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TDK·Lambda RWS50B-RWS600B Series

50W to 600W Single Output General Purpose Power Supplies

https://product.tdk.com/en/power/rws-b
www.emea.lambda.tdk.com/rws-b



Industrial Test COMM LED Broadcast Semi-Fab

The RWS50B to RWS600B AC-DC power supplies are designed to provide solid performance at an economical price. 50, 100, 150, 300 and 600W ratings are available with output voltages from 5V to 48V. All models are certified to IEC62368-1 with UL508 on select models. These 7-year warranty (1) products meet both Class B radiated and conduction EMI standards. The 300W models have a remote on/off option and the 600W have options for remote on/off, parallel operation, DC Good and remote sense.

Features	Benefits
• Seven Year Warranty (1)	• Low Cost of Ownership
• Conservatively Rated Electrolytic Capacitors	• Long Field Life
• Class B Conducted and Radiated EMI	• Easier System EMC Compliance
• UL508 Certified on Select Models	• Suitable for Industrial Control Equipment

Model Selector

Model	Voltage (V)	Adjustable Range (V)	Max Current (A)	Max Output Power (W)	Ripple & Noise (mV)	Input Current (A) 115/230Vac	Efficiency (typ)% 115/230Vac	UL508 Certification
RWS50B-5	5	4.5 - 5.75	10	50	120	1.0 / 0.65	78 / 79	Yes
RWS100B-5	5	4.5 - 5.75	14	70	120	0.9 / 0.45	77.5 / 79	Yes
RWS150B-5	5	4.5 - 5.75	21	105	120	1.3 / 0.7	77.5 / 79.5	Yes
RWS300B-5	5	4.5 - 5.75	50	250	120	3.1 / 1.6	75 / 78.5	-
RWS600B-5	5	4.5 - 5.75	100	500	120	6.2 / 3.2	74 / 77.5	-
RWS50B-12	12	10.8 - 13.8	4.3	51.6	150	1.0 / 0.65	83 / 84	Yes
RWS100B-12	12	10.8 - 13.8	8.5	102	150	1.2 / 0.6	83 / 84	Yes
RWS150B-12	12	10.8 - 13.8	13	156	150	1.8 / 0.9	84.5 / 87.5	Yes
RWS300B-12	12	10.8 - 13.8	25	300	150	3.6 / 1.9	79.5 / 82.5	Yes
RWS600B-12	12	10.8 - 13.8	50	600	150	6.6 / 3.6	82 / 84.5	-
RWS100B-15	15	13.5 - 17.25	6.8	102	150	1.2 / 0.6	84 / 85	-
RWS150B-15	15	13.5 - 17.25	10	150	150	1.8 / 0.9	84.5 / 87.5	-
RWS300B-15	15	13.5 - 17.25	20	300	150	3.6 / 1.9	81.5 / 84.5	Yes
RWS600B-15	15	13.5 - 17.25	40	600	150	6.6 / 3.6	82 / 84.5	-
RWS50B-24	24	21.6 - 27.6	2.2	52.8	150	1.0 / 0.65	86 / 87	Yes
RWS100B-24	24	21.6 - 27.6	4.5	108	150	1.2 / 0.6	86 / 87.5	Yes
RWS150B-24	24	21.6 - 27.6	6.5	156	150	1.8 / 0.9	86.5 / 89.5	Yes
RWS300B-24	24	21.6 - 27.6	12.5	300	150	3.6 / 1.9	85 / 88	Yes
RWS600B-24	24	21.6 - 27.6	25	600	150	6.6 / 3.6	85 / 88.5	Yes
RWS150B-28	28	25.2 - 32.2	5.4	151.2	180	1.8 / 0.9	86.5 / 89.5	-
RWS300B-36	36	32.4 - 414	8.4	302.4	200	3.6 / 1.9	85 / 88	Yes
RWS600B-36	36	32.4 - 414	16.7	601.2	200	6.6 / 3.6	85 / 88.5	-
RWS50B-48	48	43.2 - 52.8	1.1	52.8	200	1.0 / 0.65	87 / 88	-
RWS100B-48	48	43.2 - 52.8	2.1	100.8	200	1.2 / 0.6	86 / 87	-
RWS150B-48	48	43.2 - 52.8	3.3	158.4	200	1.8 / 0.9	86.5 / 89.5	-
RWS300B-48	48	43.2 - 52.8	6.3	302.4	200	3.6 / 1.9	85 / 88	Yes
RWS600B-48	48	43.2 - 52.8	12.5	600	200	6.6 / 3.6	85 / 88.5	-

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RWS50B-	12	/	-

Output voltage 5, 12, 15, 24, 28, 36, 48

blank	No options
/CO2	Double sided board coating
/FO	DC Good and parallel (600W only)
/R	Remote On/Off (300W and 600W only)
/RFO	Remote on/off, DC Good and parallel (600W only)

Related Products

Type	Part Number	Description
Higher power RWS-B models	RWS1000B, RWS1500B	1000W to 1500W single output AC-DC power supplies
DIN rail mounting bracket	DIN-04	RWS50B DIN rail bracket
DIN rail mounting bracket	DIN-05	RWS100B DIN rail bracket
DIN rail mounting bracket	DIN-06	RWS150B DIN rail bracket
DIN rail mounting bracket	DIN-07	RWS300B DIN rail bracket

Specifications

Model		RWS50B	RWS100B	RWS150B	RWS300B	RWS600B
Input						
Input Voltage Range (Operating)	Vac	85 - 265				
Nominal Input Voltage Range	Vac	100 - 240 (Note: Safety certified for 90-264Vac)				
Input Surge Voltage	Vac	300 for 5s				
Input Frequency	Hz	47 - 63 (Note: Safety certified for 50-60Hz only)				
DC Input Voltage Range	Vdc	RWS50-300B: 120 - 370, RWS600B: 120 - 330 (Note: Safety certified for AC input only)				
Input Current (115/230Vac)	A	See model selector table				
Inrush Current at 200Vac (typ) (Cold Start)	A	36	30	32	34	40
Leakage Current	uA	<750, typically 175 at 115Vac 63Hz				
Power Factor (100/200Vac)	-	Not specified	0.95 / 0.90			
Harmonic Compliance	-	Designed to meet IEC61000-3-2				
Hold Up Time (typ) at 110/220Vac Input	ms	20 (15 at 100Vac input)	20			
Efficiency	-	See model selector table				
Conducted & Radiated EMI	-	EN55011/EN55032-B, FCC Class B, VCCI-B				
Immunity	-	See immunity table				
Safety Certifications and Markings	-	IEC/UL/CSA/EN62368-1, UL508 (see model selector), CE Mark and UKCA Mark				

Immunity

Test	Standard	Test Level	Criteria	Notes
ESD	EN61000-4-2	Air ± 8kV and contact ± 4kV	B	See IEC61000 immunity test report on website
Radiated Susceptibility	EN61000-4-3	80M -1GHz: 10V/m 1.4 - 2.0GHz: 3V/m 2.0 - 2.7GHz: 1V/m	A	
Electrical Fast Transient Burst	EN61000-4-4	± 2kV	B	
Surge	EN61000-4-5	Normal ± 2kV Common ± 4kV	B	
Conducted Susceptibility	EN61000-4-6	10Vrms	A	
Magnetic Fields	EN61000-4-8	30A/m	A	
Voltage Dips	EN61000-4-11	30% 500ms 60% 10ms 100% 20ms 100% 5000ms	B B A B	
SEMI F47 Line Dip	SEMI F47			At input voltages > 200Vac

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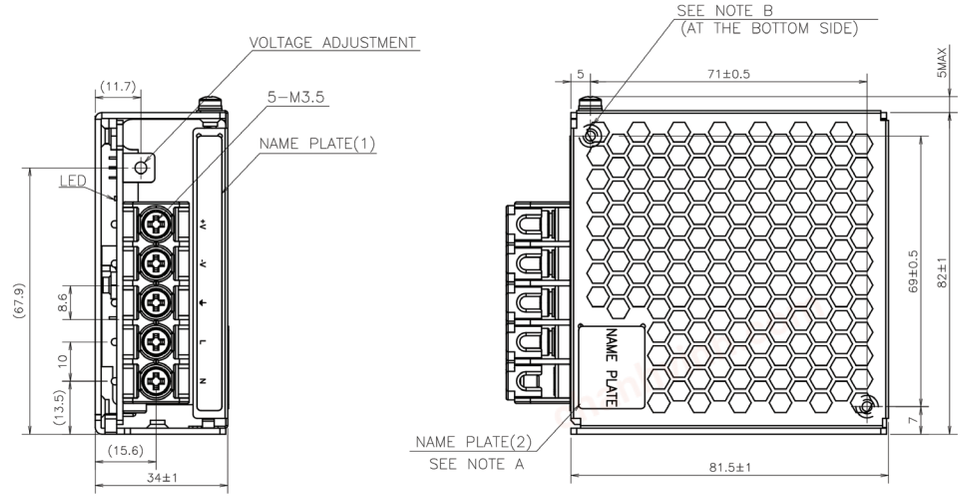
Specifications

Model		RWS50B	RWS100B	RWS150B	RWS300B	RWS600B
Output						
Output Voltage Adjustment	-	See model selector table				
Switching Frequency	kHz	100	120, PFC 65			190, PFC 50-70
Line Regulation	mV	5V: 20, 12V: 48, 15V: 60, 24V: 96, 28V: 112, 36V: 144, 48V: 192				
Load Regulation	mV	5V: 40, 12V: 96, 15V: 120, 24V: 192, 28V: 224, 36V: 288, 48V: 384				
External Load Capacitance	uF	RWS50B; 5-12V, 10,000, 24V: 3,300, 48V: 400, RWS100B-600B: 10,000				
Ripple & Noise	-	See model selector table				
Temperature Coefficient	%/°C	0.02				
Minimum Load	-	No minimum load required				
Overcurrent Protection	%	>105. Constant current characteristics				
Overvoltage Protection	%	115-140. Cycle AC line to reset				
Remote Sense	-	None				See options
Remote On/Off	-	None			See options	
Parallel Operation	-	None				See options
Environmental						
Operating Temperature(2)	°C	-20 to +70. See note (2) or installation manuals on website				
Humidity (non condensing)	%RH	Operating: 30 - 90, storage: 10 - 90				
Storage Temperature	°C	-30 to +75				
Cooling	-	Convection			Forced air - internal fan	
Altitude	m	3000				
Withstand Voltage (For 1 minute)	Vac	Input to Ground 2,000, Input to Output 3,000, Output to Ground 500 for 1 minute				
Vibration (Non operating)	-	10-55Hz (Sweep for 1min.) 19.6m/s^2 Constant X,Y,Z 1 hour each				
Shock (Non operating)	-	Less than 196m/s^2, 11ms, ±X, ±Y, ±Z 3 times each				
Other						
Weight (Typ)	g	230	400	480	900	1600
Size (LxWxH)	mm	81.5 x 82 x 34	108 x 94 x 39	128 x 94 x 41	170 x 102 x 41	190 x 120 x 61
Size (LxWxH)	Inches	3.21 x 3.23 x 1.34	4.25 x 3.7 x 1.54	5.04 x 3.7 x 1.61	6.7 x 4.02 x 1.61	7.48 x 4.72 x 2.4
Case Material	-	Metal				
MTBF - Telcordia SR-332 issue 3*	Hours	4,170,949	1,978,533	2,235,743	2,027,824	2,157,340
Warranty	yrs	7(1)				

Notes
See website for detailed specifications, test methods and installation manual
*25°C ambient, full load, 24Vdc input
(1) The Americas and EMEA regions: 7 years. Other regions: 5 years. See applicable regional terms of sale.
(2) RWS50-100B derates linearly above 45°C to 20% load at 70°C, 150B derates above 40°C and 300-600B derates above 50°C to 50% load at 70°C

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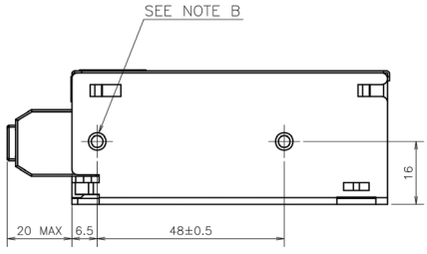
Outline Drawing RWS50B



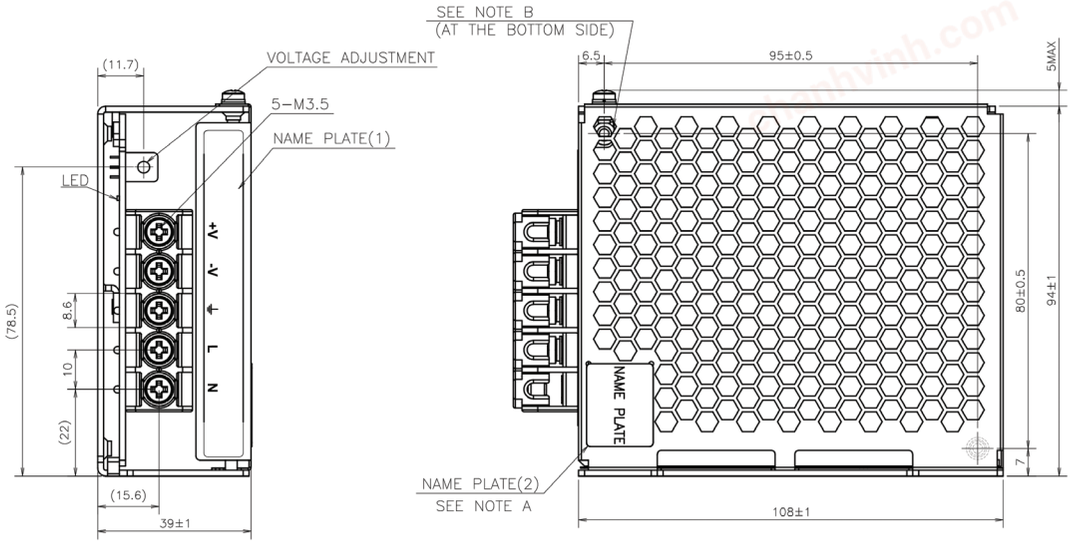
NOTES

A: MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT VOLTAGE, MAXIMUM OUTPUT CURRENT, COUNTRY OF MANUFACTURE AND SAFETY MARKING (FOR ONLY APPROVED PRODUCTS) ARE SHOWN HERE IN ACCORDANCE WITH THE SPECIFICATIONS.

B: 4–M3 BR & COUNTERSINK ARE FOR CUSTOMER'S CHASSIS MOUNTING. (SCREW PENETRATION DEPTH 6mm MAX.)



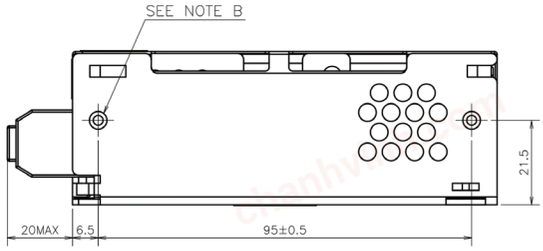
Outline Drawing RWS100B



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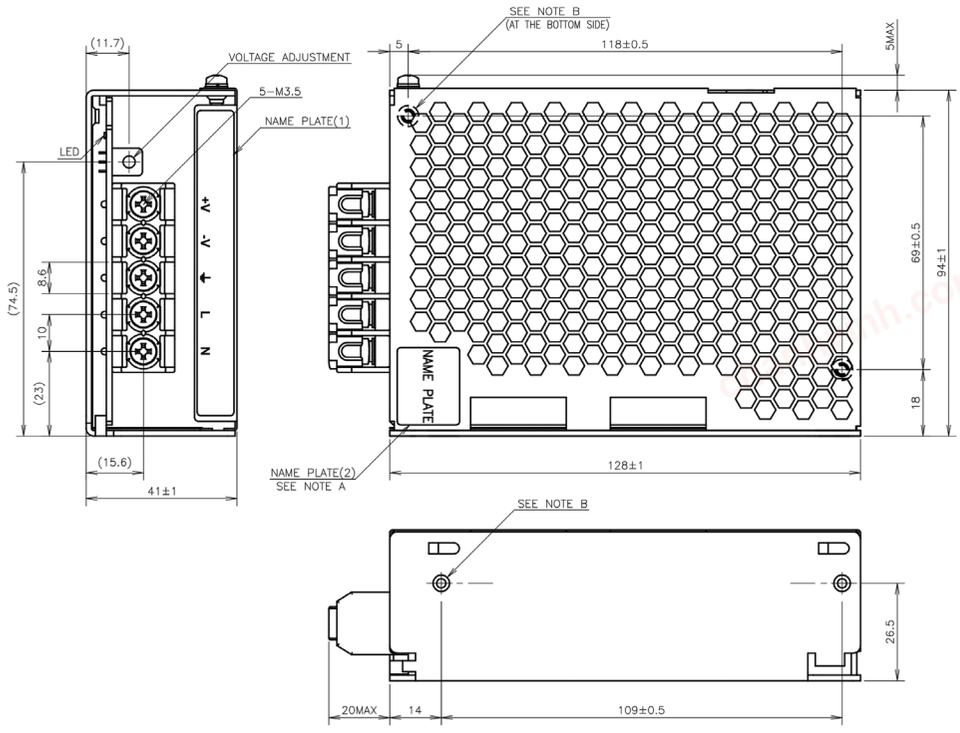
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B: 4–M3 BR & COUNTERSINK ARE FOR CUSTOMER'S CHASSIS MOUNTING. (SCREW PENETRATION DEPTH 6mm MAX.)



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Outline Drawing RWS150B

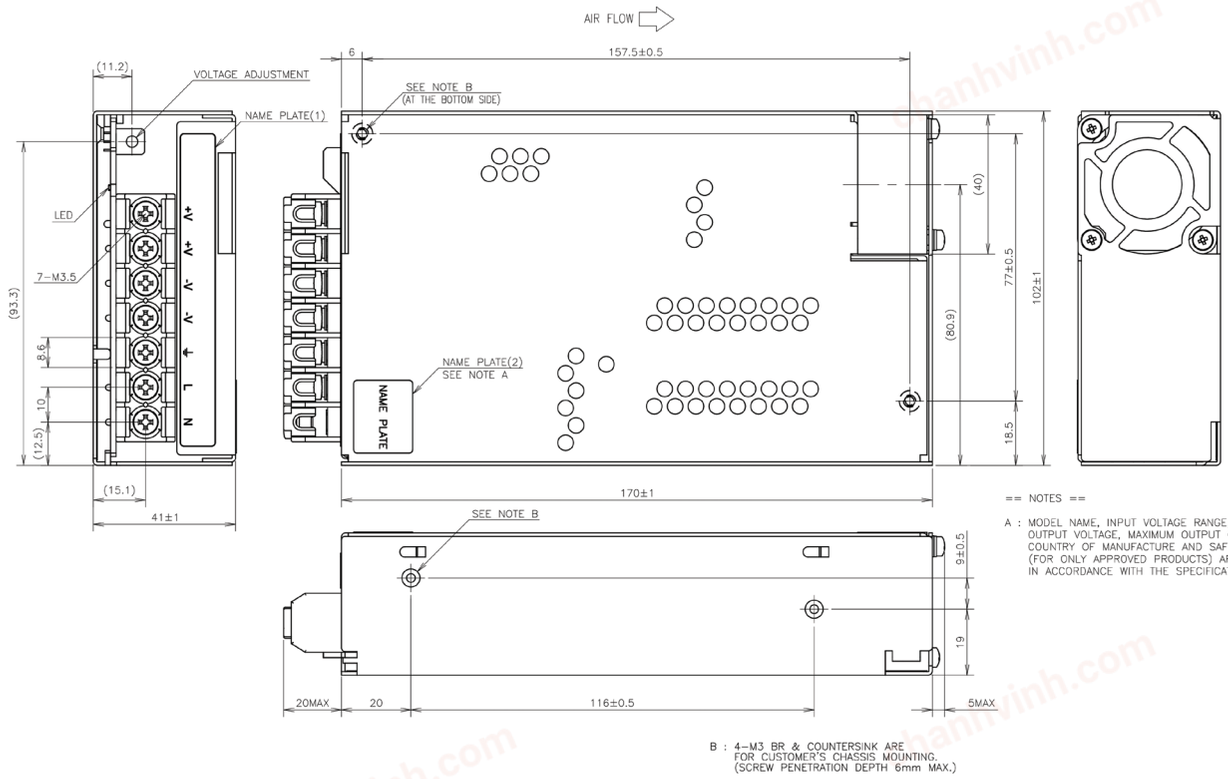


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B : 4-M3 BR & COUNTERSINK ARE FOR CUSTOMER'S CHASSIS MOUNTING. (SCREW PENETRATION DEPTH 6mm MAX.)

Outline Drawing RWS300B



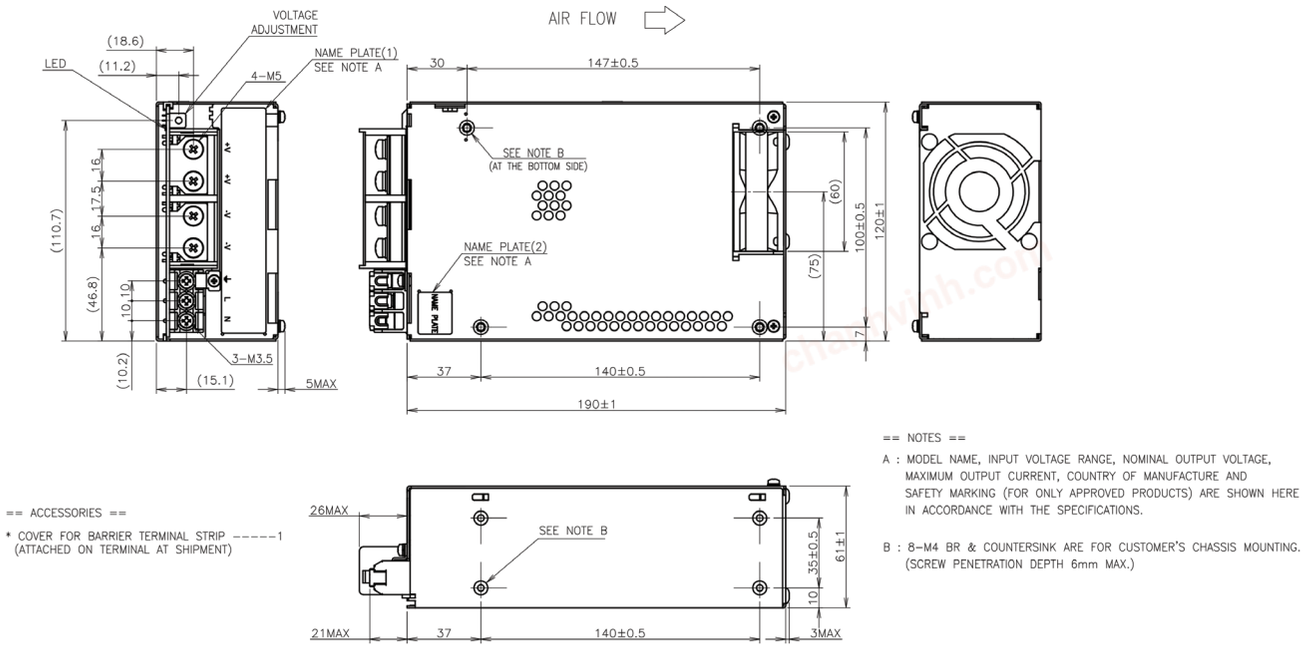
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B : 4-M3 BR & COUNTERSINK ARE FOR CUSTOMER'S CHASSIS MOUNTING. (SCREW PENETRATION DEPTH 6mm MAX.)

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Outline Drawing RWS600B



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