

SMART TP

SERIES

10-800 kVA

ONLINE UPS



DATA CENTER



MEDICAL



TRANSPORT



INDUSTRY



EMERGENCY



UPS ONLINE



TOWER



POWER FACTOR

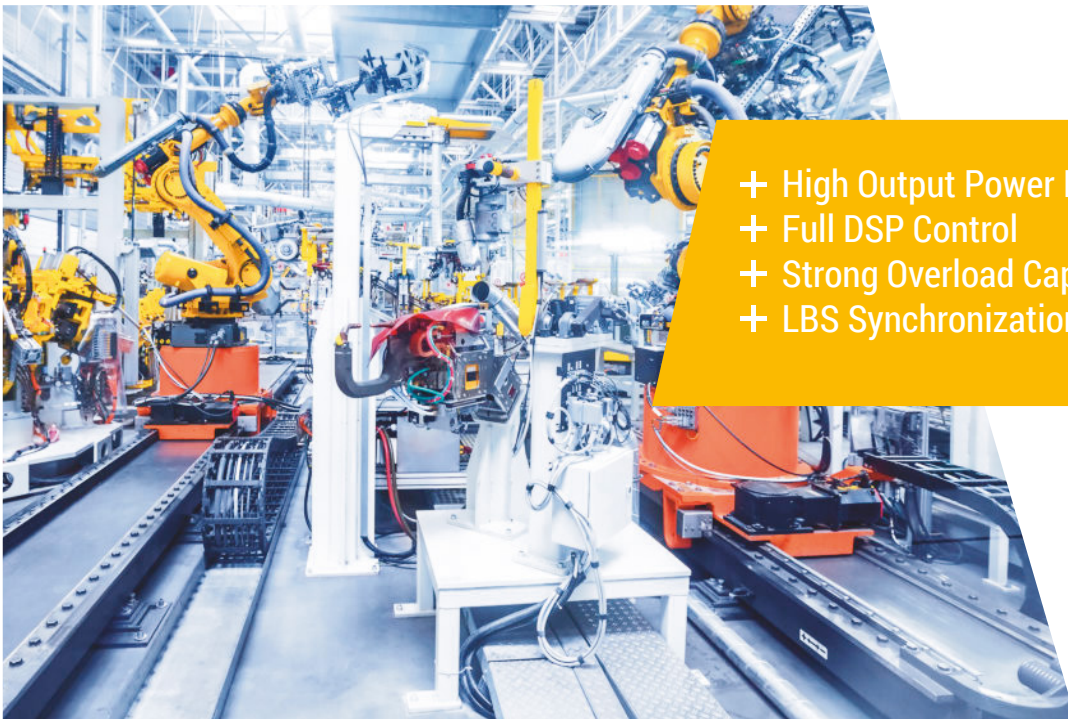


SERVICE



Robust Design Transformer Type 3 Phase Power Protection

- + Online Double-Conversion
- + Comprehensive Protection with Built in Isolation Transformer
- + Full DSP Control Optimizes Reliability
- + Active Power Factor Correction (PFC)
- + Wide Input Voltage Range (-25%/+20%)
- + Output Power Factor 0.9
- + Optimized Battery Management
- + Strong Overload Capacity
- + Power Walk in
- + Battery Self Test
- + Generator Compatibility
- + LCS Synchronization
- + EPO Function



- + High Output Power Factor 0.9
- + Full DSP Control
- + Strong Overload Capability
- + LBS Synchronization

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

- Full DSP Control avoids the risks caused by analog devices failure and makes the control system more stable and reliable.

High power factor

- The output power factor up to 0.9 better matches the load.
- The input power factor 0.98 with filter helps to improve the efficiency, reduce the harmonic pollution to the Grid and lower the UPS running cost.

Wide input adaptability

- The range of AC input voltage is (380Va/400Vac/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.

Optimized battery management

- Intelligent battery management system and advanced battery auto float/boost charge technology, reduces the frequency of battery maintenance, greatly improves the battery efficiency and extends battery life.
- Battery discharge time prediction: the system will display the backup time of battery calculated by discharge current and voltage.
- Battery self-test: battery is automatically tested at regular intervals.
- Flexible battery configuration ranging from 360-408VDC /480VDC.

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.
- 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.

Strong overload capability

- 110%/125%/150% overload for 60min/10min/1min.

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.

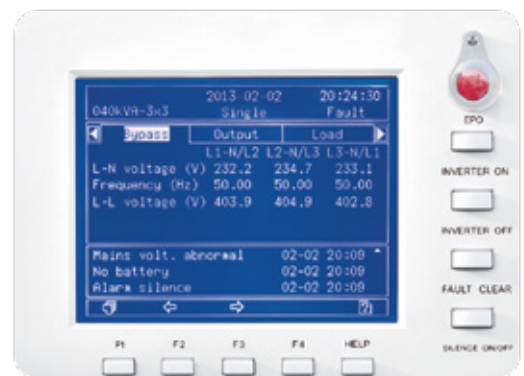
- Multi-protection: AC input under/over voltage, overload, short-circuit, over-current, over bus voltage, over-temperature, fan failure, auxiliary power failure, battery under voltage, battery over-charge and so on.

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

- English LCD and LED mimic diagram: real time operation parameters and status.



- RS232 & RS485 communication ports: for local monitor with corresponding software, and MODBUS protocol is optional.
- SNMP adapter (optional): for remote monitor through network.
- Dry contacts 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

MODEL	TP10	TP20	TP30	TP40	TP60	TP80
CAPACITY						
Capacity	10kVA	20kVA	30kVA	40kVA	60kVA	80kVA
Power Watt	9kW	18kW	27kW	36kW	54kW	72kW
INPUT						
Operating Voltage Range	380/400/415 VAC (-25% / +20%), 3Ph+N+PE					
Operating Frequency Range	50/60Hz (±5HZ)					
Power Factor	>0.97 (With Filter)					
OUTPUT						
Output Voltage	380/400/415 VAC (±1%)					
Output Frequency	50/60Hz (±5HZ)					
Harmonic Distortion (THD)	<3% (Linear Load)					
Crest Factor	3:1 (Max)					
Efficiency	≥88%	≥89%		≥90%		≥90.5%
BYPASS						
Rated Voltage	380/400/415 VAC					
Rated Frequency	50/60Hz					
Voltage Protection Range	Upper Limit: +20% (+10%, +15%, +20% Adjustable) Lower Limit: -40% (-10%, -20%, -30%, -40% Adjustable)					
Frequency Protection Range	±10% (±2.5%, ±5%, ±10%, ±20% Adjustable)					
BATTERY						
Voltage	384 VDC (360-384 VDC)					
SYSTEM FEATURES						
Transfer Time	0ms (Line Mode ↔ Battery Mode)					
Rated Frequency	110%/60min, 125%/10min, 150%/1min					
LED Display	Input, Inverter, Bypass, Battery, Output, Status					
LCD Display	I/O Voltage, Frequency, Power, Power Factor, Battery Voltage, Current, Battery Status, Load Percentage, UPS Status, History Record					
Communicatio Interface	Dry Contact, RS 232, Rs485, SNMP Card (Optional)					
Optional	Harmonic Filter, SNMP Adapter, LBS Cables, Battery Temperature Sensor, Bypass Current - Sharing Inductor					
ENVIRONMENTAL						
Operating Temperature	0°C ~ 40°C					
Storage Temperature	-25°C ~ 55°C					
Humidity Range	0 ~ 95% (Non-Condensing)					
Altitude	<1500m					
Noise Level	<60dB			<60.5dB		
DIMENSIONS & WEIGHT						
Dimension WxDxH (mm)	570 x 800 x 1195				880 x 760 x 1600	
Weight (kg)	217	273	316	330	483	525
Shipping Weight (kg)	272	328	371	385	553	595
STANDARDS						
Safety	IEC/EN62040-1; IEC/EN60950-1					
EMC	IEC/EN62040-2, IEC61000-4, IEC61000-4-3; IEC61000-4-4 IEC61000-4-5; IEC61000-4-6; IEC61000-4-8					

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CAPACITY										
Capacity	100kVA	120kVA	160kVA	200kVA	250kVA	300kVA	400kVA	500kVA	600kVA	800kVA
Power Watt	90kW	108kW	144kW	180KW	225KW	270KW	360kW	450kW	540kW	720kW
INPUT										
Operating Voltage Range	380/400/415 VAC (-25% / +20%), 3Ph+N+PE									
Operating Frequency Range	50/60Hz (±5HZ)									
Power Factor	>0.97 (With Filter)									
OUTPUT										
Output Voltage	380/400/415 VAC (±1%)									
Output Frequency	50/60Hz (±0.05HZ)									
Harmonic Distortion (THD)	<2% (Linear Load)									
Crest Factor	3:1 (Max)									
Efficiency	≥92%	≥92.5%	≥93%	≥93.5%	≥94%					
BYPASS										
Rated Voltage	380/400/415 VAC									
Rated Frequency	50/60Hz (Auto Sensing)									
Voltage Protection Range	Upper Limit: +20% (+10%, +15%, +20% Adjustable) Lower Limit: -40% (-10%, -20%, -30%, -40% Adjustable)									
Frequency Protection Range	±10% (±2.5%, ±5%, ±10%, ±20% Adjustable)									
BATTERY										
Voltage	384 VDC (360-408 VDC)						480 VDC			
SYSTEM FEATURES										
Transfer Time	0ms (Line Mode ↔ Battery Mode)									
Rated Frequency	110%/60min, 125%/10min, 150%/1min									
LED Display	Input, Inverter, Bypass, Battery, Output, Status									
LCD Display	I/O Voltage, Frequency, Power, Power Factor, Battery Voltage, Current, Battery Status, Load Percentage, UPS Status, History Record									
Communicatio Interface	Dry Contact, RS 232, Rs485, SNMP Card (Optional)									
Optional	Harmonic Filter, SNMP Adapter, LBS Cables, Battery Temperature Sensor, Bypass Current - Sharing Inductor									
ENVIRONMENTAL										
Operating Temperature	0°C ~ 40°C									
Storage Temperature	-25°C ~ 55°C									
Humidity Range	0 ~ 95% (Non-Condensing)									
Altitude	<1500m									
Noise Level	<650dB					<70dB				
DIMENSIONS & WEIGHT										
Dimension W+D+H (mm)	1160x805x1600 (6P) 1520x830x1600 (12P)		1160x805x1600 (6P) 1520x830x1600 (12P)		1160x805x1600 (6P) 1520x830x1600 (12P)		2580x 1000x1900	2800x 1040x1900	3900x1100 x1950 (12P)	
Weight (kg)	800/1100	903/1250	980/1645	1030/1715	1560/2395	1640/2510	3510	4500	6400	
Shipping Weight (kg)	890/1190	993/1293	1080/1775	1130/1845	1690/2545	1770/2665	3730	4750	6700	
STANDARDS										
Safety	IEC/EN62040-1; IEC/EN60950-1									
EMC	IEC/EN62040-2, IEC61000-4, IEC61000-4-3; IEC61000-4-4 IEC61000-4-5; IEC61000-4-6; IEC61000-4-8									