



工業級不斷電系統

CTM INDUSTRIAL GRADE UPS



解決您一切電力問題的最佳幫手

THE BEST HELPER TO SOLVE ALL OF YOUR ELECTRICITY PROBLEMS

1. 數位化控制技術

在先進的數位邏輯電路控制模式下，高速微控制器和可編程邏輯器件對電路控制，參數設定和運行管理更加完美。全程採樣技術不僅有利於對所有獨立電路連接進行自檢和故障分析，更能變換為極度純正和穩定的正弦波電壓，確保系統超穩定運行。

2. 高精度SMD技術

改變了傳統的插入式電路處理工藝，全部採用高精度SMD技術，耐高溫、準確度高、濾波性能極好，整機性能更加穩定，更牢固耐用，提高了設備的可靠性和運行精度。

採用4層電路板設計和高精度SMD元件完全清除了由芯片自身產生的各種高頻信號對其他芯片的影響，從而讓各個芯片模組能夠不受干擾地正常工作，抗干擾性大為改善。

3. 輸出入高次諧波的抑制

通過瞬間波形控制將輸入及輸出電壓波形控制為正弦波，並且抑制高次諧波，尤其是消除了對發電機、電動機、以及進相電容器的影響。

4. 消除對負載的衝擊

由於採用了輸出電壓的軟啟動功能（使輸出電壓緩慢地升高），控制負載設備的衝擊電流，使啟動時系統對負載的衝擊減小。

5. 抑制自動旁路切換時的電壓波動

因為採用旁路電路與逆變器切換時負載移動控制（對旁路電路的負載供電電流與逆變器的負載供電電流的分擔進行軟啟動），抑制切換時的電壓波動，以實現對旁路電路的衝擊很小的切換方式。

6. 環保節能技術

並採用新型渦流風扇、散熱性能優異，高度節能；採用無環流控制電路，節電性能良好；採用先進的數位邏輯電路及高精度SMD技術，整機壽命延長了80%。

7. 其他性能優點

- 優越的負載特性：完整滿足從0到100%之負載突變，而無需切換到旁路，並保護輸出穩定可靠。
- 完善的保護功能：具有優異的輸入輸出過、欠壓保護、輸入浪湧保護、相序保護、電池過充過放保護、輸出過載短路保護、溫度過高保護等多種系統保護和報警功能。
- 高性能的動態特性：採用瞬時控制方式和有效值等多種反饋控制，實現了高動態調節，減小輸出電壓失真度。
- 三相分調，平衡穩壓：三相獨立控制，對瞬間過載平衡度的控制，可實現輸出100%的負載平衡。
- 使用壽命長，工頻UPS設計壽命一般是高頻UPS的2倍以上。
- 可選的輸入諧波濾波器或12脈衝整流器：有效抑制輸入的諧波污染，提高UPS的輸入功率因數，減小輸入的諧波電流。
- 可選的電池巡檢模組：可對單個的參數進行測量。如有電池故障立即報警，通知管理員。

1. Digital Control System

On-line intelligent digital UPS adopts the digital control technology, of which the core is high-speed MCU and CPLD.

2. High Precision SMD Technology

UPS replaces traditionally insert electric circuit processing with high precision SMD technology. It ensures the integrate circuit a safe operation and enhances its reliability & operation precision.

UPS widely using SMD technology, is heat-resistant, highly accurate and also has an excellent filter, which greatly improves the whole performance of the UPS.

3. Suppress Input and Output High Order Harmonic

Instant waveform correction correct input current and output voltage wave to sine wave and suppress high order harmonic. Especially, eliminate the influence of generator, motor and voltage power capacitor.

4. Eliminate Impulse from Load

Adopting soft start function for output voltage (output voltage increasing slowly). Control impulse current of load facility, it can minimize impact of load while turn on the UPS.

5. Reduce Voltage Fluctuate while Auto Bypass Switching

Adopting bypass circuit and load control while inverter switching (Soft start function share load supply current of bypass and inverter.), reduce voltage wave while switch to bypass, small impulse of circuit. Reduce voltage fluctuate while switching so that it can minimize impulse while switch to bypass circuit.

6. Environmental Protected and Economized Technique

New type of vortex fan who has a excellent performance of radiation and energy conservation. It brings in advanced digital circuit and high precised SMD technology, which prolongs the UPS's lifetime by 80%.

7. Other Functions

- Super Load: Load from 0~100% while no need to change to bypass, which make sure the output reliable.
- Perfect Protection: Output over/low load protection, input surge protection, phase sequence protection, battery over charge/ discharge protection, short circuit protection, over-temperature protection and so on, as well as alarming function.
- High Dynamic Performance: Adopting kinds of feedback control such as instantaneous control method and valid date, it achieves high dynamic adjustment and reduces the output THD.
- Phase-to-Phase Stabilizer: Independent phase-to-phase control realizes the control of instant over-loading balance, so as to reach O/P 100% unbalance load.
- Its durable and lifetime for Low frequency UPS is two times longer than high frequency UPS.
- Optional input harmonic filter and 12 pulse rectifier effectively restrain the input THD; Raise UPS input power factor, reduce the input THD current.
- Optional battery detecting module able to test the single parameters, and display on the LCD. If battery failure it will alarm to runner.

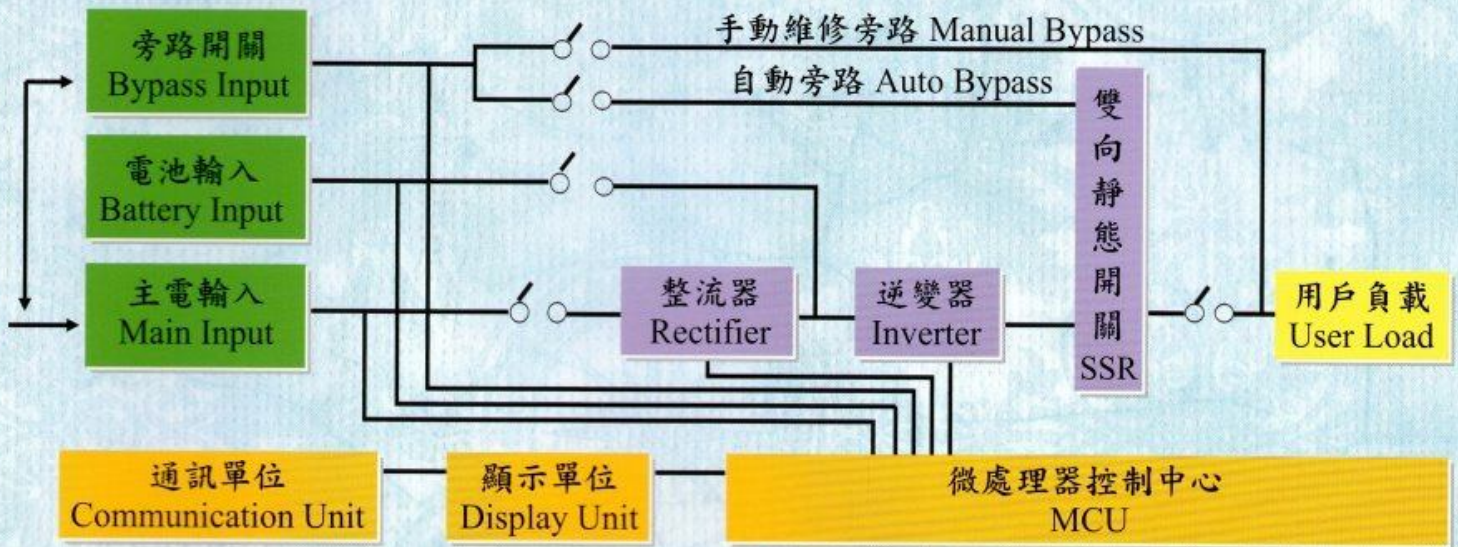
異常電源的全方位保護 / Completely Protection of All Electricity Problems

- 瞬間斷電、停電
- 雜訊/諧波干擾
- 脈衝/突波/過高壓
- 電壓不足、陷波、低電壓
- Power Failure, Black-outs
- Noise, Harmonic Distortion
- Spikes, Surges, Over Voltage
- Sags (Dips), Brownouts, Low Voltage

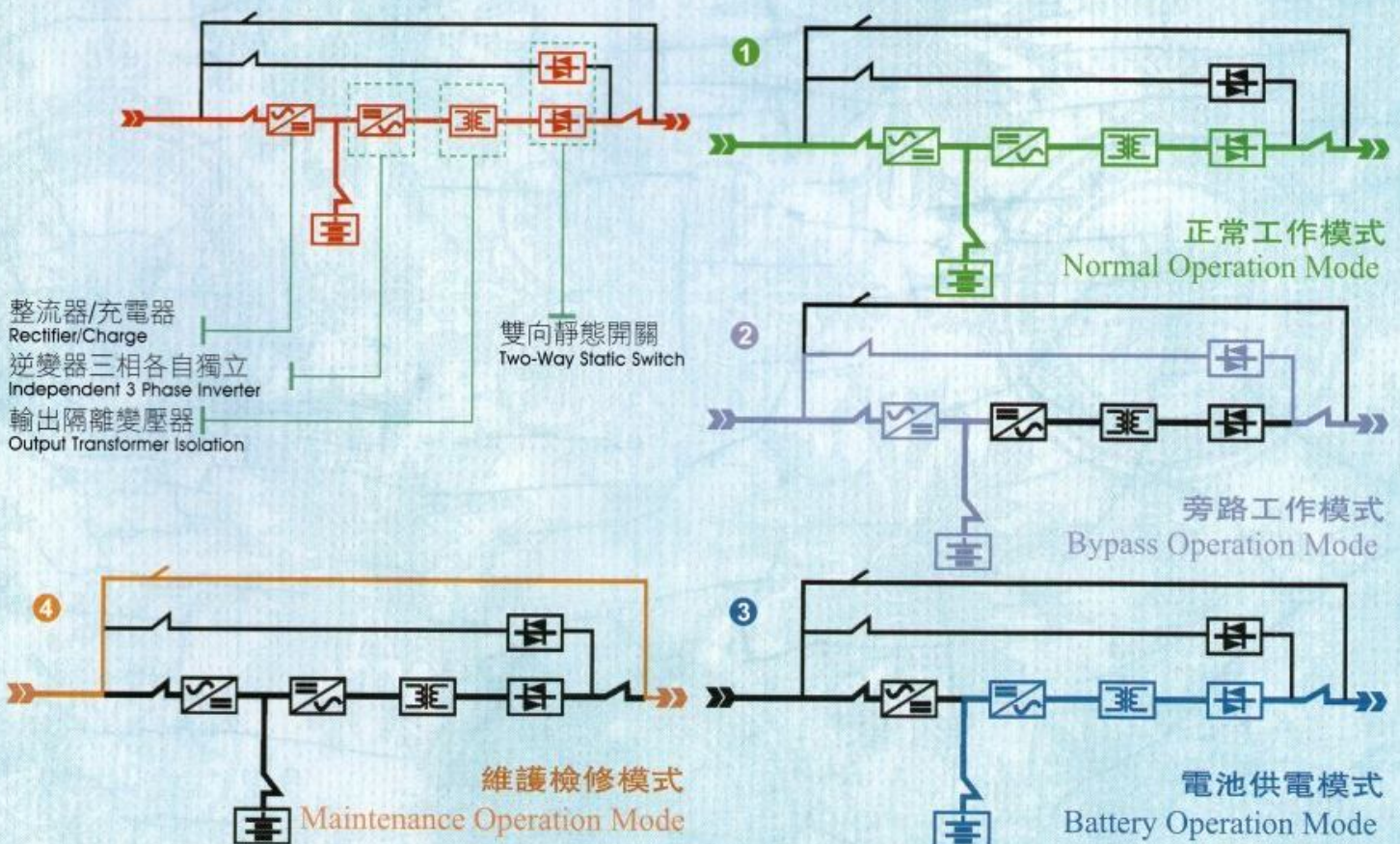


純淨穩定的電壓波形
Pure Sine Wave

CTMU 系列不斷電系工作原理圖 / Product Block Diagram



CTMU 系列不斷電系統工作模式 / Operation Modes



型號	Model: CTMU	33010	33015	33020	33030	33040	33050	33060	33080	33100	33120	33160
容量	Nominal Capacity (KVA)	10	15	20	30	40	50	60	80	100	120	160
工作方式	Work Principle	雙重轉換純在線式 Double Conversion / Pure Sine Wave Online										
輸入	Input	三相 (3 Phase) +N +G										
輸入功率因數	Input Power Factor	> 0.8, > 0.95 (加濾波器或12脈衝整流器 / with filter or 12 pulse rectifier)										
輸入電壓	Nominal Voltage	120/208VAC, 220/380VAC, 230/400VAC, 240/415VAC										
電壓波動範圍	Range	±20%										
輸入頻率	Nominal Frequency	50/60HZ ±15%										
軟啟動	Soft Start	0~100% 5sec										
旁路輸出	Bypass Output	轉換時間 / Transfer Time → 0ms										
電池	Battery	密閉式、免加水之鉛酸或鉛鈣電池 / Sealed Lead Acid Battery (Maintenance Free)										
充電模式	Charge Mode	先恒流後恆壓,帶溫度補償充電和自動均浮充轉換 Constant Current to Constant Voltage, With Temp. Compensation, With Auto Change										
電池節數	Battery Number	12V 類型 32 節 / 32 pcs 12V ; (標稱電壓384VDC / nominal voltage 384 VDC)										
出電	Output	三相 (3 Phase) +N +G										
功率因數	Power Factor	> 0.8										
輸出電壓	Nominal Voltage	120/208VAC, 220/380VAC, 230/400VAC, 240/415VAC										
輸出電壓穩定度	Voltage Stability	±1%										
頻率穩定度	Frequency Stability	50/60HZ +/- 5%(市電in supply mains), 50/60HZ +/- 0.05%(電池供電in battery supply)										
波峰因數	Crest Factor	> 3 : 1										
輸出波形失真度	Waveform Distortion	正弦波線性負載 / Sine Wave Linear Load < 3%; 非線性負載 / Non-Linear Load < 5%										
動態特性	Dynamic Characteristics	瞬變電壓 < +/- 5% (由 0~100% 躍變), 瞬間恢復時間 < 20ms +/- 5% Instant Voltage < ±5% (from 0 to 100%), instant recover time < 20ms +/- 5%										
不平衡負載電壓	Unbalanced Load Voltage	+/- 1%										
過載能力	Overload Protection	125% 10min; 150% 1min; 200% 200ms										
工作效率	Efficiency	> 91%, > 95%(ECO經濟模式Economic mode)										
輸入保護	Input Protection	電壓、頻率超限; 逆相、欠相 / Input Voltage & Frequency Over Limited, Wrong Phase, Lack Phase										
輸出保護	Output Protection	過流、短路 / Over current, Short Circuit, Factor Low Protection										
電池保護	Battery Protection	過充保護、過放保護 / Over charge, over discharge protection										
溫度保護	Temperature Protection	環境過溫保護、逆變器過溫保護 / Ambient Over Temperature Protection, Inverter Over Temperature Protection										
硬體故障保護	Hardware Failure Protection	輔助電源異常、斷路器跳閘、熔斷器斷開及功率器件過流過壓保護 Assistant Power Abnormal, Breaker Cut Off, Breaker Overload, Power Components Over Current / Over Voltage etc, Protection										
工作環境	Working Environment	環境溫度 0°C ~ 40°C, 相對溼度 30% ~ 90% (非凝結狀態), 海拔高度 < 1500 米 (每增加100米,功率下降1%,最高4000米) Temperature 0~40°C, Relative Humidity 30~90% (Non-condensing), Altitude < 1500m (1% Decrease Against 100 Meters Rise, Altitude 4000m Max.)										
冷卻方式	Cooling Method	強制風扇冷卻 / Compulsive ventilation (with temperature control)										
通訊接口	Communication Interface	RS232, RS422 (標配) · 選配SNMP 卡/card (網路遠程監控 / for internet long distance monitor) (optional)										
抗浪湧能力	Anti-Surge Capacity	10/700uS, 5kV; 8/20us, 20kA										
防護等級	Protection Level	IP21										
安全性能	Safety Performance	輸入輸出對地的絕緣3000VAC, 漏電流<3.5mA, 絕緣電阻>2MΩ(500VAC) Vin-n Vout-n 3000 VAC, creepage < 3.5mA, isolation resistance > 2MΩ (500VDC)										
噪音 (dB)	Noise (dB)	50	55	63	65	68						
尺寸 寬*深*高	Dimension (W*D*H) cm	52 x 70 x 110	58 x 78 x 119	66x90x138	66 x 100 x 146	90 x 115 x 150	90x125x160					
重量	Weight (kg)	190	230	320	365	480	520	605	850	1040	1110	1380

※另有200-800KVA規格，歡迎詢問welcome inquiry

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