

RWS30A SERIES
INSTRUCTION MANUAL

RWS30A SPECIFICATIONS

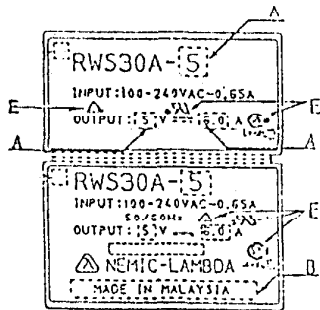
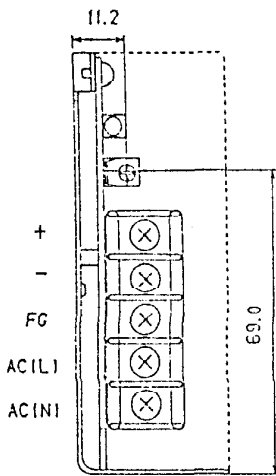
| Items | | Model | RWS30A-5 | RWS30A-12 | RWS30A-15 | RWS30A-24 | RWS30A-48 |
|-------|-------------------------|---------|--|-----------|-----------|-----------|-----------|
| 1 | Nominal Output Voltage | V | 5 | 12 | 15 | 24 | 48 |
| 2 | Maximum Output Current | A | 6 | 2.5 | 2 | 1.3 | 0.6 |
| 3 | Maximum Output Power | W | 30 | 30 | 30 | 31.2 | 28.8 |
| 4 | Efficiency (Typ) | (*1) % | 72 | 77 | 79 | 81 | 81 |
| 5 | Input Voltage Range | (*2) - | 85~265VAC (47~440Hz) or 110~330VDC | | | | |
| 6 | Input Current (Typ) | (*3) - | 0.65A at 100VAC or 0.35A at 200VAC | | | | |
| 7 | Inrush Current (Typ) | (*4) - | 20A at 100VAC or 40A at 200VAC | | | | |
| 8 | Output Voltage Range | - | ±10% | | | | |
| 9 | Maximum Ripple & Noise | mV | 120 | 150 | 150 | 200 | 300 |
| 10 | Maximum Line Regulation | (*5) mV | 20 | 48 | 60 | 96 | 192 |
| 11 | Maximum Load Regulation | (*6) mV | 40 | 100 | 120 | 150 | 250 |
| 12 | Over Current Protection | (*7) A | 6.3~ | 2.63~ | 2.1~ | 1.37~ | 0.63~ |
| 13 | Over Voltage Protection | (*8) V | 5.75~6.75 | 13.8~16.2 | 17.3~20.3 | 27.6~32.4 | 55.2~64.8 |
| 14 | Hold-Up Time (Typ) | (*9) - | 20ms | | | | |
| 15 | Remote Sensing | - | - | | | | |
| 16 | Series Operation | - | Possible | | | | |
| 17 | Operating Temperature | (*10) - | 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 Cooled | | | | |
| 22 | Temperature Coefficient | - | 1% (Typ) at 0°C~+50°C | | | | |
| 23 | Withstand Voltage | (*11) - | Input-Chassis : 2kVAC , Input-Output : 3kVAC Output-Chassis : 500VAC 1min | | | | |
| 24 | Isolation Resistance | - | More than 100MΩ at 25°C and 70%RH Output-FG 500VDC | | | | |
| 25 | Vibration | - | 10~55Hz Amplitude (sweep 1min) Less than 19.6m/s ² X,Y,Z 1h each | | | | |
| 26 | Shock | - | Less than 196.1m/s ² | | | | |
| 27 | Safety | - | Built to meet UL1950-D3, CSA234, EN60950 & DENTORI | | | | |
| 28 | Conducted Radio Noise | - | Built to meet FCC class B | | | | |
| 29 | Weight | - | 310g | | | | |
| 30 | Size (W*H*D) | - | 35mm x 97mm x 121.5mm (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 100~240VAC 50/60Hz on name plate.
- *3 : At 100VAC or 200VAC & Maximum Output Power.
- *4 : Typical value on cold start, Ta = 25°C.
- *5 : From 85~265VAC or 110~330VDC, constant load.
- *6 : From No-Load to 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 & Maximum Output Current, Ta = 25°C.
- *10 : At Vertical Mounting.
- *11 : Refer to instruction manual for testing procedure.

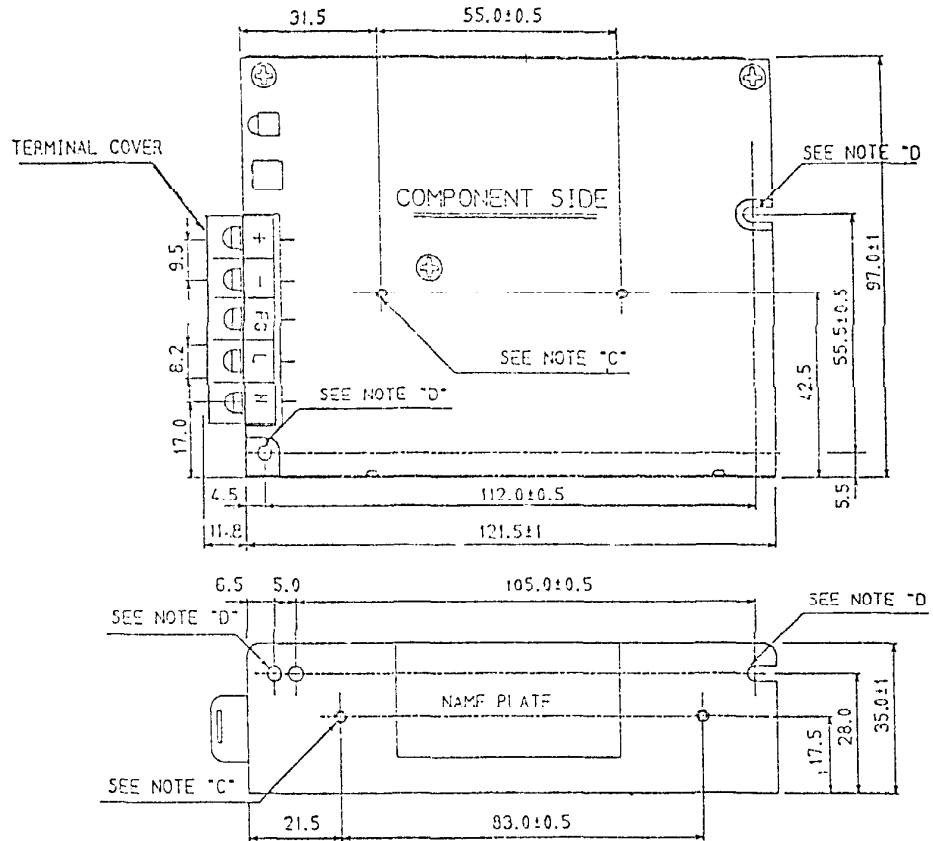
RWS30A SERIES

OUTLINE & CONNECTION



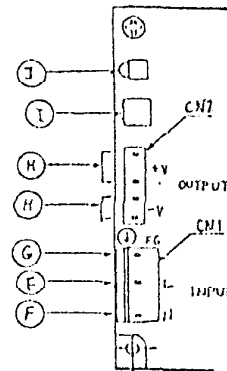
NOTES :

- 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 (4) for customer chassis mounting. (Screws must not protrude into power supply by more than 6m/m).
- D : Ø3.5 holes (5) for customer chassis mounting. (Use M3 mounting screws).
- E : Product Safety logo (UL,CSA,TUV) shall be applied Where applicable. Refer to manufacturer for more detail.
- 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 $\pm 10\%$. Turning clockwise increases the voltage. Note that VR1 is preset as per name plate. Do not adjust unnecessary.
- J : Output power-on lamp.



- K : 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.

CONNECTIONS FOR OPTIONS B & C



CONNECTORS USED :

| PART DESCRIPTION | PART NAME | MANUFACT. | QTY |
|------------------------|-----------|-----------|-----|
| PIN HEADER(INPUT) CN1 | 5289-4A | MOLEX | 1 |
| PIN HEADER(OUTPUT) CN2 | 5287-4A | MOLEX | 1 |

ACCESSORIES :

| | | | |
|----------------------------|---------|-------|---|
| SOCKET HOUSING (FOR CN1,2) | 5199-01 | MOLEX | 2 |
| TERMINAL PINS | 5194PBT | MOLEX | 7 |

HAND CRIMPING TOOL : JHTR 5904 MANUFACTURER : MOLEX

RWS30A SERIES

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 :

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.

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 2 or 3 Ø3.5 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.

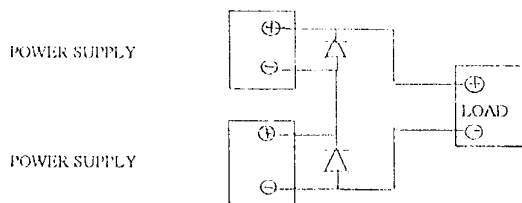


Fig. B

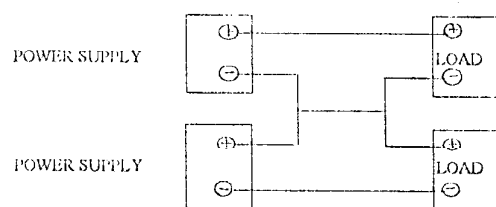
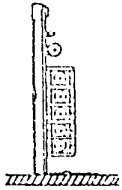


Fig. C

RWS30A SERIES

MOUNTING POSITION AND OUTPUT DERATING

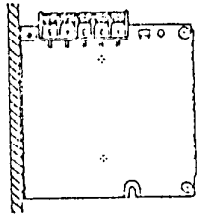
MOUNTING A
(STANDARD)



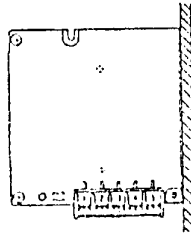
MOUNTING B



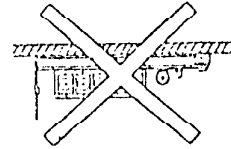
MOUNTING C



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 | 80 | - |
| 50 | 100 | 100 | 80 | 60 | - |
| 60 | 60 | 60 | 60 | - | - |

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 | 60 | - |
| 50 | 80 | 80 | 60 | 40 | - |
| 60 | 50 | 50 | 40 | - | - |

FUSE :

Rating : 250V 2.5A
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.

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