

RWS50A SERIES
INSTRUCTION MANUAL

RWS 50A

SPECIFICATIONS

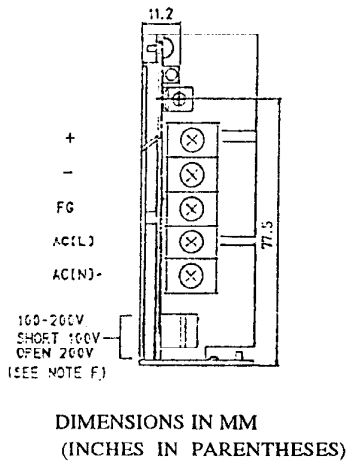
ITEMS	MODEL		RWS50A	RWS50A	RWS50A	RWS50A	RWS50A	RWS50A
			-5	-12	-15	-24	-36	-48
1	Nominal Output Voltage	V	5	12	15	24	36	48
2	Maximum Output Current	A	10	4.2	3.4	2.1	1.4	1
3	Maximum Output Power	W	50	50.4	51.0	50.4	50.4	48
4	Efficiency (Typ)	(*1) %	74	77	78	81	81	81
5	Input Voltage Range	(*2) -	85-132VAC or 170-265VAC (47-440Hz) selectable or 230 - 330VDC					
6	Input Current (Typ)	(*3) -	100VAC - 1.2A, 200VAC - 0.61A					
7	Inrush Current(Typ)	(*4) -	16A at 100VAC or 32A at 200VAC					
8	Output Voltage Range	-	±10%					
9	Maximum Ripple & Noise	mV	120	150	150	200	250	300
10	Maximum Line Regulation	(*5) mV	20	48	60	96	144	192
11	Maximum Load Regulation	(*6) mV	40	100	120	150	200	250
12	Over Current Protection	(*7) A	10.5 ~	4.41 ~	3.57 ~	2.21 ~	1.47 ~	1.05 ~
13	Over Voltage Protection	(*8) V	5.75-6.75	13.8-16.2	17.3-20.3	27.6-32.4	41.4-48.6	55.2-64.8
14	Hold-up Time (Typ)	(*9) -	20ms					
15	Remote Sensing	-	-					
16	Series Operation	-	Possible					
17	Operating Temperature	(*10) -	0 ~+60°C (0 ~+50°C:100%, +60°C:60%)					
18	Operating Humidity	-	30 ~ 90%RH					
19	Storage Temperature	-	-30 ~ +85°C					
20	Storage Humidity	-	10 ~ 95%RH					
21	Cooling	-	Convection Cooling					
22	Temperature Coefficient	-	1% (Typ) at 0 ~+50°C					
23	Withstand Voltage	(*11) -	Input - Chassis : 2kVAC, Input - Output : 3kVAC Output - Chassis : 500VAC 1min					
24	Isolation Resistance	-	More than 100Mohm at 25°C and 70%RH Output - FG... 500VDC					
25	Vibration	-	10-55Hz (Sweep for 1min) Less than 19.6m/s ² X,Y,Z 1h each					
26	Shock	-	Less than 196.1m/s ²					
27	Safety	-	Build to meet UL1950-D3, CSA234, EN60950 & DENTORI					
28	Conducted Radio Noise	-	Built to meet FCC-ClassB					
29	Weight	-	380g					
30	Size (WxHxD)	mm	37 x 97 x 159 (Refer to Outline Drawing)					

=NOTES=

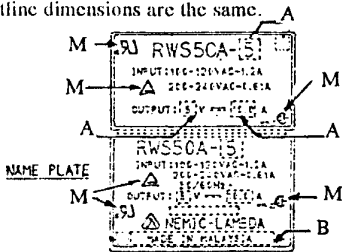
- *1. At 100VAC and maximum output power, Ta=25°C.
- *2. For cases where conformance to various safety specs (UL, CSA, VDE) are required, to be described as 100-120VAC, 200-240VAC, 50/60Hz on name plate.
- *3. At 100VAC or 200VAC and maximum output power.
- *4. Typical value on cold start, Ta=25°C.
- *5. From 85-132/170-265VAC or 230-330VDC, constant load.
- *6. From No load-Full load, constant input voltage.
- *7. Foldback current limiting with automatic recovery.
Avoid to operate overload or dead short for 30 seconds.
- *8. Inverter shut-down method, manual reset.
- *9. At 100VAC, nominal output voltage and maximum output current, Ta=25°C.
- *10. At vertical mounting.
- *11. Refer to instruction manual for testing procedure.

RWS50A SERIES

OUTLINE & CONNECTIONS :

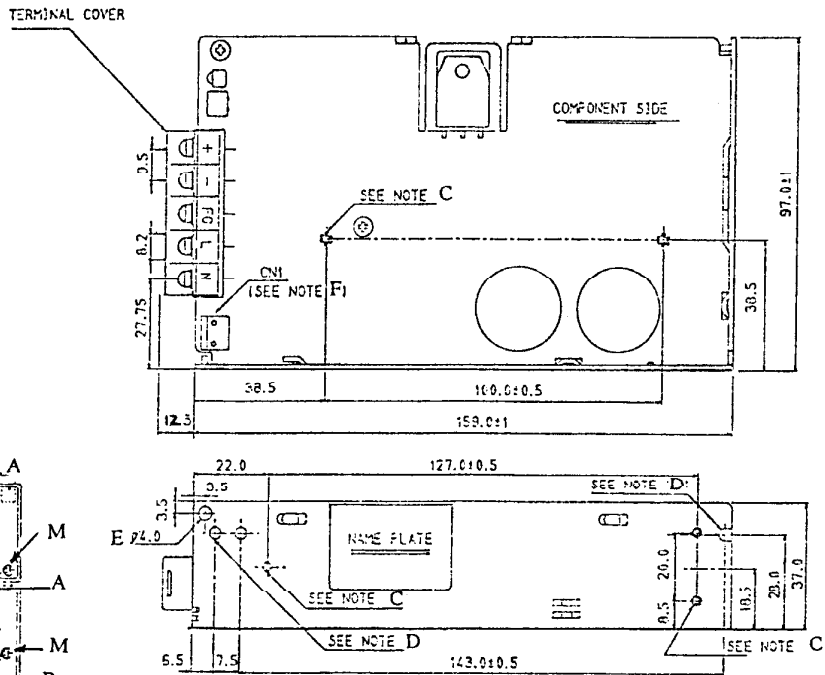


* With or without cover, these three outline dimensions are the same.



NOTES :

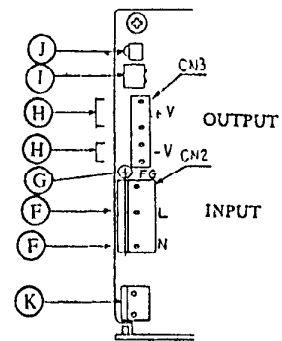
- A : Nominal output voltage and maximum output current are shown here in accordance with the specifications.
- B : Country of manufacturer will be shown here.
- C : M3 tapped holes (5) for customer chassis mounting. (Screws must not protrude into power supply by more than 6m)
- D : Ø3.5 holes (3) for customer chassis mounting. (Use M3 mounting screws).
- E : This Ø4 hole, marked is an alternative protective earth connection (refer to Installation, Page 3, 2.2).
- F : Input Terminals
N : Neutral
L : Live (connected to internal fuse).
- G : FG (Frame ground) terminal marked & connected internally to the chassis is for protective earth connection. (refer to Installation, Page 3,2.1).
- H : Output Terminals
+V : Positive output terminal.
-V : Negative output terminal.
- I : VR1 is the volume for adjusting output voltage ±10%. Turning clockwise increases the voltage. Note that VR1 is preset as per name plate. Do not adjust unnecessary.
- J : Output power-on lamp.
- K : Input Voltage Selection.
100-120VAC : Short CN1 with Short Plug
200-240VAC : Open CN1



- L : Standard models : With terminal block, without chassis cover.
Options are : A = With terminal block, with chassis cover.
B = With connector, without chassis cover
C = With connector, with chassis cover.

M : Product Safety logo (UL,CSA,TUV) shall be applied Where applicable. Refer to manufacturer for more detail.

**CONNECTIONS FOR
OPTIONS B & C**



CONNECTORS USED :

Part Description	Part Name	Manufacturer	Qty
Pin Header(Input) CN2	5289-4A	Molex	1
Pin Header(Output) CN3	5287-4A	Molex	1

ACCESSORIES :

Part Description	Part Name	Manufacturer	Qty
Socket Housing (For CN2,3)	5199-04	Molex	2
Terminal Pins	5194PBT	Molex	7
Hand Crimping Tool : JHTR 5904 Manufacturer : Molex			

ACCESSORIE Short Plug

Part Description	Part Name	Manufacturer	Qty
Housing	5265-02	Molex	1
Terminal Pins	5167-PBT	Molex	2
Hand Crimping Tool : JHTR 2445A Manufacturer : Molex			

INSTALLATION

1. TO MEET SAFETY REQUIREMENTS, THE POWER SUPPLY TERMINALS MUST NOT BE USED DIRECTLY AS THE EXTERNAL TERMINATIONS OF ANY EQUIPMENT.

Recommended screw torque is 5 Kg.cm.

2. GROUNDING :

2.1 : For safety as well as improved noise, ensure secure connection of the FG terminal marked (refer to Page 2, Note G) to the ground terminal of the equipment internally as the protective earth connection.

2.2 : Alternatively, the 04 hole on the chassis indicated in Note E, Page 2, may be used for protective earth connection internally or directly externally, provided an M3.5 or M4 screw with spring washer and flat washer is used.

3. MOUNTING :

3.1 : M3 mounting screws (refer to Page 2, Note C) must not penetrate into the power supply more than 6mm from the external surface of the chassis.

3.2 : Whichever side of the chassis is used for mounting, all positions of that side, 2 M3 tapped holes and 3 03.5 holes (refer to Page 2, Notes C, D), must be used in order to meet the vibration specification.

3.3 : Recommended screw torque is 5 Kg.cm.

3.4 : If a few units are used side-by-side, a minimum 15mm spacing in-between is required for sufficient ventilation.

3.5 : The power supply must be installed where equipment ventilation allows free convection cooling.

4. WIRING :

4.1 : AWG #22 #18 wires should be used for input & output connection to improve noise performance, input & output wires should be well separated, but each pair should be twisted together.

4.2 : To avoid excessive voltage drop and for improved noise, short and thick wires should be used to connect the load.

5. SERIES OPERATION :

The outputs of 2 units can be used in series in either of the following 2 ways Fig. B, C.

For Fig. B, the by-pass diodes should be selected with forward current greater than the load current and reverse voltage greater than the output voltage.

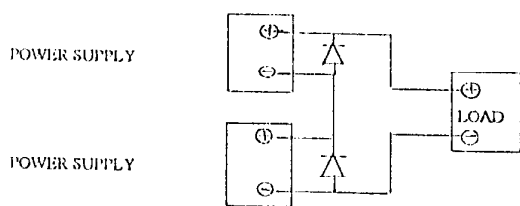


Fig. B

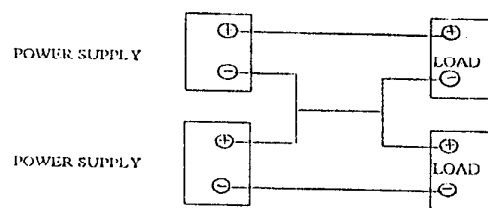
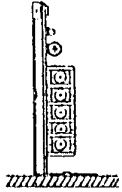


Fig. C

RWS50A SERIES

MOUNTING POSITION AND OUTPUT DERATING

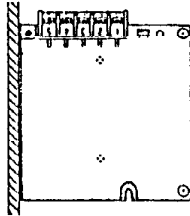
MOUNTING A
(STANDARD)



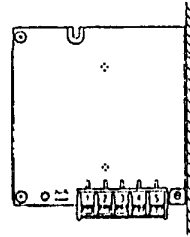
MOUNTING B



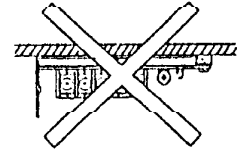
MOUNTING C



MOUNTING D



MOUNTING E



NOT PERMISSIBLE

OUTPUT DERATING

WITHOUT CHASSIS COVER

Ta (°C)	LOAD (%)				
	MOUNTING:A	MOUNTING:B	MOUNTING:C	MOUNTING:D	MOUNTING:E
30	100	100	100	100	-
40	100	100	100	100	-
50	100	100	100	80	-
60	60	60	60	40	-

WITH CHASSIS COVER

Ta (°C)	LOAD (%)				
	MOUNTING:A	MOUNTING:B	MOUNTING:C	MOUNTING:D	MOUNTING:E
30	100	100	100	100	-
45	100	80	80	50	-
50	80	60	60	40	-
60	50	40	40	-	-

FUSE :

Rating : 250V 3A or 3 15A A

Type : Time-lag

Avoid using fast-blow type.

CAUTION : Change of fuse is to be done by authorised service personnel only.

VORSICHT : UBERLASSEN SIE WARTUNGSARBEITEN STETS DEM VON ZUGELASSENEN FACHMANN.

A CE MARKING : CE marking when applied to the unit, indicates compliance with the low voltage directive (73/23/EEC) as modified by the CE marking directive (93/68/EEC) in that it complies with EN60950.