



**50 WATT  
AC-DC  
CONVERTER**

**WRB-00X Series  
3 CHANNEL**

**Features**

1. Universal input 85-264VAC
2. EMI: meets EN 55022/B, FCC/B
3. Compact size
4. High efficiency and reliability
5. Output voltage adjustable
6. Over voltage protection

**Options**

N/A



**General Description**

Universal or auto-ranging inputs for world wide use. Output power from 15 to 600 watts. Up to 4 outputs available. Approved to international safety standards.

**Dimensions: 39.5Wx159Lx97H(mm)  
(480g)**





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*The Power Professionals*

| Specifications <AC/DC>      | Model  |        |        |
|-----------------------------|--|--------|--------|
| <b>WRB**X-U</b>             | WRB01X                                       | WRB03X | WRB04X |
| <b>50WATTS/3 OUTPUTS</b>    |  |        |        |
| <b>Input Characteristic</b> |  |        |        |
| Input Voltage               | AC115-230V                                   |        |        |
| Input Current               | 1.2A   |        |        |
| Input Range                 | AC85-264V (DC110-350V)                       |        |        |
| Input Frequency             | 50/60Hz                                      |        |        |
| Input Frequency Range       | 47-440Hz                                     |        |        |
| Phase                       | Single                                       |        |        |
| Inrush Current *1           | 35A(maximum) at AC115/70A(maximum) at AC230V |        |        |
| Efficiency [%] (typical) *2 | 72   | 70     | 70     |

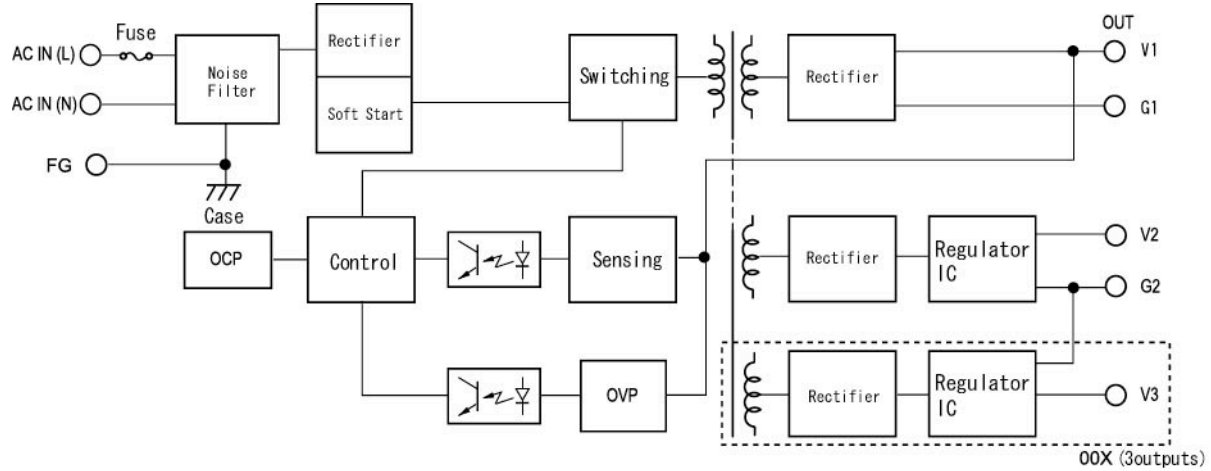


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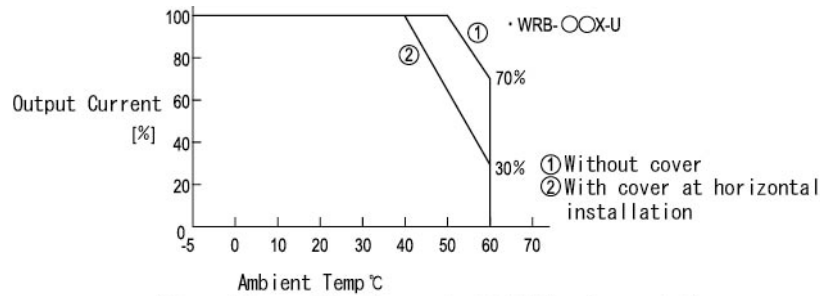
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**BLOCK DIAGRAM**



**DERATING CURVE**



\*For safety specification, contact ETA Sales Representative



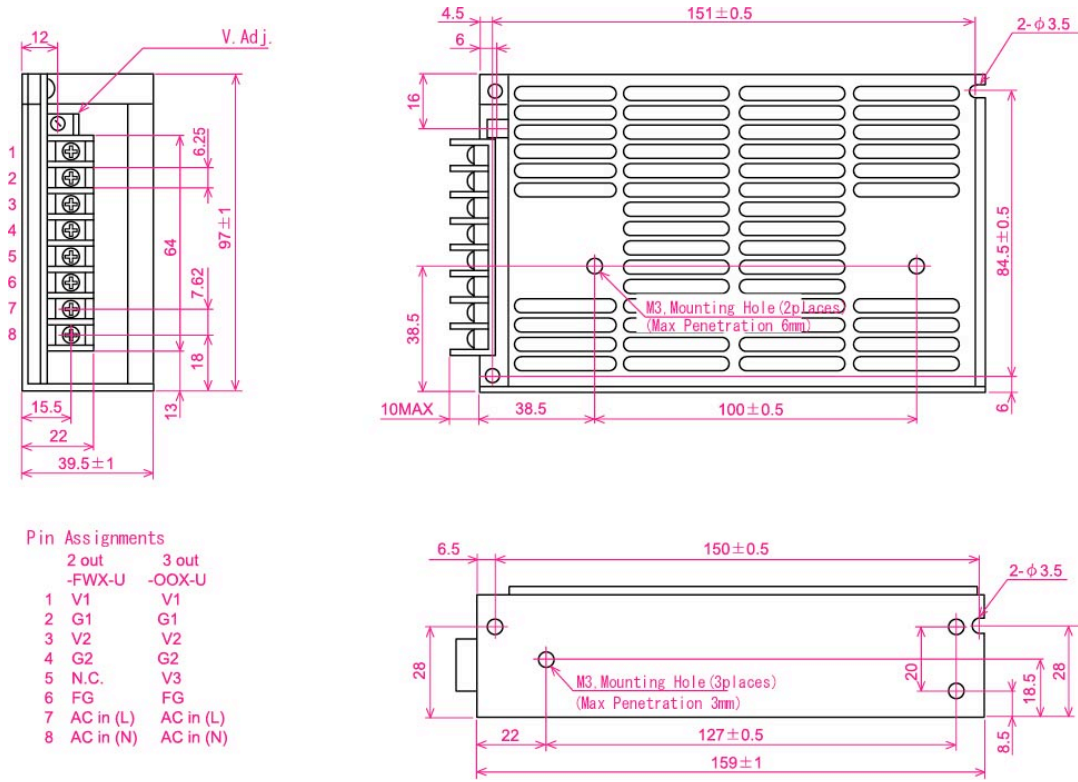


| Specifications <AC/DC>                                     | Model  |     |     |         |     |     |         |     |     |
|--|--|-----|-----|---------|-----|-----|---------|-----|-----|
| WRB**X-U<br>50WATTS/3 OUTPUTS                              | WRB01X   |     |     | WRB03X  |     |     | WRB04X  |     |     |
| <b>Output Characteristic</b>                               |  |     |     |         |     |     |         |     |     |
| Output Voltage [V]   | 5  | +12 | -12 | 5       | +12 | -5  | 5       | +15 | -15 |
| Output Current [A]   | 0.5-5.0  | 1.5 | 0.5 | 0.5-5.0 | 1.5 | 0.5 | 0.5-5.0 | 1.2 | 0.5 |
| Voltage Adjust Range                                       | V1:+3%/-0% of Rated Output Voltage(at no load w ithin the input range)   |     |     |         |     |     |         |     |     |
|  | V2,V3:fixed (at no load w ithin the input range)   |     |     |         |     |     |         |     |     |
| Ripple and Noise [mVp-p](maximum) *3                       | 100  | 170 | 170 | 100     | 170 | 100 | 100     | 200 | 200 |
| <b>Regulation</b>  |  |     |     |         |     |     |         |     |     |
| a.Statistic Line Regulation [mV](maximum)                  | 25   | 60  | 60  | 25      | 60  | 25  | 25      | 75  | 75  |
| b.Statistic Load Regulation [mV](maximum)                  | 50   | 120 | 120 | 50      | 120 | 50  | 50      | 150 | 150 |
| c.Temperature Coefficient *4                               | 0.03%/?  |     |     |         |     |     |         |     |     |
| d.Drift[mV](maximum) *5                                    | 40   | 75  | 75  | 40      | 75  | 40  | 40      | 90  | 90  |
| e.Dynamic Load Regulation [mV](typical) *6                 | not specified  |     |     |         |     |     |         |     |     |
| f.Recovery Time *6   | not specified  |     |     |         |     |     |         |     |     |
| Rise up time   | 200mS(maximum) at 25? and rated input/output   |     |     |         |     |     |         |     |     |
| Hold up time   | 10mS(minimum) at 25? and rated input/output  |     |     |         |     |     |         |     |     |
| <b>Functions</b>   |  |     |     |         |     |     |         |     |     |
| Overcurrent Protection<br>?110% of Rated Output Current[A] | V1:Current Limiting w ith automatic recovery V2,V3:by the regulator I.C's characteristics  |     |     |         |     |     |         |     |     |
|  | 5.5  | -   | -   | 5.5     | -   | -   | 5.5     | -   | -   |
| Overvoltage Protection<br>?115% of Rated Output Voltage[V] | V1:Output shutdown n(to reset,leave 1 minute after shut-off) V2,V3:not available   |     |     |         |     |     |         |     |     |
|  | 5.75   | -   | -   | 5.75    | -   | -   | 5.75    | -   | -   |
| Remote Sense   | not available  |     |     |         |     |     |         |     |     |
| Remote On/Off  | not available  |     |     |         |     |     |         |     |     |
| Power Fail Detection                                       | not available  |     |     |         |     |     |         |     |     |
| Parallel/series Operation                                  | not available  |     |     |         |     |     |         |     |     |
| <b>Environmental</b>                                       |  |     |     |         |     |     |         |     |     |
| Operating Temperature *7                                   | -5 to +40?/open frame type:-5 to +50?  |     |     |         |     |     |         |     |     |
| Operating Humidity   | 30 to 85%RH(non-condensing)  |     |     |         |     |     |         |     |     |
| Storage Temperature  | -20 to +85?  |     |     |         |     |     |         |     |     |
| Storage Humidity   | 10 to 85%RH(non-condensing)  |     |     |         |     |     |         |     |     |
| Withstanding Voltage                                       | Primary-Secondary AC3,000V for 1minute   |     |     |         |     |     |         |     |     |
|  | Primary-Frame Ground AC2,500V for 1minute  |     |     |         |     |     |         |     |     |
|  | Secondary-Frame Ground AC500V for 1minute  |     |     |         |     |     |         |     |     |
| Isolation Resistance                                       | Primary-Secondary-Frame Ground 50MΩ(minimum) by DC500V insulation tester   |     |     |         |     |     |         |     |     |
| Vibration  | 5-10Hz:10mm double amplitude,10-55Hz:19.6m/s <sup>2</sup> , 20minutes' period for 60minutes each along X,Y,Z axes(non-operating) |     |     |         |     |     |         |     |     |
| Shock  | 294m/s <sup>2</sup>  |     |     |         |     |     |         |     |     |
| Cooling  | Convection   |     |     |         |     |     |         |     |     |
| Leakage Current  | 1mA(maximum) at 25?,rated input/output and rated input frequency   |     |     |         |     |     |         |     |     |
| Line Conducted Noise                                       |  |     |     |         |     |     |         |     |     |
| Safety   | N/A  |     |     |         |     |     |         |     |     |
| ? Weight (typical)   | 480g/open frame type:460g  |     |     |         |     |     |         |     |     |
| ? MTBF [H]   | 420,000  |     |     |         |     |     |         |     |     |

Conditions:

- \*1 at cold start
- \*2 at DC130V input and rated output
- \*3 measured by a bayonet probe at output connector at a 0 to 100MHz bandwidth
- \*4 at -5 to +40°C/open frame type:-5 to +50°C
- \*5 for the period of 7hours after operation of 1hour at 25°C and rated input/output
- \*6 when output current changed from 25% to 75% of rated output current rapidly at AC115/230V input
- \*7 safety approved at 25°C
- \*8 variable on input voltage and load condition

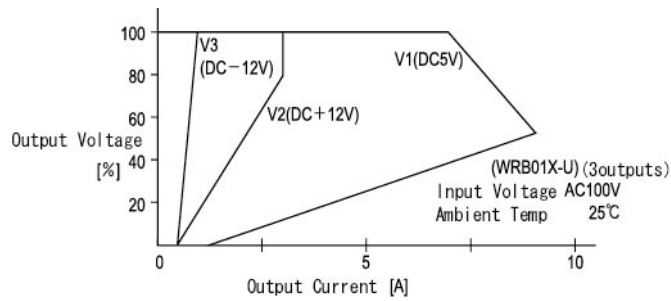
### DIMENSION DIAGRAM



### OCP CURVE



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