



智能型无触点交流稳压器 (ZBW)

Intelligent Contactless AC regulator

■ 产品概述 (Product Introduction)

ZBW系列智能型无触点交流稳压器采用集成电路按特定顺序控制若干个晶闸管电压过零通断，来改变补偿电压的大小与极性，是晶闸管交流开关技术与变压器技术的完美结合，具有稳定性好，效率特高等优点，对电网无污染，能在各种恶劣的电网和复杂的负载下可靠地连续工作，使用寿命极长，能连续无故障运行10万小时以上，实现了稳压器长期免维护。

ZBW series intelligent contactless AC voltage regulator adopts integrated circuit to control a number of thyristors in a specific order to change the magnitude and polarity of the compensation voltage, it is a perfect combination of thyristor AC switch technology and transformer technology. It has the advantages of good stability, high efficiency, no pollution to power grid, and can work reliably and continuously under all kinds of bad power grid and complicated load, the utility model has extremely long service life, can continuously run over 100,000 hours without fault, and realizes the long-term

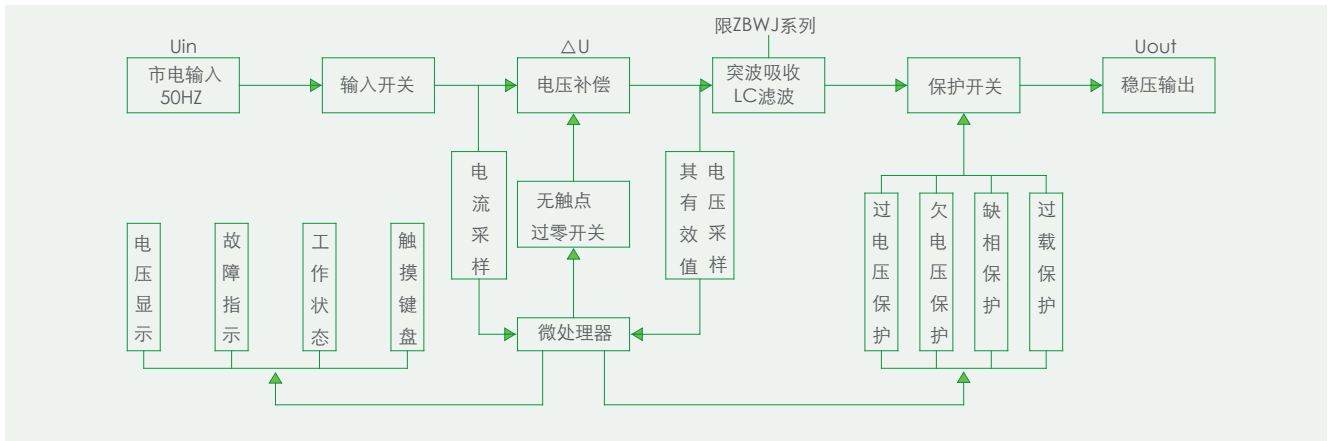
■ 技术规格 (Technical Specifications)

输入电压Input Voltage	稳压范围 / Regulators scope	三相304V-456V, 单相176V-264V / Three-phase 304V-456V, single-phase 176V-264V
	频率 / Frequency	50Hz/60Hz
输出电压 Output Voltage	电压 / Rated Voltage	相电压220V, 线电压380V / Phase voltage 220V, line voltage 380V
	中心电压 / Central voltage	可设定多种电压 / Various voltages can be set
	稳压精度 / Regulators accuracy	±(1-5)%可选择 (常规为±2.5%) / ±(1-5)%option(±2.5%for the conventional)
	响应时间 / Response Time	10-20ms
	波形失真 / Waveform Distortion	不产生附加波形畸变(静态) / No additional waveform distortion (static)
	效率 / Efficiency	≥98%
	三相不平衡度 / Three-phase imbalance	三相电压自动平衡 / Automatic three-phase voltage balance
保护protect	延时输出 / Delay Output	先稳压再输出(保护设备不受冲击) / Again from the first regulator(protective equipment without shocks)
	过压 / Overvoltage	输出相电压高于10%(245V), 切断输出或不间断转向旁路 / The output voltage of more than 10%(245V), or cut output to bypass uninterrupted
	欠压 / Undervoltage	输出相电压低于10%(195V), 切断输出或不间断转向旁路 / If the output phase voltage is lower than 10%(195V), cut off the output or turn the bypass uninterruptedly
	缺相 / Lack of	具备(自动切断) / Have (automatically cut)
	过载 / Overload	电子检测, 过载1分钟内切断输出 / Electronic detection, within three minutes overload output
	过流 / Overcurrent	电子检测和断路器双重保护 / Dual electronic detection and protection circuit breakers
	短路 / Short circuit	电子检测和断路器双重保护 / Dual electronic detection and protection circuit breakers
指示Instigate	旁路 / Bypass	人工或不间断自动旁路 / Manual or automatic bypass uninterrupted
	电压 / Voltage	A.B.C.ΣABC三相分别具有真有效值数字显示 / A.B.C.ΣABC three-phase has true RMS digital display respectively
	电流 / Current	A.B.C.ΣABC三相分别具有真有效值数字显示 / A.B.C.ΣABC three-phase has true RMS digital display respectively
	工作状态 / Working conditions	稳压状态/市电状态 / Regulators state/bypass state
工作方式 / Pperation Mode	异常 / Abnormal	过压、欠压、过载、保险丝断 / over-voltage, under-voltage, overload, fuse fault
	过载能力 / Overload Capacity	具有稳压和市电两种工作方式 / Over two regulators are working methods and bypass
可设定多种调整方式 / Multiple adjustment formula can be set	响应速度快 / Fast response	5倍额定电流1秒钟 / Five times the rated current one second
	测量技术先进 / Advanced Measurement Technology	12位高速AD采集, 每周波采集128点, 单片机进行数字处理运算, 电子模块快速补偿 / 12-bit
	控制精确无误 / The accuracy control	同调:当设定同调时, AD同时采集A、B、C三相电压的真有效值进行平均计算, 给出指令进行补偿, 可以有效提高三相电压的不平衡度
	人性化的界面 / Human interface	分调:当设定分调时, 三相电压各自调整, 保证三相电压都在精确范围内, 在电网三相电压下不平衡的时候, 可以平衡三相电压, 特别适合单相负载
输出波形不失真 / No output waveform Distortion	自动判断:微电脑自动分析应该进行同调或分调	
抵抗谐波干扰 / Harmonic interference resistance	大规模可编程逻辑器件与单片机的完美配合	
负载范围广 / Wide Load	通过操作面板触摸键可以设定各种指标(输出电压、稳定精度、保护功能)	
缓启动抗冲击 / Starting ease impact	采用无触点过零开关切换, 同频、同波、锁相又叠加补偿原理	
保护功能全 / Full protection	真有效值电压检测	
	阻性、容性、感性负载都能适应	
	具有先稳压再输出功能	
	当出现过压、欠压时可在1秒内保护或者不间断自动转换到旁路工作, 并且具有完善的缺相、过载、短路保护及故障后声光报警功能	

■ 工作原理 (Work principle)

采用微电脑 (MCU+PLD+12位高速AD) 智能检测, 输出指令控制电子模块 (IGBT或SCR) 的快速切换, 通过变压器同频、锁相、正弦波又叠加补偿保护输出电压的稳定。响应速度快、无碳刷、无触点、无机械、三相电压自动平衡。

Adopt microcomputer (MCU+PLD+12-bit high-speed AD) intelligent detection, output instructions to control the fast switching of elec-tronic modules (IGBT or SCR), and use the same frequencyPhase lock and sine wave are superimposed to compensate the stability of output voltage. Fast response, no carbon brush, no contact, no mechanical, threephase voltage automatic balance. can reliably and continuously work under various harsh power grids and complex loads, has an extremely long service life, and can continuously operate without fault for more than 100000 hours, Realize long-term maintenance-free pressurizer.



■ 型号规格 (Model specification)

型号 Model	稳压范围 Voltage range (V)	产品尺寸 Product size (mm)	额定容量 Rated current (KVA)	额定电流 Rated current (A)	重量 Weight (kg)
ZBW-10KVA	±20%	350×600×730	10	15	140
ZBW-20KVA		350×600×730	20	30	160
ZBW-30KVA		350×600×730	30	46	180
ZBW-50KVA		390×650×800	50	76	195
ZBW-80KVA		500×800×1200	80	122	316
ZBW-100KVA		500×800×1200	100	152	330
ZBW-120KVA		500×800×1200	120	182	380
ZBW-150KVA		550×850×1200	150	227	450
ZBW-180KVA		850×700×1700	180	273	500
ZBW-200KVA		850×700×1700	200	303	520
ZBW-225KVA		1100×800×2000	225	342	530
ZBW-250KVA		1100×800×2000	250	380	580
ZBW-320KVA		1100×900×2200	320	486	630
ZBW-400KVA		1100×900×2200	400	608	750
ZBW-500KVA		1100×900×2200	500	760	870
ZBW-600KVA		1100×900×2200	600	912	980
ZBW-800KVA		1500×1000×2200	800	1216	1100
ZBW-1000KVA	1500×1000×2200	1000	1520	1300	
ZBW-1200KVA	1500×1000×2200	1200	1824	1450	
ZBW-1500KVA	2500×1100×2200	1500	2272	1650	
ZBW-D3KVA	±20%	220×500×370	3	13.5	20
ZBW-D5KVA		220×500×370	5	22.5	28
ZBW-D10KVA		260×600×400	10	45	50
ZBW-D15KVA		260×600×400	15	68	65
ZBW-D20KVA		350×600×640	20	91	80
ZBW-D30KVA		350×600×640	30	136	100
ZBW-D50KVA		390×650×870	50	227	140