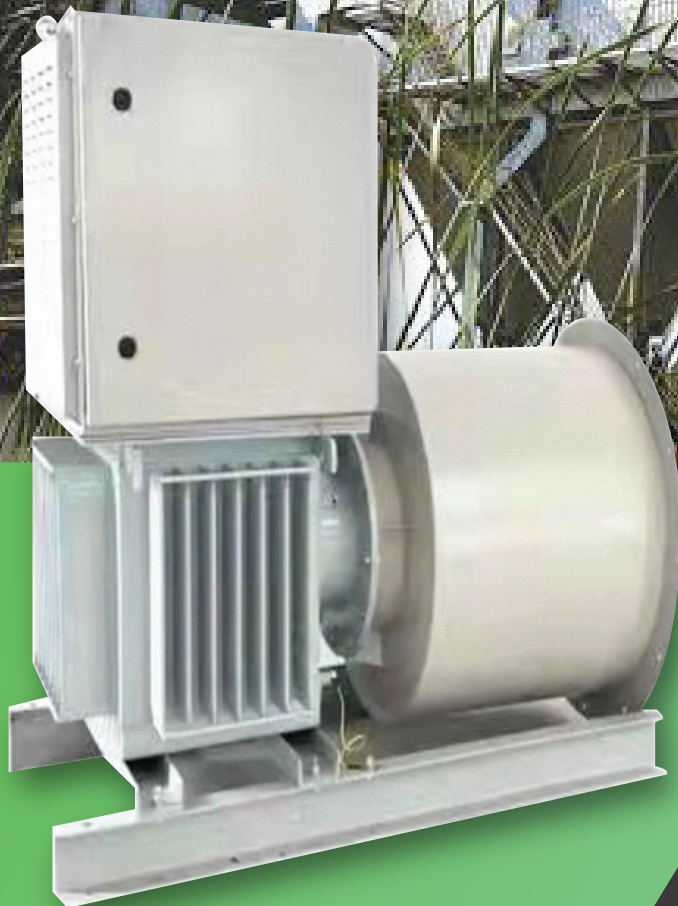


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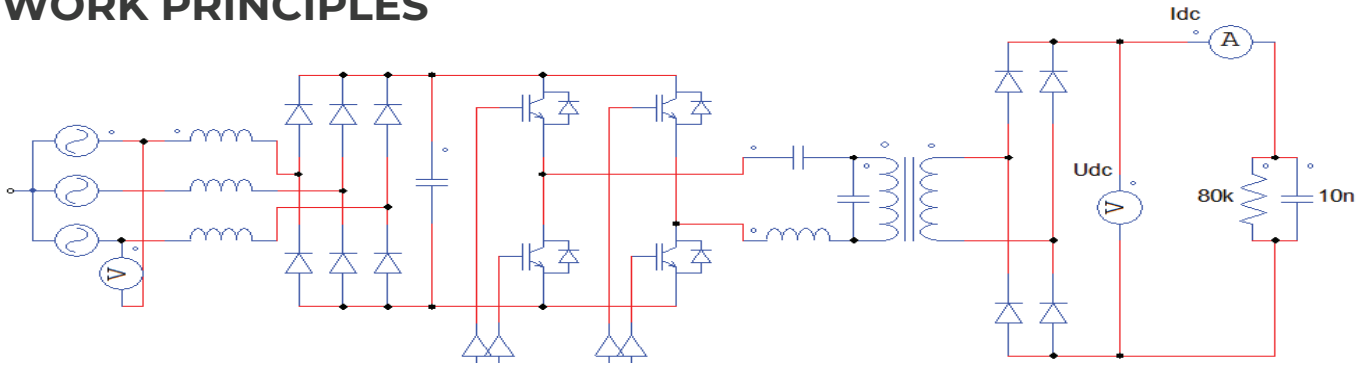


ESP
RKP - IV

PREFACE

The RKP - IV high-frequency power supply, which adopts advanced DSP controlled IGBT sub-assembly for DC/AC inversion circuit, is used for electrostatic precipitator system with output voltage ranging from 60/72/80/100/120kV output current 200-2200mA. The product features its advantages of stable output voltage, high operating frequency, high conversion efficiency, high power factor, etc., which can greatly enhance the performance of electrostatic precipitator system.

WORK PRINCIPLES



PERFORMANCE CHARACTERISTICS

- DSP digital control technology is employed to enable better control
- High operating frequency, up to 40kHz, small output voltage ripple, high dust removal efficiency
- High power conversion efficiency, up to 88% of full-load power conversion
- The power factor is high, over 0.92, which improves the utilization rate of electric energy
- The generated current harmonics are small and do not cause electromagnetic interference to other equipment in the power grid

WORKING ENVIRONMENT

Ambient temperature
10~50

Temperature for storage
40~65

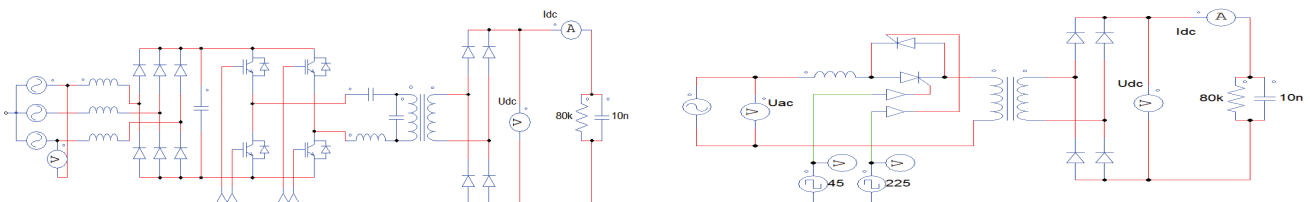
Relative humidity
up to 99%

Altitude above sea
1000 meters

TOPOLOGY COMPARISON

RKP - IV IGBT-based high frequency power supply

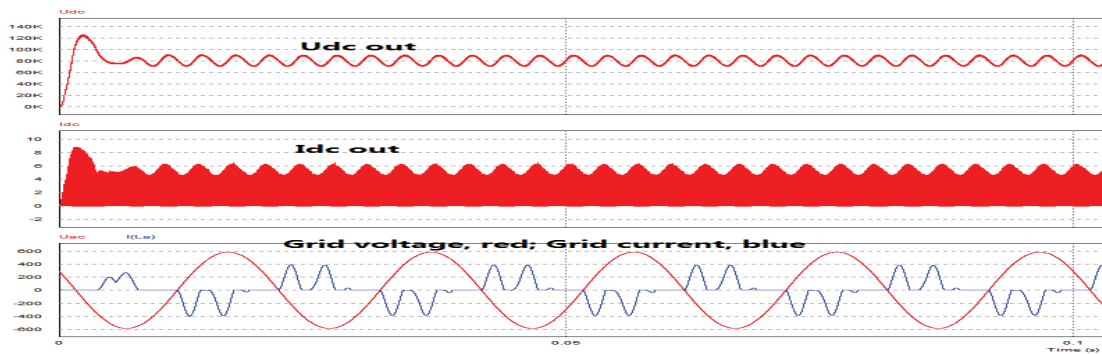
The RKP - IV converts the grid 380V/415V into a 586V DC via diode, inverts into high frequency AC and transforms to high voltage, then converts into 80kV DC via diode



WAVEFORM COMPARISON

RKP - IV IGBT-based high frequency power supply

The main waveforms of RKP - IV are as follows



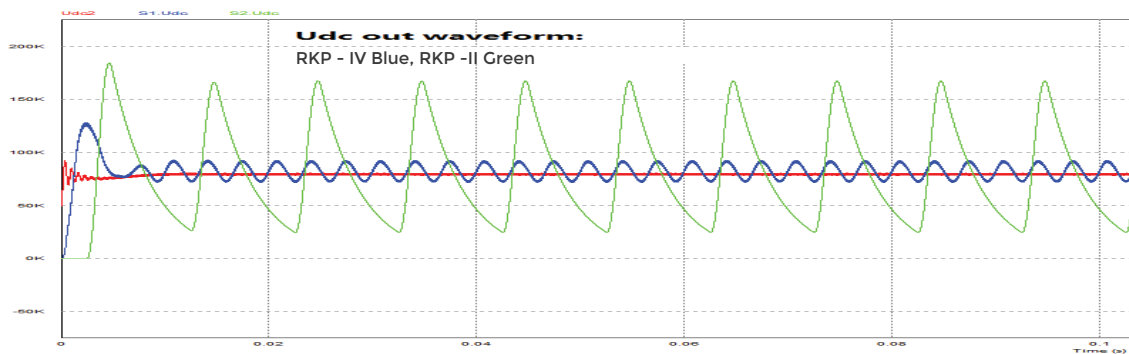
WAVEFORM COMPARISON OF SINGLE PHASE TRANSFORMER

P-II phase thyristor-rectifier power supply

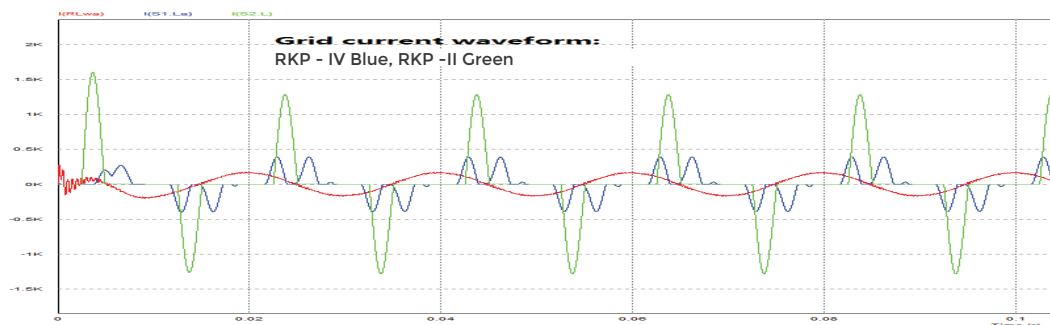
The main waveforms of P-II are as follows



WAVEFORM SUMMARY CONTRAST : OUTPUT VOLTAGE



WAVEFORM SUMMARY CONTRAST : GRID CURRENT



WAVEFORM COMPARISON OF SINGLE PHASE TRANSFORMER

	72kV Series						80kV Series						
Product Model	RKP4-72 600	P4-72 800	P4-72 1000	P4-72 1200	P4-72 1400	P4-72 1600	P4-80 600	P4-80 800	P4-80 1000	P4-80 1200	P4-80 1400	P4-80 1600	
Rated Output Voltage /kV	72						80						
Rated Output Current /mA	600	800	1000	1200	1400	1600	600	800	1000	1200	1400	1600	
AC Input Voltage /V	3 Phase 380V/4 15V 15% (45Hz-55Hz)						3 Phase 380V/ 15% (45Hz-55Hz)						
AC Input Current /A	70	94	117	140	164	188	78	105	130	160	185	210	
Current Accuracy	0.50%						0.50%						
Conversion Efficiency	≥88%						≥88%						
Power Factor	≥0.92						≥0.92						
Max Output Frequency	≥30kHz						≥30kHz						
Operating Mode	Spark Rate Control, Power Saving Mode						Spark Rate Control, Power Saving Mode						
Cooling Method	Forced Air cooling						Forced Air cooling						
Transformer Type	Oil Immersed						Oil Immersed						
Protection Level	IP54						IP54						
Communication Interface	RS485/Internet						RS485/Internet						
Monitor/Display	HMI						HMI						
AC Cable /mm ²	16	25	25	35	35	50							
Dimension (LWH, mm)	850x850x800		1050x1550x2050			1050x1550x2150							
Weight (Kg)	550		850			950							

PERFORMANCE PARAMETER COMPARISON

	RKP-II	RKP-IV
Out Current, Idc2, average value / mA	1000	1000
Out Current, Idc2, peak value / mA	6473	6487
Out Current, Idc2, least value / mA	0	-9.4
Out Current, Idc2, frequency / Hz	50 / 60	300+30k
Out Voltage, Udc2, average value / kV	167.4	90.8
Out Voltage, Udc2, peak value / kV	80	80
Out Voltage, Udc2, least value / kV	24.4	70.1
Out Voltage, Udc2, frequency / kV	50	300+30k
Grid Current, Iac, rms value / A	447.4	174.7
Grid Current, power factor	0.67	0.94
Grid Current, THDi	35%	27%

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