

# 25 WATT AC/DC CONVERTER

## 2 CHANNEL WRA-FWX SERIES

### 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: 33Wx116.5Lx97H (mm)  
(450g)**



### Options

N/A

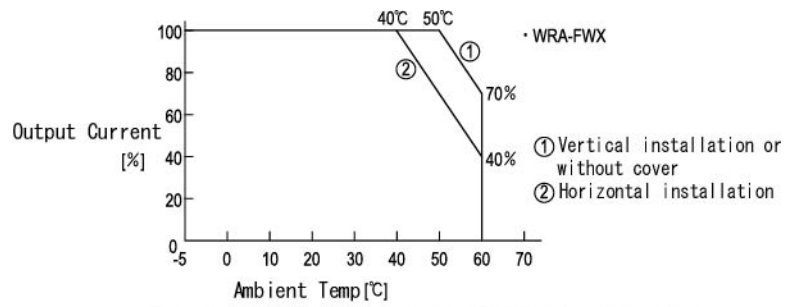
### Features

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



Specifications WRA**FWX-U 25WATTS/2 OUTPUTS	MODEL					
	WRA21FWX-U	WRA21FWX-B-U	WRA22FWX-U	WRA23FWX-U	WRA24FWX-U	WRA24FWX-B-U
<b>Input Characteristic</b>						
Input Voltage	AC100-240V					
Input Current	0.77-0.33A	0.75-0.33A			0.77-0.33A	0.75-0.33A
Input Range	AC85-264V(DC110-350V)					
Input Frequency	50/60Hz					
Input Frequency Range	47-440Hz					
Phase	Single					
Inrush Current *1	35A(maximum) at AC115V/70A(maximum) at AC230V					
Efficiency [%] (typical) *2	68	70	72	73	65	68

## DERATING CURVE



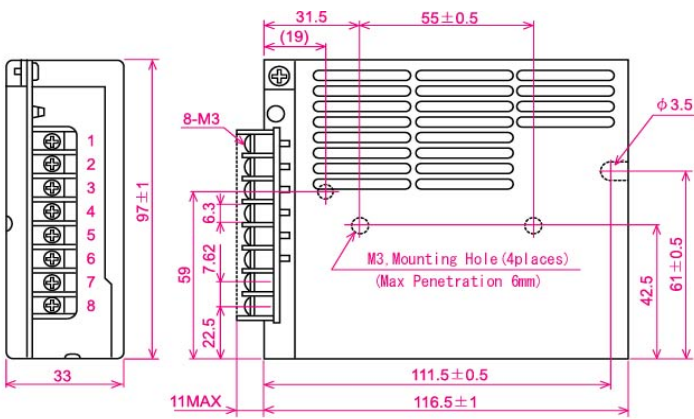
※For safety specification, contact ETA Sales Representative

Output Characteristic	Model												
	WRA**FWX-U (25WATTS/2 OUTPUTS)		WRA21FWX-U		WRA21FWX-B-U		WRA22FWX-U		WRA23FWX-U		WRA24FWX-U		WRA24FWX-B-U
Output Voltage [V]	5	24	24	5	12	12	15	15	5	12	12	5	5
Output Current [A]	0.2-2.6	0.5	0.2-0.85	0.9	0.2-12	0.9	0.2-0.85	0.85	0.2-2.6	0.9	0.2-1.7	0.9	0.9
Voltage Adjust Range	V1:+3%/-0% of Rated Output Voltage(at no load within the input range) V2:fixed with tolerance of +/-5%(at no load within the input range)												
Ripple and Noise [mVp-p](maximum) *3	100	290	290	100	170	170	200	200	100	170	170	100	100
Regulation													
a.Statistic Line Regulation [mV](maximum)	25	120	120	25	60	60	75	75	25	60	60	25	25
b.Statistic Load Regulation [mV](maximum)	50	240	240	50	120	120	150	150	50	120	120	50	100
c.Temperature Coefficient *4	0.03%/°C												
d.Drift[mV](maximum) *5	40	135	135	40	75	75	90	90	40	75	75	40	40
e.DynamicLoad Regulation[mV](typical) *6	not specified												
f.Recovery Time *6	not specified												
Rise up time	200mS(maximum) at 25°C and rated input/output												
Hold up time	20mS(minimum) at 25°C and rated input/output												
<b>Functions</b>													
Over current Protection	V1:Current Limiting with automatic recovery V2:by the regulator I.C's characteristics												
≥135% of Rated Output Current[A]	3.51	-	1.14	-	1.62	-	1.15	-	3.51	-	2.29	-	-
Over voltage Protection	V1:Zener diode clamping V2:not available												
≥110% of Rated Output Voltage[V]	5.5	-	26.4	-	13.2	-	16.5	-	5.5	-	13.2	-	-
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	vertical mount:-5 to +50°C /horizontal mount:-5 to +40°C												
Operating Humidity	30 to 85%RH(non-condensing)												
Storage Temperature	-20 to +85°C												
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°C, rated input/output and rated input frequency												
Line Conducted Noise	Built to meet VDE0871 Class B(>150kHz) Built to meet FCC Part15-B Class B												
Safety	UL: UL1950 CSA: CSA C22.2 No.234(Level 3) TUV:EN60950												
□ Weight (typical)	400g												
□ MTBF [H]	570,000												
□ Switching Frequency[kHz](typical) *8	25												

**Conditions:**

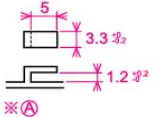
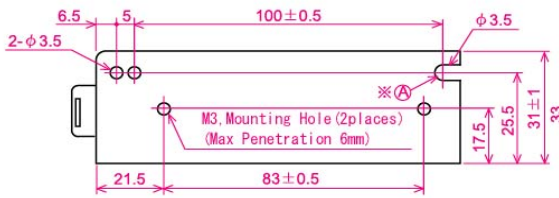
- \*1 at cold start
- \*2 at DC130V input and rated output
- \*3 measured by a bayonet probe at output connector at a 0 to 100MHz bandwidth
- \*4 at -5 to +50°C
- \*5 for 7hour period after 1hour warm-up at 25°C and rated input/output
- \*6 when load changed between 25% and 75% of rated output current rapidly at AC100/240V input
- \*7 safety approved at 25°C
- \*8 variable on input voltage and load conditions

**DIMENSION DIAGRAM**



Pin Assignments

2 out	3 out
-FWX-U	-OOX-U
1 V1	V1
2 G1	G1
3 V2	V2
4 G2	G2
5 NC	V3
6 FG	FG
7 AC in (L)	AC in (L)
8 AC in (N)	AC in (N)



**OCP CURVE**

