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TECHNOLOGY GROUP

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ETA-USA
Your power supply experts

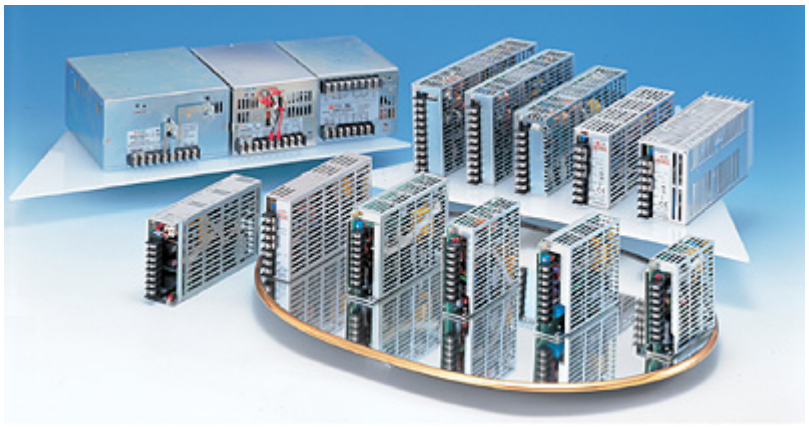
25 WATT AC/DC CONVERTER

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

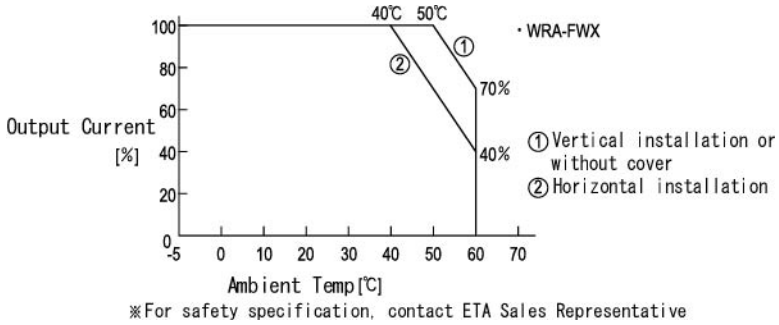
Features

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
Input Characteristic						
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 AC115/70A(maximum) at AC230V					
Efficiency [%] (typical) *2	68	70	72	73	65	68

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DERATING CURVE



※For safety specification, contact ETA Sales Representative

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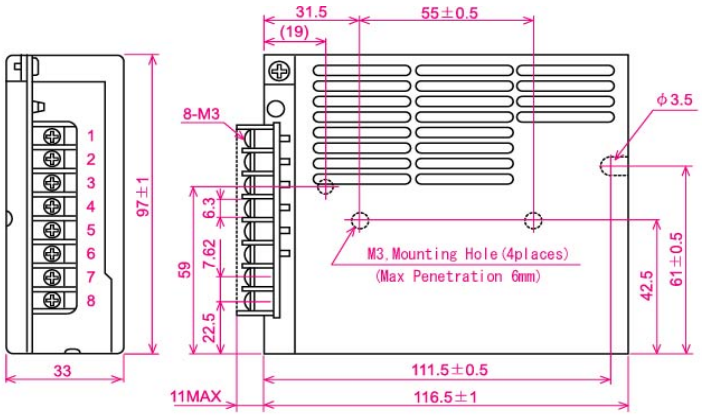
Output Characteristic	Model											
WRA**FWX-U (25WATTS/2 OUTPUTS)	WRA21FWX-U		WRA21FWX-B-U		WRA22FWX-U		WRA23FWX-U		WRA24FWX-U		WRA24FWX-B-U	
Output Voltage [V]	5	24	24	5	12	12	15	15	5	12	12	5
Output Current [A]	0.2-2.6	0.5	0.2-0.85	0.9	0.2-1.2	0.9	0.2-0.85	0.85	0.2-2.6	0.9	0.2-1.7	0.9
Voltage Adjust 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
Regulation												
a.Statistic Line Regulation [mV](maximum)	25	120	120	25	60	60	75	75	25	60	60	25
b.Statistic Load Regulation [mV](maximum)	50	240	240	50	120	120	150	150	50	120	120	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
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											
Functions												
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:Zenner 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											
Environmental												
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^2,20minutes' period for 60minutes each along X,Y,Z axes(non-operating)											
Shock	294m/s^2											
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											

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Conditions:

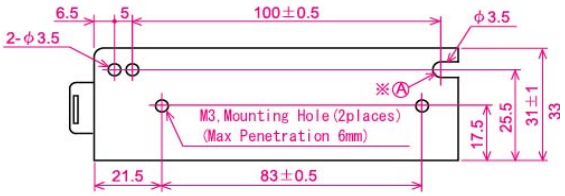
*1 at cold start
*2 at DC130V input and rated output
*3 measured by a bayonet probe at output connector at a 0 to 100MHz bandwidth
*4 at -5 to +50°C
*5 for 7hour period after 1hour warm-up at 25°C and rated input/output
*6 when load changed between 25% and 75% of rated output current rapidly at AC100/240V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

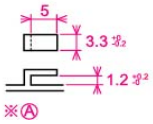
DIMENSION DIAGRAM



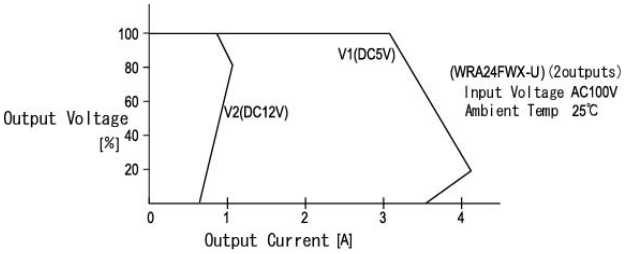
Pin Assignments

	2 out -FWX-U	3 out -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



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