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**OPERATING MANUAL
FOR
POWER SUPPLY VARIABLE IN STEPS 2-12V/5A AC/DC
WITH THERMAL RESET (SE080)**

**MODEL NO.****: SE080****OSAW INDUSTRIAL PRODUCTS PVT. LTD.**

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1. INTRODUCTION:

Power supply model no. SE080 a.c./d.c. 2-12V variable provides you a.c. & d.c. voltages in steps from 2, 3, 4, 5, 6, 8, 10, 12V with total load current 5A a.c or d.c. independently or both a.c.& d.c. simultaneously (sum of currents 5A max) . This power supply finds application in study of low voltage circuits & lamps & resistors.

2. FEATURES:

1. Fuse protection for primary windings.
2. Overload protection by circuit breaker type reset-able trip.
3. Output voltage variable in steps from 0-2-3-4-5-6-8-10-12V a.c. & d.c. At rated load 5A (MAX).
4. Rotary switch to select the output voltage a.c. & d.c.
5. Safety sockets for a.c./d.c. Voltage outputs.
6. Plastic handles on both sides to carry out easily.
7. A.c. or d.c. voltages & current simultaneously for users operations.

3. INTENDED USE OF APPLIANCE:

1. Educational institutions where Electricity, Electronics, Physics etc. are being taught as major subjects.
2. Finds applications in industrial labs & research organizations.
3. For testing various devices, equipment etc. In the test, measurement and Calibration laboratories.
4. In the schools, colleges for electronics & physics experiment

4. SPECIFICATIONS:

1.1 GENERAL SPECIFICATIONS

1.2 ELECTRICAL SPECIFICATIONS

4.1 GENERAL SPECIFICATIONS:

Size	:24.5X26X13 CM ³ (APPROX.)
Weight	:4.3KG (APPROX.)
Operating temperature range	: 5°C to 40°C
Operating humidity range	: 80%rh (maximum humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 40°C)
Normal environmental conditions:	indoor use.
Mains supply fluctuations voltage.	: 10% max of the nominal voltage.
Applicable pollution degree	: II degree(UL-standard)
Installation /over voltage category:	II (UL-standard)
Degree of protection	: IP-20
Operating altitude:	: 2000 mtrs.(max)

4.2 ELECTRICAL SPECIFICATIONS:

Input voltage	:230V ~, $\pm 10\%$
Input frequency	:50Hz
Input power	: 100 W
Output a.c. voltage	:0-2-3-4-5-6-8-10-12V (variable in steps)
Output d.c. voltage	:0-2-3-4-5-6-8-10-12V (variable in steps)
Max load current a.c. & d.c	:5A (CONTINUOUS)
Primary fuse rating	:1A
Overload Protection circuit	:through circuit breaker
Trip current (a.c.)	:6A (approx.)
Trip current (d.c.)	:5A(approx.)
Select options	
Output Voltages a.c. & d.c.	:Rotary Switch
Reset	:circuit breaker(reset pushbutton on front plate)
Power cord specification	:king cord 230Va.c. , 13A with fuse UK approved plug

5. DESCRIPTION:

1. ON OFF switch
2. Power entry module
3. Voltage adjust knob (rotary switch variable in steps)
4. Output terminals for a.c. (color yellow)
5. Output terminal for d.c. (Color red & black with polarity)
7. Reset switch

6. OPERATING INSTRUCTIONS:

1. Unpacking the appliance-packing box, take out the appliance & power cord from the box.
2. Place the appliance on the experiment table suitably where an a.c. mains outlet is available nearby.
3. Connect the power cord to appliance power inlet module provided on the backside of the appliance. (a.c. mains i.e. 230V a.c., 50Hz)
4. Switch on the appliance.
5. Connect the load to output terminals (a.c. to yellow terminals & dc to red/black terminals considering the polarity in case of d.c.) directly.
6. At overload condition, Thermal reset actuator will come out, indicating the overload condition. Then, reduce the load current & reset the power supply by pressing reset switch.
7. Adjust the a.c. or d.c. Voltage to desired level using the knob provided on front panel. Select anyone position of voltage from 2,3,4,5,6,8,10&12 value written on front panel by varying the rotary switch.
8. The output a.c. voltage & d.c. Voltage available the across the output terminals simultaneously.

7. INSTALLATION INSTRUCTIONS:

1. Place the appliance on the experiment table suitably where an a.c. mains outlet is available nearby.
2. Appliance should be installed where the proper earthing in the mains available.
3. Connect the appliance to the a.c. mains outlet using the power cord supplied with the appliance. Make sure that the power cord does not get stretched.
4. The appliance is now ready to use.
5. The appliance has holes in the side covers for airflow. Make sure that these may not cover. Covering of these holes may leads to overheating of the appliance.
6. Appliance should be installed where temperature is in the range from 5°C to 40°C. No extra cooling conditions are required for the appliance.

8. PRECAUTIONS:

1. No user serviceable part inside, please refer to qualified service personnel.
2. Avoid exposure to extreme environmental conditions like high temperature and high humidity, smoke, fumes and vapour.
3. While replacing the fuse, disconnect the mains a.c. power cord from the appliance.
4. The input a.c. voltage should not exceed beyond the tolerance limits mentioned.
5. Do not connect the excessive load to the output terminals (beyond the specified value) to the appliance.
6. Carefully connect the output to the followed equipment or experiment that may not short circuit the appliance.

9. SAFETY MARKS & SYMBOLS USED IN THE APPLIANCE:

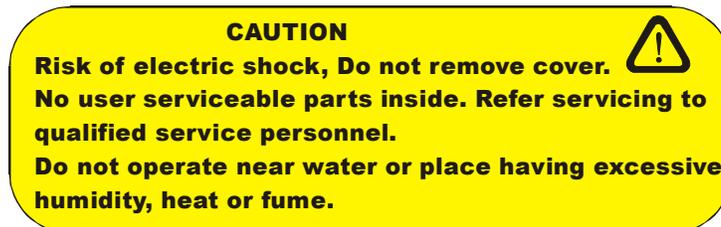
1. It is a sticker pasted on the backside of the appliance, it shows the model no., mains voltage rating, input fuse & power.

MODEL SE 080
MAINS 230V~ , 50Hz
FUSE 1 AMP
POWER 100 W

2. This is a safety mark where the protective earthing points are located. It is found inside the appliance.



3. This is a caution sticker for the users where the appliance has to operate. It also shows that no users servicing parts inside the appliance. To avoid shocks don't open the cover of the appliance (because some areas in the appliance containing high voltages).



4. This sticker shows the measurement category of standard i.e. "CAT-II" mark. This marking shows that the product

containing both a.c./d.c. voltages & currents at the output

INDOSAW**POWER SUPPLY a.c./d.c. 2-12V, 5A (SE 080)****MFD. BY****OSAW INDUSTRIAL PRODUCTS PVT. LTD.**

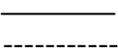
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terminals.

- | | | |
|----|---|-------------------------|
| 5. |  | Direct current |
| 6. |  | Alternating current |
| 7. |  | Earth (ground) terminal |
| 8. |  | Caution, risk of danger |

10. MAINTENANCE:

1. Replacement of fuse:

Fuse is located in appliance power entry module provided on the rear side of appliance, take out the fuse carrier from power entry module, replace the fuse & insert it back. Always use the fuse of specified rating.

REPLACE FUSE WITH
RATING 230V~, 1A
MAKE BUSSMAN

2. If the fluctuations in the mains supply are more & continuous, then shut down the equipment immediately to avoid damage.
3. The appliance has holes in the side covers for airflow. Make sure that these may not cover. Covering of these holes may leads to overheating of the appliance.
4. To clean the appliance use milled soap with less wet cloth. Do not switch on immediately after cleaning.

DECLARATION

We hereby declare that we are performing the following tests for this equipment as per the EN-61010-1: 2001 Standards on the 100% production.

TEST 1**PROTECTIVE EARTH AT 25A a.c -**

A continuity test is made between the earth pin of the appliance inlet or the mains plug –connected equipment, or the protective conductor terminal of permanently connected equipment on the one side, and all accessible parts which are accessible to users, terminals & accessible screws to be connected to the protective conductor terminal on the other side.

TEST 2**MAINS CIRCUIT HIGH VOLTAGE TEST AT 1.5KV a.c–**

A TEST VOLTAGE OF 1.5KV a.c. for basic insulation is applied between the mains terminals connected together on the one side, & all accessible conductive parts connected together on the other. For this test the contacts of any output terminal intended to be connected to the circuits of other equipment, which are not hazardous live are considered to be accessible conductive parts. A test voltage is raised to its specified value within 2 s & maintained for at least 2 s.

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HOD QA