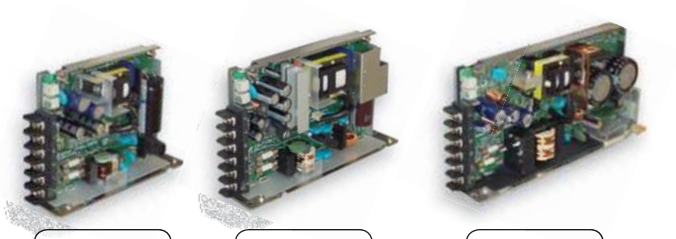
HWB Series

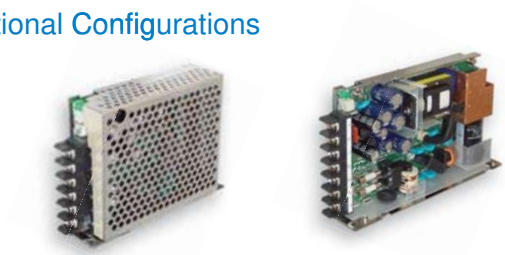
Ultralow-Noise Switch Mode Power Supplies With SMZ Resonant Mode

Base Output Configurations



HWB015x 15 W | **HWB030x** 30 W | **HWB060x** 60 W

Optional Configurations



Cover | Dual Output

The HWB series employs proprietary Soft-switched Multiresonant Zero-cross (SMZ) type resonant-mode circuits to achieve large noise reduction in the converter unit. Moreover, this is a switching power supply which has realized ultra-low noise (ripple voltage, conducted emission, and noise electric field strength) like a dropper power supply, employing a proprietary resonant mode hybrid IC and transformer.

Features and Benefits

- Low ripple voltage
  5 $mV_{(p-p)}$ or less (measured with a 100 MHz oscilloscope. Spike element excluded)
- Low conducted emission
  Approximately 20 dB margin for VCCI Class B, FCC Class B, and CISPR Class B
- Low noise electric field strength
  Complies with VCCI Class B, FCC Class B, CISPR Class B
- World-wide input range
  85 to 264 VAC continuous input or 85 to132 VAC,
  170 to 264 VAC automatic switching (HWB060S)
- Compact, lightweight, low price
  Volume and weight are approximately a quarter of a dropper type, and price is approximately a half
- CE marking compatible
  Acquired CE mark for Low Voltage Differential
- Safety standards
  - Acquired UL60950-1, CSA60950-1, TUV(EN60950-1)
  - Acquired TUV(EN60601-1), UL60601-1
  - M option type supports medical equipment
- Parallel operation
  Made possible by adjusting overcurrent protection (HWB060S)
- Options
  - C: Cover (Output derating required)
  - M: Supports medical equipment, with low leakage current 50 µA or less (standard: 0.25 mA or less)
  - R: Output remote on/off control using external voltage control
- Free warranty on parts for 3 years

Applications

- Medical equipment
- Measuring equipment, semiconductor manufacturing equipment, testing equipment, and control equipment
- Equipment that has a dropper power supply installed

Rated Electrical Specifications (Frequency = 50/60 Hz)

	Model Number*	Output Voltage (V)	Output Current (A)	Input Voltage (VAC)	Input Current (A)	Efficiency (% typ)	Leakage Current (µA max)
Single Output 60 W	HWB060S-05	+5	10	100/200 (Automatic switching)	1.2/0.7	75	0.25 (M option = 50) At rated conditions
	HWB060S-12	+12	5.2		1.5/0.9	80	
	HWB060S-15	+15	5.2		1.8/1.0	85	
	HWB060S-24	+24	3.5		2.0/1.0	85	
Single Output 30 W	HWB030S-05	+5	6	100/240 Continuous	0.7	75	
	HWB030S-12	+12	3		0.8	77	
	HWB030S-15	+15	2.6		0.9	80	
Dual Output 30 W	HWB030D-15	±15	1.3		0.9	80	
Single Output 15 W	HWB015S-05	+5	3		0.4	70	
	HWB015S-15	+15	1.3		0.5	75	
Dual Output 15 W	HWB015D-15	±15	0.65		0.5	75	

*Options: C = Cover, M = Medical, R = Remote on/off

Operational Specifications

	Model Number[a]	Exterior Size (mm)	Weight (g)	Cooling	Operating[b]		Storage	
					Ambient Temperature (°C)	Relative Humidity (%)	Ambient Temperature (°C)	Relative Humidity (%)
Single Output 60 W	HWB060S-05	38×170×92	550	Still air convection	–10 to 60	30 to 90	–25 to 85	30 to 90
	HWB060S-12							
	HWB060S-15							
	HWB060S-24							
Single Output 30 W	HWB030S-05	34×136×92	380					
	HWB030S-12							
	HWB030S-15							
Dual Output 30 W	HWB030D-15		410					
Single Output 15 W	HWB015S-05	34×110×92	350					
	HWB015S-15							
Dual Output 15 W	HWB015D-15							

a Options: C = Cover, M = Medical, R = Remote on/off
b Derating required with C option

Important Information



- The products described in this document are built-in type DC stabilized power supplies with special structures and are designed for installation in equipment. Be sure to use the products only for installation in equipment.
- The products should be handled only by persons who have competent electrical knowledge.
- Be sure to read through all safety precaution and operation manuals before installation, operation, or maintenance and to use the products only for the intended use and in accordance with all applicable safety standards and regulations in the location of use.

Sanken reserves the right to make, from time to time, such departures from the detail specifications as may be required to permit improvements in the performance, reliability, or manufacturability of its products. Therefore, the user is cautioned to verify that the information in this publication is current before placing any order.
When using the products described herein, the applicability and suitability of such products for the intended purpose shall be reviewed at the users' responsibility.
Although Sanken undertakes to enhance the quality and reliability of its products, the occurrence of failure and defect of semiconductor products at a certain rate is inevitable.
Users of Sanken products are requested to take, at their own risk, preventative measures including safety design of the equipment or systems against any possible injury, death, fires or damages to society due to device failure or malfunction.
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When considering the use of Sanken products in applications where higher reliability is required (transportation equipment and its control systems or equipment, fire- or burglar-alarm systems, various safety devices, etc.), contact a company sales representative to discuss and obtain written confirmation of your specifications.
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