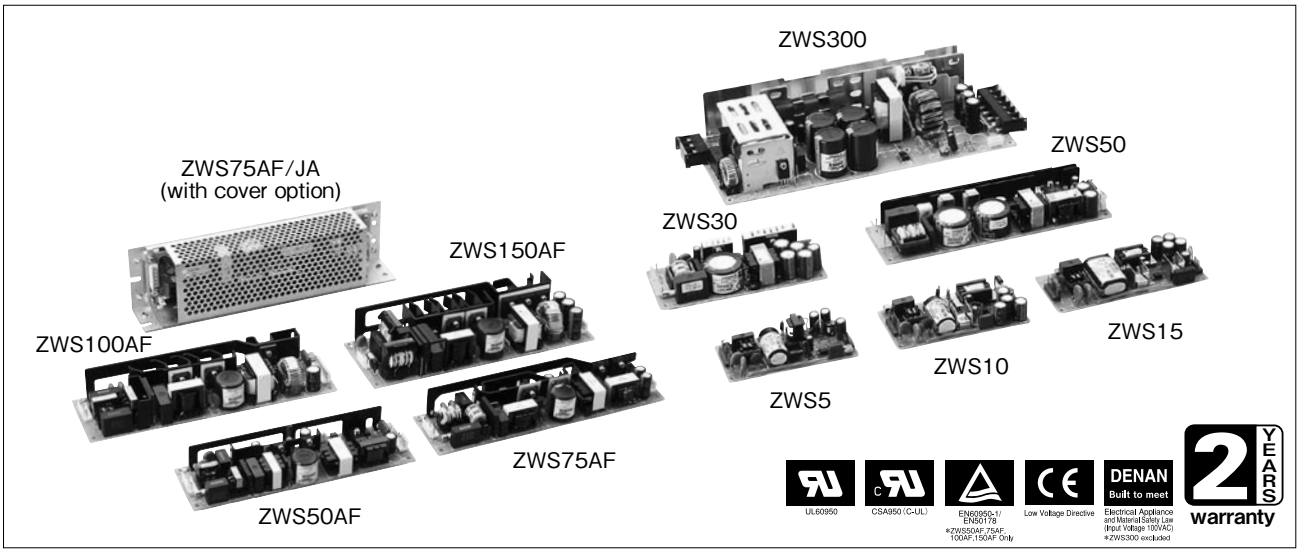
ZWS SERIES

Single Output 5W - 300W



■ Features

CE marking applicable

- Full line-up from 5W through 300W
- Small leak current: 0.5mA max (ZWS-AF)
- ON/OFF control/output voltage trimmer (ZWS-AF)
- Applicable to a wide range of usages, including printers for business use and air conditioners
- Complies the harmonics current limit standard by built-in active filter (ZWS-AF)

■ Model naming method

ZWS 10−5/□□

- Option
  - Blank: Molex connector, PCB type
  - A: Molex connector, with cover
  - J: JST connector, PCB type
  - JA: JST connector, with cover
- Output voltage
- Output power
- Series name

ZWS 300−5/□□

- Series name
- Output power
- Output voltage
- Option
  - R: With remote ON/OFF control
  - T: Vertical terminal type
  - B: Input/output connector terminal type (Only for 12V-48V output type)

■ Applications

■ Conformity to RoHS Directive

This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

■ Product Line up

ZWS (Single Output) ＊In case of new design is requined, please refer to ZWS-AF series.

	5W		10W		15W		30W		50W		300W	
Output Voltage	Current(Peak)	Model	Current(Peak)	Model	Current(Peak)	Model	Current(Peak)	Model	Current(Peak)	Model	Current(Peak)	Model
3.3V	1.0A(1.2)	ZWS5-3	2.0A(2.4)	ZWS10-3	3.0A(3.6)	ZWS15-3	6.0A(7.2)	ZWS30-3	10A(12)	ZWS50-3	40A(60)	ZWS300-3
5V		ZWS5-5		ZWS10-5		ZWS15-5		ZWS30-5		ZWS50-5		ZWS300-5
12V	0.42A(0.51)	ZWS5-12	0.85A(1.02)	ZWS10-12	1.25A(1.5)	ZWS15-12	2.5A(3.0)	ZWS30-12	4.3A(5.16)	ZWS50-12	17A(27)	ZWS300-12
15V	0.34A(0.41)	ZWS5-15	0.7A(0.84)	ZWS10-15	1.0A(1.2)	ZWS15-15	2.0A(2.4)	ZWS30-15	3.5A(4.2)	ZWS50-15	14A(22)	ZWS300-15
24V	0.22A(0.27)	ZWS5-24	0.45A(0.54)	ZWS10-24	0.65A(0.78)	ZWS15-24	1.3A(1.56)	ZWS30-24	2.1A(2.52)	ZWS50-24	9A(14)	ZWS300-24
36V	−	−	−	−	−	−	0.9A(1.08)	ZWS30-36	1.4A(1.68)	ZWS50-36	−	−
48V	−	−	−	−	−	−	0.7A(0.84)	ZWS30-48	1.1A(1.32)	ZWS50-48	4.2A(6.3)	ZWS300-48

ZWS-AF (Single Output, Built-in Active Filter)

	50W		75W		100W		150W	
Output Voltage	Current(Peak)	Model	Current(Peak)	Model	Current(Peak)	Model	Current(Peak)	Model
3.3V	−	−	15A(−)	ZWS75AF-3	20A(−)	ZWS100AF-3	30A(−)	ZWS150AF-3
5V	10A(−)	ZWS50AF-5		ZWS75AF-5		ZWS100AF-5		ZWS150AF-5
12V	4.3A(5.2)	ZWS50AF-12	6.3A(7.5)	ZWS75AF-12	8.5A(10)	ZWS100AF-12	12.5A(15)	ZWS150AF-12
15V	3.5A(4.2)	ZWS50AF-15	5.0A(6.0)	ZWS75AF-15	6.7A(8.0)	ZWS100AF-15	10A(12)	ZWS150AF-15
24V	2.1A(2.6)	ZWS50AF-24	3.2A(3.8)	ZWS75AF-24	4.3A(5.0)	ZWS100AF-24	6.3A(7.5)	ZWS150AF-24
36V	−	−	2.1A(2.5)	ZWS75AF-36	2.8A(3.4)	ZWS100AF-36	4.2A(5.0)	ZWS150AF-36
48V	−	−	1.6A(1.9)	ZWS75AF-48	2.1A(2.5)	ZWS100AF-48	3.2A(3.8)	ZWS150AF-48

・All specifications are subject to change without notice.

ZWS5 Specifications

ITEMS/UNITS		MODEL		ZWS5-3	ZWS5-5	ZWS5-12	ZWS5-15	ZWS5-24
Input	Voltage Range	(*3)	V	AC85 - 265 or DC110 - 330				
	Frequency	(*3)	Hz	47 - 440				
	Efficiency (typ)	(*2)	%	62	67	68		70
	Current (100/200VAC)(typ)		A	0.14 / 0.07				
	Inrush Current (100/200VAC)(typ)		A	15 / 30 at Ta=25℃, cold start				
Output	Nominal Voltage		V	3.3	5	12	15	24
	Minimum Current		A	0				
	Maximum Current		A	1		0.42	0.34	0.22
	Maximum Peak Current	(*1)	A	1.2		0.51	0.41	0.27
	Maximum Power		W	3.3	5.0	5.04	5.1	5.28
	Maximum Peak Power	(*1)	W	3.96	6.0	6.048	6.12	6.336
	Maximum Line Regulation	(*4)(*10)	mV	20		48	60	96
	Maximum Load Regulation	(*5)(*10)	mV	40		96	120	150
	Temperature Coefficient	(*6)	mV	60		140	180	280
	Maximum Ripple & Noise (0 to +60℃)	(*10)	mVp-p	120		150		200
	Maximum Ripple & Noise (−10 to 0℃)	(*10)	mVp-p	160		180		200
	Hold-up Time (100VAC)(typ)	(*2)	ms	17 at 5W, Ta=25℃				
	Voltage Adjustable Range			+/-10%				
Function	Over Current Protection	(*7)		>125%				
	Over Voltage Protection	(*8)		>140%				
	Parallel Operation			-				
	Series Operation	(*9)		Possible				
Environment	Operating Temperature	(*11)	℃	-10 to +50: 100%, +60: 70%				
	Storage Temperature		℃	-30 to +85				
	Operating Humidity		%RH	30 - 90				
	Storage Humidity		%RH	10 - 95				
	Vibration			10-55Hz (sweep 1min) less than 19.6m/s² X, Y, Z 1h each				
	Shock			Less than 196.1m/s²				
	Cooling			Convection cooling				
Isolation	Withstand Voltage			Input - FG: 2kVAC (20mA), Input - Output: 3kVAC (20mA), Output - FG: 500VAC (100mA) for 1min				
	Isolation Resistance			More than 100MΩ at 25℃ and 70%RH Output - FG 500VDC				
Standards	Safety Standards			Approved by UL60950-1,CSA C22.2 No.60950-1,EN60950-1, Built to meet DENAN				
	EMI			Built to meet EN55022-B, FCC-ClassB, VCCI-B				
Mechanical	Weight (typ)		g	120				
	Size (W x H x D)		mm	45 x 21 x 98				

(*1) Operating time at peak output is less than 10 seconds. (Duty=0.35)

(*2) At 100VAC and maximum output current, Ta=25℃.

(*3) For cases where conformance to various safety specs (UL,CSA) are required, to be described as 100 - 240VAC, 50/60Hz on name plate.

(*4) From 85 - 265VAC and constant load.

(*5) From min load - full load (maximum power) and constant input voltage.

(*6) From -10 to +50℃ constant input voltage and load.

(*7) Current limiting with automatic recovery.
Avoid to operate over load or dead short for 30 seconds.

(*8) Over voltage clamping by zener diode.

(*9) Refer to instruction manual.

(*10) Please refer to Fig A for measurement of line & load regulation and ripple voltage.

(*11) At standard mounting method, Fig B.

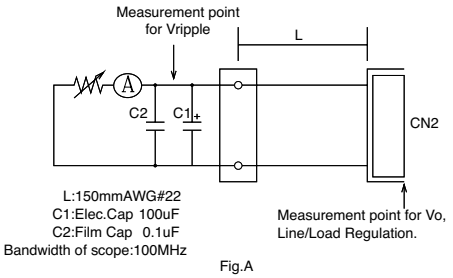


Fig.A

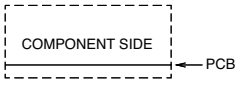
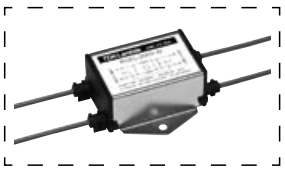


Fig.B

●Recommended EMC Filter



RSEL-20R5W

Please refer to "TDK-Lambda EMC Filters" catalog.

ZWS