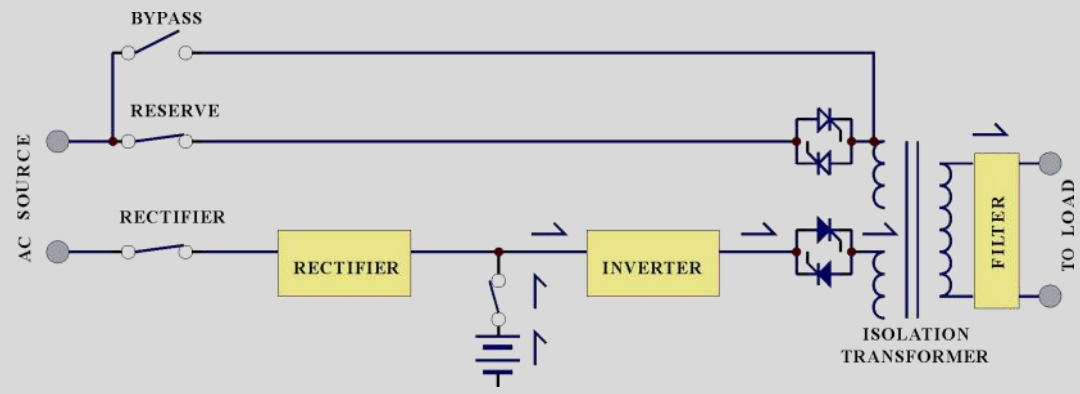




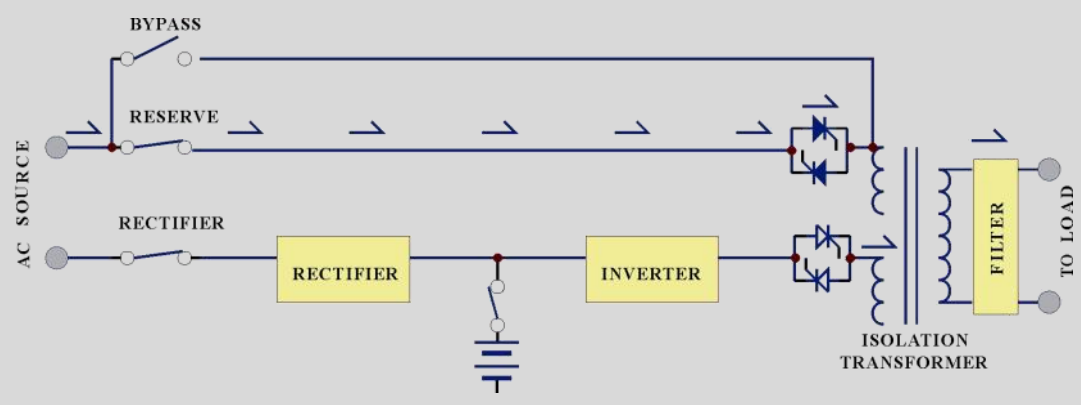
## NORMAL OPERATION MODE



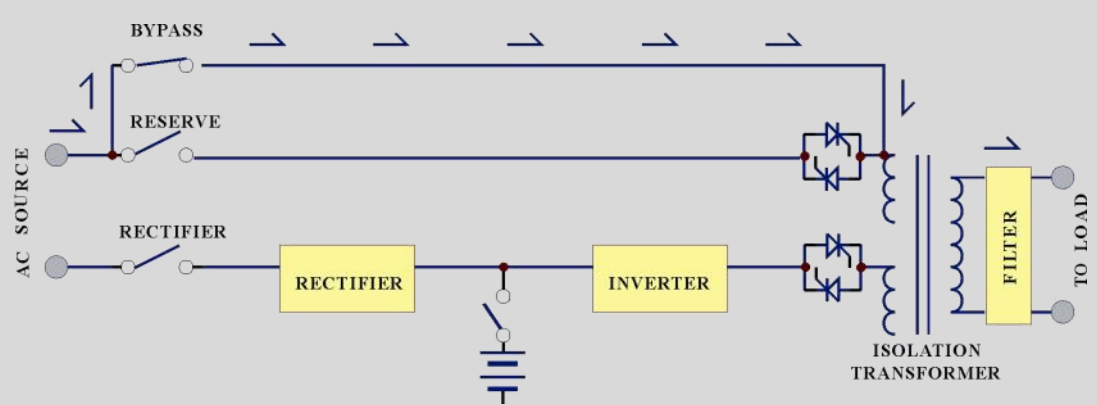
## BACKUP MODE



## RESERVE MODE



## MAINTENANCE BYPASS MODE



\*For details on each model's characteristics, please visit our website [www.armsolar.com](http://www.armsolar.com).

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## 3-Phase Input/1-Phase Output

INPUT/RECTIFIER SPECIFICATION		TP SERIES				
Rating (KVA)		10	20	30	40	50
Input Voltage	380 / 400 / 415 VAC 3 phase 4 wire					
Input Range	307 ~ 520V					
Input Frequency	50 / 60Hz ±7%					
Input Power Factor	0.8					
Power Walk-In	0~100%: 20 seconds					
Peak Efficiency	99%					
Voltage Regulation	1%					
Current Limit (A)	27	54	81	108	135	
Ripple Voltage	0.50%					
Battery Type	Maintenance Free Lead Acid / NiCd					
Voltage Range	295~410VDC / 285~415VDC					
Max. Charging Current (Selectable)	5	10	15	20	25	
Battery Low Voltage	320VDC / 305VDC					
Batter Low Cutoff	295VDC / 285VDC					
Boost Charge	402VDC / 415VDC					
Float Charge	390VDC / 410VDC					
OUTPUT/INVERTER SPECIFICATION						
Output Voltage	220 ~ 240VAC 1 Phase 2 Wires (or 3 Wires)					
Wave Form	True Sine Wave					
Power Factor	0.8					
Frequency Lock Range	50 / 60Hz ±5Hz					
Output Frequency	50 / 60Hz ± 0.1Hz					
Phase Shift under 100% Load	120% ± 0.5°C					
THD	< 2%					
Overload (<100%/110~125%/125~150%/>150%)	Continuous / 15min / 10min / 1min					
Peak Efficiency (100% load)	93%	93%	93%	93.5%	93.5%	
STATIC SWITCH						
Voltage Range	173 ~ 277VAC (Line to Neutral)					
Transfer Time (Mains <-> Inverter)	0ms					
GENERAL SPECIFICATIONS						
Overall Efficiency	91%	91%	91%	91.5%	92%	
Max. Heat Dissipation (KW)	0.65	1.3	1.9	2.6	3	
DC Start?	Yes inverter can be started by battery only					
Audible Noise Level	<65dBa (at 1m)					
Temperature / Humidity	0~40°C / 0~90% Non Condensing					
Altitude	<1500m above sea level					
Certification	FCC Class A, EN50091-1,-2					
Short Circuit Protection	Rectifier, Reserve, Bypass NFB					
Lightning / EMC Filter	MOV / Input, Output					
Indicators & Alarms	LCD, LED, buzzer					
Communication Interface	Dy contact, RS232, RS485					
Remote Control Panel (OPTIONAL)	UPSCAN - Monitoring 1~99 UPS simultaneously					
Dimension (mm)	550*800*1600					
Weight (Kg), without battery	300	400	470	520	560	

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## 3-Phase Input/3-Phase Output

INPUT/RECTIFIER SPECIFICATION		TP SERIES													
Rating (KVA)		10	20	30	40	50	60	80	100	120	160	200	240	300	320
Input Voltage	380 / 400 / 415 VAC 3 phase 4 wire														
Input Range	307 ~ 520V														
Input Frequency	50 / 60Hz ±7%														
Input Power Factor	0.8														
Power Walk-In	0~100%: 20 seconds					0~100%: 20 seconds					15~100%: 15 seconds				
Peak Efficiency	99%														
Voltage Regulation	1%														
Current Limit (A)	27	54	81	108	135	162	216	270	324	432	525	630	788	840	
Ripple Voltage	0.50%														
Battery Type	Maintenance Free Lead Acid / NiCd														
Voltage Range	295~410VDC/ 285~415VDC														
Max. Charging Current (Selectable)	5	10	15	20	25	30	40	50	60	80	100	120	150	160	
Battery Low Voltage	320VDC / 305VDC														
Batter Low Cutoff	295VDC / 285VDC														
Boost Charge	402VDC / 415VDC														
Float Charge	390VDC / 410VDC														
OUTPUT/INVERTER SPECIFICATION															
Output Voltage	380 / 400 / 415 VAC 3 phase 4 wire														
Wave Form	True Sine Wave														
Power Factor	0.8														
Frequency Lock Range	50 / 60Hz ±5Hz														
Output Frequency	50 / 60Hz ± 0.1Hz														
Phase Shift under 100% Load	120% ± 0.5°C														
THD	< 2%					< 2%					< 4%				
Overload	<100%: Continuous / 110~125%: 15min / 10min / >150%: 1min														
Peak Efficiency (100% load)	93%			93.5%		94%		94.5%			95%				
STATIC SWITCH															
Voltage Range	173 ~ 277VAC (Line to Neutral)														
Transfer Time (Mains <-> Inverter)	0ms														
GENERAL SPECIFICATIONS															
Overall Efficiency	91%			91.5%		92%		92.5%			93%				
Max. Heat Dissipation (KW)	0.65	1.3	1.9	2.6	3	3.5	4.6	5.4	6.5	8.7	11.5	13	16.3	17.4	
DC Start?	Yes inverter can be started by battery only														
Audible Noise Level	<65dBa (at 1m)										<67dBa (at 1m)				
Temperature / Humidity	0~40°C / 0~90% Non Condensing														
Altitude	<1500m above sea level														
Certification	FCC Class A, EN50091-1,-2														
Short Circuit Protection	Rectifier, Reserve, Bypass NFB														
Lightning / EMC Filter	MOV / Input, Output														
Indicators & Alarms	LCD, LED, buzzer														
Communication Interface	Dy contact, RS232, RS485														
Remote Control Panel (OPTIONAL)	UPSCAN - Monitoring 1~99 UPS simultaneously														
Dimension (mm)	550*800*1600					1100*800*1600					2200*800*1600				
Weight (Kg), without battery	300	400	470	520	560	630	950	1250	1400	1600	2500	2700	2900	3000	

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